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**Reason**

*By MarkEhlen on 2/3/04 1:19 PM*

The purpose of this section is to set N-ABLE 2.0 Design Goals: Functionality, Visualization, Ease of Use, Clarity, Speed. We are all very capable, so let's set our sights VERY HIGH.

---

**N-ABLE 2.0 = Repast Killer?**

*By MarkEhlen on 2/3/04 1:21 PM*

Okay a bit tongue-in-cheek, but look at this recent survey: <http://jasss.soc.surrey.ac.uk/7/1/6.html> We know what Repast is and isn't. We can build what it is fairly straight away, but building what it ISN'T will get is VERY far.

---

**Visualization**

*By MarkEhlen on 2/3/04 1:28 PM*

---

**Graphical Simulation Editor**

*By MarkBastian on 2/3/04 8:24 PM*

Well, since the sky is the limit . . .

I think it would be very nice to have a graphical simulation editor. Something where the user grabs nodes that represent agents or agent clusters and drops these nodes into a model creation area. The user would then click on different nodes to create connections. Once this was all done, a DEFINE file would be generated from this network. Concept art forthcoming. . .

---

**Re: Graphical Simulation Editor**

*By MarkEhlen on 2/3/04 8:58 PM*

Ideally, this gse would have in its backbone the N-ABLE schema-based DOM that the gse could use to display possible node types and their attributes. There must be an elegant solution for this...

---

**Re: Graphical Simulation Editor**

*By MarkBastian on 2/3/04 9:11 PM*

Absolutely. We could use the Java DOM tools to store all of the data and do the encoding, etc. The visual aspect of the gse would just be a front end. The tedious stuff, such as validation and node definitions, would be done by the DOM engine.

---

**Re: Graphical Simulation Editor**

*By MarkBastian on 2/3/04 9:09 PM*

Take a look at the "networkDesigner.jpg" concept image. That is kind of what I am thinking of. There would be a palette of node types to be dragged to the main window and then you could edit parameters for individual nodes.

---

**Speed**

*By MarkEhlen on 2/5/04 5:39 AM*

Any kind of increase in speed!

---

**Maintaining an upgrade path within the client**

*By MarkEhlen on 1/13/04 8:34 AM*

As we are softly witnessing, we will be upgrading v1.0 with fixed components. How are we going to do this with v1.0, and when?

---

**Re: Maintaining an upgrade path within the client**

*By MarkBastian on 1/13/04 8:36 AM*

We need a method for checking for updates automatically from the N-ABLE client. At bootup, the program should check a web-based repository for newer controls and then download them automatically. This task is probably one Mike Procopio should be doing.

---

**Re: Maintaining an upgrade path within the client**

*By MarkEhlen on 1/13/04 8:39 AM*

Yes, he's talked about doing this before; we should add this to the 'wish list' so that he/we can rationalize our data sources and needs and come up with a 'single site' solution for all our collaboration/software needs.

---

**Re: Maintaining an upgrade path within the client**

*By Mike Procopio on 1/13/04 11:57 AM*

This is a medium-hard problem and will take a fair amount of time to research, develop, and test.

Alternatively, I'm pretty sure I can whip up an update/patch with InstallShield to update certain files with ease. This is obviously much easier than any auto-update functionality.

I would also stress that we made the decision to move forward, and it's important that we concentrate most of our development effort to v2.0 now. v1.0 was, after all, "feature complete"!

My proposal would be to provide patches as required for v1.0 (v1.01, v1.02, etc.) and consider auto-update a v2.0 feature.

--Mike

---

**New version of treeview control**

*By AndyScholand on 1/13/04 8:56 AM*

To: Ehlen, Mark A [maehlen@sandia.gov];Scholand, Andrew J [ajschol@sandia.gov]  
From: Bastian, Mark  
CC: Eidson, Eric D [edeidso@sandia.gov];Procopio, Michael J [mjproco@sandia.gov]

---

Hi All,

Here is version 1.05 of the treeview activex control. Please replace the version in your Windows\System32 directory with this one. It has several fixes Eric has made to speed things up.

Thanks,  
Mark

---

Mark S. Bastian	phone	(505) 284-8208
Sandia National Laboratories	fax	(505) 844-9641
Critical Infrastructure Surety	email	mbastia@sandia.gov
PO Box 5800 MS 0451		
Albuquerque NM 87185-0451		

---

---

**RE: New version of treeview control**

*By AndyScholand on 1/13/04 8:56 AM*

To: Bastian, Mark [mbastia@sandia.gov];Ehlen, Mark A [maehlen@sandia.gov]  
From: Procopio, Michael J  
CC: Eidson, Eric D [edeidso@sandia.gov];Scholand, Andrew J [ajschol@sandia.gov]

---

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--Mike

-----Original Message-----

From: Bastian, Mark  
To: Ehlen, Mark A  
Cc: Procopio, Michael J; Eidson, Eric D  
Sent: 1/13/2004 8:32 AM  
Subject: RE: New version of treeview control

Mike is the one to ask regarding auto updates.

Mike,  
How hard would it be to check for a newer version of the controls every  
time you run N-ABLE?

-Mark

> -----Original Message-----

>From: Ehlen, Mark A  
>Sent: Tuesday, January 13, 2004 8:30 AM  
>To: Bastian, Mark  
>Cc: Procopio, Michael J; Eidson, Eric D  
>Subject: RE: New version of treeview control

>

>I will do this, but we probably can't get everyone to do this upgrade.  
>How are we on installshield- based upgrading? Can the app be modified  
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>Sent: Tuesday, January 13, 2004 8:11 AM  
>To: Ehlen, Mark A; Scholand, Andrew J  
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><< File: LeftViewActiveXControl.ocx >>

>

>-----

>-----

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---

**RE: New version of treeview control**  
*By AndyScholand on 1/13/04 8:56 AM*

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[maehlen@sandia.gov]  
From: Bastian, Mark  
CC: Eidson, Eric D [edeidso@sandia.gov]; Scholand, Andrew J  
[ajschol@sandia.gov]

---

I think we should all respectfully ignore this email thread and instead look at GROOVE. Mark E. has just got a workspace up and running. There is a discussion going on called "Maintaining an upgrade path with the client." Mike, please add your last post to the groove discussion board.

Thanks,  
Mark

-----Original Message-----

From: Procopio, Michael J  
Sent: Tuesday, January 13, 2004 8:41 AM  
To: Bastian, Mark; Ehlen, Mark A  
Cc: Eidson, Eric D; Scholand, Andrew J  
Subject: RE: New version of treeview control

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> << File: LeftViewActiveXControl.ocx >>

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**Re: RE: New version of treeview control**

*By Mike Procopio on 1/13/04 11:57 AM*

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--Mike

---

**TreeView design**

*By MarkBastian on 1/13/04 11:59 AM*

I am planning on making the downloading and storing component of the new version of N-ABLE its own module. This module can optionally register an external TreeView and/or TextBox control at construction. That is the only chance you get to do it.

If you decide to perform this registration, the following actions will be performed:

- The registered treeview will act as the current treeview, providing a GUI mechanism for downloading data.
- The registered TextBox control will echo the data sent from the streamer.

If either of these components are not registered at construction, their functions will simply be ignored.

If you are designing the master UI, simply place a generic control of the above types wherever you want and then register them when we get to it.

This design will probably change, but go with it for now.

---

**Re: TreeView design**

*By Mike Procopio on 1/13/04 12:05 PM*

Mark,

I'm not clear on what your saying. Could elaborate a little, with the audience of somebody you're not pair programming with? :)

---

**Re: TreeView design**

*By MarkBastian on 1/13/04 12:06 PM*

The class that downloads and streams the data (the same class as the old ElemSimStreamManager) will contain a handle to the two described controls. As data is



downloaded or requested, the controls will be updated. If the controls are not provided when the streamer class is constructed, they will be null and not be acted upon. Otherwise, updates and other stuff will occur.

This means that you can just insert a generic TreeView as a placeholder in your current UI.

---

**Maximum Downloadable File Size**

*By EricEidson on 1/13/04 2:17 PM*

Does anyone object to a downloadable file being a maximum of 2GB? This limit comes from use of standard I/O functions; larger maximums imply use of platform-dependent I/O functions (e.g., non-portable code) or use of multiple files (i.e., more programming work for me) :-)

The largest (downloadable) file I have seen so far has been a 800MB compressed SNAPS file for the 15,000 consumer problem that had run overnight...

Eric

---

**Re: Maximum Downloadable File Size**

*By MarkEhlen on 1/13/04 3:03 PM*

Since I agree with your mission of platform independence, I don't object to the file size. It does, however, beg the question: what happens when the file reaches this size?

---

**Re: Maximum Downloadable File Size**

*By EricEidson on 1/13/04 3:15 PM*

Currently, a file will not become available for download until it is complete. Supposing the file exceeds the maximum downloadable size, it will not be made available for download. So at no point will an oversize file ever be available for downloading. Another consequence is that it is not possible to download the Snapshot File of a still-running (or still-importing) job.

The server can always be improved to support larger files behind the scenes (by faking it with multiple hidden files); however, it's likely the client machine will have a (unknown) maximum file size as well -- so a truly robust solution will probably involve a scheme where we think of the output as a collection of named files, possibly subdivided by timestep... Perhaps all those files could be tar-ed up into a single file, but since they are already compressed the resulting archive would be truly mammoth.

At some point, it would be more profitable to be picky about what data is dumped and how often...

Eric

---

**Re: Maximum Downloadable File Size**

*By MarkEhlen on 1/13/04 8:15 PM*

Yes; being picky about what data is downloaded is the best solution.

1. Right now the timeseries graph allows you to get as many data series as you want.

2. Andy and I are pursuing "R" for mass analysis of large numbers of large Monte Carlo simulations. Since during a MC sim all output files are generally the same size, if a file is going to be too big, the first will also be too big. We could make the batch return a 'fail' to the user if the MC data is not available.

---

### **Re: Maximum Downloadable File Size**

*By AndyScholand on 1/19/04 5:44 PM*

Running a 10-year, 10,000 agent market test simulation (~ 3 day run time) created a 1.6 GB compressed SNAPS file, so I think the 2 GB barrier will be easily reached/exceeded in PNW and other case study type problems.

I see a couple of options other than the multi-file approach mentioned.

- 1) At submit time, specifying a subset of variables to be written to the SNAPS file.
- 2) Specifying a data transform (probably XSLT based) that runs on the server after the application completes which does the same filtering as in #1)
- 3) Having the simulation halt with error when 2 GB is reached, and make that much data available.
- 4) Continue writing data in a circular fashion, so that only the last 2GB of data is preserved in the file.
- 5) Have the SNAPS file accessible in an out-of-band channel (massive GRID type multi-channel FTP for example)

Having data not accessible at all after potentially days/weeks of compute time should not be an option.

---

### **Interesting Programming Language Benchmarks**

*By Mike Procopio on 1/13/04 3:55 PM*

Brian Jones forwarded this link to me. It's an interesting article that does a pretty fair comparison of several programming languages, including the three primary .NET languages. Note that when they say Visual Basic, they mean Visual Basic .NET, NOT VB6.

Here's the article:

[http://osnews.com/story.php?news\\_id=5602&page=1](http://osnews.com/story.php?news_id=5602&page=1)

Here's the benchmark page:

[http://osnews.com/story.php?news\\_id=5602&page=3](http://osnews.com/story.php?news_id=5602&page=3)

First, notice that Visual C++ is fast. Really fast. C++ can get you pretty close to theoretically optimal for many operations. Note that Visual C#, VB .NET, and Visual J# are pretty much similar according to this, with the exception of I/O. This makes sense (except for the I/O?), because most code written in the three different .NET languages will compile down to the same MSIL (Microsoft Intermediate Language) code, a little higher level than Java byte code (JBC, i.e. what you get inside "compiled" .class files). Also note that Sun isn't joking when they say Java 1.4.2 is really fast. They've clearly spent a lot of time optimizing the language and/or virtual machine(s).

So, we should be happy to know that C#, at least in this analysis, is pretty high performing, roughly on par with the latest optimized Java. (The results are strange for the Trig category, which apparently takes a long time with Java--not sure about this. Take Trig out and C# / Java 1.4.2 are very similar performing.)

--Mike

---

### **Re: Interesting Programming Language Benchmarks**

*By MarkBastian on 1/14/04 7:44 AM*

I saw this the other day on Gamedev as well. The most interesting things to me are the C# to Java 1.4.2 comparisons. Java appears to do significantly better (2.5-3X) at "double math" than C#. This is important when making an evaluation for computationally intensive projects.

I also think those trig results are suspect. Why would they get WORSE with the "latest" version of Java? Something's up with that.

Something I failed to notice earlier was the strong comparison you can make between Java 1.4 and C++. With the exception of the trig stuff, the Java 1.4 test is nearly as fast as the C++ benchmark.

If these results are "good" it makes a good case for a Java simulation engine in the future, if we ever were to rearchitect the server code or do something from scratch.

---

### **Proposed Backend Component: XSL Translator?**

*By MarkEhlen on 1/14/04 7:58 AM*

One of the things that Andy and I are working on is implementing a data post processor that takes us from the current high-level process of

inputs->sim->SNAPS->[select your viewing mode]

to

inputs->sim->SNAPS->statistics->"SNAPS-like file"->[select your viewing mode]

the "statistics" layer would be a SAS or R solution. Reading last night indicated that even the R folks say that SAS is better for large data sets. But my experience last night was that, since R is somewhat 'bleeding edge' batch statistical computing, getting good support on XML parsers is not there (would require Eric).

R, however, does very well in our Linux backend if we can skip the XML step. So I see (and would like comment) on which of the two steps makes most sense to everyone:

1. Have the "statistics" layer be [SimStreamer-format SNAPS data]->local temp text file->R, since R can gobble up this flat file format without XML parsing.
2. Have the "statistics" layer be [SNAPS->XSL translator->flat file text], which R can also gobble up.

Upon writing, option 1 appears the best but it *\*does\** likely involve Eric since this would rip on Linux.

Comments?

---

**Re: Proposed Backend Component: XSL Translator?**

*By MarkBastian on 1/14/04 8:29 AM*

I suggest we meet to discuss this concept further. This could become a very expensive and involved project. We need to make sure we do it right the first time.

I am not sure who the implementers will be, but I think this is going to require GUI elements that allow you to request transformed and filtered data. These manipulations should be done on the server, though. There is no need to pipe 2GB of data to the client just to filter it down to a few MB or KB.

---

**Re: Proposed Backend Component: XSL Translator?**

*By MarkEhlen on 1/14/04 8:53 AM*

As we speak, I have just successfully

1. Installed R on nisac-srn1 (configure, make)
2. Exported csv data from the N-ABLE v1.0 output window
3. Imported this data into R and "statistified" it.

So...

1. the filtering was done by me --> would have to be automated by SimStreamer or something
2. So the data is statistified, but need to export back to data to be interpreted by client screen....needs a little more exploration.

---

**Re: Proposed Backend Component: XSL Translator?**

*By AndyScholand on 1/19/04 5:57 PM*

I prefer option 2. Since we took the effort to write the output in an XML-based format, leveraging one of the strengths of XML-based data structures (tree-based transformation) makes sense.

R support for XML is evolving also, I don't think it is unreasonable to assume that eventually an external XSLT transformation step will be subsumed by R.

---

**Groove is Working, methinks**

*By Mike Procopio on 1/14/04 9:39 AM*

Groove appears to be working well.

My biggest concern was duplication of outlook email. What I've found is I really like the concentrated, isolated N-ABLE only discussion that we have here.

I was thinking the other day, that when we're all online and using Groove, I rather feel like we're all in a

meeting together, but just not in a conference room... That's a good thing!

I have to get a little more fluent with the discussion screen, perhaps there's some configurable view options (\*MY\* UIs have configurable view options!) that will "N-ABLE" me to work a little more smoothly with it.

--Mike

---

**Re: Groove is Working, methinks**

*By MarkEhlen on 1/14/04 11:01 AM*

MarkB was asking whether there were some settings for the Discussion view so that he could configure views. Let's investigate.

Let's also investigate how we can start organizing the threads in a knowledge sense --- don't have a clue yet on how to do this but will explore

---

**Re: Groove is Working, methinks**

*By AndyScholand on 1/19/04 6:00 PM*

Mike, Mark - I'd appreciate feedback like this - we can collect and forward on to the Groove s/w folks. Hopefully we'd see some improvement in future versions.

---

**Re: Groove is Working, methinks**

*By MarkBastian on 1/20/04 8:58 AM*

Groove is also working for me. I have used all of our current tabs so far as well as chatting and sending messages.

It would be useful if some of our users (say, the mac-heads) weren't afk so much. Right now, Mike and I are the only ones who have significant on-line uptime on our Windoze boxes. Everyone else frequently has Groove on, but they are logged off (Log in, turn on, log off -- Wasn't there some hippie stoner that said something like that?).

Hate to say it, but a multiplatform collab. tool is what is needed.

---

**Re: Groove is Working, methinks**

*By Mike Procopio on 1/20/04 10:11 AM*

I continue to get more and more used to groove. I thought they made a Java (and hence Mac) version, but I did some snooping around and found it's developed with ATL (Active Template Library, C++)... So it's very Microsoft-y.

I think that in time as Groove picks up, perhaps we'll see more of Andy and Eric.

That said, I think it replaces the dropzone, which is fantastic for getting builds out (the Files tab). I also think our SourceSafe integration is superb--we're really

starting to look like a cutting edge software team.

Now if we could get some documents... :)

---

**Retrieval of Active Runners and Streamers**

*By MarkBastian on 1/14/04 10:27 AM*

We need a method for the client to determine which runners and streamers are available and which ports they are on. This mechanism should also provide which server and protocol versions correspond with each instance. The client should be able to inspect this list and determine which of these setups it is compatible with.

I suggest a daemon which each "public" runner and streamer registers with when it executes. A runner and streamer could be run in "private" mode in which it is not registered, but this should be a "use at your own risk" option.

The client would query the daemon to determine what is available. The daemon would return this data, as well as the versions everything is at. The client can then evaluate what it is compatible with. The client would list ALL available servers, but flag the incompatible ones. The user would select a compatible server and go with it.

The down side to all of this . . . . What if the daemon is dead?

Any other suggestions?

---

**Re: Retrieval of Active Runners and Streamers**

*By Mike Procopio on 1/14/04 10:44 AM*

Without diving too deep into this, this has, as you point out, the classic disadvantage of a "single point of failure."

---

**Re: Retrieval of Active Runners and Streamers**

*By MarkEhlen on 1/14/04 11:23 AM*

... for this, I would like to elicit the help of Brian Murphy-Dye, who should be returning to Sandia in about a month or two; great guy for those of you who haven't met him yet.

---

**Re: Retrieval of Active Runners and Streamers**

*By AndyScholand on 1/19/04 6:02 PM*

Could we use some Web Service "standard" for this functionality, e.g. UDDI or WS-Inspection.

---

**SimStreamer Issues**

*By Mike Procopio on 1/14/04 12:53 PM*

Mark Ehlen wrote up a bug today, Bug #154:

[<http://nisac-srn5.sandia.gov/bugzilla/show\\_bug.cgi?id=154>](http://nisac-srn5.sandia.gov/bugzilla/show_bug.cgi?id=154)

Text is as follows:

Based on our Groove Chat today, let me try to restart this bug with a slightly different and more refined observation.

1. Start with a SR/SS combination with NOTHING actively being saved to SS (I am also assuming that the 8-node machine has plenty of CPU on unused processors)
2. Start Bug\_DEFINE\_1: it is a LARGE sim with HOURLY snapshots --> console should list "Running; Data Not Available".
3. Start Bug\_DEFINE\_2: it is a SMALL sim with MONTHLY snapshots --> console will now read "Running; Data Not Available"

--> So the SS is so hammered that it can't service the smaller sim; said another way, one large sim kills everyone's use of the SS. NOT AN OPTION!

Solutions? There has been discussion in other bugs about adding threads to SS; Eric says they are already there. So what is the issue, and solution...let's collectively find one.

Thanks, Mark

---

**Re: SimStreamer Issues**

*By Mike Procopio on 1/14/04 12:54 PM*

Mark, what I'm hearing is, your problem earlier was NOT just a crashed SimStreamer.

The behavior you point out, I believe, needs to be address by Eric and Mark. Remember, what the UI displays is entirely based on its RunsList inputs from both the SimRunner and the SimStreamer.

Also, in your description, did you mean for #2 Big\_DEFINE\_1 that it says "Data Not Available"? You seem to suggest it's not servicing EITHER sim if this is the case... Or did you mean that Data is Available for Sim #2 (the first one, larger of the two) but NOT available for Sim #3 (the second one, smaller of the two)?

---

**Re: SimStreamer Issues**

*By MarkEhlen on 1/14/04 3:11 PM*

After this bug listing I talked to Eric (and then headed off to a long meeting). My next task is to make sure it is not a compiler problem.

18082 - SS based on Intel Compiler (but now that Eric started it it may be the gcc  
Compiler version  
18083 - Intel

18084 - gcc

Let me run some tests and then update the bug ...

---

**Re: SimStreamer Issues**

*By MarkEhlen on 1/14/04 4:24 PM*

I ran tests and now can't replicate the error (my test is probably wrong) Eric has started up an updated SS on 18082; I'll list the bug as "LATER"

---

**Rough Sketch of N-ABLE v2.0 UI available**

*By Mike Procopio on 1/15/04 5:15 PM*

In the Files section... v2.0 Builds... Alpha Builds... Sketch...

You need the .NET Framework v1.1 (also in the files section).

Copy all the files into a temp directory...

Will have an installer next few weeks.

--Mike

(Out of office this Friday)

---

**Re: Rough Sketch of N-ABLE v2.0 UI available**

*By MarkEhlen on 1/20/04 9:56 AM*

Hmm.. don't know to say this, but that rocks!

---

**Re: Rough Sketch of N-ABLE v2.0 UI available**

*By Mike Procopio on 1/20/04 10:09 AM*

Really!?! You like it?

I'm still a little self-conscious with it a bit... It's a bit of a step for more, a more progressive UI move. It mimics Windows XP very closely...

I'll keep going on these lines.

My biggest concern is the transition to Size 8 or 9 fonts, instead of the old 10 bold Tahoma that was universal in v1.0 of N-ABLE (at least on the console).



--Mike

---

**Re: Rough Sketch of N-ABLE v2.0 UI available**

*By MarkEhlen on 1/20/04 9:58 AM*

I \*do\* like very much the font style and size, the color palettes. It is the right 'next generation' feel to have.

---

**N-ABLE Checked Back In**

*By Mike Procopio on 1/15/04 5:23 PM*

I've checked in the N-ABLE code base if anybody wants to check it out.

Everybody has access to the code base. Username is your username, password is your username (for now). Mark Bastian, Eric, and I have read/write access, all others have read-only access to the code.

The VSS database we use is:

<<[\\mozart\mozart-d\Project\Common\SEA Visual SourceSafe Database](file://\\mozart\mozart-d\Project\Common\SEA Visual SourceSafe Database)>>>

You need VS .NET 2003, and Visual Source Safe v6.0d. VSS 6.0d is located in the "files" section.

--Mike

---

**Visual SourceSafe and Backups**

*By Mike Procopio on 1/15/04 5:28 PM*

I have confirmed with Keith Bauer, who manages a backup of the windows machine MOZART, that our source code database (Visual SourceSafe) is being backed up several times per week.

I, too, am also making manual backups of that code several times per week.

--Mike

---

**Installation of .NET Framework v1.1**

*By Mike Procopio on 1/19/04 10:11 AM*

Team,

All the developers and close stakeholders of the N-ABLE software should install the .NET Framework v1.1, located in Groove | Files | <Microsoft .NET Framework v1.1 Redistributable>.

You can think of the Framework as the rough equivalent to the JRE, though there are technical differences of course.

When we ship v2.0, this will be automatically installed through InstallShield.

---

**Re: Installation of .NET Framework v1.1**

*By MarkEhlen on 1/20/04 9:59 AM*

Does .NET 1.1 come preinstalled with XP? I just followed your instructions, ran the app, and never saw .NET 1.1 stuff "reveal"

---

**Re: Installation of .NET Framework v1.1**

*By Mike Procopio on 1/20/04 10:07 AM*

I'm pretty sure that it does NOT come with XP. However, it is offered as an "update" on WindowsUpdate.com and as such could have easily already found its way into your system.

When you say "ran the app," you mean to say "ran the setup executable," right? Not the N-ABLE app I presume?

What .NET 1.1 stuff are you talking about? It should have installed with a little "installing dialog," but otherwise is basically a background thing.

Have you tried the N-ABLE v2.0 alpha?

--Mike

---

**Re: Installation of .NET Framework v1.1**

*By MarkEhlen on 1/20/04 1:48 PM*

I ran "NABLE Simulation Manager exe"

---

**Re: Installation of .NET Framework v1.1**

*By Mike Procopio on 1/20/04 2:09 PM*

Understood. But in a different topic on this discussion board, you mentioned you liked the UI. Did you get it to run then?

If not, never fear. Alpha builds are notorious for this kind of stuff :)

--Mike

---

**New Alpha Screenshot**

*By Mike Procopio on 1/20/04 5:10 PM*

Team,

When you have a moment, check out the screenshot I just posted in the N-ABLE v2.0 Screenshots folder

in the Goove Files tab... Let me know what you think.

--Mike

---

**Re: New Alpha Screenshot**

*By AndyScholand on 1/20/04 5:21 PM*

Two thumbs way up! I love the new look and feel! Spiffy.

---

**Re: New Alpha Screenshot**

*By MarkBastian on 1/20/04 7:05 PM*

Very nice! I think you should make the mouths move on the pics when people are chatting.

---

**Re: New Alpha Screenshot**

*By Mike Procopio on 1/21/04 11:18 AM*

Not sure I can do that, but I \*might\* be able to draw a balloon bubble there ;)

---

**Re: New Alpha Screenshot**

*By AndyScholand on 1/21/04 5:56 PM*

How soon should we start the icon development process? Mike found an XP icon factory on the Internet, maybe we should give them a try this go-round? I believe the MS-type philosophy is to get the look & feel of the app established very early on in the build process (allows for good exercise of the human factors, screen shots for manuals, etc.)

---

**Re: New Alpha Screenshot**

*By Mike Procopio on 1/21/04 6:10 PM*

Andy,

Please see the thread I started entitled, "N-ABLE v2.0 UI Icon Design."

--Mike

---

**Wednesday Status Update #1**

*By Mike Procopio on 1/21/04 1:17 PM*

Hi guys,

I think it's a good idea that the development team (the five of us--Mark E, Eric, Mark B, Andy Scholand,

and myself) post a brief weekly summary of what we've done the past week and what we're currently working on.

---

**Re: Wednesday Status Update #1**

*By Mike Procopio on 1/21/04 1:20 PM*

I'll start!

For the past few weeks I've been working on N-ABLE v2.0.

1. I created a Visual SourceSafe source code database on MOZART, and gave access permissions to this server and database to the core 5-person development team. I added the correct version of Visual Source Safe to the Files section in Groove.

2. I created the N-ABLE v2.0 "Solution" in Visual Studio .NET 2003, and worked out the core modular project structure of N-ABLE v2.0.

3. I've created some rough sketches of the new UI, including some prototyping of the "Collaboration Panel," and posted some screenshots in the Files section.

4. I created a first "Alpha Build" for folks to try out, and to start working down the road of figuring out what people need to get N-ABLE v2.0 to run on their systems.

5. Other misc stuff--making available and evangelizing the Microsoft .NET Framework v1.1, etc.

I plan to continue working on the basic Simulation Console UI for the next week. I'm hoping to have a Results Viewer form template up, which is currently on hold until Mark gets the basic "SimData Browser" and "SimData Viewer" components established and checked in to the N-ABLE v2.0 code base in the SourceSafe database.

I'm also working on driving refinements to the SimStreamer and SimRunner runs lists, as well as to the DEFINE files.

--Mike

---

**Re: Wednesday Status Update #1**

*By MarkEhlen on 1/22/04 9:39 AM*

The past week:

1. Started the theoretical paper on how N-ABLE is calibrated and validated with publically available data (the PNW problem).

2. Made presentations to: Brian Jones, Jennifer Nelson's group, and NETL.

JN's group, "Evolutionary Computing and Agent-Based Modeling," is very impressed with the professional agent interface. It is one of the prime reasons that Dave Schoenwald selected N-ABLE for his work (the other reasons being the agent structure and the eventual parallelization [Dave: correct me if I'm wrong]).

For NETL, I installed client on local machine there (Bldg 10510, SCADA Conference

room). DEFINE file editor wouldn't load a define file (see Bug # 169: [http://nisac-srn5.sandia.gov/bugzilla/show\\_bug.cgi?id=169](http://nisac-srn5.sandia.gov/bugzilla/show_bug.cgi?id=169)).

3. Began coding for Socializer agent, which is (1) an abstraction of seller and buyer behavior (simpler), and (2) will handle all non-market interactions (which are fundamental even to economists) and (3) will provide basis for developing an agent brain knowledge structure, initially just state properties ("I am a Republican") and later synthesis of ideas (uh, need a generic brain for that).

4. Began list of potential N-ABLE applications for submittal to Ralph/DHS. Will run by team before submitting...

5. Investigated and decided on R as statistical layer for post processing SNAPS data (Andy's working on the XSLT later for thin down the SNAPS and convert to R-compliant file)

6. Lots of meetings (you're all lucky!)

---

### **Re: Wednesday Status Update #1**

*By AndyScholand on 1/22/04 12:07 PM*

1) Looked at ways to post-process SNAPS files, including:

- XML Schema derivation (from instance file) and Schema documentation generation (although Eric's modification to support DEFINE files in the output file probably changed this)
- XSLT-based transformations of SNAPS files into non-XML formats, particularly CSV which R likes
  - One of the main issues here is how to deal with files that when uncompressed exceed 2GB. Most command line unix commands operate in 32-bit OSes, and break with large files.

- Went through this exercise for one example analysis (MarketTest): SNAPS -> CSV -> R -> statistical summary -> PDF plots

- Met with Dan Pless and Steve Kleban to investigate stochastic model-based automated result filtering and prioritization in a massively parallel ICC type environment

2) Looked at ways of extending the N-ABLE user base within Sandia (See Mark Ehlen's comments on meetings with folks in 9000, also talked with Scott Jones in 6200. Also Rolf Carlson is interested in N-ABLE for SCADA modeling.)

---

### **Re: Wednesday Status Update #1**

*By MarkBastian on 1/22/04 12:54 PM*

-Completed feasibility study (Note: answers are always "yes") regarding Managed DirectX API usage for N-ABLE 2.0. This should meet our needs just fine. The only real disappointment I encountered was that it appears that you cannot perform 2D transformations on DX text.

-Began the port of the SimStreamer code to C#. Aside from learning C#, this is going fine. The current program connects to a SimStreamer and downloads quite a bit of the data.

-Began implementation of the network model viewer as an extension to N-ABLE 1.0. The greatest difficulty is not the graphics, but parsing XML using the MS C++ implementation of the MSXML API. Currently, the model nodes are generated and viewable. Remaining is creating Market nodes and connections. Now that I have a pretty good handle on the XML portion of this, I think things should go fairly quickly. I hope to have this ready in a few more days.

---

### **N-ABLE v2.0 UI Icon Design**

*By Mike Procopio on 1/21/04 6:05 PM*

Andy Scholand is right on when he says it's a good idea to hammer down the look and feel of an application early on.

Part of this process is finding good, next-generation icons to match our new UI look and feel.

I found a guy on the web who does really great work. We should all look into this.

The link is:  
<http://www.visualpharm.com/>

This guy is clearly very talented. Most importantly, this will get us off of any liability we might have by reusing Microsoft's icons (which we do for N-ABLE v1.0).

Here's a FAQ to read up on:  
<http://www.visualpharm.com/faq.html>

In an earlier email to Andy, I concluded that,

"[this guy] will make us better icons than we could ever possibly wish for for \$160 per icon, in 7 days + 1 day per icon. So, for a set of say 10 N-ABLE specific icons, that's \$1600 and 17 days. Not too shabby! Funny. He's from Russia, though. Fortunately, artwork is artwork no matter where it comes from, and all icons pose a zero security threat :). Might be an issue with the "Buy American" act, however."

I've expanded my ideas on what icons we need, though. I don't think we need just a pure N-ABLE set done; I think he might be able to make enhancements to all of the other icons in the application (including the simulation/save/open/new/overview/etc icons as well as the results viewer icons).

One very nice thing is that there is no wasted work here; everything we have done thus far will serve as a great template and design guide for future work and improvements to the icons.

Just something to consider.

--Mike

---

**"Silent Majority" agents - option to write state data to the SNAPS file**  
*By AndyScholand on 1/23/04 10:36 AM*

OK, I have a general philosophical topic I'd like to air. I'm wondering if it makes sense to be able to create agents whose sole purpose is to act in a disaggregate fashion, and create demand/surges on the system or infrastructure, but for analysis purposes we have no interest in persisting their state to the SNAPS file.

An example would be the Market Test. In the case where most of the analysis is of the selling firms, and their price setting strategies, for most of the analyses, the state variables of the individual consumers is not necessarily of interest for every run. There are definitely runs where we need to examine consumer state, basically for troubleshooting purposes - to make sure they are not hoarding cash, for example - but

for the bulk of the runs, we have no interest in knowing exactly what their checkbook balances are. But you don't want to aggregate them into a single entity, because you want other behaviors (social networking, flocking, etc.) that only arise from having separate, active individuals.

So, basically, if this proposal makes sense, there would be a class of agents with an optional attribute for turning off persistence of their state to the SNAPS/streamer.

Comments?

---

**Re: "Silent Majority" agents - option to write state data to the SNAPS file**

*By MarkBastian on 1/23/04 1:20 PM*

I think this is a good idea, but we need a method to monitor the majority so that they are stopped if they get out of line. For example, suppose the agents start hoarding cash again. I would suggest that if we were to do this, there should be monitors in place to check for extremes. Perhaps a running statistical analysis could check the majority's mean, median, mode, standard deviation, etc. An exception would be thrown if some tolerance were violated (e.g. the mean is 40k, but the standard deviation is 10 quadrillion).

In summary, I think we could have rules for the agents. At any sign of civil disobedience, we kill the sim and dump a reason why (e.g. <<Fatal Exception: Resident of Redmond WA took all the money!>>). As long as the agents stay within proscribed parameters, we proceed.

---

**Re: "Silent Majority" agents - option to write state data to the SNAPS file**

*By AndyScholand on 1/23/04 1:49 PM*

Well, the idea of moving to post-processing is that we'd remove the burden of tracking and computing statistics from the simulation binary. Some time soon, as we scale to very large problem sizes, we are going to need to rationalize and defend every piece of information the agents persist.

I guess the idea of adaptive agents introduces the concept that one could go haywire, but hopefully things are deterministic enough that once you've validated the decision making algorithms, the agents behave sensibly whether they are monitored or not ("Now class, I want you to talk quietly among yourselves while I step out for a few minutes...." :)

The other argument against this idea is that it makes re-purposing (a la SimLib) of the simulation results tougher - each run only consists of the variables of interest to that simulation.

---

**Re: "Silent Majority" agents - option to write state data to the SNAPS**

**file**

*By MarkBastian on 1/23/04 2:02 PM*

If you are confident that the agents will behave, then I would have no objection to leaving them unsupervised. I just fear, especially with the introduction of "brain" capabilities, that the agents are going to act crazy sometimes. It makes sense to me to have a simple monitor to determine if things are going crazy. Statistics may be a bit overboard, but it seems like we could impose some sort of simple rules that spit back an

error if things go very wrong. Kind of like asserts in C++.

("Now class, I want you to talk quietly among yourselves while I step out for a few minutes...." :) Depends on the kids in the class (Your kids, probably ok. Average kid in inner city slum school, (ASSERT(true == bNoDrugsAndGuns)) would be called at every time step.).

---

**Can't delete files**

*By Mike Procopio on 1/23/04 3:54 PM*

I'm unable to delete files that I've added... This is necessary for directory maintenance, etc... Any way around this? It says to check something about the permissions...

--Mike

---

**Re: Can't delete files**

*By AndyScholand on 1/23/04 3:59 PM*

Ask Mark Ehlen to promote you to the role of manager. Only managers can delete stuff (which is a bug, the documentation says that if you post stuff, you can delete it, but I've found the same thing - as a participant I can't remove my own data)

---

**Re: Can't delete files**

*By MarkEhlen on 1/27/04 9:38 AM*

Hmmm... sounds ridiculous; let me ask Andy to set it up so we all have write priviledges. My apologies...

M

---

**Re: Can't delete files**

*By MarkEhlen on 1/27/04 9:42 AM*

Try now...

---

**Re: Can't delete files**

*By Mike Procopio on 1/27/04 2:19 PM*

Still can't...

---

**Re: Can't delete files**

*By MarkEhlen on 1/27/04 4:54 PM*



Hm... let me check with Andy...

---

**Re: Can't delete files**

*By MarkEhlen on 1/28/04 8:46 AM*

now delete? I changed permissions for all users to write/delete/etc. Can you

M

---

**Re: Can't delete files**

*By Mike Procopio on 1/28/04 11:36 AM*

I'm trying to delete the N-ABLE.exe in the Files |  
Updated N-ABLE v1.0 Components | Main Executable directory, and still am  
unable to do this.

--Mike

---

**Re: Can't delete files**

*By MarkEhlen on 1/28/04 1:02 PM*

I did some digging and see that the Files tab  
has separate permissions from the Workspace permissions. I set all the Files  
permissions to read/write

---

**Re: Can't delete files**

*By Mike Procopio on 1/29/04 9:59 AM*

That did the trick! Excellent work.

--Mike

---

**Soap Security**

*By MarkEhlen on 1/27/04 4:58 PM*

To: Carlson, Rolf [recarls@sandia.gov]  
From: Moore, Patrick  
CC: Scholand, Andrew J [ajschol@sandia.gov]; Ehlen, Mark A [maehlen@sandia.gov]; Jones,  
Brian S [bsjone@sandia.gov]; Kleban, Steve [sdkleba@sandia.gov]

---

Hi Rolf,

We've not done any serious analysis. A couple of us subscribe to ws-security mail lists, and watch the evolution of OGSA technology (e.g. GSI Secure Conversation)

Sandia's authentication infrastructure is Kerberos, and while it looks like ws-security is Kerberos-friendly, the ws-security spec seems under-specified, and we haven't looked at or done any implementations of it.

We are putting up an OGSI-based system based on Globus Toolkit 3, with a "Simple-CA" GSI (GSI => Grid Security Infrastructure. A PKI system used by globus and Grid software.) This is a low-assurance suitable-only-for-testing PKI. We have also piloted a KX509 infrastructure, which might be used to bridge us from Kerberos to a GSI PKI used by Globus. OGSA/OGSI has always looked promising, but still seems to be on the bleeding edge, with unstable specs and APIs. It also seems very GSI-centric, and we don't use GSI, and aren't sure that we (or DHS) can expect to have a production secure GSI infrastructure up. (If we did it here, it almost certainly would involve KX509)

Our approach right now is to do what a lot of people seem to be doing, and use SOAP 1.1 over https, then just rely on the https layer to provide security. For NISAC, where we need to be flexible as possible, this is attractive. So we use Basic Authentication over SSL, integrated with our Kerberos infrastructure. Where possible, we can use SPNEGO rather than Basic, without messing with the application code. If/When we deploy to a site that has a PKI authentication infrastructure, we could retrofit to use SSL client certificates rather than BasicAA - again without rewriting the application code.

This misses some features that we could get with SAML and ws-security. But right now we just need bulletproof authentication and encryption-in-transit, and we get that from the https layer.

- Pat

HYPERLINK "mailto:pcmoore@sandia.gov"pcmoore@sandia.gov

-----Original Message-----

From: Carlson, Rolf

Sent: Monday, January 26, 2004 12:53 PM

To: Moore, Patrick

Subject: Soap Security

Hi Pat,

Does your group have any analysis on the security of SOAP or other standards based technologies that have been employed to secure NISAC? I work with the IEC and IEEE standards communities and they are looking into SOAP for communication and control of electric power systems. Thanks,

Rolf

-----Original Message-----

From: Scholand, Andrew J

Sent: Monday, January 26, 2004 12:29 PM

To: Carlson, Rolf; Ehlen, Mark A

Cc: Patrick Moore (E-mail)

Subject: RE: Follow up and Soap Security

Hi Rolf,

Pat Moore is the NISAC security expert, he will be able to give you a more detailed answer.

When we were looking at these protocols 1.5 years ago, the security layer in SOAP was still too early to base any code on. The trouble with W3C working drafts is that they are extremely fluid, and they change constantly. We were also looking to leverage Grid over Web (OGSI) technologies, and they had their own security solution. So for our deliverables, we punted on implementing true security, and stuck to low-level kinds of things like source-based firewalls (ipchains/iptables) and tunneling over https-secured links.

HIH.

Cheers,  
Andy

---

### **Very Large Scale Visualization**

*By AndyScholand on 1/27/04 5:04 PM*

Hi,

Please help us determine what we need to do very large scale visualization well. By very large scale, we mean the visualization cave in 880 and potentially other h/w that will go into the new NISAC building.

See viz use case.txt and modify as needed.

---

### **Initial thoughts on Java, from where I'm standing**

*By Mike Procopio on 1/29/04 3:46 PM*

Let's see... Well, I'm not deep enough to know of any "good" things about UI development in Java yet. But here are some issues:

1. UI development is going to take a long time. Swing is lower level than both VB (obviously) AND C#/.NET WinForms (Windows Forms). Everything is manual and excruciating. I could literally spend a day getting one component to behave properly. I am inching along at a sloooooow pace. This should speed up as I get better with Swing or whatever UI technology we want to use. That said, application development with Java takes longer. Period. In particular, with this application. Now I understand when I look around and see other Java apps and the YEARS that it's taken to build them. Now I understand what's going on--it really does take a long time. It's not like they're slackers or anything, writing one event handler per day :). UI things in Java take longer than with the MS technologies (the ones that I'm fluent with, anyway). I think I would argue that, due to Java's lower-level UI stuff, equivalent UI development in Java vs. C# WinForms would take less time using the latter.

That said, I think the Java Swing UI promotes good programming practices, with intelligent event handlers that monitor the data that the view is bound to, and updates the view whenever this data changes. I see a lot of model/view/controller architectures at the UI component level, which is healthy, as well as room for lots of design patterns and Java-like conventions (like "factory" methods).

2. The UI will not look as good, at least not with using Swing. You'll be able to tell things are not quite "right." Toolbars look different. Tooltips persist in weird ways, even after the application has closed. Menus look / feel different. The refresh/paint/drawing is kind of weird. Maybe Java SWT might alleviate some of these issues, give us a more native feel. We almost for sure won't be able to have the current richness in the v1.0 Active Simulation List.

3. There is less UI functionality out of the box. Simple things like a "Hyperlink" control or text label are going to have to either be found in the "community" (a quick search turned up nothing, maybe I'm not looking in the correct places yet though), or made manually from scratch. Related to point #1 ("things take a long time"), I can't get anything with built-in scrolling. Everything that can scroll has to have a JScrollPane added to it.

4. Congratulations. If we go down this path, you will have turned one of your two bread and butter developers into a GUI builder. A Java GUI guy. A Swing guy. Everything that I dislike about GUI development (the "labels", people think you're an idiot, people think you can't do anything else, the pigeonholing, and the general messiness of all the low-level UI stuff), combined with very little of the fun Interaction Design stuff that is the true expert-level art and science.

Now, don't get discouraged. I just want to record my initial reactions and feelings about this. It's just different. Not necessarily worse, just different. You have to weigh these disadvantages next to the advantages that we discussed earlier today: Mark's fluency with OpenGL vs. Direct X, management blessing, Macintosh compatibility, etc.

This will certainly make for fruitful discussion on Monday!

Have a good weekend, team.

--Mike

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkBastian on 1/29/04 4:47 PM*

I am having a rather different experience with my foray into Java.

- The ability to "threadify" a class in Java so far seems even easier than what I have experienced in C#.

- The BufferedReader and BufferedWriter classes I am using to read from the SimStreamer are even easier to use than the C# implementation. In the C# implementation I have to parse each datagram by the newline character (not difficult, but code must be written). It appears that the Java BufferedReader auto-parses everything.

- I posted a question regarding one of the issues I was having with JOGL to the JOGL boards this afternoon and received a prompt reply that solved the problem.

- I don't think the future is quite as bleak as you are saying. For example, it is very easy to attach a scroll bar to a component.

Overall, my experience has been that Java programming is easier and more enjoyable than .NET, but I do realize that the UI portion of the project is definitely not as easy as it is in .NET and that the majority of my work happens behind the UI. Perhaps we could bring in a "GUI Guy" to help with the mundane stuff so you can work more on the Interaction Design.

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkEhlen on 1/30/04 9:22 AM*

The best GUI guy would be someone who could help us find the right motif/Java components to keep the same great look in as little time as possible.

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkEhlen on 1/30/04 9:13 AM*

I also did some searching on the web for java applications that are stellar in their motif and elegance. I got pissed off again. We have a TRULY professional interface in the works right now and I'm not about to give it up simply because of some combination of 'synergies', 6200 compromise, and faulted logic. We MUST maintain the professional look at large cost. Watch Dean Jones' group and you'll see part of why they have been so successful.

That said, we've got a few days to dig into potential Java solutions.

1. Eclipse, JBuilder, VisualAge, etc. give us IDE (don't worry about any of their costs), but add several weeks for learning curve
2. COTS Java components - only use what we trust.
3. A smart combination of motif and AWT. Large work for Mike (might as well use vi).

I'll take whatever top end heat is necessary to get it right, C# or .NET. My main concern is that we don't flounder in meetings to the point where we no longer have a gut sense of what will keep us on the road to killer-app'ness.

Bottom line: While we would have a short list of components to migrate to Java, a Java show stopper for me is a lousy UI, i.e., researchy in appearance. I am looking for more clues of Java killer UI's and will post candidates in the Pictures section.

Cheers

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkEhlen on 1/30/04 9:59 AM*

In the hope that it clarify what my \*personal\* impression of what a UI can be, see <http://www.bfrl.nist.gov/bridgelcc>. I completed this software on my own, so the GUI statement is purely M.E. (parenthetically, I now see the LARGE mistake in trying to do a software project by oneself. Very gratifying, but not as good as a group like ours can do!

M

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkBastian on 2/1/04 7:13 PM*

We are definitely capable of doing something like this in Java.

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkBastian on 1/30/04 10:03 AM*

Check out maestro, the program NASA is using for the Mars Rover. It is a Java app and is a free download <http://mars.telascience.org/home/>. Screenshots forthcoming. IMHO, this program looks cool.

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkEhlen on 1/30/04 10:13 AM*

Mark - if we do find a theme/class structure that we all like, can we get details from the Java app as to the classes and theme technique they used?

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkBastian on 1/30/04 10:14 AM*

I believe there are methods for sniffing out an app's L&F. Maestro may also be Open Source, so we could just read the source and use the look. BTW, what do you think of the shots?

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkEhlen on 1/30/04 12:56 PM*

Shots are great! A lot of flexibility...

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkBastian on 1/30/04 1:06 PM*

Check out <http://javootoo.l2fprod.com/plaf/gtkswing/index.php>. It has several downloadable L&Fs. There are a few that I think look pretty nice.

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkEhlen on 1/30/04 1:43 PM*

So Java has a clear step where one can insert/swap standard L&F 'modules'? How is this done programmatically? What is the class that handles this swapping?

---

standing

---

**Re: Initial thoughts on Java, from where I'm**

*By MarkBastian on 1/30/04 1:46 PM*

See

<http://java.sun.com/docs/books/tutorial/uiswing/misc/plaf.html> for a tutorial on how to do it. It is quite easy, once the L&F has been defined. If I understand correctly, custom L&Fs can simply be packed into JARs and deployed with the application.

---

**I'm standing**

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**Re: Initial thoughts on Java, from where**

*By MarkEhlen on 1/30/04 4:29 PM*

Good; we can check that one off the list.

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**Re: Initial thoughts on Java, from where I'm standing**

*By MarkBastian on 1/30/04 10:08 AM*

We also need to quantify, as much as possible, what it is we like. For example, I like both of the magicdraw pics (especially the kunstoff l&f one). I also like the limewire basic better than the limewire Windows image (opposite opinion as Mark E.). I do agree, however, that both limewire shots need help.

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkEhlen on 1/30/04 10:09 AM*

We should try, yes.

Quantifying impression, art is hard - one of the complexity research papers from SFI was on that subject - VERY interesting.

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**Re: Initial thoughts on Java, from where I'm standing**

*By MarkEhlen on 1/30/04 10:10 AM*

I guess I have a personal thing against the basic Java theme, with the notched tabs, blue-grey background. It looks primitive to me.

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**Re: Initial thoughts on Java, from where I'm standing**

*By MarkBastian on 1/30/04 10:11 AM*

I also think we should go for an N-ABLE look, feel, and experience, as opposed to a Windows look, feel, and experience. If we have a great looking interface that uses the Metal L&F or an Aqua-like L&F that we like, we should be happy with that. For example, I do like the Maestro look a lot, even though it is certainly not "Windowsy".

BTW, what do you all think of the Maestro shots?

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**Re: Initial thoughts on Java, from where I'm standing**

*By MarkEhlen on 1/30/04 10:18 AM*

1. Good point: N-ABLE should have its own L&F. Only concern is that Mike would be so bogged down in coding that he would have little time for L&F exploration. Could always do N-ABLE 1.0 L&F as starting point.

2. Maestro looks very good. Drag and drop, Color icons in places. As an example, can you tell from using which classes they used to create it?

---

**Re: Initial thoughts on Java, from where I'm standing**

*By MarkEhlen on 1/30/04 10:21 AM*

I also think a BIG benefit of Java would be that we can readily bring in other programmers, e.g., Dan Shaver (sp?), who could work on particular child windows, all the while Mike maintaining control over the entire code base. Is also true for C#, but the 'readily' is probably less so.

M

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**Re: Initial thoughts on Java, from where I'm standing**

*By MarkEhlen on 1/30/04 10:23 AM*

Does anyone know if John Britanik is making Java classes for SimLib that we could 'plop in' to a Java N-ABLE 2.0? This, combined with a collaborative set from Mike's school, could get us some real collaboration tractions.

M

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**First directions in Java UI: SWT**

*By Mike Procopio on 2/2/04 1:49 PM*

I am rapidly becoming interested in and impressed with SWT, or the Standard Widget Toolkit.

Here's a primer article:

<http://www.eclipse.org/articles/Article-SWT-Design-1/SWT-Design-1.html>

I want to see if apps will work with Windows AND Mac using their respective set of native graphical components.

I may consider using the Eclipse IDE for development. Alternatively, I wonder if I can use my preferred IDE (IntelliJ) with SWT?



---

**Re: First directions in Java UI: SWT**

*By Mike Procopio on 2/2/04 1:52 PM*

On Deployment:

<http://www-106.ibm.com/developerworks/opensource/library/os-jws/>

Over the past few months, the Standard Widget Toolkit (SWT) has continued to pick up momentum and is capturing more and more of the brain-share of Java developers. At some point in the development process of an SWT application -- typically after a basic prototype is operational -- concerns about the deployment process arise. Unlike traditional Java applications, SWT applications require some operating system-specific libraries to be loaded before an application can operate. While the ongoing deployment and maintenance of these libraries might seem like a headache, rest assured there is a solution -- Sun's Java Web Start. The marriage of SWT with Java Web Start provides powerful tools to deploy great-looking client-side Java applications.

---

**Re: First directions in Java UI: SWT**

*By AndyScholand on 2/2/04 2:49 PM*

Cool. Another possible direction is to go SVG.

<http://java.sun.com/developer/technicalArticles/GUI/svg/>

This example uses a commercial "ghetto" set of components from ILOG.  
[http://www.ilog.com/promotions/jviews/index.cfm?id=jdj\\_88\\_jviews\\_9-03](http://www.ilog.com/promotions/jviews/index.cfm?id=jdj_88_jviews_9-03)

---

**Re: First directions in Java UI: SWT**

*By MarkEhlen on 2/2/04 3:45 PM*

I just reinstalled Eclipse and got my old code running again. I've started a project space to start investigating the ArcIMS server and client apps.

---

**Re: First directions in Java UI: SWT**

*By MarkEhlen on 2/2/04 3:51 PM*

I also put the NIWT website in the Web Links section

(<https://nisac-ws2.sandia.gov/website/NIWTforDHS/viewer.htm>)

---

**Re: First directions in Java UI: SWT**

*By Mike Procopio on 2/2/04 4:17 PM*

SWT is definitely nice.

Their Table widget is just like the ListView. I can set an image for each row AND column (like

with v1.0). We should be able to achieve a nice looking UI in time.

---

**Re: First directions in Java UI: SWT**

*By MarkBastian on 2/2/04 4:20 PM*

Mike,

What IDE are you using? Where are you getting the jars/libs? Eclipse.org?

Found it myself. For those interested: <http://www.eclipse.org/swt/>

---

**Re: First directions in Java UI: SWT**

*By Mike Procopio on 2/2/04 4:22 PM*

Yes. I am now using Eclipse 3.0 M6. Eclipse install comes with SWT.

Extraordinary resource:  
<http://www.cs.umanitoba.ca/~eclipse/>

---

**Re: First directions in Java UI: SWT**

*By MarkBastian on 2/3/04 7:43 AM*

I recommend that everyone on the N-ABLE team take a good look at the first tutorial about installing Eclipse found on the web site Mike recommended. I feel pretty proficient with Java, but this tut has some great gems on Eclipse, getting files organized with Eclipse, and deployment with Jar files.

---

**Treeview Component: Handoff?**

*By Mike Procopio on 2/2/04 2:28 PM*

If, say, we were to do Swing or SWT (and we're doing one or the other), does it make sense to have me own the Treeview component, to allow Mark the ability to concentrate on the other OpenGL stuff?

It sounds OK, but I worry that the OpenGL component is currently too tightly coupled with the Treeview component. Is this the case? Can we make it more separate, have a cleaner interface, to where two different people could work on them?

Also, the TreeView has server-comm capabilities, data storage capabilities, and user interface capabilities, that need to get separated out, perhaps. This may help drive the design of these two components.

Thoughts?

---

**Re: Treeview Component: Handoff?**

*By MarkBastian on 2/2/04 2:43 PM*

At this point, I think I should take ownership of the treeview. I am currently working on it and things seem to be going fairly quickly.

Yes, I do think we should separate the comm-server, data storage, and ui pieces. The current design I am working on has three components, which correspond to the above. These are:

1. - The first class (SimDataDownloader) connects to the server and downloads the data. It determines what type of message is being received and then routes that message to a child class which will handle the data as it sees fit.

2. - The second class (SimDataProcessor) handles messages passed from the downloader (or another protocol-compliant source). The messages are based on Eric's protocol. This class parses and stores all data that has been handed to it. It has no idea where the data is coming from (e.g. a socket or a file).

3. - The third class (SimDataTreeView) is a child of a JTree and is used to select data for download, just like our current TreeView.

1 and 2 are tightly coupled, but the nice thing about them is that 2 doesn't care where the data comes from and it stores all of the downloaded data, so there is no need to maintain multiple hidden instances of anything. A single copy of a SimDataProcessor should be reused across all views of the same data source.

3 is one possible view type and is intended to be weakly coupled to 2. The idea is that you don't have to use a treeview. You could link into the data in 2 using a FooView, where the Foo is whatever creative view you can come up with.

Now that I think about it, 2 is a child of 1, so it does matter that the data comes from a network connection, but I should be able to make the processor source-agnostic with a small amount of effort.

---

**Re: Treeview Component: Handoff?**

*By Mike Procopio on 2/2/04 3:40 PM*

Sounds like you've got it handled; glad to hear about the three-part modularization.

---

**Re: Treeview Component: Handoff?**

*By MarkEhlen on 2/2/04 3:52 PM*

Eric mentioned to me that the treeview could use some redesign to uncomplex

the code a bit, and that he could work with MarkB to get this straight.

---

**Java GUI Ghetto components**

*By AndyScholand on 2/2/04 3:28 PM*

Check out the network viz components of ILOG.  
<http://www.ilog.com/products/jviews/graphlayout/>

Also, ESRI's Java objects are available for a 90-day test:  
<http://www.esri.com/software/mojava/evaluation.html>

---

**Re: Java GUI Ghetto components**

*By MarkBastian on 2/2/04 3:36 PM*

I don't know how you are defining "Ghetto Componenets", but I think that JViews stuff looks pretty hot.

---

**Re: Java GUI Ghetto components**

*By AndyScholand on 2/2/04 3:46 PM*

OK, I've requested pricing info from them

---

**Re: Java GUI Ghetto components**

*By MarkEhlen on 2/2/04 3:54 PM*

This is the team lead speaking: barring objections, I think we should look VERY closely at JView; it would expand our capability at relatively low cost.

---

**Re: Java GUI Ghetto components**

*By Mike Procopio on 2/2/04 4:03 PM*

I like it too. I don't think Andy really meant Ghetto, was just using it tounge-in-cheek in reference to our earlier conversation and my comments about the plethora of junk, low quality 3rd party "ghetto" components out there for Java.

--Mike

---

**Re: Java GUI Ghetto components**

*By MarkBastian on 2/3/04 11:25 AM*

I agree.

---

**NIWT Reuse/Implementation**

*By MarkBastian on 2/2/04 3:50 PM*

I have attached an image (niwt\_selection.jpg) to the pics section showing what I hope we can do with ArcIMS. In this image, I was able to turn on the layers, activate the EP Generation Plants layer, and block select an area around ABQ. I was nearly immediately given the list at the bottom of all of the results.

This functionality is what we need for the input selection screen.

---

**Re: NIWT Reuse/Implementation**

*By MarkEhlen on 2/2/04 4:02 PM*

Agreed

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**Re: NIWT Reuse/Implementation**

*By Mike Procopio on 2/2/04 4:06 PM*

Nice work. I'm assuming these components are Java components, or have a java version available? Or is this is "send me a jpg/gif" client/server one?

---

**Re: NIWT Reuse/Implementation**

*By MarkEhlen on 2/2/04 4:06 PM*

I was just on the phone with Detry, who outlined how we could use ArcIMS to (1), through jpeg art, outline a zone of interest, an impact type, and then (2) through a separate flexible data stream object (ESRI), get the data itself separately. In the future we could, if we think optimal, just use (2) for everything but I'm thinking that using the jpeg art will insure completion and get a proof of concept for this data task first. (I still think the graphics look scratchy but Dave Shaver may not be available to us.

---

**Re: NIWT Reuse/Implementation**

*By MarkBastian on 2/2/04 4:08 PM*

This is "hack a prot together using mspaint". I would anticipate that the REAL solution could use the "send me an image" method for the maps and would actually send the data to the client. If we think the maps are of low quality, we could do our own rendering. However, I recommend the easy path first (i.e. use the maps ArcIMS provides).

---

**Re: NIWT Reuse/Implementation**

*By MarkBastian on 2/2/04 4:06 PM*

Please see the attached "concept art". Something \*like\* this is what I am thinking we should be doing. As far as whether the maps are drawn by our renderer or the one returned by ArcIMS, we'll have to decide what is best.

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**SWT & Swing**

*By MarkBastian on 2/3/04 11:41 AM*

Can SWT and Swing components coexist in the same frame?

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**Re: SWT & Swing**

*By Mike Procopio on 2/3/04 1:07 PM*

Not good enough at this stuff yet to know for sure. My work so far suggests that SWT doesn't use a Swing "Frame," rather SWT components ("controls" in Microsoft speak, "widgets" in SWT speak) have their own main window (Shell). Therefore, Swing components require instantiation of a Swing frame (Frame or Window), and SWT components require instantiation on an SWT Shell object.

--Mike

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**Re: SWT & Swing**

*By MarkEhlen on 2/3/04 4:35 PM*

So as to resolve how to connect with the ArcIMS server and how to create simulation inputs from this data, I will be creating tester apps that can later be refactored by Mike/Mark. While the code will ultimately run as an object within others code, I may want to interact with it graphically. Should I start with an SWT shell object?

---

**Re: SWT & Swing**

*By MarkBastian on 2/3/04 4:43 PM*

I am not sure right now that we have agreed on a windowing API. I am using Swing because that is what I have the most experience, I am used to it, and I have a reference book for it. If SWT is going to be better than Swing, I need to change. If neither are better, than we should meet to decide what we like best.

Mike, you have had the most experience with SWT so far. What do you think, or is it too early to tell?

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**Re: SWT & Swing**

*By MarkEhlen on 2/3/04 4:49 PM*

Give the guy a week to explore ! :)

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**Re: SWT & Swing**

***By MarkBastian on 2/3/04 4:51 PM***

**NO!!! Must decide now!**

Really, though, I think it shouldn't be too hard to switch to

whatever API we finally go with after we've picked the best one. I just wanted to make sure we hadn't decided to go with SWT because we are checking it out. If you want a Swing shell, talk to me when you get a minute, I can help. If you want to do SWT, you are on your own (with the rest of us) until after the evaluation.

---

**Re: SWT & Swing**

*By MarkEhlen on 2/3/04 5:00 PM*

In the end, I think it is a 'control' issue: which is light enough but precise enough to create reliable and sharp GUIs. The last time I did this was when J1.2 first came out (maybe even J1.1.X); it wasn't called Swing yet.

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**Re: SWT & Swing**

*By MarkBastian on 2/5/04 12:39 AM*

Please see the new file "nable2\_results\_image1.JPG" for a look at some pre-alpha results viewing. With the exception of the graphics, everything you see is Swing. I realize this is hardly feature rich yet, but I think the L&F I am using looks pretty cool (see the sliders and the splitter bar).

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**Re: SWT & Swing**

*By MarkEhlen on 2/5/04 5:35 AM*

Very cool! In addition to the OpenGL clarity, I really like the clean control look. How did you get the "jelly" window sliders?

...This is minor question but: How are would it be to switch to SWT if this is what Mike determines in a couple weeks is optimal for the overall UI? I'm guessing not much...

---

**Re: SWT & Swing**

*By MarkBastian on 2/5/04 7:58*

AM

the answer re: L&F.

Please see the Eclipse FAQ for

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**Re: SWT & Swing**

*By MarkBastian on 2/5/04 8:08*

AM

The short answer is, "I don't know." Questions that **need** addressing are:

- How well does SWT work with Swing (SWT controls in a Swing app or vice-versa)?
- Can you embed AWT components into SWT shells? In particular, an AWT Canvas (This is the parent of a GLCanvas, which is where the GL rendering takes place).
- Can you easily change the L&F of a SWT app like you can in Swing?
- How hard will it be to port from SWT to Swing? I am doing everything in Swing right now, and it could be a real pain to switch over if we wait a month to start doing it.

I feel kind of like we are just dismissing Swing without giving it a chance. So far, I have had a great experience with it. All other things being equal (I'm not saying they necessarily are), Swing would be better simply because it is a build in library and is already cross platform.

8:52 AM

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**Re: SWT & Swing**  
*By MarkEhlen on 2/5/04*

I'm suggesting that we have the same discussion about that we had about .NET / Java. The bottom line is control for all programmers on clarity and speed. Having said this, I don't know squat about either. TA5 is full of folks who can help us...

2/5/04 11:03 AM

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**Re: SWT & Swing**  
*By Mike Procopio on*

Mark,

Nobody is dismissing Swing. In order to KNOW what we're talking about, we have to get some depth in each option. Right now, it's SWT's turn for us to do the deep dive (like we are here) so that we can understand it. No decisions have been made.

What we are seeing happening on this thread with SWT vs. Swing is happening throughout the Java community: the community is literally being "Split" among Swing vs. AWT.



I like your screenshot very much; you've been able to configure the v1.0 tree's feel by setting fonts, icons, etc. It looks great. Toolbars, menus, etc. we haven't seen yet.

That said, the argument regarding how Swing can look is accepted; it can be made to look fine. Nobody's that much of a stickler for looks (if it can be made to look good enough). However, FEEL and responsiveness of the application is key. SWT, the community says, has a much more responsive and (obviously) native feel to it.

FWIW, I don't think we're going to deploy on Java 1.5 (tiger), but it is comforting to know that it's accepted, stable, progressive, and has some healthy UI features and optimizations (Swing).

We do understand that the Open GL renders to an AWT component, and AWT/Swing and SWT interoperability is still something we're going to have to investigate.

In the end, Swing may indeed make the most sense, if that's what your stuff is most compatible with. That said, we should be very sensitive to the fact that the OpenGL renderer component has basically driven the choice for the ENTIRE N-ABLE client platform/language and, it would appear, the actual GUI framework, as well. This is dangerous, because although the OpenGL functionality is obviously core and central to the project, we might be compromising other parts of the software by dictating their implementation technology based on what is right for other components.

--Mike

---

**Swing**

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**Re: SWT &**

*By*

*AndyScholand on 2/6/04 1:48 PM*

Mike is right on target with the focus on responsiveness. This will be key, and remember the "Million Man March" - a good rule of thumb to keep in our minds as we evaluate the core technologies we build on. Whatever we choose, we need to have a responsive application at scales far greater than the typical testing problems (e.g. MarketTest).

I think Mark Ehlen has an old PNW define file somewhere that included a metric ton of entities. Mark, can you dig that up and post it to the Files section so we can do some stress testing?

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-  
**Re:**  
**SWT & Swing**  
*By Mike*  
*Procopio on 2/6/04 3:11 PM*

I found Mark's old large (5MB, 10MB) DEFINE files in my email archive and have posted them here in the files section.

Link  
below:  
Large  
PNW Define Files for, N-ABLE v1.0 Era

I tested these files with N-ABLE v1.0 back in November. My model building and tree building algorithms run in theta(n) time [worst case and best case in linear time], so it took a, er um, linearly long time to display them... About several minutes. N-ABLE v1.0 is short on progress bars for large operations (not a trivial thing to do).

--Mike

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**Re: SWT & Swing**  
*By AndyScholand on 2/5/04 9:02 AM*

From  
<http://download2.eclipse.org/downloads/drops/S-3.0M6-200312182000/eclipse-news-all-M6.html>

### **Embedding Swing widgets inside SWT widgets**

SWT now supports embedding Swing/AWT widgets inside SWT widgets. Until now, this support was internal and only worked on Windows. It is now working on Windows with JDK 1.4 and above, and on GTK and Motif with recent early access versions of Sun JDK 1.5.

This screen shot shows an SWT Shell containing a Swing JTable to the right of an SWT Tree:

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## **Concept: Hierarchical "File-Like" Structure for a Simulation?**

*By Mike Procopio on 2/3/04 1:36 PM*

One idea that has been maturing in my mind over the past development cycle for N-ABLE is the idea that Simulations as the atomic currency of N-ABLE are like Files are to file systems.

Indeed, what we have for v1.0 is akin to a traditional "Windows Explorer" file explorer view, with the list of Simulations and their details (size, owner, time) on the right.

We even have tasks and details shown on the left, similar to Windows XP. I had already sketched some v2.0 UI styles (see Pictures) that had the tasks more inline with the style that Windows XP displays in its own File Explorer.

Currently, our list of simulations is a flat hierarchy, that is, a SINGLE LEVEL. In other words, there are no "folders" or "subdirectories" within the Simulation List that provides any depth. Well, that's not entirely true; with the idea of "Workspaces," as currently implemented, selecting the Workspace from the drop down list in the upper right is like navigating one level deeper in the tree. In other words, a workspace is really like a folder within which simulations which correspond to that work space are listed.

Now that we've got some background on the analogy, I was toying with the idea of having a more hierarchical list of simulations. Does this make sense in any mental model?

We could make the sims folder structure however we want. I would ALSO have an option to abstract away ALL folder and just list every sim possible. So then you wouldn't "have" to use the treeview to navigate there. NOTE that this is a fairly progressive mode, in that Microsoft's future WinFS (windows File System) is based on getting to your files (simulations) via intelligent search and the abstraction of the folder tree / file system hierarchy.

So, we could have:

PNW

    Important Findings

    Experimental Sims

        Mark Ehlen

Developers

    Mike

    Mark

    Eric

California

    Important Findings

    Experimental Sims

        Andy

Each folder (including intermedia folders) could have Simulations stored there. Each simulation would have LOTS of metadata so we could have a powerful search function.

For now, with simulation volume as low as it is, the value may not be clear. But, as more and more simulation datasets are told to stick around permanently and persist, some way of archiving them becomes important. Archives do well with metadata + multilevel hierarchies of folders. And voila, like that, we're right back at SimLib.

This can be seen then more as an N-ABLE sim lib. We're archiving sim results sets (files of XML records, as it turns out).

---

**Re: Concept: Hierarchical "File-Like" Structure for a Simulation?**

*By MarkEhlen on 2/3/04 4:39 PM*

I think we have learned that this tree analogy for workspaces would be best as a tree, WITH the "all sims" list also. Anything more complex than this tree would likely confuse users.

What I am dying for is a simple SimLib structure we can use, even if only metaphorically, so that we can put structure to entire ANALYSES.

---

**Re: Concept: Hierarchical "File-Like" Structure for a Simulation?**

*By MarkBastian on 2/6/04 3:33 PM*

In terms of showing such a structure, I like the "TreeTable" idea shown here:  
<http://java.sun.com/products/jfc/tsc/articles/treetable1/index.html>

Yeah, please ignore the L&F.

---

**Re: Concept: Hierarchical "File-Like" Structure for a Simulation?**

*By Mike Procopio on 2/6/04 3:44 PM*

I've also been investigating SWT's TableTree:

<http://www.eclipse.org/documentation/html/plugins/org.eclipse.platform.doc.isv/doc/reference/api/org/eclipse/swt/custom/TableTree.html>

Here's the picture (in the pictures section):  
SWT TableTree Example.jpg

Note that a TableTree has a clever, but curious and not completely natural, UI interaction associated with it.

At least, in the Windows (Mac users chime in), hierarchical data with items that have columnar data are traditionally associated with a "File Explorer" view, that is, a tree of folders or containers on the left, and a list of items and their columnar information on the right. (N-ABLE v1.0 currently only implements the "list" part of this and not the tree part of this.)

---

**Re: Concept: Hierarchical "File-Like" Structure for a Simulation?**

*By MarkEhlen on 2/24/04 8:38 AM*

Macs have a (only intuitive to Mac users) tree with a rotating triangle. This is perfectly fine: it is consistent with an OSs users getting their OS controls.

---

**Re: Concept: Hierarchical "File-Like" Structure for a Simulation?**

*By AndyScholand on 2/6/04 4:38 PM*

OK, that thing  
(<http://java.sun.com/products/jfc/tsc/articles/treetable1/index.html>) is 'coyote-ugly' - as in I would chew off my own hand before using the thing.

---

**Simulation? Re: Concept: Hierarchical "File-Like" Structure for a**

*By MarkBastian on 2/6/04 11:59 PM*

Hey, I already said it wasn't pretty. That weird purple background would make even the strongest UNIX lover puke. I think a simple change in L&F would fix the problem, though. The SWT one has its issues, as well. It looks like it was designed by a Windows 3.1 programmer.

Appearances aside, though, I do prefer how the Swing version doesn't put the tree rows in separate cells. That looks a little weird to me. It kind of breaks the tree up. I am assuming you can disable the table lines in the SWT version, though. That would give a similar look as the Swing version.

---

**Simulation? Re: Concept: Hierarchical "File-Like" Structure for a**

*By Mike Procopio on 2/9/04 11:00 AM*

Those lines are called "gridlines" and are an optional style feature for the Windows Listview (and SWT TableTree that is based on it).

--Mike

---

**Re: Concept: Hierarchical "File-Like" Structure for a Simulation?**

*By Mike Procopio on 2/6/04 4:00 PM*

I agree. I am starting to feel strongly about the concept of "File Folders" being able to store certain simulation file types. Simulation DEFINE file; Simulation Results; Text Chat transcripts; relevant screenshots; images; etc. Each of these, when browsed within the N-ABLE client, could do specific, intelligent things (open up Sim Editor, open up Sim Results window, open up special N-ABLE transcript window with text chat synced to Sim Results; etc.).

This would appear to be one of the goals of SimLib, though.

This wouldn't be hard to do at all; the tricky thing is storing the files in an intelligent way on a central server.

--Mike

---

**Re: Concept: Hierarchical "File-Like" Structure for a Simulation?**

*By AndyScholand on 2/6/04 4:40 PM*

OK, but I would rather have all these things located in space rather than in a series of nested folders. So, when I enter the PNW-DHS-March-Analysis workspace, I see a chat window in the lower left hand corner, sim results in upper right window, etc.

We are going to look at the LANL stand in for SimLib too. It would be nice to have something we can develop against.

---

**Re: Concept: Hierarchical "File-Like" Structure for a Simulation?**

*By AndyScholand on 2/6/04 2:11 PM*

I really like this idea.

The metaphor of sub-folders may also make some context-dependent functionality easier to use. For example, assume for a moment that chat is implemented in such a way that each workspace carries its own channel. Subfolders would then make it easier to display the chat relevant to the simulations in that workspace.

Another metaphor is the Groove-like one of tabs across the bottom of a main tab. However, the problem with that approach is that as the number of workplaces scales, the tabs become smaller and harder to read.

---

**Ruminations on the idea of "Scenarios" in the context of N-ABLE**

*By Mike Procopio on 2/3/04 2:08 PM*

We were discussing some "use cases" about N-ABLE in one of the meetings we've had in the past week or so, and I had the idea then that one effective device within N-ABLE was the idea of "Scenarios."

I can't remember my exact thoughts, but it had something to do with a Scenario being a higher level construct than a Simulation, perhaps with some metadata. A Scenario would perhaps be the basic structure that an Ops Center analyst would use and find value in, and my current thinking is that it would be tied closely with Mapping information. I think it could be related visually and in terms of interaction to the mapping related screenshots that Mark Bastian put together recently.

Taking it a step further, I see map information on the inputs side as eventually creating a standard DEFINE file. This might be a one-way operation. A Scenario could be the persistable state of the MAP selections themselves, BEFORE they got translated (one-way, that is, irreversible) to a DEFINE file, so that the high-level map selections (that is, the Scenario) could be modified and then used to create additional simulations.

Just some thoughts. Scenario is both a hard hitting work and concept, especially when you start targeting users who are working in the domain of CIP, particularly "event" driven, fast-response natured CIP.

--Mike

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**Re: Ruminations on the idea of "Scenarios" in the context of N-ABLE**

*By MarkEhlen on 2/3/04 4:43 PM*

Okay, at this point I say WE make the SimLib structure to fit our needs. Here is a strawman hierarchical structure:

```
Analysis 1
  Introductory data
  Scenario 1
    Inputs
      Map 1, Map 2, Map 3
      Infrastructure included
      Disruption characteristics
    Simulations
      Simulation 1
        Inputs
        Models
        Outputs
      Simulation 2...
    Results
      Simulation data
  Scenario 2
  Analysis Summary
  Conclusions (e.g., policy implications)
Analysis 2...
```

This would 'can' a simulation in report form. This would be easy to implement in a separate Java 'container'. EACH item could contain threaded discussion, files, pictures etc that (as you Mike pointed out) could also be displayed in a structured 'long list' form. One could argue that John B should be doing this but I would argue that we can't afford to wait.

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**Re: Ruminations on the idea of "Scenarios" in the context of N-ABLE**

*By AndyScholand on 2/6/04 2:19 PM*

I'm going to talk to Brian Bush to see if we can get the ICE sim lib equivalent to work for us sooner rather than later. That way we can start programmatically interfacing with it.

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**SWT GUI Editors/Builders**

*By AndyScholand on 2/5/04 8:58 AM*

<http://www.swt-designer.com/>

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**Tiger (Java 1.5)**

**By AndyScholand on 2/5/04 5:18 PM**

## **BREAKING NEWS: Java's "Tiger" Roars - J2SE Version 1.5.0 Available in Beta Release**

February 5, 2004

### **Summary**

Sun has just released J2SE 1.5.0 Beta1, calling it "a major feature release" - new features since 1.4.0 include new language updates, a new JVM monitoring and management API, and improved out-of-box performance, says Sun's official announcement.

**By [JDJ News Desk </author/?id=2736>](#)**

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Advertisement

The next major revision to the Java platform and language, version 1.5.0, is now [available <http://java.sun.com/j2se/1.5.0/index.jsp>](http://java.sun.com/j2se/1.5.0/index.jsp). J2SE 1.5 has been developed under the Java Community Process as Java Specification Request (JSR) 176, which is led by Sun and an expert group of industry-recognized corporate and individual developers. The JSR recently won a unanimous vote in the JCP Executive Committee, making way for the beta program to officially open, and accept participants immediately.

New features incorporated since the last "major" release - 1.4.0. - include: New language updates: Metadata, Generics, Enumerated types, Autoboxing of primitive types New JVM Monitoring and Management API Improved out-of-box performance **New (but compatible) default Java look and feel**

"Java technology gives developers the best platform for innovation and ease of development," said Mark Bauhaus, Sun's vice president, Java Web Services, announcing the release. "J2SE 1.5 marks a tremendous achievement for the Java development community, and is a key milestone in the Java technology roadmap," he continued. "These Java programming language enhancements appeal to a broad variety of Java developers by harnessing the power of the Java platform and allowing developers greater to access it."

Monitoring and manageability is a key focus for the release, Bauhaus pointed out, adding that 1.5 features improvements that allow Java technology-based applications created on the J2SE 1.5 platform to be deployed into existing SNMP-based enterprise management systems. "This allows the JVM software to be monitored and managed for higher levels of reliability, availability, and serviceability," he explained. Also new in J2SE 1.5 platform is the inclusion of the Java Management Extensions (JMX), delivering out-of-the-box deployment to enterprise management systems that support JMX. For more information on Java 2 Platform, Standard Edition 1.5.0 Beta 1 and to participate in the beta program, visit [here <http://java.sun.com/j2se/1.5>](http://java.sun.com/j2se/1.5).

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**Re: Tiger (Java 1.5)**



*By MarkBastian on 2/5/04 8:19 PM*

JAVA ROCKS!!! When do we want to adopt? I vote for now, even though it is Beta 1.0.

---

**Re: Tiger (Java 1.5)**

*By Mike Procopio on 2/6/04 11:06 AM*

I think a little more cautious evaluation would be prudent. That said, as we learned at the JavaOne conference last year, Tiger has lots of good stuff to offer, including, very importantly, Generics (typesafe collections).

--Mike

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**System Requirements For NABLE 2.0 Deployment**

*By MarkBastian on 2/6/04 10:17 AM*

What system requirements should we expect N-ABLE users to have? Specifically, I am asking because of the JVM's belief that all computers have 64MB of RAM. I am currently doing this to the JVM: -Xms512M -Xmx512M (assuming 512MB). Should we use 512? More? Less? How much would Sydney Bristow have?

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**Re: System Requirements For NABLE 2.0 Deployment**

*By AndyScholand on 2/6/04 2:16 PM*

This is relevant especially with respect to Op Center customers (DHS, NETL, etc.) who will purchase the equipment we tell them they will need.

I think 512 is reasonable.

I would add we need to spec out the graphics card somewhat, since I know we've had issues with OpenGL display on the IBM laptop Mark E. had before his current one. Again, how much VRAM is on the card? Fixing this spec will make the graphics work a lot easier.

---

**Re: System Requirements For NABLE 2.0 Deployment**

*By Mike Procopio on 2/24/04 11:00 AM*

Good point about our customers buying equipment to spec. I don't think RAM or CPU will really be an issue; the graphics card is probably the biggest thing we should be concerned about.

Graphics Cards are the biggy; I'm especially worried about the "Mobile" editions of the graphics cards found in many laptops. I REALLY feel like I've tried to run a few 3d apps (basic games) on "3d accelerated video card" equipped laptops, and it's as if everything were software rendered; specifically, ATI's Mobile Radeon (on my top end IBM Thinkpad) never seemed to do any better than a \$15 "Jaton Video" video card w/ 2 MB ram. (Sigh.)

Mark Bastian, what do you think about video ram? I'm thinking 32MB required, 64MB

recommended; 128MB top-end. That pretty much reflects the bottom of the barrel <--> mid end consumer <--> top end consumer video card VRAM spectrum currently available.

--Mike

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**Re: System Requirements For NABLE 2.0 Deployment**

*By MarkBastian on 2/24/04 9:33 PM*

I agree. 32MB is about what you can expect on an "average" laptop, even the good ones. Laptops really fall behind desktops when it comes to graphics.

The primary thing I look for is driver/version support. Right now, I believe we should have a hard line requirement that graphics cards be OpenGL 1.2 compliant. This is a pretty low expectation, in my opinion. Current vendors are manufacturing cards to the 1.5 spec.

Somewhat off topic: I wish we could force at least 1.4 compliance. :( I would really like to do some cool stuff with the latest hardware. I will probably do some work in this area but make those developments "unsupported" or "experimental". They would only be in-house demos that we would show in controlled environments.

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**Re: System Requirements For NABLE 2.0 Deployment**

*By MarkEhlen on 2/24/04 8:41 AM*

Sydney has at least 256 ram; as does Vaughn (or "Michael" in the second season)

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**Re: System Requirements For NABLE 2.0 Deployment**

*By Mike Procopio on 2/24/04 10:54 AM*

Dream on Ehlen. As if you KNEW how much Sydney has of ANYTHING. :)

I, on the other hand, am QUITE familiar and would be glad to provide any information you were curious about :).

Back to the question at hand, I think we should require 128MB, and recommend 256MB. My UIs will require a 256 color display (more is OK)--you can get beautiful UIs and icons with 256 colors, it's cool ;). Resolution of the display doesn't matter; Mark B.'s and my UI's always are intelligently resizable and will accomodate whatever size display they run on.

CPU? I'm thinking 500Mhz required, 1 GHz recommended.

Win2k+; No Win98, No WinME, no NT4.

Mark, what do you think about vidoe cards? Nvidia GeForce2-generation (1999) or better recommended, but we can support down to... Nvidia TNT generation?

---

**Re: System Requirements For NABLE 2.0 Deployment**

*By MarkBastian on 2/24/04 9:48 PM*

Sydney would have 256 MB of Video Memory and 2 GB of main memory. The rest of us aren't usually as privileged.

I think a PIII should be required. That fits right in with Mike's 500MHz spec.

I agree on OS. Win2K+ OR Panther (We are doing a Mac version, RIGHT???)

OpenGL 1.2 should be the baseline. I believe TNT is 1.2 compliant, but am not positive. GF2 is definitely OK, but I would say GF3 is preferred (FYI, the GF3s are all 1.3 compliant). I would guess that nearly every card being used today (except for the garbage) is 1.2+. Usually, if a card fails this standard, it is because the user has the wrong drivers, not because the card is too old.

As far as display resolution goes, I believe we should require a minimum color depth of 16 bit. If all your computer can handle is 256 colors, I will personally give you a shiny new quarter so that you can buy a brand new no-name brand video card which has 16 bit color.

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**Some other folks' thoughts on SWT/Swing**

*By Mike Procopio on 2/11/04 12:01 PM*

<http://groups.google.com/groups?hl=en&lr=&ie=UTF-8&oe=UTF-8&safe=off&threadm=Xns93299723BCA5Aarnoutstandaertagrku%40134.58.127.12&rnum=4&prev=/groups%3Fq%3Dswt%2Bvs.%2Bswing%26hl%3Den%26lr%3D%26ie%3DUTF-8%26oe%3DUTF-8%26safe%3Doff%26selm%3DXns93299723BCA5Aa>

Scroll up to the top post.

I found one post to be very informative:

*Just my \$0.02 worth, your mileage will vary:*

*Swing is blessed by Sun, regardless of its advantages or disadvantages, it is the quasi-standard way to do GUIs in Java. In my experience, using Swing goes a long way towards getting similar looking apps (GUI-wise) on multiple platforms. Generally, my users found it slow and were disappointed with the L&F, and in at least one case, they refused to compromise. They changed their requirements to drop all else but the Windows platform, and were willing to redo the work in C++/OS libraries.*

*The Swing GUI objects and the native GUI objects were at times at odds with each other on Windows.*

*SWT imo goes a long, long way towards eliminating the speed and L&F weaknesses, and lets you have all the other benefits of working with Java. L&F feel is great (my users found SWT apps to be indistinguishable), and the performance more than acceptable, no one really noticed that it was a Java application.*

*I did find some quirks (probably due to my own incompetence or otherwise) where certain things didn't work as expected in say Linux as they did in Windows. Nothing earth-shattering, and I was able to work around them.*

*It is clear which one I prefer, because I feel that SWT is the way to go -- instead of a common denominator approach which favors 'seamless' portability more heavily than anything else, SWT does it right, it gives me the option of making it as good as the platform I choose to run it on.*

*I don't always have that choice though, because some customers cringe at the 'non-standard'ness, or the fact that open-source is not for them.*

*Just because Java is cross-platform, does not mean that my products have to be cross-platform as well, that is a business decision. In quite a few cases, my customers have a platform of choice, and don't want to pay anything extra for the other ones. And supporting multiple platforms is extra cost, no matter how much cross-platform Java is or claimed to be. Testing and QA alone cost a lot.*

*I find it unlikely that Sun will bless SWT, so your choice may be dictated by practical considerations. If you have the option, and have control over all development of your product/project, and are comfortable with open-source software and its principles, I would definitely recommend that you consider SWT.*

*I find more help online for Swing, than I do for SWT, so that may be another consideration.*

*Good luck, and I hope that some of the drivel was useful.*

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**Re: Some other folks' thoughts on SWT/Swing**

*By MarkBastian on 2/11/04 11:24 PM*

Hmmmm. Well, it is very important to realize that this is just one opinion. I don't want to cause a flame war here, but I feel the need to post some "balanced" opinions in which people lean the othe way. Rather than paste the full text, I'll just show the links.

<http://www.logemann.org/day/archives/000008.html>

<http://shemnon.com/speling/archives/000085.html>

[http://today.java.net/cs/user/view/cs\\_msg/1682](http://today.java.net/cs/user/view/cs_msg/1682) (Also has args against Swing. Eventually falls apart into a polite flame war.)

<http://weblogs.java.net/pub/wlg/662> (Both sides weigh in here, too)

There are plenty more like them. I think we could both generate pages of material saying why SWT is better than Swing or vice-versa.

As far as I can tell, the major arguments against Swing are that it is slow and ugly. I would like to address both of these claims:

Claim 1: Swing Apps are Slow

I have yet to see anything that conclusively demonstrates that Swing is slow. In my own experience, the N-ABLE 2.0 Results Viewer is very fast. I also haven't seen any slowness with the things I have done for DIISA.

Claim 2: Swing Apps are Ugly

I think this claim is 100% false. There are many very nice looking, free L&Fs out there that give a killer look to Swing apps. For example, check out <http://www.jgoodies.com>, <http://www.incors.org/>, or <http://www.l2fprod.com/>. I would take any of these looks over the standard Windows look. They are just plain COOL!

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**Re: Some other folks' thoughts on SWT/Swing**

*By Mike Procopio on 2/12/04 11:25 AM*

Excellent points. You'll of course notice the thread I referenced was split approximately 50/50 between arguments supporting SWT, and those supporting Swing.

Unfortunately you missed my point, apparently, so I'll try a little harder. That post (the Google Groups one I linked to) does a great job of summing up some of the core advantages and disadvantages of SWT and Swing, as well as some scenarios where it makes sense to use one or the other.

Indeed, that thread does in fact represent the "balanced" opinions that you're looking for.

**Also, allow me to respectfully point out that the major arguments against Swing are NOT that it is slow and ugly**, as you presume below. Those are two arguments in favor of SWT over Swing, but there are other arguments against Swing as well, some of which I will mention here.

Don't forget that Swing was built entirely around functionality that we don't really need: SIMILAR (but not identical) looking, feeling, functioning, and performing UIs across all platforms that Java supports. **Compromises** were introduced into the look, feel, functionality, and performance to achieve this end goal. We only really need to support Windows machines; the feeling we should get is, why compromise in some areas to gain functionality in other areas that we don't really need?

Another point is that Swing's complexity is VERY high and its programming models VERY different than most of the other GUI frameworks out there. This, again, was necessitated by that end goal of **similar experience** and **functionality** across all platforms, the most critical goal for Swing, and one that it achieves successfully.

Related to that complexity is the high potential for there to be bugs in the Swing framework. Granted, Swing is maturing, and is more stable and high performing with Java 1.4.2 than ever (we'll save consideration for the 1.5 Beta Swing for later). That said, Swing is DWARFED in its infancy by the relative maturity of respective native operating system components. No doubt that the current TreeView and ListView--shipped with the "common control" DLLs in Windows 2000/XP--represent some 15+ years of development and iteration, stemming back since Windows 3.0 and before. Millions of instances of these controls are created and used every minute of every day across the world. You have to acknowledge that these controls, as a result of development and intense testing (and also being at the core of the Windows GUI system), have effectively achieved perfection (as much as a software component can). Check out a tour of Windows Treeview components, starting here: Windows 3.0 -- Early

Treeview and Listview, Circa 1989.jpg

Continuing, SWT is not really a GUI framework. It's an abstraction of native OS GUI components. All it does is quite scientifically, rigorously, and robustly interface with native OS components in terms of styles, message loops, message pumps, and events. I mean, the whole SWT Windows DLL is 300k, and all the SWT styles and Java code form a 1MB .JAR file. In other words, it doesn't IMPLEMENT any components really; SWT is just an interface between Java code and the native OS components. Some people think this is the natural, obvious solution, while others (clearly at Sun) opt for the "let's do it ourselves from scratch" method. For all we know, that could have been a politically motivated decision. "Uggh... Should Sun support and be dependent on MS components [TreeView, ListView]? No way!" Politically there really is no way they could do that and still be Sun, of course. That said, there is talk of putting SWT into J2SE at some point in the future.

Another note related to complexity is programmer capability and effectiveness in relation to the N-ABLE code base. I am able to apply my general knowledge of UIs and UI frameworks directly to SWT; its model is common and easy to understand. Part of the reason for this, no doubt, is that SWT's model is closely related to the WinForms GUI model that Windows uses (and, as it were, similar models that Mac and Linux use). Future programmers will be able to easily maintain this code. Swing is really a niche capability, an area where you really have to be an expert to get it right (and by "right" I mean high performing, nice looking UIs). One of my points here is that learning curve to Swing is higher than SWT because of its complexity and uncanny GUI framework architecture. Further, the things you can do with it given a learning time **t** are, in my humble opinion, less than what you can do with SWT in the same time, and, almost certainly, you will not have a healthy Swing UI. There are beginning, intermediate, and advanced Swing mistakes that everyone must make before they can create an effective, high performing UI. Remember the expert consensus is that Swing **can** look good and run well, but it takes somebody really good at it--a Swing expert--to do so. Usually, though, they just look horrible, and that's what the user gets. The user deserves more, of course. And any users who use *my* software will get the good experience that they merit, because good user experience is a **cornerstone** of the ideology and methods of my personal software development.

Allow me to preempt the argument that "SWT makes you manage your own resources." This is true; it basically means that you have to call a dispose() method on your forms and control support objects when you're done with them. People whine about this because they're never coded in anything BUT Java and have NO clue about resource management, which is in fact a rudimentary programmer skill. Welcome to the world of high level programming languages: enabling people to do cool things, people who have no idea about what really is going on. Experts acknowledge that this, of course, is a really dangerous for software and for users of software.

Next, allow me to provide a rebuttal for your own counterpoints for "Claim #1" and "Claim #2" below. You want conclusive proof to demonstrate Swing is slow. Nobody is saying it is *\*that\** slow, especially on your 2.X gigahertz machine. However, rest assured, it is definitely slow in comparison to Native components. There is no getting around this. Java as we deploy it is an INTERPRETED language. Any given Swing (read: interpreted Java) application is going to be less performing than the equivalent app using native GUI components. There are no exceptions to this: it's a fundamental principle based on the science and architecture of Java vs. any natively executed code (high level language code that is compiled to machine code, not to byte code or an intermediate language). Period. And yes, your early prototypical N-ABLE GUIs (do you plan to build the GUI for the N-ABLE project, by the way?) will be fast: they consist of all of a few components! The problems start happening when you go for more and more complex interactions.

Regarding Claim #2, yes, Swing has the pluggable L&F (look and feel) feature. We would use L&F on Swing to give a native look for that particular OS.

You state, "*I would take any of these looks over the standard Windows look. They are just plain COOL!*" Mark, allow me to respectfully suggest you give a read to Alan Cooper's *The Inmates are Running the Asylum* (I can lend you my copy). Cooper's thesis is that for years and years bad UIs that are unintuitive, unconventional, and lead to "cognitive friction" with the user (BAD!) are the DIRECT result of programmers thinking "*This is cool!*" Programmers (typically) don't make good designers. That's why, more and more, Microsoft employs DESIGNERS to create GUIs and PROGRAMMERS to implement them. Another corollary to Cooper's thesis, one that is echoed and echoed in the literature (by that I mean all the UI books out there) is that **NO**, you don't want something unique and "cool." You want something that *obeys convention* so as to deliver a UI that looks and functions *CONSISTENTLY* with every other application that the user has experienced. That way, they can actually USE it: minimal cognitive friction. This principle extends to things like microwave ovens and car radios, as well. Great.

I would submit that the idea--our goal--is to provide distinction and gain favor with **FUNCTIONALITY, CAPABILITY, and PERFORMANCE**, and NOT with "how it looks." How it looks is dictated by fairly strict guidelines, ranging from Command Button text and layout to when and when not to put "..." on your menu options. You want it to look nice, run well, and in our particular case we're trying to avoid the "Research Software" look.

Even I am not immune to falling unto this "trap" of programmers designing UIs, though admittedly my situation is a bit different. N-ABLE v1.0 juxtaposes obeying the most rigorous conventions (menu system, ListView functionality, tooltips, context menus) with some of my own style and functionality innovations. *But I'm allowed.* I'm allowed to break the rules, because I know the rules. Such is the license of an expert in his area.

Mark, I want to make sure we keep this debate intelligent and productive. If you'd like to offer any well-thought out comments on my points in this post, I'd love to hear them. On the other hand, if you want to pose as an SWT vs. Swing reactionary, and just post emotional feelings, I'd rather not hear about that.

Finally, I want you and the team to know that I maintain an open mind about this. I have not made up my mind on the SWT vs. Swing thing; no decisions have been made. I trust that you're in the same boat, for the sake of the team and for the success of the N-ABLE product.

--Mike

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***Re: Some other folks' thoughts on SWT/Swing***

*By MarkBastian on 2/12/04 2:32 PM*

*"Excellent points. You'll of course notice the thread I referenced was split approximately 50/50 between SWT and Swing."*

I agree that the thread was pretty well split, but I do think quoting a pro-SWT user exclusively does give the appearance of a little bias in the post. In a topic this heated (It is a heated topic, just Google "SWT vs. Swing") it is hard to find a completely unbiased participant. However, in the interest of peace, here is an article you might like

even better, written by a Swing proponent (<http://weblogs.java.net/pub/wlg/633>). I do think the author has gone overboard in trashing Swing, but he makes some good points. Maybe he had a bad day when he wrote the article. I think this article is a little better (<http://weblogs.java.net/pub/wlg/628>). To summarize it "I think the hard part of delivering a Java GUI has to do with things like threading and custom painting and delivering a polished, intuitive user experience... things that a GUI builder [meaning a tool, not a programmer] doesn't address." I think you made this point yourself, if not in so few words.

*"Don't forget that Swing was built entirely around functionality that we don't really need: SIMILAR (but not identical) looking, feeling, functioning, and performing UIs across all platforms that Java supports. **Compromises** were introduced into the look, feel, functionality, and performance to achieve this end goal."*

Are you saying we need identical look, feel, etc. across multiple platforms; or are you saying that we don't need multiplatform UIs? I believe you mean the latter. If this is the case, I think we don't know yet. As much as Mark, Andy, Eric, and I (soon) use OSX, I think it is a bad idea to restrict ourselves to Windows.

*"Related to that complexity is the high potential for there to be bugs in the [Swing] framework. [Microsoft controls] have effectively achieved perfection (as much as a software component can)."*

This argument is similar to the "infinitely many eyes make all bugs shallow" argument the open source community makes. That statement is untrue, and I don't believe the statement "Infinite time makes all bugs shallow" is correct either. It is certainly true that more eyes and more time make for less bugs, but I think there is enough water underneath Swing's bridge for most of its components to be fine (Not necessarily bug-free, but are Windows components completely bug free?). There are certainly a great many Swing users out there who have had plenty of time to report the bugs they have experienced. Note that Swing has been around longer than SWT and is **arguably** the standard for Java GUIs.

*"All it does is, quite scientifically, rigorously, and robustly interface with native OS components in terms of styles, message loops, message pumps, and events."*

I have read enough posts about non-MS implementations of SWT to make me question the scientific rigor and robustness of those implementations. In particular, I have seen several comments regarding SWT slowness on OSX. This does concern me. I really don't care about performance on a Linux box (Yes, my true colors are showing.). I don't think we can successfully equate SWT with "perfect native implementation" yet.

*". . . others (clearly at Sun) opted for the "let's do it ourselves" method. For all we know, that could have been politically motivated."*

There are those at IBM who have a "let's do it ourselves" method as well. That is why we have SWT. IBM could certainly have gone through the JCP instead of just blazing their own trail. Although I agree that Sun's intentions aren't *entirely* altruistic, they are trying to keep the JCP going and the Java community together (<http://today.java.net/pub/a/today/2004/01/30/letter.html>). Sun's motivation may be for political reasons instead of "community" reasons, but there are also survival reasons as well. A fractured Java community will turn people away, and .NET is the alternative.

WRT the next paragraphs, I agree that the Swing model takes more effort to implement effectively, but I think the statement "*you will not have a healthy Swing UI*" is not well qualified. I am not even sure what that means.

Yes, people should learn about memory management. I agree with you on this completely.



Yes, I agree that native components will run faster than interpreted. I don't believe that this means terminal slowness, or necessarily even undesirable slowness.

I agree with you that function (especially user interaction) precedes form. However, the frequent argument that **all** Swing UIs suck (note the article I linked to above) is wrong. I think there are many examples, such as what you see at jgoodies.com that demonstrate good **looking** UIs, independent of interaction. User interaction is up to the UI programmer/designer. There are no reasons good conventions and interactions can't be maintained with Swing that I can see so far.

I also don't think a non-default look destroys the experience. For example, I can customize the appearance of WinXP and maintain the user interaction. All other things being equal, I would rather have a cool looking GUI than an ugly one.

Mike, I also want this to be an intelligent and productive debate and don't feel that anything I have said here or previously is overly "reactionary". Of course, responding to a post is a reaction, since the opening post was there first. I just want to make sure that both sides of the debate regarding UI technologies are heard, and I will continue to make sure that they are heard. My opinion is still that we need compelling evidence that Swing **isn't** up to the task before we drop it.

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### **What's new in SWT 3.0? ENHANCEMENTS**

*By Mike Procopio on 2/11/04 12:42 PM*

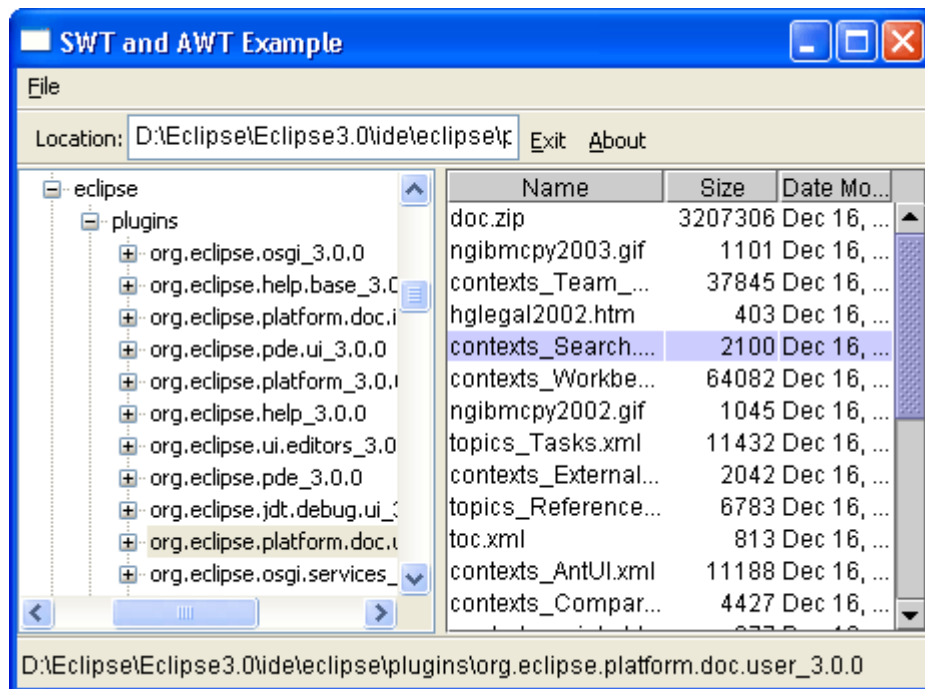
<http://www.eclipse.org/platform/index.html>

Read thoroughly the "New and Noteworthy in SWT for 3.0" Milestone sections

Notable enhancements:

1. Significant MAC OS X support;; improved performance on Mac OS X
2. Multi-monitor support
3. Native Web Browser support on Windows (What about Mac?)

#### **4. INTEGRATION of Swing components inside SWT Shells (or SWT windows)**



This is very significant, since it means Mark Bastian's OpenGL visualizations--rendered to a Swing component--can easily be plopped on an SWT form.

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### Re: What's new in SWT 3.0? ENHANCEMENTS

By EricEidson on 2/13/04 10:58 AM

Howdy,

Can you clarify -- are you saying that MarkB can develop in Swing, and that you (Mike) can develop in SWT and that you can glue the components together anyway?

That might make everyone sorta happy, though the sample does look a bit like Frankenstein's monster.

Eric

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### Re: What's new in SWT 3.0? ENHANCEMENTS

By MarkBastian on 2/16/04 7:42 AM

It is my belief that whatever windowing API we go with should be used across the board to the extent that this is possible. Although the sample is a bit ugly, the graphics window should be rendered completely from an OpenGL context, so you wouldn't see any of the "Metalness".

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### Re: What's new in SWT 3.0? ENHANCEMENTS

By MarkBastian on 2/23/04 12:33 PM

From <http://www.onjava.com/pub/a/onjava/2004/02/18/eclipse.html>:

"The 3.0 release will introduce Swing/SWT interoperability, but initially this will only be supported on some platforms. The Eclipse team explained that the SWT architecture renders user interfaces by calling on the underlying operating platform to paint widgets. Swing emulates interfaces by painting widgets bit by bit. Successful SWT/Swing integration, demonstrated at EclipseCon running on Windows, requires platform-specific code written by the Eclipse team. On Windows, this means that existing Swing components can be reused and will talk across a bridge to the SWT components in the same application. Eclipse 3.0 will have a product-quality version available for Windows and an early access for Linux. This feature is not yet supported in any way on other platforms."

Does this mean SWT/Swing interop is not yet available for OSX yet? If so, this is a bad thing. Has this issue been fixed already? I hope so.

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**Re: What's new in SWT 3.0? ENHANCEMENTS**

*By Mike Procopio on 2/23/04 1:00 PM*

We need to do more research, but it sounds like Swing/SWT interop may not be supported for the Mac platform.

Then again, we need to really figure out whether or not we're going to support a Mac OSX client. I agree it would be cool, but it may not be worth the effort; and it may not merit being a factor in our decisions for technology use (if it's not going to be supported).

--Mike

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**Re: What's new in SWT 3.0? ENHANCEMENTS**

*By MarkEhlen on 2/24/04 8:47 AM*

My personal (non team lead) assertion is that we should go cross platform SWT. But we may get bitten on some GIS stuff that may only be SWT. I am working on some solutions to support your (all) development efforts...

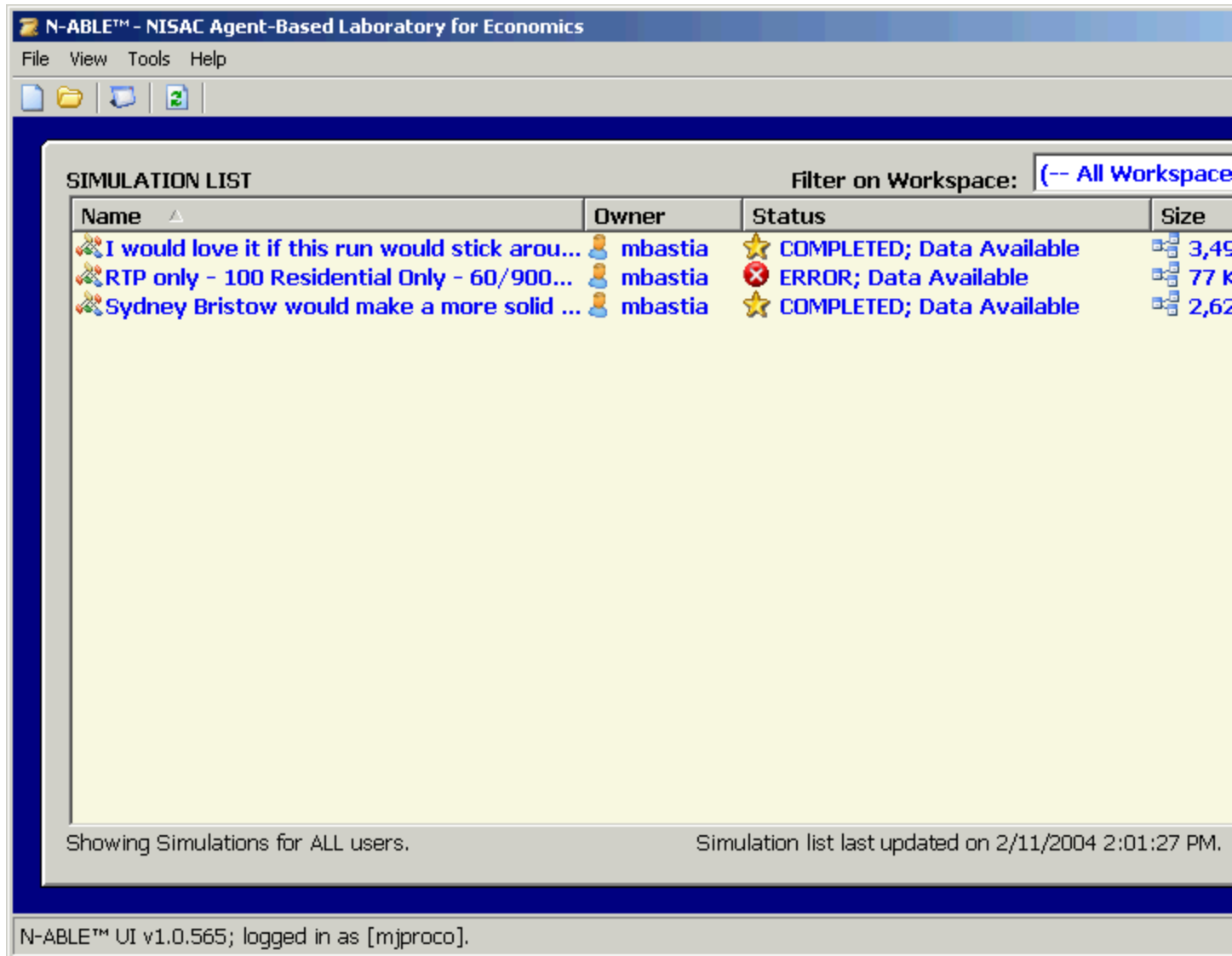
M

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**CONGRATULATIONS to Team: 2.6 GIGABYTE Simulation**

*By Mike Procopio on 2/11/04 2:01 PM*

Well, maybe this is common place for youse guys, but right now on the SimStreamer there's a 2.6 GB simulation dataset.



WOW! That's a lot of data. Congrats to Mark Bastian (his simulation), winner of the LARGEST successful simulation and dataset I've seen to date, as well as one of the most creative simulation titles I've seen, too! :)

--Mike

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**Re: CONGRATULATIONS to Team: 2.6 GIGABYTE Simulation**  
*By MarkBastian on 2/11/04 9:59 PM*

TY, TY Very Much!! I always wanted to run a real big simulation. I actually just picked a file and ran it because I needed some data.

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**Re: CONGRATULATIONS to Team: 2.6 GIGABYTE Simulation**

*By MarkEhlen on 2/24/04 8:46 AM*

I am now running big tests, but my size is listed as "{unknown}". Why?

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**Re: CONGRATULATIONS to Team: 2.6 GIGABYTE Simulation**

*By Mike Procopio on 2/24/04 11:05 AM*

I will research this for you now... I'm not sure if {unknown} indicates an ERROR processing the size, or not.

NOTE that Eric just made some changes to the SimStreamer that, if I recall, update this attribute in real time. There may be some ripple-effect breaks in the client.

I'm thinking I need to give a day to the v1.0 client and tweak all these little things here coming up soon.

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**Native feel with SWT: An example**

*By Mike Procopio on 2/11/04 2:12 PM*

Take a look at this picture in the Pictures section:  
SWT\_2.jpg

These are definitely native components... Look and feel just like the real thing!

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**Re: Native feel with SWT: An example**

*By MarkBastian on 2/12/04 12:03 AM*

I am still not convinced that a program looking "native" is important. Even if it is, I think we can get some Swing L&Fs that look native. See isThisNative--NO.JPG.

Go to <http://www.jgoodies.com/freeware/looksdemo/index.html> and run the WebStart app to see what you can do with jgoodies. It is pretty cool.

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**Recommendation for the Java Development Team: Program with Assertions**

*By Mike Procopio on 2/11/04 2:21 PM*

Putting assertions into code is not new to many programmers, and it is undeniably a sound practice that leads to higher quality and more robust software.

Java includes built-in, native Assertion capabilities via the assert keyword, as of Java 1.4.

Here's a tutorial.

<http://java.sun.com/j2se/1.4.2/docs/guide/lang/assert.html>

--Mike

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**Awesome Diagramming and Visualization in Java**

*By Mike Procopio on 2/11/04 6:37 PM*

This is related to some visualization stuff we checked out before, but I don't think we've seen THIS (demonstration Java Applet).

<http://www.ilog.com/products/jviews/demos/graphlayout/index.cfm>

Go to "Smart Diagramming," and play with the Hierarchical view with a Large graph.

...Very impressive.

--Mike

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**Re: Awesome Diagramming and Visualization in Java**

*By MarkBastian on 2/12/04 12:08 AM*

VERY COOL!!

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**Re: Awesome Diagramming and Visualization in Java**

*By AndyScholand on 2/12/04 9:13 AM*

I'm talking with them today about licensing. Updates to follow.

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**Re: Awesome Diagramming and Visualization in Java - at big cost \$\$\$**

*By AndyScholand on 2/18/04 5:32 PM*

OUCH!

These guys are NOT cheap. They want both development and deployment licenses. Developers are 6500 each (reduces down to 5500 with 5 seats). Deployment licenses are \$1000 per client, assuming we use network, map components, etc. There are some discounts as quantities go up, but these are still very steep.

Mark Ehlen's initial take is this is probably more than we want to pay. If y'all feel we need these particular components, we'll need to make a strong case for them.

One other note of interest, Michael Strickland is looking at using these components also (although using them within an organization is much cheaper than deploying them externally)

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**Re: Awesome Diagramming and Visualization in Java - at big cost \$\$\$**  
*By MarkBastian on 2/19/04 11:40 AM*

I agree. The cost seems prohibitive. \$1000 per deployment is particularly bad.

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**Re: Awesome Diagramming and Visualization in Java - at big cost \$\$\$**  
*By MarkEhlen on 2/24/04 8:51 AM*

How difficult are these diagrams? I can see us using initially one or two of these optimized layouts. Are they standard algorithms. Could we 'cop' the Repast code for 'Autolayout'?. Could Trish ( in Bob's group ) implement one or two in the Java code? Just a thought...

M

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**Re: Awesome Diagramming and Visualization in Java - at big cost \$\$\$**  
*By Mike Procopio on 2/24/04 11:06 AM*

Mark Bastian can pretty much DO anything is my thought, though time is always the constraint.

Agree that ANY per-deployed-seat cost is unpleasant.

From my CS experience, matching it to the few, but complex, layout demos that I've seen, there is a lot of algorithmic science behind their product and I'd be worried that duplicating it might be very difficult.

Then again, as I said, Mark B.'s pretty fluent with this stuff :).

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**Re: Awesome Diagramming and Visualization in Java - at big cost \$\$\$**  
*By MarkBastian on 2/24/04 1:00 PM*

Thanks for the vote of confidence. I agree completely that we have the ability to do whatever we want. Not only that, but rolling my own is fun. The layout stuff is "just algorithms", meaning that there are probably standard algorithms out there that we can implement in fairly short order.

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**Re: Awesome Diagramming and Visualization in Java - at big cost \$\$\$**  
*By MarkEhlen on 2/25/04 12:04 PM*

... and I think there are only 1 or 2 plot algorithms that we need right now.

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**Alternate vendors**

*By AndyScholand on 2/19/04 4:10 PM*

I'm filling out a request for Tom Sawyer s/w components also. They're not as pretty as ILOG's, but the examples on their site cover a larger number of nodes.

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**Re: Alternate vendors**

*By MarkEhlen on 2/24/04 8:53 AM*

I think Bastian's OpenGL is better than even the iLog, We just need to implement a layout algorithm or two...

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**Re: Alternate vendors**

*By MarkBastian on 2/24/04 1:03 PM*

Yes, I agree. I will look for some standard algorithms out there when I get back in the office. BTW, the jaxb bindings should get us up and running with Java-OpenGL network plots very quickly.

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**Re: Alternate vendors**

*By MarkEhlen on 2/25/04 12:03 PM*

VERY COOL!

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**Re: Alternate vendors: Pricing of Tom Sawyer s/w**

*By AndyScholand on 3/8/04 4:20 PM*

OK, very similar pricing structure to ILOG: from 3K to 7.5K development license. Can include network analysis classes (shortest path, max flow, reachable nodes from current node). Production (deployment) licenses are also required. Effectively they look for 15-20K per year for the low end, 100K and up on the full-featured end (full featured graph editor, etc.)

They do have a suite of very sophisticated algorithms under the hood, based on 13 years of shipping products. They scale as well as the machine hardware, including lots of bio-informatic data sets with high connectivities (proteins networks typically have ~20 connections per protein). They sell to a lot of telecomm and IT customers. They have a lot of features for managing complexity in the network, including folding, hiding, sub-graphs, etc.

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**Re: Alternate vendors: Pricing of Tom Sawyer s/w**

*By AndyScholand on 3/9/04 7:55 PM*



See their brochure ware here: 2003.01.15.Award.Brief.doc

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**Re: Not as awesome, but cheap and does some of the more basic stuff.**

*By MarkBastian on 2/20/04 1:10 PM*

This is a product Jim Curry found which does some basic charting stuff. It does basic 2D line, pie, and bar charts. It claims 3D, but that means 3D appearing pie and bar charts, which actually are bad from a technical presentation perspective.

Unfortunately, it doesn't do any fancy network stuff. It's about what you can expect for the price.

<http://www.objectplanet.com/easycharts/>

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**Re: Not as awesome, but cheap and does some of the more basic stuff.**

*By AndyScholand on 2/20/04 2:23 PM*

I agree, it's not bad.

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**Promising graph drawing tool**

*By Brooke Chenoweth on 4/12/04 11:27 AM*

<http://www.research.att.com/~north/graphviz/>

<http://www.research.att.com/sw/tools/graphviz/overview.html>

I had a vague recollection of grad school friend of mine using dot (the directed graph part of graphviz) to automatically make some nifty pictures. (As I recall, a student of his was making a little language to program DFAs, so my friend wrote an interpreter to convert this into a dot input file, with the result that the student could get instant visual feedback on the design of the DFA he was creating.) Since no one has mentioned it here yet, I decided to go googling for it today.

It has a pretty simple input language, so y'all might find it useful for personal use, at least.

I've added a couple of pictures generated by using jaxb and dot, just to show what is possible with little effort.

Brooke

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**Re: Promising graph drawing tool**

*By MarkEhlen on 4/13/04 12:42 PM*

Andy - is this what you've been looking at?

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**N-ABLE v2.0 using SWT Preview**

*By Mike Procopio on 2/11/04 7:12 PM*

After getting into SWT:

1. SWT is as beautiful as native, and as high performing as native.
2. In some cases, there are things that I can do with SWT that I can't do with VB, since SWT directly exposes a lot of the native UI options, while VB frustratingly hides some of them
3. SWT is very natural to work with, coming from a Windows background.
4. SWT code is easy to maintain.
5. Use of SWT implies a reduction in bug count, since the components you're getting are native, OS components (presumably *extremely* well debugged!), vs. any pure Java UI component (might always have issues on any given OS) or 3rd party component (most likely will have issues, depending on ghettoness).
6. Menus, Toolbars, Trees, and Lists are just as you would expect on your native OS.
7. SWT, over v1.0, will allow us to come up with a Mac version if we so desire.
8. SWT is has matured significantly, and v3.0 leaves little in the way of desireability.

This is early, and represents about five hours of work, but, here goes: N-ABLE v2.0 Alpha on Swing.  
N-ABLE v2.0 on SWT.bmp

Current issues: Small icons in the table, up/down sorting arrows in the table column headers should traditionally be to the RIGHT on the column header text for left-aligned columns, not to the left as currently shown.

Java lends itself to a large degree of modularity as far as N-ABLE is concerned and, so far architecturally, has made for an extremely elegant Java Package hierarchy and software structure in general.

My tentative conclusion is that Swing makes compromises in its performance, look, and feel in order to be platform independent. We don't need true platform independence (do we really have the means to test and deploy to three different platforms, or the need). SWT, then, shines for us for all of the right reasons.

Not to mention, I'm already through the learning curve simply because structurally it is so similar to Windows "WinForms" that I've worked with for years and years. I would say using SWT, from my standpoint, will reduce my time to product delivery by half, easily, and will increase maintainability of the code base at the same time.

Just some thoughts as I head out the door!

--Mike

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**Re: N-ABLE v2.0 using SWT Preview**  
*By MarkBastian on 2/12/04 12:08 AM*

Have you checked an initial N-ABLE tree into CVS? Andy and I have done so as well.

I do think we need to consider concurrent development of an OSX version of the program. Mark and Andy spend a large amount of their time on their Macs and I plan to do so as soon as I get my environment all set up. For the moment, our only customer is ourselves, so I think it is a good idea to plan on deployment to both MS and Mac OSes.

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**Re: N-ABLE v2.0 using SWT Preview**

*By Mike Procopio on 2/12/04 11:05 AM*

Mark, what are you talking about?

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**Re: N-ABLE v2.0 using SWT Preview**

*By MarkBastian on 2/12/04 11:05 AM*

What do you mean, what am I talking about?

I just want to know if you have anything in CVS yet and I think there is a need for an OSX version of the N-ABLE client.

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**Re: N-ABLE v2.0 using SWT Preview**

*By MarkEhlen on 2/24/04 8:55 AM*

Dual deployment is going to come for free, really, since we use both now and, IMHO, I think our strategy can design toward that.

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**Re: N-ABLE v2.0 using SWT Preview**

*By MarkEhlen on 2/24/04 8:54 AM*

Very nice, really. Do you have a Jar I can test on the Mac?

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**Collaboration space in N-ABLE 2.0**

*By MarkBastian on 2/12/04 9:37 AM*

Hi All,

I was messing around with some of the Swing windowing stuff and came up with this image that I thought looked pretty good (collabspace.JPG). Of course, there is nothing to the actual collaboration space, but I think the toolbar with the participants on it looks good.

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**Java.net Article on Java & GIS**

*By MarkBastian on 2/16/04 1:58 PM*

Pretty interesting. I believe they are showing Java MapObjects (In the non-vaporware images).

<http://today.java.net/pub/a/today/2004/02/16/gis.html>

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**Interesting BLOG and discussion on Java vs. Native L&F**

*By MarkBastian on 2/16/04 2:06 PM*

I think this makes an interesting read. The author discusses some fundamental issues regarding how apps should be presented to users.

<http://weblogs.java.net/pub/wlg/1013>

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**Even more!**

*By MarkBastian on 2/17/04 11:19 PM*

In this article, <http://weblogs.java.net/pub/wlg/1027>, the author states:

"This discussion on whether or not your Java applications should look like native applications continues to spark a lively debate.

In fact, a bit to my surprise, Chris Adamson's most recent blog entry on the topic, [As Your Users Like It <http://weblogs.java.net/pub/wlg/1013>](http://weblogs.java.net/pub/wlg/1013) has four times the number of responses as yesterday's pointer by Ron Hitchens to [ESR to McNealy: Let Java Go <http://weblogs.java.net/pub/wlg/1021>](http://weblogs.java.net/pub/wlg/1021). Not that I think we can derive much from two data points, but it is interesting to see the responses generated by different posts."

Anyways, I found it interesting that this blog has generated so much discussion. It appears to be a hot topic, and not just for the N-ABLE team.

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**Re: Even more!**

*By Mike Procopio on 2/23/04 10:30 AM*

It *\*is\** reassuring to see other folks debate it so lively. It seems to support that our team is healthy, taking both sides and willing to debate the issue.

That we have not yet had a resolution on Swing vs. SWT is indicative of all of us being able to see the pros and the cons of each UI technology, and represent those strongly enough, as others in the community have, to where no one position is so dominant as to imply that it's the right choice.

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**Re: Even more!**

*By MarkBastian on 2/23/04 10:33 AM*

I agree completely. We're not flammers, just advocates!!!!

BTW, I am about to dabble into SWT. The first step, of course, is to link to the appropriate libs. One thing about Eclipse that is good AND bad is that it allows you to link to libs in about 3 different ways. To be consistent, which method did you use, Mike? Did you go Properties->Libraries Tab->Add External JARS . . . and then link to the swt libs in the eclipse folder?

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**Re: Even more!**

*By Mike Procopio on 2/23/04 10:57 AM*

Mark,

I've started a thread in the tools section called "**SWT Starter: How to build your own SWT Manual; SWT first steps.**" It lists all of the links of articles/tutorials that I've printed out as my "SWT Manual."

I followed the first half of the Alberta tutorial "Instaling Eclipse" to a T when first getting SWT up and running. I referenced the JAR explicitly for my project (according to its directions), AND I placed the DLL in my Windows\System32 folder for now. There are four solutions, at least, to getting the DLL recognized; this was the easiest for now and may in fact be our actual deployment mechanism (we'll need some discussion on this).

--Mike

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### **New N-ABLE Simulation Explorer Screenshot**

*By Mike Procopio on 2/17/04 4:56 PM*

This is a real live running SWT application, but the layout and structure of the main UI is really independent of the UI technology we use.

After a few weeks work, debate, and consideration, this is pretty much my first formal "draft" of what the UI's main screen should look like:

N-ABLE Simulation Explorer - SWT.bmp [links to Screenshot in pictures section]

A breakdown of the components:

1. **Task-driven**, as N-ABLE v1.0. This "Task Panel" will be optional, and can be shown and hidden as desired. (Although, even as an advanced user, I find myself using the "Tasks" more often than I thought I would!) There are General Tasks always displayed, Simulation Tasks always (or usually displayed) (this is where I see the use of the term "Scenario", and Simulation Details displayed when a Simulation is clicked on in the Simulation List. I also see room for Collaboration Tasks when a collaborator is selected. This will be a very dynamic view.
2. **Workspace Browser**. This is the the TreeView (SWT's Tree) that we see. This is, in fact, a general file-based hierarchy for Simulation Items, which can include screenshots, DEFINE files, SNAPS files, Chat transcripts, supporting documents, relevant emails, etc. This can be shown and hidden as desired. This, combined with the SIMulation List, is rapidly approaching the core capabilities we were looking for out of SimLib. These files would be stored on an N-ABLE server and retrieved with SOAP RPC calls. Don't know how we would address binary files this way, yet. At the very least, the directory structure would be given via a SOAP request. I can parse the response and built the tree. This would mean a work item for Eric, but this is also taking our project to the Next Level in a very important and enabling way.
3. **Simulation List**. Same as before, basically. This cannot be toggled on/off; this is the CORE of the display. You can turn everything else off so you have just this list. Also, this view will be able to be customized based on whether or not you want the hierarchical structure enforced, or just a pure, sortable linear abstracted list (which could then be filtered on user name, etc.). I want the user to OWN the way they view this information. Note the analogy, though, is like Windows Explorer. "Folders" can also be shown such that, if the Treeview Workspace Browser is hidden, then you can still navigate the hierarchy

because "Folder" items ("Directories" or whatever) will be shown in the listview and will invoke a "drilling down" style action.

4. **Collaboration Panel.** This is my baby. Like with my first mockup (see Image #1 in the Groove Pictures Section), I want to show people's FACES here--this is a HUMAN application--and allow a host of collaborative features to be able to be launched from this, optionally hidden, Collaboration space. Still to be decided whether or not sessions of collaborative services--like Text Chat--will appear in new windows, or be contained in this space via a Tab-view. This would be nice if this window were "Dockable" [removable and re-anchorable], such as Mark Bastian first prototyped in one of his initial designs.

5. **Toolbar.** Enhanced toolbar, and I intend to (optionally) have supporting "Text Labels" to the right of the images (like with Internet Explorer). We did not have this in v1.0.

6. **Status Bar.** Your basic StatusBar with "Sizing Grip," to allow for a larger "hit area" to drag and resize the form.

7. **Menu Bar.** The Menu system is basically the same, with two additions. One, we will now have Icons in the menus where appropriate. Two, we now have a "Window" menu, which will serve as a master list of all N-ABLE windows currently open. This is analagous to the Window menu in Word or Excel, which enumerates in a clickable list all of the open Word Documents or Excel Spreadsheets. Icons will inidcates for us the type of window: Sim Editor window, Sim Results window, or Sim Explorer window.

This window is completley resizable, and the component windows will resize themselves intelligently based on the absolute size of the main "Simulation Explorer" window. Note that what we did call the Sim Console or the Simulation Manager is, for now, tentatively called N-ABLE Simulation Explorer. Let's try that on for a while and see how it fits.

This is done with SWT and is native.

One thing we need to figure out is, if we in fact want to support Macintosh; if so, would be very interesting to see how this UI looks on the Mac. There *\*are\** some cases to be handled in this UI for Mac vs. Windows (specifically, the way Macs use their menu bar--ONE menu bar, with the application's menu the first menu item in the main Mac Menu.) I think it could look really nice, but the effort may not be justified... Though it would most certainly be cool. Politically, it could also be a good thing to support more than one platform (that's the Java way anyway, isn't it?)

--Mike

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**Re: New N-ABLE Simulation Explorer Screenshot**  
*By MarkBastian on 2/17/04 10:41 PM*

I like the look of this. In response to your comments:

-I like how we are keeping the "best of" functionality we came up with from 1.0 as well as our Grooving.

-I like the "Workspace Browser" concept. By the way, is there a way to more strongly couple the tree with the corresponding data? I am thinking like the TreeTable control that we were talking about before. Perhaps we don't want that, though.

-One thing I am thinking for the simlist is the possibility of eliminating the multiselect feature. This feature was nice at first, but I don't think it was used very often. I think the "small multiples" idea can replace this feature. Multiselect also causes trouble when you want to do things like look at a network diagram. This is exclusive to a single run. If you select multiple runs, the user won't know what to expect. Just my \$0.02.

-I think the collab panel is a great idea. I have added some concept art to the pics to assist Mike in delivering this idea. See N-ABLE Simulation Explorer - SWT-Collab1.JPG and N-ABLE Simulation Explorer - SWT-Collab2.JPG. Aside: I noticed that the prototype SWT frame has a different border style than what I have. See XP\_Frame\_L&F.JPG for examples of other frame borders on XP. I am assuming this is NOT an SWT deficiency. Rather, I believe Mike is using Win2K (Get with the current technology, buddy! ;-)

-What about Toolbar text labels below, as in the concept collab toolbar? I know this is just details, but it seems it would make better use of real estate.

-Overall, very nice. I think we are coming along rather quickly and headed in the right direction.

A few messy details & questions:

-I feel STRONGLY that we should do an OSX port. It appears to me that the N-ABLE team will soon ALL be Mac-boys (Including that Windows guy in TA5). For the moment and the foreseeable future, we are the primary customer and user. If we like our Macs, we should be able to do N-ABLE on the Mac. It would be a shame to not do this considering that the technologies we are using are very portable. Swing ports beautifully and SWT should, too.

-Continuing the OSX issue, I have checked out my code on my Mac and it runs great (with the exception of a few problems that I am fully aware of). If you set the default look and feel to that of the OS, you automatically get a nice XP L&F in Windows (see nable2\_results\_image4-WindowsL&F.JPG) and a nice Aqua L&F in OSX. IMHO, It really does look native on both. I would love to show an image, but Alt+prtsc doesn't work and I can't seem to find a Ghetto paint program on the Mac. Mike, how do you think your custom work would look in OSX/Aqua? Will it look too "Windowsy"? There is also a nice L&F called Liquid that gives a very nice Mac-like L&F on either platform, but that would mean incompatibility with SWT.

-I have a potential solution to the SWT vs. Swing discussion we are having. I am smoking right along with Swing on the ResultsViewer and Mike is smoking right along with SWT on the main frame. These are fairly decouple-able efforts. What if we just continue on our current path (ResultsViewer in Swing and MainFrame in SWT. Input screen technology TBD.)? I think the communication will be easy, since we will be talking in Java, not SWT or Swing. We can talk about this tomorrow. My main concern if we pursue this is making sure both technologies give a similar look and feel.

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**Wow, there really are lots of "real" Swing apps out there . . .**

*By MarkBastian on 2/17/04 11:25 PM*

I found this link while looking at java.net. Apparently, the masters of Java have had enough of people saying that there are no "real" Swing apps out there. In response, they are compiling a list of programs written using Swing, with descriptions and screenshots for each. I was pleasantly surprised to see how many real Swing apps there are out there.

Here's the link:  
<http://www.javadesktop.org/tsc/sightings/index.html>

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**Should we support a Mac OSX version for N-ABLE v2.0?**

*By Mike Procopio on 2/23/04 3:08 PM*

Wanted to hear the team's thoughts on this...

I for one think it would be cool, but I am beginning to feel more and more that it may not be feasible, in terms of testing, and also with certain SWT vs. Swing things. SWT has a lot of nice capabilities on Windows--for example, using the native Web Browser widget--that Swing doesn't have, but that SWT also doesn't have on certain platforms.

I know that we all use Macs, but outside of the core five developers, I don't believe that any other of our current users do. Our future user base certainly doesn't seem to. Also, and this is a big one, but I don't think management, with due stewardship of taxpayer money in mind, would necessarily back spending money on developing for and supporting a platform that isn't commonly used by our target audience.

That said, we probably COULD support it, but I see areas where I would be writing custom code for Windows vs. Mac platforms to get certain "native" feels (from ListView sorted column header arrows to resizing grip images, etc.), to even changing the default order that the OK vs. Cancel buttons appear (these are apparently reversed on the two operating systems!).

Those are just a few of my thoughts for now...

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**Re: Should we support a Mac OSX version for N-ABLE v2.0?**

*By MarkBastian on 2/23/04 3:23 PM*

I am still an ardent supporter of an OSX version of N-ABLE. My bottom line is that by using Java technologies we can create a cross platform program with very little extra effort. We are throwing away one of the key justifications for using Java when we decide to only do a Windows implementation.

To provide some pro-OSX counterpoints:

-I certainly think it is feasible to do testing on both OSes. It sounds to me like the one of the biggest problems with this is going to be making sure SWT behaves well in all implementations. One of my concerns with SWT is that there is not a 1:1 port of every control or component across implementations. IMHO, this is a strike against SWT, not against cross platform development. Perhaps if SWT is incapable of providing a particular cross platform component, that component shouldn't be used (or we shouldn't use SWT at all).

-For the near term, the primary users are going to be the core developers and a few others on the NABLE team. This gives immediate credibility to the multiplatform approach. I don't think we know who our future base is. If it is DHS, DOE, and other U.S. Gov't agencies, then we probably will have an exclusive Windows base. On the other hand, if users at LANL and in academia become our core users, there is a high probability that we will have a good number of Mac users. My opinion is that the Government will want to see results, but will not want to use the program (for the most



part). However, I think academics will be interested in using the program heavily. If this is a correct scenario, we should maintain cross platform compatibility. Supposing that there will be users in academia who use OSX, they will certainly be frustrated that their taxpayer dollars were invested in a program that could easily have been cross platform but wasn't. Some might even argue that buying G5s for developers who are developing a Windows-only program is a waste.

-I am still not sure that there will be that many "custom" tweaks required to get a more native L&F on each platform. I think reversing the position of OK and Cancel is not a big deal AND if we don't reverse it, I don't think that is a big deal either. **If** the extra effort is required because we are using SWT, then I say the problem is SWT, not cross-platform compatibility. I still believe the key to usability is not fundamentally tied to emulating every convention of the current OS. If the program is usable and intuitive, people will use it.

To summarize, I think we should take advantage of the opportunity to provide a cross platform application. We invested a lot of effort in the decision to go to Java, and I think we should take advantage of Java's strengths. One of my major concerns is that much of the one-platform only argument seems to be a result of the consequences of using SWT. I realize we haven't made a decision on this issue yet, but if SWT is going to make a multiplatform deployment difficult, my vote is against it.

---

**Re: Should we support a Mac OSX version for N-ABLE v2.0?**

*By MarkEhlen on 2/24/04 8:16 AM*

IMHO:

I agree with MarkB on the benefits of cross-platform, but if was to put on my speed/optimization hat I would say that SWT, although when compared with Swing provides what sounds like a subset of features, these features will be faster. Potentially a lot faster. My current PNW tests show that the 1.0 tree is slow on certain types of sims; we CANNOT afford any slower speeds. On second thought, Eric's suggesting of a comparison of SWT tree versus Swing tree is pretty much a given if the current Swing implementation starts to bog, even if it is faster than the current 1.0 tree. Said another way, if we get 'bog', we really must just see what the SWT tree does. SPEED IS ESSENTIAL.

Cross-platform is not essential, it is just VERY desireable. Eclipse is a very good example of cross-platform SWT. If the eclipse team (of 1000 developers :) ) can make it work, we can.

M

---

**Re: Should we support a Mac OSX version for N-ABLE v2.0?**

*By AndyScholand on 2/23/04 4:58 PM*

Mike, in general I agree, I've been slow to support the Mac OSX due to our customer base.

One interesting counter-point raised by Eric is the security issue. See [http://nisac-srn5.sandia.gov/bugzilla/show\\_bug.cgi?id=222](http://nisac-srn5.sandia.gov/bugzilla/show_bug.cgi?id=222) but the salient point here is that the most secure system is a stand-alone system. A Mac client could run happily with (read: on the same box as) a Mac server. Windows does not support this.

From what I've seen in some of the Java trade magazines, SWT will support Safari components on the Mac.

Cheers,  
Andy

---

**Re: Should we support a Mac OSX version for N-ABLE v2.o?**

*By MarkEhlen on 2/24/04 8:22 AM*

... going cross platform will also bring on the KDE/Gnome folks too, which we need to get more science in the model. (Oh, and don't forget OS/2!)

M

---

**Re: Should we support a Mac OSX version for N-ABLE v2.o?**

*By MarkEhlen on 2/24/04 8:24 AM*

After a bit of pondering, I really like the idea that there is a native look on Windows and a slightly different but native Mac look on a Mac (... and for KDE/Gnome ). My guess is that the SWT developers have specifically made this their goal, and we benefit. IMHO, it is definitely a hypothesis worth testing...

M

---

**Re: Should we support a Mac OSX version for N-ABLE v2.o?**

*By MarkBastian on 2/24/04 1:06 PM*

Mark, can you clarify the following:

Do you mean that we should drive for native L&F on every deployment because the Eclipse developers are making this easy?

or

Do you mean that we should focus on getting the Windows L&F just right and not worry of the other implementations are just a little bit off?

---

**Re: Should we support a Mac OSX version for N-ABLE v2.o?**

*By MarkEhlen on 2/25/04 11:55 AM*

Given what I'm seeing so far on Groove, I'm not sure this is the right platform to address (it generates too much 'heat'), but:

In our previous meeting we discussed and somewhat concluded that having native L&F was desirable, as compared with common regardless of platform. Given this, it sounds like we can then let the native OS do some of the work.

So what I think I've learned so far is that SWT uses native controls a bit more than Swing does. Fine. But its not really the point. Native L&F is the goal (I believe); which Java technologies do that is a separate discussion and task, one we MUST explore before

diving deep into one.

Is Eclipse solely SWT-based? (I'm not knowledgeable enough to say). If they've got the tree thing down, can't we learn from this? I don't see any Eclipse OpenGL, so that is a separate issue.

---

**Should we, or can we, get SimStreamer Runs information via SOAP services, like SimRunner?**

*By Mike Procopio on 2/24/04 2:29 PM*

Team,

We touched on this in last week's meeting.

Does it make sense to expose the SimStreamer "Runs List" via SOAP services, like we do with the SimRunner?

Currently, for v1.0, the Treeview component is getting this information and exposing the raw XML to be via a direct message request/response in code to the Treeview component itself.

We could make some other modifications as well, like a simple SOAP call to test the SimStreamer (which, if the call itself failed, we could presume the SimStreamer was down).

On the other hand, I know that the TreeView needs this information, and having the SimConsole and ResultsViewer (where the TreeView lies) both be making calls against the same SOAP service to do different things with the same data may be silly.

Perhaps we should "Componetize" the SimStreamer "interface," like I've done in v2.0 with the SimRunnerInterface object; perhaps this is already done? We disucssed how we want to separate data structure from Treeview UI from SimStreamer communication in the updated TreeView. I'm hoping we've still kept this architectural change in mind?

Better yet, Eric, you once mentioned the idea of creating a set of unified SOAP services which would "combine" the SimStreamer and SimRunner lists in the same way that I (manually) do it on my side of things. This ties in to the "API" or central "Coordination" broker-like server we discussed in last week's meeting.

Any ideas on how to drive the evolution of the 1.0 architecture in this area?

--Mike

---

**Re: Should we, or can we, get SimStreamer Runs information via SOAP services, like SimRunner?**

*By MarkBastian on 2/24/04 10:02 PM*

I still claim some ignorance when it comes to SOAP, but I do think it would be a good idea to make this a SOAP service, as Mike suggests. Just my vote.

If we do pass raw XML, should we schema-ize this and use JAXB to make some nice classes for this? That would make some of the work easier.

---

## **Web Start for deployment -- Not Convinced**

*By Mike Procopio on 2/24/04 4:43 PM*

The Java Web Start utility for deploying our applications no doubt could work well, but it's not without its disadvantages.

One alternative is InstallShield MultiPlatform edition, which will make installers for our applications for the Windows and Mac platforms that we're targeting.

<http://www.installshield.com/news/default.asp?id=672>

### **About InstallShield MultiPlatform**

InstallShield MultiPlatform is the industry's most powerful and flexible solution for deploying software onto any client or server platform. Whether your software was built to run on **Mac OS X, OS/400, Windows, AIX, Solaris, Linux, HP-UX, or any other flavor of UNIX, InstallShield MultiPlatform** seamlessly integrates with native installation technologies to configure your software exactly the way you want every time. InstallShield MultiPlatform takes power and flexibility to a new level, making your most complex and detailed installation requirements a snap to configure. You can install your C++ desktop application on both a Solaris/SPARC and a Mac OS X platform or create a silent installation for your bundled .NET Web services enterprise application - all with InstallShield MultiPlatform.

From time to time, I think Eric's idea may actually be feasible--compile Java down to native target applicatio executables.

(Sigh.) The problem is, Java does everything SO WEIRD, EVERYTHING is like a different world. I'm growing VERY impatient and frustrated with having to provide the user with a weird experience because we're using Java. In the end, I'm not convinced it really BOUGHT us anything. But I do know that there is more than one path to success; I'm sure we can make the Java thing work. It's just seems that, at every corner, there's a difference between the user experience with Java and the user experience with a regular Windows app. Anyway.

Here's some information on Java Web Start, taken from the **Unofficial Java Web Start/JNLP FAQ**).  
<http://www.vamphq.com/jwsfaq.html>

### **Q: What's the catch?**

**Biggie.** Most desktop computer lack a factory pre-installed Java runtime plus Web Start add-on when bought in store. Broadband users need to download the ten mega Java runtime package themselves. Dial-up users need to get it on CD/DVD as a one hour download over a 28.8k modem is impractical.

Good News. Mac OS X ships with a factory pre-installed Java runtime plus Web Start. Java 1.4.1 (code-named Hopper) will include AutoInstall, a plug-in for Internet Explorer for Windows that installs Web Start and/or your app on the user's machine over the Internet through a single-click. Java's Plug-In installation automatically adds Web Start as a free bonus. Finally, a ten meg download isn't huge

nowadays. It's roughly the size of the Adobe Acrobat Reader plug-in and much smaller than a MPEG movie.

## **Nuisance**

- Every Web Start app runs in its own Java runtime. Until Java 1.4.1 (Hopper) Java runtimes don't share the core libraries leading to mega-sized memory waste and sluggish startup.
- Certificate authorities (e.g. RSA, Thawte) only issue developer certificates for a year (that is, your certificate expires after a year).

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### **Re: Web Start for deployment -- Not Convinced**

*By Mike Procopio on 2/24/04 4:59 PM*

Another thing we have to worry about is Digital Certificates. Fortunately, I've done these for the LIGA and PNPI applications through verisign, and am an expert in the area, but any Web Start-deployed application that we run is going to have to be signed (\$400/yr to maintain a certificate through Verisign, assuming we want our own, which IMO we should consider, though there are other options). This is also a "Weird" thing for the user to see.

Not sure if we could get around this with standard locally installed, locally executed Desktop Java.

---

### **Re: Web Start for deployment -- Not Convinced**

*By MarkBastian on 2/24/04 10:07 PM*

If I understand correctly, we can sign the thing ourselves or something like that. This, of course, requires the user to trust us, but I think we can assume they will know what the product is and who is deploying it. If we do go "big time", \$400/year isn't that bad.

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### **Re: Web Start for deployment -- Not Convinced**

*By Mike Procopio on 2/25/04 11:13 AM*

Mark,

The answer is yes you can, but I will not support deploying an application with a self-signed certificate. It's not the way to do it. The problem is with self-signed certificates, anyone can sign a malicious deployment jar to make it "Look like us." The whole point of Verisign et al is to verify that indeed, the person who SAYS they are signing the certificate is in fact who they say they are (Verisign will verify Sandia contacts, DUNS number, legitimacy, etc.).

--Mike

---

### **Re: Web Start for deployment -- Not Convinced**

*By MarkEhlen on 2/25/04 12:03 PM*

(thanks for being thorough, Mike)

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**Re: Web Start for deployment -- Not Convinced**

By MarkBastian on 2/26/04 8:02 AM

What if we did self-signing while under development and then Verisign once we deploy?

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**Re: Web Start for deployment -- Not Convinced**

By Mike Procopio on 2/26/04 11:22 AM

Yep, that sounds like a good plan.

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**OpenGL for SWT**

By Mike Procopio on 2/24/04 5:08 PM

Was doing some very basic research, and just wanted to see what was out there in terms of using OpenGL with SWT.

A Google search for <opengl swt> turned up lots of hits.

Here's one interesting one, a Blog (November 2003):

<http://www.gthought.com/blog/2003/11/12/1068645377000.html>

*So a few days ago, I got to play around with the OpenGL for SWT. It was tough getting started. There is zero documentation and the examples they provide, well, they are examples and don't really do what any real OpenGL programmer wants to do in the correct way. Luckily, [The NeHe Team](http://nehe.gamedev.net/) <<http://nehe.gamedev.net/>> has SWT ports for their first few lessons. NeHe is awesome. If you want to get started with OpenGL programming in ANY language, visit that page. Anyway, I was able to get a grasp of how the API was setup. The interesting thing to note about the SWT library is that they haven't built a predefined GLPanel or GLCanvas class for you. You simply create a Canvas or Composite of some sort and register that with the GLContext class they provide. This was super cool because then I can implement my own painting methods and my own GLPanel class. And this process was really easy. And here is the biggy. I can call OpenGL functions from anywhere and the OpenGL state gets updated. And I can get the current context from anywhere I want. And I can swap buffers.*

Also, from:

<http://www.gthought.com/blog/changeCategory.action?category=opinions>

*think that Java and OpenGL just weren't meant to be used together. I have used gl4java, JOGL, and have even given SWT's OpenGL wrappers a go. While SWT is the best of the 3 you are stuck using SWT. Other languages seem to be able to use OpenGL just fine. I'm not sure why Java and OpenGL cause such problems. I hope someone will leave me some comments as to why.*

*OpenGL is a state machine. You apply some changes to the state and it stays that way until you change something else. Now if I use C or C++, for example, I can modify that state machine from anywhere. As I should be able to do. With gl4java and JOGL I can only change the state from a specified method. Typically something similar to the display() method. This just isn't acceptable.*

*So I think to myself, why do I want a good Java OpenGL wrapper so badly? Why don't I just use C, C++, QT, or even C# **for that matter (yes, C# has a very good OpenGL wrapper called TAO)?** The reason is because I know the Java language. It's comfortable for me. Yes, I know C, C++, and C#. But not like I know Java.*

*The word is that it's because of SWING/AWT threading that causes problems updating the state machine from anywhere and it has to be very controlled for it to happen correctly and for things to play nice.*

*Well, I guess for the time being I will just stick with QT and C++ for all my OpenGL needs. But I hadn't posted anything on my blog for a while and a good rant was due.*

### **SWT Experimental OpenGL Plug-in**

<http://dev.eclipse.org/viewcvs/index.cgi/~checkout~/platform-swt-home/opengl/opengl.html>

More blogs with OpenGL for SWT commentary:

[http://www.graysky.org/mgc/archives/2003\\_11.html](http://www.graysky.org/mgc/archives/2003_11.html)

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### **Re: OpenGL for SWT**

*By Mike Procopio on 2/24/04 5:16 PM*

Here's some code on how to use OpenGL with SWT. It's all the exact same stuff; same calls; just a few different things. Taken from "NeHe Productions OpenGL Lesson #3," where folks have provided ports to using OpenGL in many different languages.

<http://nehe.gamedev.net/data/lessons/lesson.asp?lesson=03>

```
/* Author: Victor Gonzalez Jr
 * Created on Oct 11, 2003
 *
 * Port of the NeHe OpenGL Tutorial (Lesson 3: Adding Color)
 * to Java using the IBM's SWT OpenGL plugin.
 *
 * The tutorial is written to match the NeHe HTML lesson as closely as
 * possible. Code and comments should be nearly identical. With the exception
 * of a few Java specific comments and OpenGL commands starting with 'GL.'
 *
 * Visit nehe.gamedev.net for more lessons.
 */
package org.nehe.lesson3;

import org.eclipse.swt.SWT;
import org.eclipse.swt.events.*;
```

```

import org.eclipse.swt.graphics.*;
import org.eclipse.swt.opengl.*;
import org.eclipse.swt.widgets.*;

public class NeHeCanvas
    implements Runnable
{
    private Canvas _canvas;    // Canvas used by a GLContext for drawing
    private GLContext _context; // Permanent rendering context

    /** This is the constructor, where event listeners and OpenGL are
     *  initialized.
     *
     *  @param parent the composite from which to create a canvas
     */
    public NeHeCanvas(Composite parent) {
        _canvas = new Canvas(parent, SWT.NONE); // New instance of a canvas
        _canvas.setSize(parent.getSize());      // Set canvas size to window
        /* Use anonymous class to listen for window/canvas size changes */
        _canvas.addControlListener(new ControlListener () {
            public void controlMoved(ControlEvent e) {}
            public void controlResized(ControlEvent e) {
                NeHeCanvas.this.controlResized(e);
            }
        });

        initGL(); // Initialize OpenGL
    }

    /** This method is specified by the Runnable interface and it is used here
     *  to draw to the OpenGL canvas every 10 milliseconds.
     */
    public void run() {
        /* Check to see if it is safe to continue to draw */
        if (!_canvas.isDisposed() && _canvas.getShell() != null) {
            drawGLScene(); // Draw the scene
            _context.swapBuffers(); // Swap buffers (Double buffering)
            _canvas.getDisplay().timerExec(10, this); // Call run() again in 10ms
        } else {
            /* It is no longer safe to draw, so dispose OS resources */
            _context.dispose();
        }
    }

    private final void controlResized(ControlEvent e) {
        resizeGLScene(); // Resize the GL viewport
    }

    private final void drawGLScene() {
        /* Clear The Screen And The Depth Buffer */
        GL.glClear(GL.GL_COLOR_BUFFER_BIT | GL.GL_DEPTH_BUFFER_BIT);
        GL.glLoadIdentity(); // Reset the current modelview matrix
        /* Move left 1.5 units and into the screen 6.0 */
    }
}

```



```

GL.glTranslatef(-1.5f, 0.0f, -6.0f);

GL.glBegin(GL.GL_TRIANGLES);    // Drawing using triangles
GL.glColor3f(1.0f, 0.0f, 0.0f); // Set the color to red
GL.glVertex3f(0.0f, 1.0f, 0.0f); // Top
GL.glColor3f(0.0f, 1.0f, 0.0f); // Set the color to green
GL.glVertex3f(-1.0f, -1.0f, 0.0f); // Bottom left
GL.glColor3f(0.0f, 0.0f, 1.0f); // Set the color to blue
GL.glVertex3f(1.0f, -1.0f, 0.0f); // Bottom right
GL.glEnd();                    // Finish drawing the triangle

GL.glTranslatef(3.0f, 0.0f, 0.0f); // Move right 3 units
GL.glColor3f(0.5f, 0.5f, 1.0f);    // Set the color to blue one time only
GL.glBegin(GL.GL_QUADS);           // Draw a quad
GL.glVertex3f(-1.0f, 1.0f, 0.0f);  // Top left
GL.glVertex3f(1.0f, 1.0f, 0.0f);   // Top right
GL.glVertex3f(1.0f, -1.0f, 0.0f);  // Bottom right
GL.glVertex3f(-1.0f, -1.0f, 0.0f); // Bottom left
GL.glEnd();                        // Done drawing the quad
}

private final void initGL() {
    _context = new GLContext(_canvas);    // Create rendering context
    _context.setCurrent(true);           // Activate the rendering context
    resizeGLScene();                     // Initialize the GL viewport

    GL.glShadeModel(GL.GL_SMOOTH);       // Enables Smooth Shading
    GL.glClearColor(0.0f, 0.0f, 0.0f, 0.0f); // Black Background
    GL.glClearDepth(1.0f);               // Depth Buffer Setup
    GL.glEnable(GL.GL_DEPTH_TEST);       // Enables Depth Testing
    GL.glDepthFunc(GL.GL_LEQUAL);        // The Type Of Depth Test To Do

    /* Really Nice Perspective Calculations */
    GL.glHint(GL.GL_PERSPECTIVE_CORRECTION_HINT, GL.GL_NICEST);
}

private final void resizeGLScene() {
    Rectangle rect = _canvas.getClientArea(); // Get the size of the canvas
    int width = rect.width;                  // Store the canvas width
    int height = rect.height;                // Store the canvas height
    height = Math.max(height, 1);            // Prevent a divide by zero
    GL.glViewport(0, 0, width, height);      // Reset The Current Viewport
    GL.glMatrixMode(GL.GL_PROJECTION);      // select the projection matrix
    GL.glLoadIdentity();                   // reset the projection matrix
    /* Calculate The Aspect Ratio Of The Window */
    float aspect = (float) width / (float) height;
    GLU.gluPerspective(45.0f, aspect, 0.5f, 400.0f);
    GL.glMatrixMode(GL.GL_MODELVIEW);      // select the modelview matrix
    GL.glLoadIdentity();                   // reset the modelview matrix
}
}

```

---

**Re: OpenGL for SWT**

*By Mike Procopio on 2/24/04 5:18 PM*

Mark B.,

In accordance with our plan--you do your part so far in SWT, and I do my part so far in Swing--you might want to have a good go at it and see what you can't come up with.

--Mike

---

**Re: OpenGL for SWT**

*By MarkBastian on 2/25/04 12:52 AM*

Despite the fact that an **experimental** binding for OpenGL in SWT exists, do we really want to use it? There is no documentation for this, no community, no active development, no commitment, or anything else that suggests we should give it a serious thought. I thought the intent was to use the SWT/Swing interop for the parts where SWT is lacking. I see no reason to use the OpenGL/SWT bindings at this time. Even if the 3D components are done with SWT bindings, I still plan to use Java2D for the 2D plots, which is fundamentally Swing based (unless SWT has some sort of wrapper for it). It is a powerful API that is very well supported. Please read my other post for full disclosure and comparison of OpenGL with SWT as compared to JOGL.

---

**Re: OpenGL for SWT**

*By MarkBastian on 2/24/04 10:13 PM*

Yes, I have seen the stuff on OpenGL for STW. Here is my take, as well as a response. By the way, this may be offensive to some of you (and I don't mean anyone in particular), but I do hope that all of you read all of this. It is very important that you are not misled by these ill-founded opinions. Pretty much everything you are about to read is factual, so please don't take anything personally. I honestly don't mean to offend anyone, especially on our team.

Let me address the blogs first.

**WRT the first blog:**

-The SWT OpenGL plug-in (which I have looked at before, but only briefly) is experimental. I suppose I could look at it, but I am extremely hesitant to use something that has essentially no documentation or support. The blogger himself admits this, as well as saying that the examples don't do things the way real GL developers do them, whatever that means. Despite my not knowing what he is talking about, I am still not encouraged.

-Note that the latest date on the downloads is over 8 months old! This is hardly encouraging.

-The blogger complains about JOGL's previous lack of user controlled buffer swapping. This issue has been resolved. Additionally, the only reason I have for a user controlled swapbuffer is to prevent a swap when I want to do offscreen rendering. The proper solution to this problem is to use a single buffered pbuffer, which JOGL implements just fine.

-The fact that the user doesn't like using a GLCanvas is simply a matter of choice. You have to render to some target, and the JOGL provided components are as good as any. I don't understand what the guy means by "implementing [his] own painting methods". I implement my own painting methods, too, along with every other graphics developer in the world. That is why we see a nice 3D

view instead of a gray background when using my code.

-Yes, being able to access the current GL state machine anywhere seems nice. It is the way OpenGL was written, and is very C-like. Java is an OO language and the JOGL implementation makes things more object-like. From a design perspective, this is much better. There is no need to worry about which context you are in. The object you have is the object being operated on.

**WRT the second blog (Warning, I am deeply incensed by this blogger. Flames are present. I believe in being rational and logical in my arguments, but this guy is absolutely ignorant and/or just plain wrong in nearly everything he says. If I had my way, we would ban this paragraph from our esteemed discussion board completely.):**

***"I think that Java and OpenGL just weren't meant to be used together." Java and OpenGL work together just fine. I have several demos, which I believe EVERYONE on the N-ABLE team has seen, to PROVE that this is the case.*** This kid probably spent 5 minutes playing with the bindings, couldn't get them to do what he wanted, and quit. If you don't like MY demos, go to <https://jogl-demos.dev.java.net/> for some other ones.

*-I'm not sure why Java and OpenGL cause such problems. I hope someone will leave me some comments as to why.* What problems would those be? Perhaps if he stated what his problems were, someone would address them. There is a very active and useful forum at <https://jogl.dev.java.net/> which has been able to help me with **all** of my problems. Perhaps he should learn to RTFM and STFW (Note: F = *freakin'*) rather than let his readers solve all of his problems for him.

-The points regarding the GL state machine clearly reveal the ignorance (or worse) of the blogger. As I said above, rather than switching contexts, the JOGL bindings objectify the state machine. As long as you are operating on the same GLDrawable, you are operating on the same state machine. This is a GREAT approach. It solves any confusion as to which context you are currently using (Yes, this is a problem). Although you are able to modify the state machine anywhere in flatter languages, to arbitrarily modify the GL state machine ANYWHERE is a clear indication of a bad programmer. You should make simulation calls in the simulation routines, networking calls in the networking routines, and **GRAPHICS CALLS IN THE GRAPHICS ROUTINES!** It's a very basic part of modular programming. Any state changes I need to make are made where they should be made, in a graphics related call. In all of these instances, the context I needed is provided to me.

*-"With gl4java and JOGL I can only change the state from a specified method . . ."* Uh, NO. If he means the primary drawing method provided by the libraries, he is wrong. You can easily reference the GLDrawable from other methods. If he means he has to make the calls as members of a GLDrawable derived object, he is technically incorrect in his statement. Besides, most context changes SHOULD be made in one (or a small few) locations. This is how "real" companies that offer cross API deployments succeed. By placing all of your graphics API specific stuff in one location, it makes it simple to implement multiple rendering paths.

*-"This just isn't acceptable."* Just because you don't know how or don't understand doesn't make something unacceptable. I claim **blatant ignorance is unacceptable**. Every statement this guy makes is either arguably wrong or clearly wrong.

*-C# has a very good OpenGL wrapper called TAO.* A brief history of TAO as well as a description are in order. TAO started out as csogl (C# bindings for OpenGL) (<http://csogl.sourceforge.net/>). The maintainer of this library stopped his work and handed off development to someone named Randy Ridge. What do we know about Randy Ridge? Read about him here <http://www.randyridge.com/About/Me/Default.aspx>. Is TAO under active development? Maybe, but your contributions may help turn "Maybe" into "Yes" (<http://www.randyridge.com/Tao/Donate/Default.aspx>) (Headline: Sandia team funds library development through gratuitous beer donations). When will the next version of TAO become available? "When it's done. (<http://www.randyridge.com/Tao/FAQ/Default.aspx>)" And now for a personal experience--The first time I tried downloading TAO, the link was broken. There's reliability for you. In summary, TAO appears to be run by an army of one, is poorly (if that) funded, and there

is no clear business (or other serious) motivation for it to go anywhere. I mean no disrespect to Mr. Ridge, but if I were working on a toy project in my free time, it wouldn't be a top priority, either. My **guess** is that this is a project maintained by a student (or someone else in a non-professional role when it comes to this project) that will be abandoned once he hits graduation (or loses interest). In any event, if nobody helps pay for his server, the project is toast anyways. Other questions I have: Why isn't this project on SourceForge? Why are there (apparently) no other developers? Despite all of this, perhaps TAO is a good wrapper, but I wouldn't count on it.

-I apologize for any offense generated by the comments I just laid down, but this paragraph, although well intentioned, is extremely misleading, but I don't apologize for telling the truth. A reader who wasn't familiar with the topic (such as the author of the blog) would read and think that JOGL is bad and that TAO is some great library (among other things).

-Please, if you are reading this, I beg of you to forget you ever read this guy's blog lest you believe all sorts of lies.

### **Now, for my own take.**

One way to get a high level feel for the maturity and development efforts being put into JOGL and SWT/GL is to take a look at their respective "official" sites.

SWT/GL:

<http://dev.eclipse.org/viewcvs/index.cgi/~checkout~/platform-swt-home/opengl/opengl.html>

JOGL: <https://jogl.dev.java.net/>

The SWT effort is an undocumented, experimental project with no user base, forums, or anything of the sort. I see no evidence of active development (Note: 8 mos. since last edit) of this library or even an official desire to make official OpenGL bindings.

The JOGL site is maintained by Sun, has a great user base, has paid employees working on it, has an active and useful forum, has excellent examples, has official Sun support, etc. The JSR out on it has a schedule for its progression (<http://www.jcp.org/en/jsr/detail?id=231>).

Furthermore, the official OpenGL web site discusses Java bindings here <http://www.opengl.org/resources/java/>. Note that the #1 binding listed is JOGL, as described under the heading "The SUN/SGI Java/OpenGL bindings." In addition to these mentions, Sun is committed to making official OpenGL bindings, with JOGL as the prototype implementation. For more info, see JSR 231 (<http://www.jcp.org/en/jsr/detail?id=231>). Note that there is NO mention of the SWT effort anywhere.

To summarize:

-Please don't believe everything obscure bloggers have to say. Pretty much all of the statements in these blogs are heresay, incorrect, outdated, and/or uninformed.

-The SWT implementation of OpenGL is experimental, poorly documented, and doesn't seem to be actively developed anymore.

-The JOGL project (despite ignorant statements to the contrary) works great, is under active development, has great support, a great community, and pretty much everything else you could want.

Finally, I find it a bit insulting that we believe (or at least consider) posts from total strangers stating that OpenGL doesn't work with Java when we have all seen my own efforts and the community's efforts to the contrary. If some kid we never met said that airplanes don't fly after you had been on one and seen them fly, would you believe him? I realize that we each have our own API preferences, but I respectfully request that we at least consider the source and facts surrounding the statements before we use them.

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**Re: OpenGL for SWT**

*By Mike Procopio on 2/25/04 11:41 AM*

Mark,

Thanks for your response on this. I took no offense to your very heated comments, because I very much can understand your position with countering the bloggers' arguments, especially when they are just surface opinion. No offense taken.

I do have a few things I want to address.

1. One of my motivations for the post was to generate discussion about using OpenGL with SWT. This is CLEARLY central to the team's debate in terms of Swing vs. SWT, and SHOULD have been considered or mentioned a long time ago. It's the DUE DILIGENCE that we are required to pay when making these decisions. OK, so we found out they're "experimental." Great! I have no problem with that, and PERHAPS that means we shouldn't be using it (but it probably doesn't mean we DEFINITELY should not be using it). Perhaps they're maturing, perhaps they're near a close release, perhaps Eclipse will absorb the code--we just didn't know. Either of these things could have been significant and merited our attention. As it turns out, it was through weblogs that I found about about it (indirectly through a Google search). They were merely documentation to demonstrate the existence of an interface between OpenGL and SWT. I don't BELIEVE the blogs. I frankly did not READ the entire things. As a general rule, you're right: these are opinions. That said, I have learned that an informal, unplanned consensus of opinions from non-collaborators can sometimes point to truth. You simply cannot dismiss blogs outright.

2. Another one of my motivations was to generate discussion about C# and OpenGL. We had never mentioned this possibility ("Microsoft wants you to use DirectX"). It should have been mentioned, because you wanted to do OpenGL and at the time we were thinking that C# would otherwise be a good product for the team to use. I was pretty surprised when I saw blogs pointing to the existence of this interface ("TAO").

3. Additionally, we all need to understand that the JOGL--which my understanding is what we're using for N-ABLE v2.0 OpenGL development--is very young and very maturing. It does have signs of being a successful product (community, for example). But there is risk with JOGL as well. And of course, at one time JOGL was a small, experimental effort itself.

4. In light of my comments above, I'd like you to reconsider your last paragraph beginning, "Finally, I find it a bit insulting...". While I respect your right to feel insulted, my opinion is that you felt that way because you jumped to conclusions about my motivations instead of trying to understand them more deeply. Now that I've clarified them, perhaps this will serve to mitigate the negative impact my original posts had on your feelings.

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**Re: OpenGL for SWT**

*By MarkBastian on 2/25/04 12:53 PM*

Hey Mike,

Thanks for the response, and thanks for not taking my very heated response

personally. I really do appreciate that. As I said, none of my comments were directed at you, but at the blogs themselves. At a minimum, they were outdated in their presentation. At the max, well, it doesn't matter.

To respond to your points:

1. I agree. My main problem with these blogs is that the opinions presented are based on outdated or incorrect information. However, the fact that they pointed you to TAO and SWT/GL was useful.

2. In the past, I did mention CsGL and its successor, TAO. However, this was a fleeting moment which is undocumented. It may have only been to Mark and Andy, since we are in TA1. At the time, I had the <sarcasm adj="pleasant"/> experience of finding CsGL deprecated and TAO downloads unavailable. The presentation of TAO via its website is still very lacking, even today. I still contend that it would be far and away a better choice to use DirectX if we were to go with a .NET solution, anyways. When in Redmond, do as the Borg.

3. Yes, JOGL is still a fairly young product. However, there is more to this story. JOGL is a child of LWGL, which was around a while. Sun does have paid developers working on this implementation and they do plan (as far I understand) to use this as their baseline for the final implementation. That said, the final package will be javax.opengl, not the current long package name it currently is, and there are still a few hot issues out there as far as implementation goes. The thing I find good about this, though is that there is an active community with active development going on with a big name behind it. You are right, though, that JOGL is primarily intended for use with \*standard\* (i.e. Sun) widgets.

Inasmuch as I have misunderstood your post, I am no longer insulted. It is important, though, that readers take the bloggers' statements at face value and realize that those statements are generally outdated or incorrect, as I believe I have shown clearly.

Perhaps one thing we could do to mitigate future confusion and share the knowledge is open a discussion on APIs for those new to the topic. Prior to this discussion, I was well aware of CsGL, TAO, JOGL, LWGL, SWT GL bindings, NeHe (aka Jeff Molofee) and all of the issues raised by the bloggers. Had you known what I know, you would have benefitted earlier. The same goes for my education in windowing APIs (i.e. you could post the latest and greatest on what you know in your area of expertise). I think we sometimes take for granted our pooled yet unshared knowledge.

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### **Swing vs. SWT: What if Mike was arguing for Swing**

*By Mike Procopio on 2/25/04 11:55 AM*

Swing is good--I like it. So I decided to put together a convincing argument for it.

I'll defer to other team members, of course, to ask "are you sure" and to rearticulate the positive points of SWT.

This whole debate is a huge risk factor for the project, and my feeling is, we're at that point where we really must choose one path and go down it. Unfortunately, sometimes, "doing the deep dive" and really understanding how it relates to our task means actually doing it. For us, this translates to implementing our application in Swing.

**SWT** has true native look, true native performance going for it. It's also easy to develop in (IMO). These are the three big advantages. SWT is multiplatform for all but the most advanced stuff (possibly Swing/SWT interop).

**Swing** can be made to look "pretty nice," though not exactly native.  
Swing is going to be somewhat easier to deploy.  
Sun is fully behind Swing.  
OpenGL works well with Swing.  
Swing's performance is OK, and is increasing.

The argument boils down to the following.

1. Interpersonal.

The project will be hindered by team members' divergent preferences for a UI API. It is therefore necessary to converge. And by "converge," that really means me throwing in the towel fighting for SWT.

2. User experience.

The best user experience is one that they're used to--one that obeys all the conventions of and is consistent with other software running on their operating system. You can argue this with me, and I'm confident the debate would only serve to assert the previous statement. Swing applications can be made and designed to be "close" to the respective operating system's look/feel, to where it's close enough to the users' native applications that those users' cognitive friction is minimal, perhaps negligible. I think we'll have an OK user experience with Swing. It may not be a perfect UI (Get ready to NOT have dynamic resizing of windows/panes like we do in N-ABLE v1.0, and a few other niceties as well.)

4. Compatibility and support.

Swing will work on all platforms with minimal of fiddling. Sun supports Swing, it should only evolve to a nicer looking, more "elegant" UI framework. As a framework for UI, it probably represents less risk than SWT.

4. Performance.

We're going to be pushing these UIs pretty hard. With any luck, they can be optimized to perform acceptably, or else we'll need to consider a different UI structure / paradigm or a different UI API/framework. I submit that we really won't know the answer until we go down the path.

**Summary:**

1. Swing is the right choice for team dynamics.
2. Although Swing UIs are not as native looking or feeling as SWT ones, they can probably be made to be "native enough." Swing is very compatible and easy to deploy.
3. IF the team is willing to compromise the ultimate in native look, feel, and performance, to a UI that approximates (say, 90%) native look, feel, and performance, than Swing, for UI design, is probably good enough.
4. IF we do Swing, the team must be willing to manage the risk of the slow performance in either a Swing application or a heavily used Swing component itself. This risk is mitigated by Swing having more formal support from Sun where as SWT does not.

So the answer is:

**If it makes sense to use Swing for N-ABLE v2.0, and the other team members feel we've done due diligence in evaluating both Swing and SWT, then Swing has my endorsement.**

--Mike

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**Re: Swing vs. SWT: What if Mike was arguing for Swing**

*By MarkBastian on 2/25/04 1:28 PM*

To address your args:

1. Yes, I agree.
2. Although I think **strict** adherence to OS conventions isn't necessary, I definitely agree with you that great User Experience is a fundamental element of a good program.
3. Yes.
4. Yes.

As someone who has been doing and advocating Swing, the choice is easy for me. I vote for it. That said, I haven't had time to do SWT. However, I think it is best to defer to the experts at this time, rather than doing a parallel implementation. I believe Mike is right in his eval of SWT just as I am sure Mike has confidence in my evaluation of graphics APIs.

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**Re: Swing vs. SWT: What if Mike was arguing for Swing**

*By MarkEhlen on 2/25/04 3:01 PM*

To all - My only comment, as team lead, is that we [read:you programmers:] ] have time within the N-ABLE schedule to do some evaluation of SWT. Since this decision, like the last decision, drives a lot of our future work, if at all possible, let's be thorough about this.

Thanks

Mark

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**Re: Swing vs. SWT: Integration?**

*By AndyScholand on 2/29/04 11:55 PM*

Wow! This is a lively and engaging debate, and that is great, because this is a really important core decision.

Mike, as to your points, I'd like to offer my perspective:

1) Team dynamics: I, at least, am a STRONG proponent of SWT.

2) User experience: minimizing cognitive friction needs to be a very high priority for us. I'm confident a lot of this issue is in the higher design-level decisions (what is on each screen, how to access the screens, etc.), rather than the implementation details, so I believe we'll be OK either way. I do tend to think this criteria favors (slightly) SWT however.

3) The laser focus we need to have, in terms of a smooth UI, is the Windows platform. [I understand many analysts use Macs, but remember, the same user group using Macs were originally interfacing to the software with 'vi' and a command line, so ANY interface is an improvement. Our highest value customers (in terms of paying the bills!), who will also have the greatest need for the interaction assistance a good UI provides, are STRICTLY Windows. If the Macs threaten our ability to deliver value to our customers, we need to send them all (even the G5s!) to reapp.] So in my



opinion, the 'all platform' argument is a red herring. I think we need to evaluate the interface on Windows. Period.

4) **The performance question is the 800 lb. gorilla in this evaluation.** The first aspect of performance is going to be data set size, Mark Ehlen is just getting warmed up on the PNW analysis and he already has 20 MB define files (PNW--20MB.xml). Goodyear is so interested in the low-leveling modeling capabilities of N-ABLE that they are likely to give us even more data (down to transactional level in their supply chain) in order to get a high fidelity model of their supply chain. We are also going to generate very large files if we get into 'stochastic equivalence modeling' like LANL does in the TranSIMS family. The second aspect of performance is going to be interface complexity. We have only begun to scratch the surface of the interface complexity in the 1.0 release. We are going to need more widgets and screens to manage GIS information and parametric exploration of solution space. The 3.0 product will probably have a complexity on par with the Eclipse IDE. Swing's performance degrades with additional widgets, this is was in fact the original genesis of SWT. Therefore my stance on the performance question remains we need to architect for MAXIMUM performance. I know we have adequate performance currently under either technology, but my reservations are for the vector on which we are headed.

Since Mark B. currently seems convinced the right technical path is Swing for the OpenGL component, I'd like to propose we look at **SWT/Swing intergration**. This could potentially offer us the performance and native UI advantages of SWT, with the technical compatibility and support of OpenGL on Swing. The cost of course will be some elegance in terms of integration, but under the 1.0 model we do not have much tight UI interaction between OpenGL panes and the rest of the UI, so I don't think this will hammer us too much.

Thoughts?

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**Re: Swing vs. SWT: Integration?**

*By MarkBastian on 3/1/04 8:38 AM*

Somewhere around here, (Perhaps in a chat), I boiled down my requirements to the following (Which I will further reduce here):

1. - I need a **solid** implementation of a **standard** 3D graphics API. That means either OpenGL, DirectX, or Java3D. The path we have chosen pretty much eliminates DirectX. Java3D is an option, but future support and R&D for it is questionable. I would prefer OpenGL. This leads to the question of a **solid** set of bindings for the API. The only logical choices at this time would be JOGL or the SWT OpenGL binding. I believe JOGL is **much** better because it is being actively developed, has lots of community support, and is believed to be the precursor to the "official" OpenGL bindings to be released by Sun in the near future. The SWT binding is experimental, has essentially no documentation or support, and hasn't been actively developed for at least 8 months. Unless somebody is going to pick it up, it is a dead project.

2. - I need a **good** 2D graphics API. Java2D is one of the best 2D APIs I have seen. In fact, I can't think of any other good ones. It has a full transformation pipeline, just like the big boy 3D APIs. It also has great text support. This API solves the ugly 2D text problem easily.

Both the OpenGL context object and the Graphics2D object are AWT components, but

they play very well with Swing as they have been designed to do so.

3. - I feel strongly that we should have an OSX port. I think it is fine if we decide to tailor all of the details to Windows and break some of the Mac conventions, but we should still maintain a Mac version. I think this will be easier to do in Swing, but SWT should be able to do it as well for a bit more cost.

Although I am an ardent supporter of Swing and think SWT is not the way to go, I will concede that SWT is just fine if the above requirements are met.

With respect to point 4, I agree that performance is extremely important, but we need to make sure we are blaming the right culprit. The streaming, reading, parsing, and storing of a DEFINE or SNAPS file are completely decoupled from Swing. It doesn't matter if the file size is 2KB or 2GB, the vast majority of the work will be done behind the scenes, using Java threads and structures, as well as custom stuff we do on our own. It is important to realize that the UI toolkit we use is not the bottleneck when it comes to large data sets.

I don't think Swing is the right technical path simply because it integrates well with the JOGL library. I stand behind Swing because SWT has (IMHO) only the advantage of native speed and integration, and Swing wins in every other category. Again, it is important to remember that SWT's native speed boost is only with respect to the widgets and has nothing to do with the data structures and mechanics that go on under the hood. I think that Swing is better when it comes to pretty much everything else, including standardization, support, and cross platform development. When it comes to speed, I think Swing is fast enough.

Anyways, despite my belief that Swing is the way to go, I don't care as long as 1-3 are met above. Perhaps we can talk about this at today's meeting after the pizza lunch.

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### **Path Forward for N-ABLE v2.0**

*By Mike Procopio on 3/1/04 3:49 PM*

In today's meeting, we talked about and resolved a number of old issues, and brought up a few new ones. I'll try to summarize, as well as throw in a few issues of my own.

#### **1. Swing vs. SWT**

- Performance concerns abound, but GUI components will not likely be the bottleneck; our algorithms, network connection, etc. are more prone to be the bottleneck.
- We may need innovation in our visualization techniques for manipulating 25k+ CommAgents.
- This dealing with massive amounts of data--both on the input side AND the output side--is a major challenge for the NISAC project as a whole.
- I agree with SWT on technological principle as well prefer native component look, feel, and performance. However, I am willing to compromise 10% in each of these three areas to get the benefit's of Swing's Sun-blessed status as well as it's cross-platform compatibility standard.
- ***Therefore, we're going to move forward with Swing.***

#### **2. Web Start vs. InstallShield for Java**

- We're concerned about ease of deployment, ease of dynamic upgradeability, and end-user experience.
- Andy posed the question, "If we do Web Start, can we do InstallShield for Java later?" The answer is yes, although we would need to implement an auto-update functionality, which could be difficult to do if not designed from the beginning. I'm also unfamiliar with self-patching software that's written in

java--what do you do, overwrite existing JARs / classes? There may need to be a separate utility called when we first bootup that can update the core files before launching the main program that would then use those core files.

- Web Start is really easy to deploy with--and makes our users just have to click one button. This is great for the many interim builds we will have. If Web Start is a no-go for our users, or we decide we don't like its end-user interaction, we can go for InstallShield for Java with built-in patch capability.
- ***Therefore, we're going to move forward with Web Start.***

### **3. AXIS vs. SAAJ for SOAP messaging/processing**

- I use AXIS and it is working fine for my SOAP messaging to the SimRunner (I've implemented two of the say five or six services exposed by the SimRunner).
- Feedback from Brian Jones and Jim Curry indicates strong support for AXIS over SAAJ, both in principle and in implementation. Part of this support due in part to Pat Moore's security recommendations.
- ***Therefore, I recommend that we adopt AXIS for all of our SOAP messaging needs.***

### **4. Package Names**

- We converged, with Steve Kleban's approval, on gov.sandia.nable for our core package names. This works out well for my package hierarchy, as I've extracted a useful and descriptive structure to go under the nable root name that has been working quite well for my purposes. I'll publish this shortly and we can comment.
- ***We've converged on gov.sandia.nable.\**** for N-ABLE specific things and gov.sandia.csrd.\* for common components shared across the platform. I still believe "csrd" could be renamed "common," but this is a debate to be had later... And I'm getting tired of debating :).

### **5. What the heck are we building?**

- Now that we have some of these smaller issues addressed, it's time to turn our attention to the actual product that we're building. The team shares a concern that, for n customers, we'll have n codebases that are 95% alike but are difficult to maintain.
- The solution, of course, is to author a generalized framework and API that encapsulates all of the common functionality to be found in ANY agent-based product we deliver. In my opinion, if this is our goal (multiple products with similar functionality but different front-ends), then we need to be seriously considering this software architecture ideology.
- We need to have a use case meeting, in about a month, once Mark B. and I have gotten some traction and the first Alpha builds of N-ABLE v2.0 out. Then we can start thinking about some of these things. Meanwhile, the Alpha builds will be largely modular and done with a generalized framework and API in mind.

### **6. IDEs (Integrated Development Environment)**

- I am using IntelliJ 4.0 and do not plan to switch. (4.0 is the new version and is excellent.) [www.intellij.com](http://www.intellij.com)
- We may all want to switch over to IntelliJ (\$499/user). IntelliJ includes full support for CVS, which is one area where Eclipse is struggling currently.
- I would find it a particularly delicious irony if Mark Bastian continued to use Eclipse (SWT) while I used IntelliJ (Swing)! Feast on THAT!

### **7. Immediate Schedule**

- Mike: 2 Weeks: Build N-ABLE basic core components; get basic GUI framework up and running; refine SimRunner interface

- Mark B.: 2 Weeks: Work on Goodyear GIS stuff, continue to refine ResultsViewer form, SimStreamer Interface, 2D and 3D OpenGL visualizations
- Mike and Mark B. after two weeks: Begin the arduous task of merging our code into one tree, once and for all. (Sometimes painful, but critical step to bring any software project out of its infancy). We'll have to investigate a final CVS location once we get source code control all sorted out (in this next month)
- I expect to have some Web Start-able, Pre-Alpha builds of N-ABLE v2.0 available by the time Mark Bastian leaves for his Game Developers' conference at the end of March
- First Alpha builds demonstrating partial and not entirely stable functionality to come in early April
- First Beta build to come in May
- Beta will be the fairly feature complete, fairly stable platform by which we can begin investigating some of the more esoteric features of N-ABLE v2.0 -- Collaboration, GIS, and the new model of Simulation Editor.

## 8. Simulation Editor.

- This is one area where the team sees, perhaps, some radical changes.
- Is the Tree adequate for visualization of hierarchical, yet still regionally grouped simulation input structures?
- I would advise against getting to OpenGL "VR" style node-based for this
- A hybrid interaction seems to be very promising--Mark B. and I envision a "ToolBox" where you can drag and drop components onto a Tree or OpenGL visualization of the model, maybe tabs at the top showing the views--text only, Tree, GLView, etc. Mark first illustrated this in one of his early screenshots. Warning: SWT vs. Swing debate "fallout" evident in Screenshots Section. **Enter at your own risk!**

## 9. JavaOne Conference in San Francisco

- Mark, Andy, and I went to this last year. There was some value to be had from the conference, though it may not make sense to send more than one person. We'll have to look at the schedule and take a look at the courses they offer during the conference. At the very least, I have a TopCoder reputation to defend :).

I invite your comments and thoughts.

Go team!

--Mike

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### Re: Path Forward for N-ABLE v2.0

*By MarkBastian on 3/1/04 4:32 PM*

Looks like we are settled on S vs. S and WS vs. IS. Good.

WRT Axis vs. SAAJ. I would like to have Pat Moore comment on security issues and what makes Axis better. I know Mark E. is wondering about this too. I will solicit an email on this from him.

Lest I be tarnished, I will switch to IntelliJ ASAP. By the way, you can get it for PC, Linux, or OSX ([http://www.jetbrains.com/idea/download/system\\_requirements.html](http://www.jetbrains.com/idea/download/system_requirements.html)). Also, the licenses are per concurrent user, not per machine (<http://www.jetbrains.com/idea/licensing/index.html>). This means we can put IntelliJ on our PCs and our Macs. I think it is important that our developers be

using the same IDE. Although free is **also** an ideal I prefer, \$400 isn't bad. IntelliJ 4.0 also has GUI editing, which is a plus.

Despite the many SWT vs. Swing images, there are some good real as well as concept art images discussing what Mike and I are talking about for the new simulation editor. I think this new editor should be much more visual and interactive than the last iteration, to include things such as maps and network diagrams.

I think that if we send someone to JavaOne this year it should be Mike. I already have a conference I am attending, so we should spread the conference fun. Besides, we do have a reputation to maintain.

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### **N-ABLE v1.1 - Forthcoming**

*By Mike Procopio on 3/8/04 1:31 PM*

I've decided to spend one day resolving many of the small open bugs in Bugzilla against N-ABLE v1.0, and also adding in the incremental Sim Editor / DEFINE file processing functionality to support parameters required for current studies (Chlorine).

If you have any issues with v1.0 that you'd like to get fixed that aren't already in Bugzilla, now is the time to enter them. Also, the specific model attributes that are needed to support Chlorine-relevant DEFINE files for v1.1 should be given in a Bugzilla Bug.

Additionally, I plan to investigate InstallShield's "Patch" / Incremental Upgrade capability with this forthcoming release.

To add some perspective as to why I've decided to do this, when we need to be focusing on v2.0: v1.0 has currently lost a lot of its value simply because two attributes are not in the Sim Editor. Though not automatic, the Sim Editor interface was designed to be easily (albeit manually) extensible in code, so adding these attributes represents a minimal amount of effort. At the same time, there are a number of open issues in Bugzilla that would be helpful to fix in the first product. Because of v1.0's current limitations (which can be easily resolved), we're seeing an increase in the pressure to make ad-hoc internal "Tools" which will be difficult to support. More importantly, I fear that the team will feel pressure to have these prototype utilities hastily incorporated into a v2.0 product, which conflicts with the v2.0 vision of robustness through paced, well thought out design and development. Hopefully, a functioning v1.0 product will help reduce some of this pressure.

One major issue for the v1.0 product, though, is performance. While we might not be able to increase performance significantly, we should be able to come up with a progress bar that will help tremendously with the user experience.

Any additional thoughts welcome.

--Mike

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**Re: N-ABLE v1.1 - Forthcoming**

*By AndyScholand on 3/8/04 3:41 PM*

Cool. So is a progress bar enabled by multi-threading? My experience with the on-going studies is we are pushing more and more data into these define files - the Chlorine file I built last night was over 30MB. My guess is soon we'll be doing all 13 TIH's in one sim.

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**Re: N-ABLE v1.1 - Forthcoming**

*By Mike Procopio on 3/8/04 4:20 PM*

Well, a progress bar doesn't require multithreading. It can be updated on a single thread.

However, the bigger issue is that we're having up to 1 minute of processing occurring on the single main application thread in VB. A better experience is to offload the processing on a separate thread (which updates its own status bar, of course), leaving the rest of the application available for doing other things.

I may know of a trick to get things to be multithreaded, though, and that is if I compentitize the "VB model" engine, I might be able to get it to execute on a different thread. We'll have to see...

All of this multithreading stuff is done much easier in Java, and even easier in C#.

--Mike

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**Initial Integration Effort - Unifying Package Structure**

*By Mike Procopio on 3/10/04 1:09 PM*

Please have a look at the screenshot I've added to the pictures section that illustrates the package structure that I've currently converged on in my own work for N-ABLE v2.0.

PackageStructure2.bmp

**gov.sandia.nable**

servers

servers.simrunner

servers.simstreamer

ui

ui.components

ui.graphicsresources

ui.graphicsresources.res [actual graphics files to be dynamically loaded as resources at run-time--icons, etc.]

ui.mainwindows [the three primary views of the application: SimConsole, SimEditor, SimResults]

Let me know what you think. We're to the point where we should converge on this shortly, as a first step before we merge our individual "code trees" into one tree in CVS, which is required before we can get frequent Alpha builds.

--Mike

---

**Re: Initial Integration Effort - Unifying Package Structure**

*By AndyScholand on 3/22/04 12:49 PM*

Check out <http://www.onjava.com/pub/a/onjava/2004/03/10/blackmamba.html?page=1> for an interesting read on crafting a Swing app. There is some discussion in the article about how the MVC app design forces the creation of some helper packages, so that base classes can implement a stable interface.

Cheers,  
Andy

---

**New Screenshot in Pictures Section**

*By Mike Procopio on 3/10/04 5:39 PM*

There's a screenshot of the N-ABLE SimConsole (aka SimExplorer) in the Pictures section. This is using Swing. Lots of little issues--can't quite get the borders right, the toolbar height is strange, the statusbar text won't left align, etc. These are all minor and will just take time to sort out.

Mark B., probably a good time to begin thinking about how you want to integrate the SimResults form (in the ...mainwindow package) in with this.

--Mike

---

**Re: New Screenshot in Pictures Section**

*By MarkEhlen on 3/17/04 10:15 PM*

Great work; we are 'on track'.

---

## **ReadMe**

*By MarkBastian on 2/3/04 8:38 AM*

I suggest we maintain a panel on the tools we are using. This should include topics such as tools, how tos, FAQs, troubleshooting problems, etc.

---

## **Eclipse**

*By MarkBastian on 2/3/04 8:42 AM*

Tips, topics, FAQ's, etc, on Eclipse.

---

## **FAQ**

*By MarkBastian on 2/3/04 8:48 AM*

Answers to commonly asked Eclipse questions.

---

## **How do I arrange my files in a src/bin structure in Eclipse?**

*By MarkBastian on 2/3/04 8:49 AM*

Eclipse will auto-manage your source and binary files if you create one or more source folders in your projects. This can be done in one of two ways:

- At project creation, add a sub-folder named "src". Eclipse will prompt you as to if you would like a corresponding bin folder created.

- After project creation, right click on a project folder, select new->source folder. Eclipse will then turn any previously generated packages into simple folders. Drage these folders into the new src folder to restore the package structure.

---

## **Re: How do I arrange my files in a src/bin/... structure**

*By AndyScholand on 2/18/04 8:52 PM*

I'd like to see us work out a package structure for the NABLE v2.0 interface. The following is an initial cut at what this might look like. After we finalize it, I'd like to see us push it up to Kleban et. al. so we can have a similar convention NISAC-wide.

cvs package name: nablejUI

```
com.sandia.nable.jUI
  /config
    Java properties files
  /doc
    Javadoc
```



/lib  
platform-independent outside jar files

/test  
unit tests

/native  
  /win32  
  /macosx  
platform-dependent files (dlls, shared object libraries)

/src

---

**Eclipse and NISAC CVS repository**

*By AndyScholand on 2/3/04 10:16 AM*

There appears to be a problem with Eclipse 3.0 and the NISAC CVS repository. Using the ext method of authentication is recommended by architecture, but due to the custom version string returned by the F Secure ssh on nisac-srn5, Eclipse believes it does not support this version. pserver authentication works, and is the work-around for now.

---

**Re: Eclipse and NISAC CVS repository**

*By MarkBastian on 2/3/04 10:17 AM*

what param do I use for the Repository path?

---

**How can I get my Eclipse tool windows to be on a second monitor in Java view?**

*By Mike Procopio on 2/3/04 3:14 PM*

I like having a single, full, unadulterated screen of code in front of me at all times, with all tool windows, output windows, debug consoles, etc. off to the right on a second monitor.

Every other IDE I've worked with can do this.

Eclipse seems to think I want to "Dock" them over there... In reality, I just want to MOVE them standalone over there.

Any ideas?

--Mike

---

**Re: How can I get my Eclipse tool windows to be on a second monitor in Java view?**

By MarkEhlen on 2/3/04 4:52 PM

Have you tried "Window->New Window"?

---

### How do I change the Look and Feel of the application I am developing?

By MarkBastian on 2/5/04 7:48 AM

1. First, download the .jar file containing the L&F you want.
2. Right click on the project folder and select Properties->Java Build Path->Libraries
3. Click the Add External JARs... button and navigate to the .jar you downloaded.
4. In your code, call the function "UIManager.setLookAndFeel(**new** lookAndFeel());" where lookAndFeel is the look and feel you want. In the case of the image "nabile2\_results\_image1.JPG", the look and feel is com.birosoft.liquid.LiquidLookAndFeel(). Alternately, you can just specify the name rather than using the new keyword, like so: "UIManager.setLookAndFeel("lookAndFeel");"

Important note: You MUST make the above call BEFORE you start up any UI components, so put this at the very beginning of your program. You can change the L&F on the fly in the middle of execution, but it takes a bit more code.

There are a few default L&Fs that you can use without linking to anything. The corresponding code for them is:

```
UIManager.setLookAndFeel(UIManager.getCrossPlatformLookAndFeelClassName());  
//Metal/Java L&F  
UIManager.setLookAndFeel("com.sun.java.swing.plaf.motif.MotifLookAndFeel"); //Motif  
L&F  
UIManager.setLookAndFeel("com.sun.java.swing.plaf.windows.WindowsLookAndFeel");  
//Windows L&F, only works in Windows
```

It is probably a good idea to surround this code with a try block, like so:

```
try{  
  
//UIManager.setLookAndFeel(UIManager.getCrossPlatformLookAndFeelClassName());  
  
//UIManager.setLookAndFeel("com.sun.java.swing.plaf.windows.WindowsLookAndFeel");  
  
//UIManager.setLookAndFeel("com.sun.java.swing.plaf.motif.MotifLookAndFeel");  
//UIManager.setLookAndFeel(new  
com.incorps.plaf.kunststoff.KunststoffLookAndFeel());  
//BROKEN!UIManager.setLookAndFeel(new  
com.l2fprod.gui.plaf.skin.SkinLookAndFeel());  
    UIManager.setLookAndFeel(new com.birosoft.liquid.LiquidLookAndFeel());  
}  
catch(Exception e)  
{  
    e.printStackTrace();  
}
```

---

### Re: How do I change the Look and Feel of the application I am developing?

By MarkBastian on 2/5/04 8:00 AM

The cool "liquid" L&F used in "nable2\_results\_image1.JPG" can be found in the file "Java\L&Fs\liquidInf-0.2.0.zip" in the files section. You need to unzip the archive and link to the JAR as described in the OP. The code to get it rolling is:

```
try{
    UIManager.setLookAndFeel(new
com.birosoft.liquid.LiquidLookAndFeel());
}
catch(Exception e)
{
    e.printStackTrace();
}
```

If you didn't do it right, the console should spit out an error at you.

---

## **SOAP/XML Classes**

*By MarkEhlen on 2/3/04 8:45 AM*

---

## **FAQ**

*By MarkBastian on 2/3/04 8:57 AM*

Answers to commonly asked SOAP/XML questions.

---

## **What are the base set of Java classes for DOM or SAX-based parsing of XML, either for accepting or delivering XML text?**

*By MarkEhlen on 2/3/04 12:44 PM*

What are the base set of Java classes for DOM or SAX-based parsing of XML, either for accepting or delivering XML text?

---

## **Re: What are the base set of Java classes for DOM or SAX-based parsing of XML, either for accepting or delivering XML text?**

*By Mike Procopio on 2/3/04 2:16 PM*

There are at least two java packages that allow you do to a DOM-style parsing of XML in Java.

In my other applications, I do Java XML parsing extensively.

I use the org.apache.xerces XML class libraries, and there's also important classes in org.w3c.dom.\* for DOM parsing. There's also the SAX processor, org.xml.sax. Another one similar to Xerces is "Crimson," which does the same thing I believe.

As you can see, I am unable to articulate the differences between all this stuff. I tend to get dizzy with so much open source stuff flying around :). Seriously though, Sun has adopted these packages into Java 1.4 I believe. XML processing is now part of the JRE / J2SE.

Looking back in my own code, I used the org.w3c.dom classes a lot: Element, Document. Give these a shot.

---

**Re: What are the base set of Java classes for DOM or SAX-based parsing of XML, either for accepting or delivering XML text?**

*By MarkEhlen on 2/3/04 4:53 PM*

Thanks; DOM should be fine for now (and likely the future).

---

**Re: What are the base set of Java classes for DOM or SAX-based parsing of XML, either for accepting or delivering XML text?**

*By MarkEhlen on 2/3/04 10:04 PM*

I think I'm being dense - which jar should I be accessing? I downloaded Sun's ava Web Services Developer Pack (Java WSDP) but can't find the necessary org.w3c.dom classes!

---

**Re: What are the base set of Java classes for DOM or SAX-based parsing of XML, either for accepting or delivering XML text?**  
*By MarkBastian on 2/3/04 10:13 PM*

**import** org.w3c.dom.\*;

---

**What classes will allow us to auto-generate an internal DOM based on the auto-generated N-ABLE schema?**

*By MarkEhlen on 2/3/04 9:19 PM*

What classes will allow us to auto-generate an internal DOM based on the auto-generated N-ABLE schema? JAXB?  
(<http://java.sun.com/developer/technicalArticles/WebServices/jaxb/index.html>)

---

**Re: What classes will allow us to auto-generate an internal DOM based on the auto-generated N-ABLE schema?**

*By MarkBastian on 2/3/04 9:28 PM*

Along with JAXB, there is a jcp out for a new technology called StAX (Streaming API for XML). The web site is <http://www.jcp.org/en/jsr/detail?id=173>. I think this could help significantly with our firehose problems.

---

**Re: What classes will allow us to auto-generate an internal DOM based on the auto-generated N-ABLE schema?**

*By MarkEhlen on 2/3/04 9:35 PM*

Yup.

JAXB creates Java classes through its binding process  
(<http://java.sun.com/developer/technicalArticles/WebServices/jaxb/index.html#binsch>).  
So all we'd have to do is run the described script at the command line before compiling  
the java code. This could easily be done each time we modify the internal agent model!  
Way cool!

I've put the html page describing the script in the Files/Java/XML  
directory

---

**What can I use to test the N-ABLE schema?**

*By MarkEhlen on 2/4/04 10:10 PM*

To: Ehlen, Mark A [maehlen@sandia.gov]  
From: Eidson, Eric D  
CC:

---

Howdy,

I need some way of testing the schemas that are being generated by the NABLE engine.  
From your earlier message, I see you used the command:

`xjc -p NABLEDOMClasses NABLE.xsd`

My question is -- where? :-) On what machine and/or is it something I can download?  
The error messages it generates seem helpful -- as opposed to just a generic "invalid schema"  
message

Eric

---

**Re: What can I use to test the N-ABLE schema?**

*By MarkEhlen on 2/4/04 10:11 PM*

This is the JAXB binding process that creates Java classes from a schema. See  
(<http://java.sun.com/developer/technicalArticles/WebServices/jaxb/index.html>)

---

**Re: What can I use to test the N-ABLE schema?**

*By AndyScholand on 2/5/04 1:28 PM*

Try <http://tools.decisionsoft.com/schemaValidate.html>

---

**ArcIMS-related Technologies**

*By MarkEhlen on 2/3/04 8:46 AM*

---

**FAQ**

*By MarkBastian on 2/3/04 8:58 AM*

Answers to commonly asked ArcIMS questions.

---

**sendArcXML utility**

*By MarkEhlen on 2/3/04 4:56 PM*

To: NIWT [niwt@sandia.gov]; WaterWays [waterways@sandia.gov]; Ehlen, Mark A [maehlen@sandia.gov]; Bastian, Mark [mbastia@sandia.gov]  
From: Detry, Rich  
CC:

---

Hi all,

The sendArcXML tool is a useful utility provided by ESRI that allows you to send ArcXML requests to the spatial server and receive replies. Thus, it is a nice way to verify that your ArcXML requests are correct and sensible. I installed the tool on the development app server, and you can access it via

<https://nisac-ws2.sandia.gov/website/sendArcXML/>

The ArcXML Programmer's Reference Guide is available online via

[http://downloads.esri.com/support/documentation/ims\\_/ArcXML\\_Guide/Support\\_files/arcxmlguide.htm](http://downloads.esri.com/support/documentation/ims_/ArcXML_Guide/Support_files/arcxmlguide.htm)

Here are a few simple ArcXML requests that can be run against the NIWTforDHS service.

Map Image request (press the "Show URL" button after receiving the reply to view the image):

```
<ARCXML version="1.1">
  <REQUEST>
    <GET_IMAGE>
      <PROPERTIES>
      </PROPERTIES>
    </GET_IMAGE>
  </REQUEST>
</ARCXML>
```

Simple query request for the status of a sub region (make sure you select the Query button in between the Request and Response frames):

```
<ARCXML version="1.1">
<REQUEST>
<GET_FEATURES outputmode="xml" geometry="false" envelope="true" >
<LAYER id="3" />
<SPATIALQUERY
  subfields = "NIWT.EP_STATUS_BY_SUBREGION.STATUS_VALUE"
  where="NIWT.EP_STATUS_BY_SUBREGION.NERC_SUBREGION_ID = 102" />
</GET_FEATURES>
</REQUEST>
</ARCXML>
```

Rich

---

### **ArcXML Schema**

*By AndyScholand on 2/18/04 9:05 PM*

Created from the canonical DTD (attached) by Stylus Studio. Required a little hand-editing, presumably due to errors in the DTD. I have confirmed that JAXB can convert this schema to a set of classes.

---

### **N-ABLE Port Checker**

*By MarkBastian on 2/10/04 7:59 AM*

There is a new tool, called the N-ABLE Port Checker, in the files section. It is located at Files->N-ABLE Port Checker. It is a self-executing JAR that should run fine on a Mac or PC. If you run it, it will be pretty self explanatory as to what it does.

I plan to add methods for customizing the port list later.

If there are additional ports you want checked, let me know and I will code them in.

I also plan on adding a heartbeat to the program so that it rechecks the ports every minute or so.

Let me know if you have any other suggestions.

---

### **XML Editors**

*By MarkBastian on 2/17/04 12:48 PM*

Tools for creating XML, Schemas, DTDs, and all that jazz.

---

### **FAQ**

*By MarkBastian on 2/17/04 12:49 PM*

Questions and answers about XML tools.

---

### **Here are a few tools I found on the web.**

*By MarkBastian on 2/17/04 12:49 PM*

Have any of you heard of any of these? I have listed a couple of "real" editors (meaning expensive) as well as a couple cheap products. You probably get what you pay for, but then again, we don't need much (or do we?).

**<oxygen/>** <http://www.oxygenxml.com>. Costs around \$50-80 per license. Has a big feature list. Is cross platform.

**XMLBuddy** <http://xmlbuddy.com/> \$35 for a single "Pro" license. The limited version is free. This is

an Eclipse plug in, which is a bonus for us Eclipse users.

**Sonic Stylus Studio** [http://www.sonicsoftware.com/products/sonic\\_stylus\\_studio/index.ssp](http://www.sonicsoftware.com/products/sonic_stylus_studio/index.ssp). Program recommended by Andy Scholand. ~\$400/license.

**XMLSpy** [http://www.xmlspy.com/products\\_ide.html](http://www.xmlspy.com/products_ide.html). The standard? ~\$400/license.

---

### **SWT Starter: How to build your own SWT Manual; SWT first steps**

*By Mike Procopio on 2/23/04 10:55 AM*

This is a series of articles and tutorials on SWT that I have printed out, three-hole-punched, and placed in 1.5" binder. Together, they comprise my personal SWT "Bible" that has been instrumental in my rapid ramp-up with SWT.

#### **SWT Homepage:**

<http://www.eclipse.org/swt/>

#### **Download location for SWT v3.0, M7:**

<http://download2.eclipse.org/downloads/drops/S-3.0M7-200402122000/index.php#SWT>

#### **SWT: The Standard Widget Toolkit. PART 1: Implementation Strategy for Java™ Natives**

<http://www.eclipse.org/articles/Article-SWT-Design-1/SWT-Design-1.html>

#### **Taking a look at SWT Images**

<http://www.eclipse.org/articles/Article-SWT-images/graphics-resources.html>

#### **Understanding Layouts in SWT**

<http://www.eclipse.org/articles/Understanding%20Layouts/Understanding%20Layouts.htm>

#### **Creating Your Own Widgets using SWT**

<http://www.eclipse.org/articles/Article-Writing%20Your%20Own%20Widget/Writing%20Your%20Own%20Widget.htm>

#### **And then some really great tutorials:**

<http://www.cs.umanitoba.ca/~eclipse/>

- \* *Installing Eclipse and running a simple SWT program*
- \* *Basic widgets*
- \* *Advanced widgets*
- \* *Layouts*
- \* *Client billing application*
- \* *Creating custom SWT controls*
- \* *JFace*



**And then a VERY CRITICAL three-part resource:**

**Using the Eclipse GUI outside the Eclipse Workbench**

***Part 1: Using JFace and SWT in stand-alone mode***

<http://www-106.ibm.com/developerworks/java/library/os-ecgui1/>

**Using the Eclipse GUI outside the Eclipse Workbench**

***Part 2: Using the JFace image registry***

<http://www-106.ibm.com/developerworks/opensource/library/os-ecgui2/>

**Using the Eclipse GUI outside the Eclipse Workbench**

***Part 3: Adding actions, menus, and toolbars***

[http://www-900.ibm.com/developerWorks/cn/linux/opensource/os-ecgui3/index\\_eng.shtml](http://www-900.ibm.com/developerWorks/cn/linux/opensource/os-ecgui3/index_eng.shtml)

---

## Network Plots

By MarkEhlen on 1/20/04 10:05 AM

MarkB added this in Outliner; I'm moving to a Viz Discussion so we can detail/persist...

---

### Network Plot Details

- Nodes will consist of agents. Each ObjGen tag will denote a new agent.
- The agent name will be the name attribute of the ObjGen tag.
- The region tag corresponds to a node location

### Questions

- Is there direct contact between Firms and Consumers?
- Are Firms and Consumers linked to the banks?
- Are banks hubs?

---

## Re: Network Plots

By MarkEhlen on 1/20/04 10:10 AM

### Network Plot Details

- Nodes will consist of agents. Each ObjGen tag will denote a new agent.
  - The agent name will be the name attribute of the ObjGen tag.
  - The region tag corresponds to a node location
- 

ME: I would have each region be represented by a node. CONTEXT is critical though: in the context of the sample DEFINE file you are using:

A. BankAccountSeller and BankAccountBuyer subagents should have network links to a "Region1" JUST FOR these Bank sub-agents, not also for FirmSellers and FirmBuyers.

B. The rule to follow for creating the minimum number of "market" nodes is: each Buyer/Seller pair is unique by:

- 1, Buyer/Seller object type (BankAccountBuyer/Seller, FirmBuyer/Seller)
- 2, CommodityType: "GOODS", "POWER", etc.
3. Region name

Example: say they are groups of BankAccountBuyers/Sellers all 'trading' in "Region1", and FirmBuyers/Sellers trading in a "GOODS" commodity market called "Region1". THERE SHOULD BE TWO "Region1" nodes, one connecting the BAB/Ss and one connecting the FirmB/Ss.

---

### Questions

- Is there direct contact between Firms and Consumers?
- 

ME: Only through their internal FirmBuyers/Sellers

---

- Are Firms and Consumers linked to the banks?
- 

ME: Through their BankAccountBuyers/Sellers

---

- Are banks hubs?
- 

ME: They are CommAgents, just like a firm, so they interact through their Buyers/Sellers. ...come by if you want to discuss.

---

---

**Re: Network Plots**

*By MarkEhlen on 1/28/04 8:38 AM*

I notice that MarketTest.DEFINE and BullwhipTest.DEFINE work correctly, but InfraMarketTest.DEFINE does not. Are you keying off all elements that are children of <Buyers> and <Productions> <a particular production> <Sellers>?

---

**Re: Network Plots**

*By MarkBastian on 1/28/04 8:49 AM*

No, since the file I used to prot the plot didn't have the Infra- prefix. I will work on this later.

---

**Re: Network Plots**

*By MarkEhlen on 1/28/04 10:30 PM*

The point is that ANYTHING that is the child of either Buyers

<CommAgent ...  
<Buyers>  
    <any XBuyer here>

or of a production,

<CommAgent...  
<Productions>  
    <XProductionType>  
        <any XSeller here>

should be tied to a market. Using this relative accessing of sellers and buyers will allow for future extensions of these classes

It is also worth noting that if the DEFINE file has

<Socializers>

in it, you can tie its child to markets. We can work on some examples later....

---

**Small Multiples**

*By Mike Procopio on 1/29/04 2:41 PM*

Andy,

You left a voicemail a while back about Small Multiples with our data graphs. It should be possible to have a very large amount of these. For v1.0, I just did four because four was manually manageable (trivial window size/location algorithms, one different static layout for 1, 2, 3 and 4 windows) and the whole feature was in general experimental. Now, Java is largely unfamiliar territory for us in this regard, so it's hard to say. But in general, I think we're capable of creating n instances of similarly sized (or indeed, independently resizable) visualization windows and displaying them. How many? This is a question for Mark Bastian.

Mark, what do you think. Could we have, say, 32 instances of an output window (combination of OpenGL and/or Java3D components)?

--Mike

---

**Re: Small Multiples**

*By MarkBastian on 1/29/04 4:39 PM*

Well, from the little demo I had today, I would assume you can have as many little windows as you want. The JSplitPane allows you to easily split a window in half with a new Component on each side. Since the JSplitPane is a Component, you can put one on each side, and voila, another split. Using this scheme, I would assume you can have infinitely many small multiples given infinite memory. However, it is my opinion that it will not be hard to arrive at too many small multiples in short order.

One constraint is the number of GL contexts the graphics card will support. I haven't done any research on this, but I read recently (don't recall where) that you can only have a certain number of DirectX contexts. This leads me to believe that the same would be true for GL, unless it is a MS constraint.

---

**Re: Small Multiples**

*By AndyScholand on 1/29/04 5:00 PM*

The larger context here is the big visualization corridor in 880 - so we have windows on each panel (either LCD or rear projection)

---

**Re: Small Multiples**

*By MarkBastian on 1/30/04 12:17 PM*

If you are talking about an 880-type implementation, what we have isn't quite what we want, I think. However, there are several ways we can effectively show small multiples (e.g. tiled plots in one frame, tiled plots in one gl window, multiple frames, etc.), I am not sure which is best for the 880 application, but they are all quite achievable with Java. Please see the attached maestro images for a great example. After a bit of use, I can see that Maestro was designed with the small multiples concept in mind. Most of the images are self-explanatory. See `maestro_plot_spreadsheet_multiples.jpg` for an image of the menu used to lay out the different views.

---

## **Grabbing PNW Data**

*By MarkEhlen on 2/24/04 9:08 AM*

MarkB - try running the new 20MB DEFINE file I've put in the Files section, and see what the output looks like. We should discuss how we can grab this data in various new ways in v2.0.

---

## **Large Numbers in DEFINE files**

*By AndyScholand on 3/8/04 8:45 AM*

Over the weekend I was working on some Chlorine supply chain numbers. I decided to convert from tons to pounds as the base unit of mass because the end-users (water companies) pull on the order of 66 lbs/day. The relative concentration of the supply chain means that at the production end, however, we have numbers in the define file which are in scientific notation, i.e. <Stock  
max\_capacity="1.215890410958904E7" ... > Is that compatible with our other technologies?

---

## **Re: Large Numbers in DEFINE files**

*By Mike Procopio on 3/8/04 11:17 AM*

Forseeing the problem of large numbers, we decided to go to String representations for all values--including numeric--in the Simulation Editor. That is to say, as far as the editor is concerned, the underlying representation is always a string.

That said, the big question then becomes where is it getting the scientified notation representation from? That could typically be done, say, by requesting that string-based representation explicitly from the numeric object in whatever language you're in. Or, and I think this is the case, they're being put in manually in that format by the DEFINE file author?

So as far as the Front End is concerned, the string entered just gets put directly into the DEFINE file.

We should be concerned, though, with the Back End's ability to parse and to accomodate numbers in scientific notation. Unless special classes are used (like the well known "BigInteger" like classes), it is definitely possible to exceed the maximum capabity for a given numeric type, which, if I'm correct, is an 8-byte Double on the back-end.

--Mike

---

**Welcome to General Discussion**

*By Mike Procopio on 4/14/04 10:53 AM*

This is a new Tab/Tool for N-ABLE General Discussion.

--Mike

---

**Files Section Refactored**

*By Mike Procopio on 4/14/04 10:54 AM*

Team,

I've made some changes to the Files section. I organized a few things by folder, and have deleted a few items that were no longer applicable (.NET Framework, Visual Source Safe). Feel free to make additional changes to this section as you see fit; perhaps the documents could be further reorganized.

--Mike

---

**Location for Latest N-ABLE Schema**

*By Mike Procopio on 4/14/04 11:02 AM*

Team,

I've created a "Latest N-ABLE Schema" folder in the Files section.

Would the owner of the Schema take responsibility of making sure the latest is always in this folder?

Who is the "owner" of the Schema? (We should have one single owner, though many people may work on it.)

Can we have a tag in the Schema file that documents its version/build? This will help us understand when we need to update (even if done manually, this can be very effective). Given the (anticipated) "relative" infrequency of changes to the Schema, manual versioning is probably feasible.

Owner of the Schema, please chime in.

--Mike

---

**Re: Location for Latest N-ABLE Schema**

*By AndyScholand on 4/14/04 11:46 AM*

There is also a dependency on the nableSchemaBindings package in CVS; if the schema is

updated, the JAXB bindings need to be updated as well.

---

**Re: Location for Latest N-ABLE Schema**

*By MarkEhlen on 4/14/04 1:53 PM*

I will take ownership. Many of the changes are mine, and I am a heavy user of JAXB stuff, so I will also make sure the nableSchemaBindings in CVS are up to date.

---

**Re: Location for Latest N-ABLE Schema**

*By Mike Procopio on 4/14/04 1:58 PM*

Sounds good. I've added you as the owner of the Schema and JAXB Bindings in the master component / owner list.

--Mike

---

**Update your copy of Groove!**

*By Mike Procopio on 4/14/04 11:05 AM*

Team,

Please update Groove to the latest v2.5 build. I was using 2.5g.1777 before I updated to the latest, 2.5j.1825.

Link:

<http://www.groove.net/default.cfm?pagename=UpdateGroove>

(Click on "Update Groove")

Update Details:

**Version:** Groove Workspace v2.5j

**Build Number:** 2.5.10.1825

**Type:** Maintenance update

---

**COMPONENT OWNERSHIP LIST - N-ABLE v2.0**

*By Mike Procopio on 4/14/04 11:12 AM*

Team,

It is important that we establish clear "ownership" of components. Even though ideally we will all become fluent with eachothers contacts, successful software development models have one central point of contact ("owner") for a given component.

I expect this section to evolve over time, as component names change, components are created, and components change.

This discussion topic may eventually be persisted as a File or as a section in some yet-unpublished N-ABLE v2.0 Design Document.

Note also that this list will be instrumental in assigning component areas in Bugzilla against which we file bug, enhancement, and issue reports. Bugzilla, as we've seen, is centered around Point of Contacts ("owners") for various components. At Microsoft, their own issue tracking system was centered around this idea, as well.

\*\*\*\*\* COMPONENT OWNERSHIP LIST \*\*\*\*\*

N-ABLE Project:	(Mark Ehlen)
N-ABLE Front End (Client):	(Mike Procopio)
Simulation Console:	Mike Procopio
DEFINE File Parsing and Validation Engine:	Mike Procopio
Simulation Results Viewer and Related Components:	Mark Bastian
SimRunner Interface Component:	Mike Procopio
SimStreamer Interface Component:	Mark Bastian
Installation and Setup Installshield Build Package:	Mike Procopio
N-ABLE Back End (Servers):	(Eric Eidson)
SimRunner:	Eric Eidson
SimStreamer:	Eric Eidson
N-ABLE Other Components:	
Schema and JAXB Bindings:	Mark Ehlen
N-ABLE Property Descriptions:	Mark Ehlen
N-ABLE Development Resources:	
Groove	Mike Procopio
Bugzilla	Andy Scholand
N-ABLE Computational Steering (Human/N-ABLE Interaction):	(Mark Bastian)
Hardware Selection:	Mark Bastian
Wireless Networking:	Mark Bastian
Steering Client:	Mark Bastian
Server Side Interaction:	Eric Eidson
N-ABLE Database Interface / Data Components	(Mike Procopio)
Access to NISAC Data Assets	Mike Procopio
Web Start Deployment	(Mark Bastian)

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**Re: COMPONENT OWNERSHIP LIST - N-ABLE v2.0**

*By MarkEhlen on 4/14/04 1:56 PM*

I'd assign you to Groove, mainly because you can be the diplomat with CSR&D, who apparently now does not support Groove.

---

**Re: COMPONENT OWNERSHIP LIST - N-ABLE v2.0**

*By Mike Procopio on 4/14/04 1:57 PM*

Sounds good. I've noted this in the master Component Ownership list (first post in this thread).

--Mike

---

**Re: COMPONENT OWNERSHIP LIST - N-ABLE v2.0**

*By MarkBastian on 4/20/04 8:02 AM*

Admin - Add the following (Once added, delete this):

N-ABLE Steering (Human/N-ABLE Interaction):	<b>(Mark Bastian)</b>
Hardware Selection:	<b>Mark Bastian</b>
Wireless Networking:	<b>Mark Bastian</b>
Steering Client:	<b>Mark Bastian</b>
Server Side Interaction:	<b>Eric Eidson</b>

---

**Re: COMPONENT OWNERSHIP LIST - N-ABLE v2.0**

*By AndyScholand on 4/20/04 9:10 AM*

Maybe make that 'N-ABLE Computational Steering' for full buzzword compliance.  
(Google the term, or see [http://tyne.dl.ac.uk/StarterKit/HTML/steering\\_doc/node74.html](http://tyne.dl.ac.uk/StarterKit/HTML/steering_doc/node74.html))

---

**Weekly Updates - N-ABLE Software Team (Mike, Mark Bastian, Eric, Mark Ehlen, Andy)**

*By Mike Procopio on 4/14/04 11:17 AM*

Team,

As we begin to get more engaged, as a high performing team, into N-ABLE v2.0 development, one important factor to our success will be the weekly publishing of a "progress report," which will basically summarize for the world the areas that we worked on and the accomplishments we've made during the week. This is a 5- or 10-minute per week item; it's not designed to take up a significant amount of your time.

Although this reporting may seem superfluous, please be sensitive to this request and do not scoff at it nor brush it off. Sandia has this HUGE culture of informal, oral tradition, and while this is useful in many contexts, it is not sufficient for a team-based software development project like N-ABLE. A little formalization in this area will go a long way. Having many weeks of demonstratable effort and progress will only be an asset as we mature our processes and move closer to realizing N-ABLE v2.0.

--Mike

---

**Re: Weekly Updates - N-ABLE Software Team (Mike, Mark Bastian, Eric, Mark Ehlen, Andy)**

*By MarkEhlen on 4/14/04 3:20 PM*

I fully support this suggestion.

Let's NOT consider this a count-the-lines exercise (he who writes more did more). Its to quickly confer and correlate on what we are working on. The fact that some of us are in totally different parts of Sandia (at different times) makes true release coordination difficult.

Ideas:

1. Consider it hallway conversation, NOT an earnings report.
2. 5 sentences OR LESS.
3. Tell what's HARD right now so that others may backfill with support.
4. Keep it fun.
5. Brooke, Dave, Jeanette, and Kleban are invited.
6. Its valid and encouraged to say "I did little; I'm working on a different project right

now."

M

---

**Re: Weekly Updates - N-ABLE Software Team (Mike, Mark Bastian, Eric, Mark Ehlen, Andy)**

*By Mike Procopio on 4/14/04 3:39 PM*

I agree completely; extremely well stated! I especially like the part about what's "HARD"--that's the fun stuff to read about, and also allows, as you point out, for someone to step in with some help if they're able to. "We're defined by our struggles" -- MP

---

**What should we do with the {Archived} Tools/Tabs in Groove?**

*By Mike Procopio on 4/14/04 11:29 AM*

Team,

Wanted to hear everyone's thoughts on what we should do with the various archived tools/sections in Groove.

A large amount of this discussion is no longer pertinent to our current efforts (though much of it is useful as it documents our various debates and thoughts in the initial phases of v2.0 development, as well as the latter phases of v1.X development).

To reduce clutter and help us focus on now and the future, I called these old tools "{Archived - <former\_tool\_name>}." What should become of them? Is there a way to permanently "Archive" and/or

persist them somewhere else, where they won't clutter things up?

Alternatively, it may be nice to keep them around for reference, though I'm not sure how often they would, in fact, be referenced.

--Mike

---

**Re: What should we do with the {Archived} Tools/Tabs in Groove?**

*By AndyScholand on 4/14/04 11:55 AM*

I'd suggest that key points that need to be archived are moved to TWiki or some other medium. It is not clear how much longer Groove will continue to exist as a tool for collaboration within NISAC.

---

**Re: What should we do with the {Archived} Tools/Tabs in Groove?**

*By MarkEhlen on 4/14/04 3:33 PM*

I will argue strongly for using it AT LEAST until N2 is completed (completely).

---

**Re: What should we do with the {Archived} Tools/Tabs in Groove?**

*By Mike Procopio on 4/14/04 3:38 PM*

Sounds good. I haven't noticed a performance impact with them at all--it seems they're content to stay there, out of the way, until we choose to do otherwise with them. I would suggest re-ordering the tabs so that all the {archived} content is on the right.

Also, Mark Ehlen, as Groove "manager", you can set the permissions for each one. I would recommend disabling any write or edit capability to these tabs, effectively making them read-only; in this sense, they will be true archives.

--Mike

---

**Recommended Configuration Settings in Groove**

*By Mike Procopio on 4/14/04 11:34 AM*

This thread will contain suggestions to help us get the maximum out of Groove.

--Mike

---

**Set "Unread Notifacation Setting" to "High"**

*By Mike Procopio on 4/14/04 11:34 AM*

Part of the problem with the old way we used Groove was that it was difficult to know when new,

relevant "stuff" was posted. You had to manually go into the tool and look for an "unread" notification (the tabs, of course, also display an unread notification content icon).

I've found a more effective way to use Groove is to have it Pop Up a little notification whenever there is new content.

To turn this feature on, right-click each of the Tools (tabs) at the bottom of the screen, select the "Unread Notification Setting" menu option, and set it so that the selected option for this setting is "High: Pop Up Unread Notification".

I would recommend turning this on for all tools except the {Archived} tools.

--Mike

---

**Move {archived} Tool "Tabs" out of the way to the right**

*By Mike Procopio on 4/14/04 4:21 PM*

I like to have the most relevant tool tabs on the left, and all of the {archived} tool tabs on the right. You'll find that you can actually reposition the tabs to the order that you want by dragging and dropping them accordingly.

--Mike

---

**Changes to Bugzilla**

*By Mike Procopio on 4/14/04 11:40 AM*

Team,

As N-ABLE v2.0 development proceeds, we discover that some changes to Bugzilla are needed to keep up with current versions, component, and ownership.

Who "owns" the Bugzilla configuration for N-ABLE? I'm thinking that it's Andy (but could be wrong).

One update that I see right away that's needed is to include "1.1" in the Version list for N-ABLE. That way we can open up bugs against this new version if necessary.

--Mike

---

**Re: Changes to Bugzilla**

*By AndyScholand on 4/14/04 11:57 AM*

Yes, I'll volunteer to be the editor for Bugzilla.

I think you mean version 1.1, not 1.0?

---

**Re: Changes to Bugzilla**

*By Mike Procopio on 4/14/04 12:25 PM*

Andy,

Thanks. Yep, I mean v1.1, not v1.0--thanks for the catch. I've updated it in the original message.

--Mike

---

**Re: Changes to Bugzilla**

*By AndyScholand on 4/14/04 12:28 PM*

Do you want 1.1 in the target field too?

---

**Re: Changes to Bugzilla**

*By Mike Procopio on 4/14/04 12:32 PM*

Sure, that is a good idea. Please do.

Note that, for larger projects, Milestones can be useful for "interim" target goals inbetween versions. We may or may not require this resolution. Our Milestones also may just be things like "v1.1 Beta" or "v2.0 Alpha," if we decide to get that specific.

--Mike

---

**Promising graph drawing tool**

*By AndyScholand on 4/12/04 11:27 AM*

[This post was authored by Brooke, and it is highly relevant to our current efforts, so I cut/paste it here -- unfortunately that changed the author. If anyone learns how to move posts around, please let me know. -ajs]

<http://www.research.att.com/~north/graphviz/>  
<http://www.research.att.com/sw/tools/graphviz/overview.html>

I had a vague recollection of grad school friend of mine using dot (the directed graph part of graphviz) to automatically make some nifty pictures. (As I recall, a student of his was making a little language to program DFAs, so my friend wrote an interpreter to convert this into a dot input file, with the result that the student could get instant visual feedback on the design of the DFA he was creating.) Since no one

has mentioned it here yet, I decided to go googling for it today.

It has a pretty simple input language, so y'all might find it useful for personal use, at least.

I've added a couple of pictures generated by using jaxb and dot, just to show what is possible with little effort.

Brooke

---

**Re: Promising graph drawing tool**

*By Brooke Chenoweth on 4/14/04 12:19 PM*

In the files section, I've added some dot files and the DEFINE files I created them from.

I've also included the java program I wrote to do the job. Depending on what you want the graph to look like, you might want to tweak the output file a little. (Change colors, node shapes, rankings, etc.) Once you have a good dot file, you can use dotty to view it (and tweak it if you like) and dot can convert it into a variety of file types.

---

**Re: Promising graph drawing tool**

*By AndyScholand on 4/14/04 12:10 PM*

Brooke, this is really interesting work.

I've used Graphviz on the mac, (<http://www.pixelglow.com/graphviz> for Mac Addicts) and I love it. My concern was performance on the larger graphs. My experiments showed substantial performance hits (~30 minutes and up) on layouts involving > 500 nodes and various network types (BA scale-free, small world, random).

I moved on to Pajek (despite the Windows-only implementation) due to its reputation as an industrial-strength tool for networks (tens of thousands of nodes). The nableNet CVS package includes some code to convert DEFINE files to Pajek network representations. Pajek is available from <http://vlado.fmf.uni-lj.si/pub/networks/pajek/>. I'll add a Pajek representation of the Goodyear analysis to the pictures section.

Can you post the pointers to the Graphviz code, or check it in to CVS?

We've also talked about purchasing this capability from various vendors, including ILOG and Tom Sawyer. That discussion is currently stalled due to a lack of technical resources to work the problem.

Cheers,  
Andy

---

**Re: Promising graph drawing tool**

*By Brooke Chenoweth on 4/14/04 12:37 PM*

<http://www.research.att.com/sw/tools/graphviz/>      Links to docs, downloads, etc. Take

a look at the sample displays.

<http://www.research.att.com/sw/tools/graphviz/download.html> Has versions for Linux, Windows, OSX, etc

I'm not sure about the performance of very large graphs, but <http://www.research.att.com/sw/tools/graphviz/GN99.pdf> mentions some tools to help with that. (The large graph stuff is towards the end of the paper.)

The above paper and other reference material is found at <http://www.research.att.com/sw/tools/graphviz/refs.html>

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### **Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By Mike Procopio on 4/14/04 3:41 PM*

I need some feedback for some easy-do, big-win improvements for v1.1.

A quick side note, I'm discovering that all of this work is relevant for v2.0; we're getting or interaction straightened out and refactored. A lot of v1.1 functionality comes from ideas we've have for v2.0 and is simply a first-cut approximation at implementing them.

1. I've implemented a "View DEFINE File" menu option from the Results Viewer. *Why did we never have this before?* It was pretty easy to do. It's SO much fun to use! Now, from any Results Viewer window, just press CTRL-D or select the "View DEFINE File" menu option from the File menu (this interaction is IDENTICAL to that on the Simulation Console). Voila, the DEFINE file as seen in the Simulation Editor pops right up.

2. We have a violation of our model with the current "Network Plot" functionality. The Network Plot, as it stands now, is merely a graphical representation of the Simulation INPUTS. Granted, it uses a GL Control, but is none the less a DEFINE file viewer and not a RESULTS viewer. It really doesn't belong in the Results view!

THEREFORE, I propose the following very important changes. They're getting things aligned ahead of time for our v2.0 product.

We've always envisioned having multiple "Views" on the DEFINE file (INPUTS) just like we do for the OUTPUTS. I'm ready, for v1.1, to quickly implement TWO Additional views, implemented as a TabView, as shown below:

1. Hierarchical DEFINE file view (read/write--that is, you can view it, but also EDIT the DEFINE file from manipulating this 'writable' view)
2. Textual DEFINE file view (read/write)
3. Graphical Network Plot DEFINE File view (currently read only, but we all envision being able to drag/drop N-ABLE Objects onto this view, or right-click it, to create new structures)

If we did this, I would remove the Network Plot view from the Results Viewer. Then, as necessary, I would instantiate a GLControl in the Simulation Editor, and, as required, update it via the method that Mark has exposed with the recent DEFINE file text.

MARK BASTIAN, can we create a "connectionless" GLControl, which doesn't have any connectivity or

TreeView pointers, but rather simply renders DEFINE file Network Plot data on request?

--Mike

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By MarkBastian on 4/14/04 4:02 PM*

I need to have a look to remember the details, but there is no need to get a connection to view the define file network. I think the constructor just takes the define file as a string. Pretty easy.

FYI - As I have warned before, this is a non-validating, incomplete, sometimes broken plot. If it displays, I am relatively certain it is correct. That is my ONLY guarantee.

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By Mike Procopio on 4/14/04 4:05 PM*

Sounds good, Mark.

My initial experiments show that it's doing just fine without any pointers or any other preparation. It seems to be rendering things correctly.

--Mike

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By MarkBastian on 4/14/04 4:13 PM*

Ok, here's how to make it happen:

1-Instantiate control just like you normally do.

2-Call ProcessMessage(CREATE\_NETWORK\_PLOT, LONG\*, LONG\*, LONG\*, define string, BSTR\*, BSTR\*, BSTR\*);, where "define string" is the define file text and the pointers are whatever you want.

That's it! Let me know ~~if~~ how it works.

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By Mike Procopio on 4/14/04 4:17 PM*

Yep. That's what I'm doing. So far, works great!



Now the tricky question is, how much "extra" functionality do I add on--zooming etc. I might add a toolbar to this tab, but will have to see.

The other important thing is to make sure I've got your buy-in in terms of "yes, it makes more sense to have this in the Simulation Editor than it does the Results Viewer."

Thanks for your help, Mark!

--Mike

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**  
*By MarkBastian on 4/14/04 4:20 PM*

Yes, it goes in the editor. The only reason for its current incorrect location is that was where the only GL control instance existed.

Any of the 3D navigation function that makes sense from the 3D point cloud is going to be easy to implement. We just need to decide what we want. I would suggest:

- The complete movie bar
- Orbiting by Y axis
- Screen capture
- Zooming (only because not everyone has a wheel mouse)
- Perhaps the focus point navigation buttons, but I am not sure.

The plot node text is always front facing and there is no sense of "up" since the text is always vertically aligned. This means you can focus pretty much on any point you want by rotating and scrolling/zooming.

Any buttons I am missing?

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**  
*By Mike Procopio on 4/14/04 4:29 PM*

By zooming, we mean zoom in, zoom out, and reset.

Also, "Lock" camera.

Also, "Constrain to y axis"

Focus point is your call... I'm not sure really what use it would have, but could be useful in terms of manipulating our view on the network cloud...

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**  
*By MarkBastian on 4/14/04 4:32 PM*

Ok, I am sitting in front of 1.0 and this is what I think we need for the node plot:

- Screen capture
- Orbit/Animate about y axis
- Lock camera
- Reset camera
- Entire movie bar

I think that is it. I was wrong about zooming. This adjust fov, not position. If you don't have a wheel mouse, you should buy one to move in and out. I would leave out the zoom buttons. I can certainly wire them in if you want the feature, though.

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By Mike Procopio on 4/14/04 4:38 PM*

OK... So you see no need to Constrain to Y-Axis, right?

As far as zooming goes... I see what you're saying. If they're in there, they'll have a zoom-like effect, but not the effect that the zoom buttons have on the 3d view?

Can we make them adjust whatever the 3d-view ones adjust? If this is a problem, we can either cut the feature, or wire them to do whatever the scroll wheel does...

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By MarkBastian on 4/14/04 4:58 PM*

PM

No need for y-axis constraint since there is no such thing as "up".

Go ahead and put the zoom

buttons in. It just adjusts the field of view (YOU (the camera) don't move, but your lens gets wider or narrower.). It is a camera adjustment, not a plot adjustment, so the fix will be easy.

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By Brooke Chenoweth on 4/14/04 4:39*

*PM*

Couldn't you make it possible to zoom in/out with up/down arrow keys on the keyboard something like that? It seems a more intuitive alternative than toolbar buttons. Of course, I think most NABLE users have wheeled mice, so it doesn't matter much right now.

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By Mike Procopio on 4/14/04*

*4:44 PM*

Right. Leave the zoom buttons out. In fact, I'm tempted to leave the entire toolbar out--I'm not sure how much it would really be used? Are we really going to make movies of network plots?

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By MarkBastian on*

*4/14/04 5:03 PM*

Only for marketing. It was something I wanted before because you can make a good video to show supply chains. I would \*like\* the movie bar, but it isn't required.

I agree that we don't need the rest of the buttons.

So, here is what I really want:

-Screen capture button  
<- must have

desirable

-movie bar <- very

The other buttons are not needed at all. You can navigate just fine with the mouse.

---

**Re: Feedback Requested -  
v1.1 - Results Viewer, DEFINE File, and "Network Plot"  
Feature Reorganization**

*By MarkBastian on 4/14/04 5:00*

*PM*

Yes, but zooming and moving forward/back are not the same things. Getting really close to an object with your camera is not the same thing as using a narrow angle lens.

Anyways, go ahead and put the zoom buttons in. We still require a mouse wheel for translation.

---

**Re: Feedback  
Requested - v1.1 - Results Viewer, DEFINE File, and  
"Network Plot" Feature Reorganization**

*By Mike Procopio on*

*4/14/04 5:03 PM*

Sounds good. Final word is your final list, basically. Zoom In, Zoom Out, and Zoom Reset will be included. Constrain to Y axis is cut.

Please put this information in the bugzilla bug that's currently open on this issue, noting we moved it to the Sim Editor.

--Mike

---

**Re: Feedback Requested -  
v1.1 - Results Viewer, DEFINE File, and "Network Plot"  
Feature Reorganization**

*By AndyScholand on 4/15/04*

*2:03 PM*

I second Brooke's comments - there's been a couple of times I've used the OpenGL view and not had a wheelie mouse - like on a laptop with a glidepad. Pajek uses x y z buttons on the keyboard. Maybe capital letters mean zoom in,

lower case mean zoom out.

Also, I think the ability to make a movie is critical. Many network diagrams are too complex to make sense of from a static point of view.

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By Mike Procopio on 4/14/04 4:23 PM*

Mark,

What are the auxilliary toolbar-like functions for this view? Zoom in, Zoom Out, Movie Mode? How about Zoom Box Mode? Reset Camera? Orbit about axis? Lock a certain axis?

--Mike

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By MarkBastian on 4/14/04 4:27 PM*

See previous reply. I don't think we should do box zooming. That really only applies to 2D. 3D box zooming and "lassoing" is nice, but we don't have that capability. It requires making a 3D projected extrusion through the view port, volume intersection testing, and more. This is beyond our current scope.

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By Mike Procopio on 4/14/04 4:31 PM*

Right. I see what you're saying. Lasso effect is most definitely a 2.0/3.0 thing!

--Mike

---

**Re: Feedback Requested - v1.1 - Results Viewer, DEFINE File, and "Network Plot" Feature Reorganization**

*By Mike Procopio on 4/15/04 2:32 PM*

Mark,

Now that a group of us have had input on the issue, it's clear what we need.

Mark Bastian, please implement in the GLControl capability and messages to process:

1. The toolbar buttons applicable to this view (Note: As we discussed this does NOT include

Constrain to Y Axis Functionality);

2. Zoom in, Zoom out, and Zoom Reset; wire these up to do whatever zoom-like (FOV or movement) transform you think most appropriate;
3. Movie mode.

I will include this functionality and messaging capability in the UI.

--Mike

---

### **New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**

*By Mike Procopio on 4/15/04 3:07 PM*

Team,

We've gotten the buy-in from Mark and from Andy to pursue the inclusion of "Large DEFINE File Reading/Parsing" functionality for N-ABLE v1.1. With simulations getting more elaborate, and with tools and data available to efficiently generate DEFINE files several megabytes or more in size, this functionality is becoming increasingly important.

There is a bug open in Bugzilla currently about this very issue, Bug #256. There are already a number of useful comments there.

[http://nisac-srn5.sandia.gov/bugzilla/show\\_bug.cgi?id=256](http://nisac-srn5.sandia.gov/bugzilla/show_bug.cgi?id=256)

Note that N-ABLE v1.0 already can read in very large DEFINE files; it's able to handle DEFINE files in excess of 10MB. Parsing this file, of course, takes some time. What we DON'T have is the "collaborative" ability to view others' DEFINE files that are greater than 32K. This feature, put in at the last moment, has proven to be one of the most useful collaborative features in v1.0, and has really helped connect more experienced N-ABLE simulation writers to the ones who are just starting off with the tool. Currently, for the larger DEFINE files, when this feature is invoked an error message occurs saying that "The DEFINE File is not available." This is because I don't include larger DEFINE files in the "UserDefined" attribute for a SimRunner run.

So,

1. We would like to have this functionality for v1.1
2. I understand that the DEFINE file is now being stored on the SimStreamer;
3. The ideal solution, from an interface standpoint, is for Mark Bastian to implement in the TreeView (perhaps using the hidden, "Master" instance we have on the main form) a method, "getDefineFileByRunNodeID(long nodeID)" that would return the DEFINE file raw XML, as a String (yes, even a very LARGE string!) to the N-ABLE client, where I would then parse and display it.

What things do we need to do to move forward in realizing this capability?

--Mike

---

**Re: New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By MarkBastian on 4/16/04 7:14 AM*

We *can* do this, but I don't know if we should. Here's the scoop.

It is easy enough to start a node containing a define file. However, you don't know which node this is. The file node is not the same as the run node. A separate mapping of some sort needs to be maintained, unless you want the user to click on the file node to get the file. I have solved this problem in 2.0 by adding a field to the RunElement class which stores the associated File node ID. I have also generated a FileElement, which is not part of Eric's original treeview code, but works well. This element registers itself with the RunElement so the Run knows where its file is. In fact, the FileElement nodes are basically only a placeholder. The actual file data is stored in the Run node in 2.0. None of this functionality is available in 1.x.

The file is not downloaded in one piece. It comes across in single lines in a gzip format. This requires extra parsing code, as well as a place to store the partial file. 2.0 does this by implementing new parsing code and storing this code in the Run node as described above.

The file comes across gzipped. This is fine for Java, since it has built in zip utilities. C++ does not. I (or Eric) would have to get the treeview working with an external library, like zlib.

It took about a week for Eric and I to get all of the streaming, zipping, parsing, and other related tasks debugged and working in 2.0. Granted, we now know what went wrong and the server side bugs are 1 time fixes, but the time saved by previous experience will probably be spent hunting new bugs in the old version.

My main points are that:

1. All of this functionality is available in 2.0.
2. All modifications to make this work in 1.x are CORE treeview enhancements. If we follow the old paradigm (Eric does core treeview stuff, I do wrapping and communication), this means Eric is the one to make the major changes, even though there is still work for me to do.
3. This is not a huge task, but it will take time. Time that would be better spent on 2.0.
4. Interruptions and task switches like this are not good for productivity. Every time you switch tasks, there is an associated catch-up cost. We should be focusing on 2.0, not continually adding features to the old version.

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**Re: ACTION REQUESTED MARK EHLEN: New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By Mike Procopio on 4/16/04 11:25 AM*

Mark,

This is extraordinarily valuable input and really helps us in making the decision for whether or not we want to support this for v1.1.

Great to hear that this was identified as a core feature for v2.0 and you've moved forward in realizing it. It sounds like there was quite a bit of additional extensions, as you say, core changes, to the TreeView in order to realize this feature.

So, what I've heard is:

1. You and Eric have designed and implemented this in v2.0 TreeView
2. The same changes could be made to the v1.0 TreeView, but at the expense of time and some risk, since the changes are significant. This would mostly involve your time and Eric's.
3. The time spent on the v1.1 TreeView upgrade could ("should") be spent on v2.0 development.

These points are very valid and I accept them as "Truth"--however, your last points are declarations that we, as a team, have not yet decided. I'm referring specifically to #4 re: v1.1 work vs. v2.0 work.

Let me make a few points

1. You suggest that our time could be "better spent" on v2.0. One cannot merely state this, although in my younger days (earlier this year!) I do admit that I was the hotshot pushing for cutting off support for v2.0. What it comes down to is, how critical a need our project lead(s) think there is for this functionality, given our ever-expanding and increasingly real customer base!)

2. You note that "We should be focusing on 2.0, not continually adding features to the old version." As it happens, this old version is the only deployed product we as a team can point to a say "look what I've done with the millions you've given us!". Some would say v1.0 is one of the more visible "artifacts" of this entire project, and even some other fringe outliers would be so bold as to declare that our current state of continued, rich funding, all or in part, is directly related to this product. Do not underestimate its importance. In my opinion, how much should go into v1.1 vs v2.0 is still open for debate. In general, though, v2.0 is a ways off (even though we've made remarkable progress in some areas), while our customers have a "here and now" need.

4. These new customers will not be expected to use v2.0 Alpha/Beta products. That is not how software engineering dictates we do software. Customers get production releases. They have a present need, one that cannot be fulfilled with any product in development (except for those users who require 2.0-class functionality and are prepared to deal with an incomplete product to get it).

5. More on v1.0. As it happens, there is a lot of "low hanging fruit" that I've discovered that can easily be "picked" for v1.1. In other words, with a little work, there is a fair amount of new capability that can be obtained with minimal effort and minimal risk of instability to the project. You know, things that just got kind of rushed at the end of v1.0. Point releases are a fact of life. Windows 98 SE. Service Packs. Little upgrades that address shortcomings that were inevitable in previous versions.

6. My purpose in starting this thread was to find out whether or not getting DEFINE files of simulations into the 1.1 client was "easy" (i.e., whether or not it was this "low hanging fruit" I keep talking about). You've done an excellent job in rationally stating that it is not. I fully agree it is a "big new feature" that isn't in line with a point release/upgrade.



7. I think we can all agree that minor enhancements and bugfixes were prudent for our v1.0 product, and what we've done so far for v1.1 has made a far more complete product. (Granted, I haven't yet communicated all of the changes to v1.1, but I will in time). Additionally, I agree that the functionality that is the subject of this thread, this is not 'low hanging fruit' and it is not a trivial thing to release; further, there is a fair amount of risk involved if we were to move forward with it in v1.1.

At this point, I think we're all on the same page. The arguments are clear.

**MARK EHLEN--you've heard from the experts. This debate deserves gold stars for really boiling down the issue. Where we stand should be clear. Your call on whether or not this feature makes it in to v1.1. Let's say it will take a week of Mark and Eric's time (I think would take a little less), and a day of my time.**

Yea or Nay, Mark E.?

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**Re: ACTION REQUESTED MARK EHLEN: New Feature [v1.1]:  
Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By MarkBastian on 4/16/04 12:20 PM*

I can vote as proxy for Mark E. and say the answer is "yea". See one of the other posts further down for reasoning.

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**Re: ACTION REQUESTED MARK EHLEN: New Feature [v1.1]:  
Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By MarkEhlen on 4/18/04 12:30 AM*

Yea, Mike, I talked it out with MarkB and think we came up with a reasonable plan.

I recognize that too much time on 1.1 stuff will suffocate 2.0 work time and resources, but (1) 1.1 will be our baseline for almost all ongoing work for the rest of FY04 and (2) I am still hammering out a first cut on the 2.0 spec (as testimony to my commitment, it's now 12:30 Saturday night and I'm on the spec now). So we have 'some' time.

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**Re: ACTION REQUESTED MARK EHLEN: New Feature [v1.1]:  
Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By MarkEhlen on 4/18/04 12:39 AM*

FWIW, here is the current case I could use the download large DEFINE file.

I am helping Dave and Brooke set up a demo for Lockheed Martin in two weeks. Brooke has created an instance of the first DEFINE file (250 locations/assets for the JSF) and submitted the run. Its 1:00 a.m., the file aborted by error, and I can't view the DEFINE to ferret out the problem and report back to help her get it going....

M

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**Re: ACTION REQUESTED MARK EHLEN: New Feature  
[v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By AndyScholand on 4/19/04 8:41 AM*

So Mark Bastian - how do we use the file download feature being built for v2.0? Can we fire that up out of Eclipse and use that to connect to the production runner/streamer to download a file like this?

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**Re: ACTION REQUESTED MARK EHLEN: New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By MarkBastian on 4/19/04 8:56 AM*

It should take a small amount of work (2-4 hours max, I think) to make a small executable that shows the sim list and allows you to download a file. This should be a standalone executable jar.

Although this isn't integrated with anything, it should provide a good, easy, short term solution.

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**Re: ACTION REQUESTED MARK EHLEN: New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By Mike Procopio on 4/19/04 11:34 AM*

Not sure about doing this.

v1.1 stable builds are imminent. I would rather see that "2-4hrs" effort go into building this functionality into v1.1, which we have already spec'd out. Note that this solves the problem, which is precisely why we're doing it.

I favor this route instead of some one-off tool which, no matter how useful, adds to the entropy of the project. It also adds to the complexity of the N-ABLE "toolset" from a user perspective, should they ever come to use the tools.

By the way, the whole "multi-use" mutli-tool toolbox expert-user system vs. one high level, v1.0 like interaction is still an open debate; no decisions have been made and I ask that me not move forward with either mindset. I, in fact, think a compromise between the two is ideal--a modular toolkit, if you will, which still has an very tightly integrated feel to it.

--Mike

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**Re: ACTION REQUESTED MARK  
EHLEN: New Feature [v1.1]: Reading of Arbitrarily-Large  
DEFINE files in N-ABLE v1.1**

*By EricEidson on 4/19/04 11:54 AM*

Howdy,

Actually, I think a separate tool for  
downloading is better idea. It can be quickly written and deployed.

In contrast, all the other changes have  
me revisiting the TreeView (to list the File node in the view), writing a  
file downloader, and integrating zlib into the old program. Of course,  
once I've done all that, MarkB must then reintegrate my changes with  
his (which may not be trivial, because I have already changed the code  
significantly, and these new changes are also unlikely to be trivial.)  
Then, MarkB must give you the new module, which because it is  
significantly different, must be retested completely; then we fix  
problems, which is a slow iteration of me->mark->you. In that case,  
the imminent stable builds of v1.1 become much less imminent :-)

The feature desired is to get the DEFINE  
file from the server. I think it is acceptable to provide a throwaway tool  
to achieve that for the immediate term rather than extensively modify  
soon-to-be-dead code.

Eric

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**Re: ACTION REQUESTED  
MARK EHLEN: New Feature [v1.1]: Reading of  
Arbitrarily-Large DEFINE files in N-ABLE v1.1**

*By MarkBastian on 4/19/04*

*12:27 PM*

I agree with Eric's estimate on  
diffuculty. Last week I threw out an estimate of 1-2 linear man  
weeks to get this done. I just talked with Eric and he agrees. So,  
"imminent" is probably at least two weeks away.

The question is, do you all want  
to wait two weeks to have the ability to download DEFINE files? I  
can make a small standalone tool now (probably done today or  
tomorrow) that does it all. What do you want?

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**Re: ACTION  
REQUESTED MARK EHLEN: New Feature [v1.1]:  
Reading of Arbitrarily-Large DEFINE files in N-ABLE  
v1.1**

4/19/04 12:30 PM

By Mike Procopio on

Suffice it to say that this is a decision that should be made by Mark Ehlen. On a note that you may or may not consider relevant, my understanding was that Mark Ehlen has already chosen to support this for v1.1 for reasons previously stated.

I'm not sure about what you mean by linear man-weeks. (A quick google search turned up nothing on this phrase, either plural or otherwise.)

Do you mean that it will be one or two weeks before we see this feature, as you and Eric continue working on your other tasks? Or do you mean that it will literally take you and Eric one or two weeks of labor "effort" to complete the feature?

Finally, I would suggest that you not move forward implementing this tool until the entire team buys into it. This is a team effort, right?

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**Re: ACTION  
REQUESTED MARK EHLEN: New Feature [v1.1]:  
Reading of Arbitrarily-Large DEFINE files in  
N-ABLE v1.1**

By MarkBastian  
on 4/19/04 12:45 PM

By linear, I meant that the time couldn't be done concurrently, but it won't be one person. It will take two calendar weeks.

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**Re:  
ACTION REQUESTED MARK EHLEN: New  
Feature [v1.1]: Reading of Arbitrarily-Large  
DEFINE files in N-ABLE v1.1**

By Mike  
Procopio on 4/19/04 1:26 PM

I'm calling a TIME OUT on this thread. Let's move this to a Software Meeting Agenda Item (see the new Weekly Software Meetings discussion tab).

--Mike

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**Re: New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By MarkBastian on 4/16/04 10:10 AM*

Mark has convinced/prevailed upon me that we need this for 1.x.

Here's how I see the task breakdown:

-Mike will implement a query and message handler for this. This call will not return the XML string immediately since we don't know if we even have the file yet.

-Mark will handle the request and write code to fire a response event when the query has completed.

-Eric will modify the treeview code to handle downloading, parsing, storing, and retrieving of files.

I looked and zlib looks to work fine with VB, so we can give Mike a gzipped file or the XML string. Which do you want, Mike?

---

**Re: New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By Mike Procopio on 4/16/04 11:46 AM*

Oh good lord.

After what I just typed????? :)

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**Re: New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By MarkBastian on 4/16/04 12:23 PM*

Yes. I think the process boils down to this:

1. We work on our latest version
2. Request gets logged by users/leads.
3. We ~~complain~~ expound the virtues of staying the course on the latest version.
4. We discuss real needs with the users/leads.
5. Decision is made based on 4 (current needs/demands).
6. Repeat

Call it "Demand Driven Programming".

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**Re: New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**  
*By Mike Procopio on 4/16/04 12:31 PM*

Hehe. What I meant was, I typed this big response, when Ehlen already said "yea" :).

But let's not dilute your point, Mark.

I guess that, all idealism aside, we built tools for people. People control the demand, and the demand justifies the funding.

Know how Microsoft builds the next version of software (like Office)? They call the PSS people (Product Support Specialists). Get a complete list of EVERY call they've ever received complaining about something or asking for help. They compile this list, and fix things starting at the top--what part of Outlook received the most calls?

They truly build software based on user feedback. They don't do ANYTHING to their product unless some body of people demand it.

I don't think we're far off from that, and I think it's a valid process.

--Mike

**v1.1**

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**Re: New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE**

*By Mike Procopio on 4/16/04 12:24 PM*

Good analysis, Mark.

This is actually going to be a tricky interaction on the UI.

Mark, what I'm hearing is, we've got a fundamentally ASYNCHRONOUS callback-based process going on here... But this is a good UI challenge and I've got some good, slick interaction ideas for how to be able to handle it.

For a number of reasons, I would strongly prefer not to have to deal with compressing at the UI client level. If I could get the Raw DEFINE XML, that would greatly simplify things, though I do understand this represents additional work on your part. The ZLIB stuff adds complexity to the VB client, adds dependency on an additional component, adds complexity to the installation base, and in general adds a lot more to be tested. More risk. I would be grateful if we could handle this data processing at a layer below the UI.

The issue though is, what if the raw DEFINE file size is say 500 MB? Would it make sense to send this compressed?

If I could send a "Request," as mark suggests, and then get a "response" some unknown amount of time later, with a response code, and if a DEFINE file was fetched, the raw XML, that would be awesome.

An open question: Mark, will you be WRITING a file to the hard drive that I reference as a result of your callback? Or can you pass a multi-megabyte string via our message passing technique? I forget--are we passing this String stuff ByVal?

Perhaps the best thing is to write a temporary RAW file and return as a string the full pathname to the file, after which I read into RAM, I'll delete the file.

--Mike

---

**Re: New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**

By MarkBastian on 4/16/04 12:34 PM

*"we've got a fundamentally ASYNCHRONOUS callback-based process , , , [but] I've got some good, slick interaction ideas".*

Yes, but I think we had this problem before somewhere. I just can't remember the exact situation. I am pretty sure the process will be something like this:

- Request received
- If file downloaded, return string, else null
- If not, start download
- fire event EVERY time a file completes downloading (meaning, we don't fire off a separate wait thread for a particular file, we just catch all of the file downloads with the assumption that you can do something with the file. After all. you asked for it.).

Good, slick things are even better.

*For a number of reasons, I would strongly prefer not to have to deal with compressing at the UI client level. . . .*

Aside: you would only be inflating, not compressing, but I am not sure if that changes anything.

Yeah, I am having a hard time with this one, too. Here are my arguments (for neither side, just what's in my head):

**pro-ocx inflation:**

- Easy. Just inflate the file when it is asked for and send it. I like this a lot.

**pro VB inflation:**

- A user may want to save a file as compressed or expanded. I think it would be better to make any advanced interaction happen closes to the user. If we have several options for compression or format in the ocx, we have to make our protocol that much more complicated, and you (the VB programmer) have until I get all of these things done. If you get the raw gz file, you can do whatever you want with it (save, show, parse, whatever).

- As you say, a compressed file is a much smaller thing to pass around. We normally get order 100x compression. Your 500MB file would be about 5MB.

- The file will be stored compressed. If you ask for it 5 times, I will expand and send 5 times.

- Either way we need to distribute a .dll since we aren't statically linking the library in.

- Mark E. brought up the point that in the future we may want to add more stuff to our results, such as archiving images with the define. A good way to do this is using a zip archive with a custom extension. If we marshall everything to the main window before it

gets packaged together, that is where the zipping will take place.

I think the major decision is what format we want the results to be in. If we only want text in the VB portions of the app, I say we go with easy. If we want to be able to save as compressed or something similar (using compression), I think we need to just pass the gz file to the parent app.

*If I could send a "Request," as mark suggests, and then get a "response" some unknown amount of time later, with a response code, and if a DEFINE file was fetched, the raw XML, that would be awesome.*

With the exception of the return format, this is exactly what I am planning. We still need to determine who does the inflating.

*An open question: Mark, will you be WRITING a file to the hard drive that I reference as a result of your callback? Or can you pass a multi-megabyte string via our message passing technique? I forget--are we passing this String stuff ByVal?*

It should all be ByRef. The plan is for me to send you a pointer to an in-memory entity. I won't do any saving to hard drive on my end (unless that is what we want to do).

*Perhaps the best thing is to write a temporary RAW file and return as a string the full pathname to the file, after which I read into RAM, I'll delete the file.*

*I'll just do it all in main memory.*

---

**Re: New Feature [v1.1]: Reading of Arbitrarily-Large DEFINE files in N-ABLE v1.1**

*By Mike Procopio on 4/16/04 1:00 PM*

OK. So you're comfortable doing in-memory stuff. Good. Because your OCX is an "In Process" component, on a separate thread (I think), I have access to the same in-process memory entiries as your component, so this should work. (That is, no file writing).

For v1.1, absolutely no additional functionality is going to be offered at the client level. No fancy "stored in compressed format." No archiving, no add on to the DEFINE file, none of this stuff. I don't want to deal with compression on the client side. Memory is memory. If you're opening a 500 MB DEFINE file, you need to be on a machine with that much RAM. Compressed or not, we still have to DOM-PARSE (\*MEMORY INTENSIVE!\*) the file, and THEN represent it in the engine, so of course we're going to be limited by the uncompressed memory usage.

So, I propse we go with:

1. Asynchronous call/response ("callback") methodology;
2. All ZIP-related decompression is done on the OCX (data) side of things (side note: inflation is a loaded term--would suggest we use a different term for the opposite of compression--this is after all an ECONOMIC model! :) :) :) )
3. All processing is done in memory; no writing to the hard drive unless the user saves it. (Per Mark B.'s analysis in this area, which I fully agree with)

STILL OPEN FOR DEBATE:  
Please elaborate on:



*"fire event EVERY time a file completes downloading (meaning, we don't fire off a separate wait thread for a particular file, we just catch all of the file downloads with the assumption that you can do something with the file. After all, you asked for it.)."*

I want to pass in a "request ID" or something (perhaps this can be the RunID), which is also passed back to me with the result when the result happens, so I can keep track of multiple requests.

Could you tell me more about "fire event EVERY time a file completes downloading?"

--Mike

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**Re: New Feature [v1.1]: Reading of Arbitrarily-Large  
DEFINE files in N-ABLE v1.1**

*By MarkBastian on 4/16/04 1:10 PM*

To answer your questions:

I am just describing the mechanism used for the downloads. We are on the same page. I am saying we are not going to fire off a thread that waits for node X to download or do anything "fancy" like that. You will request a node. The node will be STARTed (server request to download). Once the node completeds downloading, I will fire off an event stating that node X has downloaded. You then do whatever you want. I can send the contents of the file in the event, or you can take the event as a sign to ask for it again.

You bring up an interesting point regarding file size. You are using the MSXML API correct? Are we going to have problems with large DEFINE files and DOM objects? Perhaps not, since they must have been handled by the input editor before they were submitted.

---

**Re: New Feature [v1.1]: Reading of  
Arbitrarily-Large DEFINE files in N-ABLE v1.1**

*By Mike Procopio on 4/16/04 1:19 PM*

Gotcha. Yep, we're on the same page.

DOM candle handle big files, and certainly if it's been through the UI on the SUBMISSION side, the UI can handle it on the "View [Other Person'd] DEFINE File" side of things.

RAM requirements are RAM requirements. DOM expands a given XML file, in RAM, to I believe approximately double in size.

Correct, I am using the MSXML API. (MSXML 4).

I think we'll be fine. If it's too big, it's too big. But our use case I think are going to be file sizes about 20MB, maybe a max of 100MB. These can be accomodated on 512MB RAM machines without too much of a problem, I believe. In any case, it will help us process 90% of DEFINE files we can think of running for the rest of the FY (v1.1 Lifecycle).

--Mike

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**[N-ABLE v1.1] - Property Details - In the Workds for v1.1**

*By Mike Procopio on 4/15/04 5:30 PM*

Team,

As you know, currently in N-ABLE v1.0 Simulation Editor, we have a little "Property Details" box (optionally) below the Properties List. Though not implemented in v1.0, the idea for this was to display helpful information that gives additional details and context about the selected property. As you may imagine, having the text *"The size of the buffer used by the banking system's data router to route payment messages (in bytes). If buffer is too small, router will reject messages, causing simulation to stop/abort."* to go along with "Bank Router Buffer Size" is immediately helpful, especially to a newer user to N-ABLE.

Beta builds of v1.0 will be out in a week or so; please join me in giving these property details a good proofreading with an eye out for spelling, consistency, consiseness, and of course whether or not it makes sense. Mark Ehlen has authored all of these so far (way to go, Mark!)--if you see anything that needs to be changed or added, be sure to let the team know!

Here's a link to a screenshot of the Simulation Editor for v1.1 showing this new capability:  
SimEditor - Property Details Example.jpg

Take care,

--Mike

---

**Re: [N-ABLE v1.1] - Property Details - In the Workds for v1.1**

*By MarkBastian on 4/16/04 7:13 AM*

I am assuming these details are stored in the schema. Is that correct?

---

**Re: [N-ABLE v1.1] - Property Details - In the Works for v1.1**

*By Mike Procopio on 4/16/04 11:47 AM*

Excellent question. They will be, we all agree. They should be. Right now, it's a more manual process for v1.1--though Mark Ehlen is in fact using the Schema as a guide to write them in (although not in a valid schema format)--it will be trivial to do so, I believe.

Just put a PropDescription tag in everything...

---

**Re: [N-ABLE v1.1] - Property Details - In the Works for v1.1**  
*By MarkEhlen on 4/18/04 12:34 AM*

I will talk to Eric about adding a field in the N-ABLE C++ code for this description data so that it rolls out automatically with the schema...

M

---

**ATTN Eric: Formal Development SimRunner Needed for v1.1 Testing**  
*By Mike Procopio on 4/15/04 5:45 PM*

Eric,

As you know, the SimRunner recently changed over to some new versions of its GSOAP components, changes which are not (and will not be) compatible with the v1.0 client.

Very soon now, I would like the team to begin testing Beta versions of the v1.1 interface. To do so, we require a formal SimRunner "test server" that is running the new components. We can't upgrade the main production server, since of course this will break the existing v1.0 clients that use it.

Can we set up a formal 3.1.7+ SimRunner server instance that the development team can use to test N-ABLE v1.1, while our main users continue to use v1.0?

Thanks Eric,

--Mike

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**Re: ATTN Eric: Formal Development SimRunner Needed for v1.1 Testing**  
*By AndyScholand on 4/15/04 6:55 PM*

All we need for this is some agreement on the port number.

I propose we use 9999 for test purposes.

I have done a CVS checkout of the latest SimRunner and started in on this port. Let me know if this doesn't work for you.

Cheers,  
Andy

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**Re: ATTN Eric: Formal Development SimRunner Needed for v1.1 Testing**  
*By Mike Procopio on 4/16/04 11:50 AM*

Fantastic! I confirm that nable-run.sandia.gov:9999 is running **SimRunner 3.1.8** with the new GSOAP components and is behaving well with the v1.1 client.

Shortly, we'll all begin testing our v1.1 Alpha against a SimRunner on 9999.

--Mike

---

**Final Production-Ready DEFINE Files To Be Included In N-ABLE v1.1**

*By Mike Procopio on 4/15/04 5:52 PM*

Team,

N-ABLE v1.0 shipped with one bundled DEFINE file, **MarketTest**.

Since that time, several other DEFINE files have been proven on the N-ABLE platform. These DEFINE files, called "Verification" simulations, are invaluable in demonstrating functionality within N-ABLE.

We've been keeping a list of these files up on Twiki. Check out the following link:  
<http://nisac-srn4.sandia.gov/twiki/bin/view/Nisac/VerificationSimulations>

Some of these are very new, while others have been around for quite a while now.

The question is, which DEFINE files are we going to bundle with N-ABLE v1.1?

--Mike

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**Re: Final Production-Ready DEFINE Files To Be Included In N-ABLE v1.1**

*By MarkBastian on 4/16/04 7:41 AM*

This file should both:

1. Work
2. Containt georeferenced locations

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**Re: Final Production-Ready DEFINE Files To Be Included In N-ABLE v1.1**

*By Mike Procopio on 4/16/04 11:52 AM*

Mark,

Do you have a specific one in mind? Are you saying that ALL DEFINE files (say, BullwhipTest) that we include should satisfy these conditions, or AT LEAST ONE should?

---

**Re: Final Production-Ready DEFINE Files To Be Included In N-ABLE**

**v1.1**

*By MarkBastian on 4/16/04 12:29 PM*

Good question.

-I do think all DEFINE files created with the editor should meet Criteria 1 (Work).  
-I think all PROVIDED DEFINE files should be georeferenced.

I don't know if we should eventually require all DEFINES to be georeferenced (perhaps not), but it would be nice. If we eventually map all agents to real firms or even virtual firms in the real world, we can certainly pull a location for each firm from a database via ArcIMS (For example).

Mark E. and Andy, what do you think? Can anyone think of a good instance of a simulation in which you don't want a geospatial context?

---

**Re: Final Production-Ready DEFINE Files To Be Included In**

**N-ABLE v1.1**

*By AndyScholand on 4/16/04 12:54 PM*

Well, Mark Ehlen and I have talked alot about theoretical economic simulations in which we try and re-create known macroeconomic principles from agents with specific behavior. "Virtual Economies" very much like Axelrod's work - what is the minimum set of behaviors needed to generate interesting and valid macro behavior?

Imposing geo-spatial requirements on the define files could make these 'pure virtual' experimentations harder.

Of course, you could always add a feature to the UI - 'Randomly assign my agents to locations in ....' - city, county, state, country, continent, hemisphere, anywhere

It would be nice if selected locations were on the (pick from the following list) road, rail, water, ep, gas, ... network

---

**Re: Final Production-Ready DEFINE Files To Be Included In N-ABLE v1.1**

*By MarkBastian on 4/16/04 12:59 PM*

We should probably do one of these:

- 1-Assign to a random location (The virtual world's largest software maker could end up anywhere)
- 2-Assign to a plausible location (random, but a rail agent would get associated with a real rail yard)
- 3-Put everyone in one location (I like the intersection of the Prime Meridian and the Equator. The water is probably warm there.)

I am thinking it should be either 2 or 3. 2 if we actually want to introduce geospatial references. 3 if there is no geospatial context to the problem. It is misinformation to put things in locations that have no bearing in the model

(Wow, it takes just as much time to deliver a package from Earth to Jupiter as it does from my house to yours. We should write a paper about that.).

---

**Re: Final Production-Ready DEFINE Files To Be Included In N-ABLE v1.1**

*By AndyScholand on 4/16/04 1:17 PM*

#2 is great for demos, unless you are doing the Dr. No ICBM threat from a submarine :)

---

**Will the feature creep never end?**

*By MarkBastian on 4/16/04 7:45 AM*

I am very concerned that we are spending far too much time working on enhancements for 1.0. We need a hard deadline by which this stuff goes away. "One more day" is always one day more and we never get there.

A lot of the core features we want in 1.x are now available in 2.0. There is no reason why our users can't use them side by side to get at the advanced features only available in the new version.

---

**Re: Will the feature creep never end?**

*By MarkEhlen on 4/16/04 9:25 AM*

The logic I argued to Mike is that for the rest of FY04 we are going to be running --- and presenting to stakeholders --- six large simulators: Goodyear, chlorine, PNW, JSF (9000 and 13000), Consumer Confidence (9000) and CA RTP (CERTS). To do this, we need Deb, Sue, Dave, Brooke able to run sims remotely and independently BUT us back home able to view their DEFINE files for analysis debugging. So all the bennies of this go to the analysts, but they are our 'user front'. What sells right now is the finished 1.0, not the in-the-works 2.0. Keeps the 'vaporware' critics off our back.

We ran out of time last fall to get the correct DEFINE file reading done, but at least kludged a 32K solution which has been still VERY useful.

So I'm not arguing for spending a lot of time on this, but some investment of time will get us killer product for the rest of this FY.

Bottomline: let me spend some time with MarkB, Eric, and Mike to get the short path figured out.

M

---

**Re: Will the feature creep never end?**

*By MarkBastian on 4/16/04 9:51 AM*

Ok, that sounds fine. We probably should have a meeting in the near future to determine \*exactly\* what features we want for the \*final\* point release of 1.x. Once these are complete, we are done. We have said this in the past, but we need to mean it this time.

---

**Re: Will the feature creep never end?**

*By Mike Procopio on 4/16/04 12:00 PM*

Mark,

I share your concern.

Fortunately, there is no lack of clarity.

v1.1 is FEATURE COMPLETE except for the following items:

1. Arbitrarily large DEFINE file viewing feature;
2. Property Details Text Display (feature and infrastructure 100% complete and stable; waiting on text from Mark Ehlen); this is akin WRITING THE DARN HELP FILES!! :) :)
3. Updated DEFINE file parsing engine and TreeView UI in the SImEditor to handle new Schema items--specifically, SOCIALIZERS, as well as some other new attributes.

I for one don't want feature creep. But this really is going to be the product that IS USED through the fiscal year. v1.0 is a great interaction, but is missing some things that are critical for the next six months for our existing and new customers. v2.0 won't be ready for them, and as I said before, their need is PRESENT--here and now.

**In short, I don't think we should ask our users to a) use two tools side by side or b) use a tool that's not a production release.**

Therefore, we should all temporarily shift focus to v1.1. This will keep people happy and off our backs until v2.0 is released.

And again, it's done except for the three things we mentioned above. Most of the other tweaks are bugfixes and minor UI enhancements of deficiencies in the v1.0 release that my obsessive-compulsive perfectionist eye would no longer let me accept in the v1.0 release!

Any new features requests will receive significant "developer" pushback :).

*Is the team in concurrence with this?*

--Mike

-----  
***Re: Will the feature creep never end?***

*By Mike Procopio on 4/16/04 12:09 PM*

*"We ran out of time last fall to get the correct DEFINE file reading done, but at least kludged a 32K solution which as been still VERY useful."*

This is going to hurt, but it's a lesson we all need to learn.

It was our own faults we ran out of time. This capability was never formally identified as being important. It only came up towards the end as a "it would be cool if" thing. The method by which I actually IMPLEMENTED this functionality was FIRST suggested as a JOKE by another

member on the team. Some joke. It's turned out to be one of the most talked about features of v1.0.

Now part of this was, the product was SO young, and the interactions it was providing were SO novel, that we could have never really even picked this feature out of the infinite "capabilities space" without having the young Alpha/Beta v1.0 interactions to spring off of. At the same time, we were evolving our own dynamics as a team as well as our own processes for software development, all while being under a fair amount of pressure to SHIP a PRODUCT (which is apparently a rare thing for NISAC).

My point is, we could have probably gotten this done if we knew it was important some time before the few weeks before v1.0 shipped.

A corollary to this point: use cases, personas, customer identification, and feature identification are important when building software!

Let's apply these lessons learned for v2.0. Currently, in my considered and respectful opinion, we've moved far to far, far too fast without and formal direction. The N2 document should help get us back on track.

--Mike

---

**Re: Will the feature creep never end?**

*By MarkEhlen on 4/16/04 12:35 PM*

Agreed; product was young largely due to my personally being 'young' in understanding the process of starting with use cases. At least now, I see the importance of not moving forward on high-level architecture for 2.0 until I (we) illucidate a complete framework.

Today I am first finishing the DEFINE file attributes text, then another cut on use case document. It will likely never be as complete as you've seen before, but its toward that end.

---

**Latest version of JOGL**

*By MarkBastian on 4/19/04 8:29 AM*

The latest version of the JOGL libraries are out. For convenience, I have copied all of the needed files to Groove in the files tab under \\java\jogl\latest\_date).

Installation instructions:

1. Copy the jogl.jar file to your ext directory.

->On my PC, this folder is located at "C:\Program Files\Java\j2re1.4.2\_01\lib\ext".

->On my real computer (aka Mac), the folder is "Mac OS X\System/Library/Frameworks\JavaVM.framework\Home\lib\ext".

2. Copy the native libs (Contained in the folder corresponding to your OS in the files section) to the native lib directory:

->On my PC this is "C:\Program Files\Java\j2re1.4.2\_01\bin".



->Mac, "Mac OS X\System\Library\Frameworks\JavaVM.framework\Libraries".

If you are doing development using jogl, there is also a javadoc tarball for your to look at, but it is purely optional.

---

**Re: Latest version of JOGL**

*By AndyScholand on 4/19/04 8:43 AM*

Is this a needed update (bugfix), or just better performance, etc.?

---

**Re: Latest version of JOGL**

*By MarkBastian on 4/19/04 8:57 AM*

Bugfixes as well as architecture improvements as a result of community feedback. My early tests show that nothing is broken by updating or not updating, so the update is optional but recommended (for now).

Ultimately, these updates will come via JWS, so we won't need to deal with this manual installation stuff.

---

**TIME OUTS and Groove**

*By Mike Procopio on 4/19/04 1:24 PM*

Team,

Whenever there is a debate going on in Groove, where it has gotten too complex to be resolved within Groove, go ahead and call a "Time Out" on it, which means--no more GROOVING on that particular subject; it got escalated to a Software Meeting Agenda Item.

This is nothing to be frustrated about, and it shouldn't shake your confidence in Groove. Groove is valuable for some things for us--quick issues that can be resolved within a threaded discussion format, for which we also get the benefit of cross-team exposure and auto-archival. Some issues can't be resolved on Groove. These are face-to-face Meeting Items, where more complex problems can get solved and everyone's contributions are heard and checked.

Bottom line, we're maturing in our Groove use and making it work for us.

--Mike

---

**Re: TIME OUTS and Groove**

*By MarkEhlen on 4/19/04 1:36 PM*

Be warned that I now --- and will in the future --- find the following situation hilarious: the collaboration panel in N2 will cause various DHS departments to get in 'debates' that are persisted in our NISAC Knowledge Base for years to come.

Our lessons in Groove will benefit those future persisted discussions in ways that we are getting

bennies for even now. For example, every time I show some aspect of N-ABLE to a potential customer, they say, "You've already worked that out? That's great!" Keeps us on the technical and political cutting edge.

M

---

**New Discussion Tab: Weekly Software Meetings**

*By Mike Procopio on 4/19/04 1:30 PM*

Team,

There's a new discussion tab called "Weekly Software Meetings." Don't forget to update your notification level to this to "High," if you so wish.

For each weekly meeting, there will be a thread. For each thread, there will be at least two sections: One for the meeting Agenda, and one for the meeting Notes.

Feel free to update the Agenda as you like, noting issues that are on your OWN list to discuss. That way, we will better make sure these meetings address concerns of the entire team.

The meeting notes will be generated afterwards.

--Mike

---

**N2UI Prototype Sketch**

*By AndyScholand on 5/11/04 10:19 AM*

To: Ehlen, Mark A [maehlen@sandia.gov]; Scholand, Andrew J [ajschol@sandia.gov]  
From: Procopio, Michael J  
CC:

---

I've been making good progress getting my mind around the radical but quite possibly very innovative N-ABLE v2.0 User Interface (N2UI). Here is a "sketch."

Features:

"Border Bars" on left, bottom, and right are always present, unless we have a Tools | Options to turn them off for beginner users

SimLib is at the heart of this. SimLib exposes data that the N2UI interprets as "Workspaces," or top level folders within which static folders "Archived Simulations" and "Active Simulations" are present... These folders store certain file types (chat transcripts, SimInputs, SimResults), which are accessible in the Workspace Browser (pretty TreeView with Icons). The N2UI is essentially a "Viewer" for these special file types.

We'll have to figure out what "Open a simulation" means--as in Open an existing DEFINE file for execution, or open an existing completed / active Simulation, etc. The way we think about what "Open" means is going to shift pretty significantly.

On the Border Bars, the buttons (which will look different) are "toggle" buttons which show and hide the various panes. Each pane can be "unpinned" / undocked and dragged / maximized / etc. to another monitor.

The upper right hand "pane" is the data pane. This is used to show simulation inputs, outputs, and also to review chat transcripts, etc.

We have so much capability, so much functionality that even articulating it is difficult. Indeed, DISPLAYING it is difficult and will take quite a few iterations to begin to get right.

Here is iteration #4 N-ABLE N2UI Sketch #4 . N1UI was #1, my prototype N2 sketches were #2, your N2 document SDI UI sketch was #3.

Think it over, and we can have a design review / analysis on Wednesday during our software meeting.

Take care,

--Mike

---

**RE: N2UI Prototype Sketch**

*By AndyScholand on 5/11/04 10:19 AM*

To: Scholand, Andrew J [ajschol@sandia.gov]; Procopio, Michael J [mjproco@sandia.gov]  
From: Ehlen, Mark A  
CC:

---

My notion is that the main panel is an artfully composed summary view, a somewhat expanded home page. Each component of collaboration or simulation input/output is an expandable or tear-off-able sub-window, but the basic 'homepage' layout will be visually symbolic enough that the user knows what 'normal' looks like and can re-organize this view when they need to. For every hour we iterate in discussion on this, we will save 5-10 hours of programming....

M

-----Original Message-----

From: Scholand, Andrew J  
Sent: Tuesday, May 11, 2004 8:49 AM  
To: Procopio, Michael J; Ehlen, Mark A  
Subject: RE: N2UI Prototype Sketch

Another thought comes to mind as I look at this - we're really implicitly requiring a large screen for this to work well. Is there a fall back plan for those with smaller screens? Cheers, Andy

---

**RE: N2UI Prototype Sketch**

*By AndyScholand on 5/11/04 10:19 AM*

To: Scholand, Andrew J [ajschol@sandia.gov]  
From: Ehlen, Mark A  
CC: Procopio, Michael J [mjproco@sandia.gov]

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Yes, something like that. My logic in the N2 document is that it should be like Russian eggs, hierarchical in analytical nature. First you open the tool, then a workspace, then a simulation, then components of the sim (input, output), ALL THE WHILE knowing where in this hierarchy you are.

(we should probably Groove this discussion)

-----Original Message-----

From: Scholand, Andrew J  
Sent: Tuesday, May 11, 2004 9:03 AM  
To: Ehlen, Mark A; Procopio, Michael J  
Subject: RE: N2UI Prototype Sketch

I agree; discussion and the sort of prototypes Mike is putting together are essential for getting the look and feel right, maximizing the utility of the tool, and minimizing user friction.

So, as an idea to start the brainstorming process, should there be a series of vertical tabs on the left hand side of the interface that correspond to separate high-level tasks, and a series of horizontal tabs (across the top like Mozilla, or across the bottom like Excel spreadsheets) that represent each input or output window?

Cheers, Andy

---

## **Weekly Updates - INFORMATION**

*By Mike Procopio on 4/14/04 11:26 AM*

The background on the Weekly Update reports can be found in the following thread in the General Discussion section.

Jump to General Discussion Forum: General Discussion

Thread Name: **"Weekly Updates - N-ABLE Software Team (Mike, Mark Bastian, Eric, Mark Ehlen, Andy)"**

--Mike

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## **Week Ending Friday, 4/16/2004**

*By Mike Procopio on 4/14/04 11:32 AM*

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### **Mike Procopio - Progress Update**

*By Mike Procopio on 4/14/04 11:32 AM*

- \* Got back engaged into N-ABLE v1.1 Work
- \* Fixed/Addressed N-ABLE Bugzilla Bugs #258, 223, 164, 151, 191, 163, 153, 152, 147, 140, 141, others
- \* Refactored Groove to be more effectively used by team
- \* Initiated dialog to investigate getting the reading of arbitrarily large DEFINE files functionality into the v1.1 interface
- \* Opened a few bugs against v1.0 components (Bug #270, 271, 272)
- \* Implemented a lot of v1.1 functionality, related to bugs addressed above as well as to other
- User Interface Tweaks
  - \* Initiated dialog/Groove Thread to clearly establish and document component ownership
  - \* Current N-ABLE v1.1 build is 599
  - \* N-ABLE v1.1 Alpha Build to come early next week
  - \* Spoke with team about getting N-ABLE v2.0 Movie Trailer Preview Edition deployed and Web Startable
- \* Implemented brief, weekly progress reporting by team members
- \* Initiated suggestion to move to formal v1.1 Development SimRunner (thanks, Andy, for implementing this)

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### **Andy Scholand - Progress Update**

*By AndyScholand on 4/14/04 11:58 AM*

- \* Completed initial code to convert DEFINE files to Pajek networks for subsequent network analysis. The goal here is to scout out how much network analysis benefits N-ABLE use, what metrics are important, etc. Eventually some or all of these capabilities may be needed in the main

development trunk, but for now we just don't know what the use cases are. As a side note, I'd like to use this code as an opportunity to discuss coding styles, where to package core functionality, etc.

\* Working on use cases and personas for the N-2 document in preparation by Mark Ehlen. Trying to capture some of the things we've learned from interacting with customers over the past few months. My particular emphasis will be on external customers, since this will drive the minimum set of firewall and security capabilities we will need to include.

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**Re: Week Ending Friday, 4/21/2004**

*By MarkEhlen on 4/14/04 3:43 PM*

1. Been pursuing other, long-term collaborations with other parts of Sandia. Met with 13000 folks for JSF and with Jim Sprigg of 9000. Both very promising, largely because of 1.0 capabilities and UI.
2. Got signoff from DHS (via Ralph) for doing Goodyear and Chlorine work. Will likely report on them to DHS at end of year.
3. Continue building input files for PNW analysis, due May 6th in DC. Will go into hiding shortly...
4. Working on N2 document (w/ Scholand) and Architecture document for technical advance.
5. Re-scoping CA RTP project, due to change in funding source.

---

**Brooke Chenoweth**

*By Brooke Chenoweth on 4/15/04 1:18 PM*

Working on improving DataPool by adding the ability to delete lists, freeing up the identifier and disk space. Also looking into making the disk writing happen in a background thread to reduce the delay in the main program.

Started coding on the logistics LDRD. Right now it resembles an extremely gutted NABLE, but if you are curious, it's in the AgentSEM project on CVS.

In a bit of unexpected free time (my home directory on nisac-srn1 wasn't mounted for a few hours one day), I looked up graphviz and wrote a quick java program to convert DEFINE files to dot input. On a related note, I've been exploring the capabilities of jaxb for manipulating XML.

---

**Mark Bastian - Progress Update**

*By MarkBastian on 4/16/04 4:15 PM*

1. Completed debugging of 2.0 file downloading.
2. Began linking streamed files to the globe view. This will allow us to dynamically switch the define files we are looking at rather than having to specify the define at load time.
3. Implemented new features for the globe view. Added text labels. Modified text labels to change in size with view focus as well as fade out when they get too far away.
4. Met with Bob Cramwell to determine features for upcoming globe demo. The biggest feature is the above desired text.
5. Thinking about ways to implement dynamic level of detail for text as well as future features. The first results of this are the cool features in #3.

---

**Eric Eidson**

*By EricEidson on 4/19/04 11:35 AM*

Friday 16th was my off Friday ... was surprised to see so much activity on Groove for that day

- Worked further on the parallel version of the Snapshot stream.
- Modified the SimStreamer so that it now preserves the SNAPS file and makes it available after successful import.
- Read portion of *\_Security Engineering\_* by Ross Anderson. Pondered security problems in the SimStream server. For example, anyone can use the SimStreamer as a "warez" server by storing, say, a base64-encoded installer as the character data of a DEFINE file.:

```
<?xml?>
<MODEL>
  ... base64-encoded warez file ...
</MODEL>
```

The risk of this situation is low, but it was fun to think about. In short, I'd advise against deploying a SimStreamer on the open Internet without some sort of access control :-)

Eric

---

**Re: Week Ending Friday, 4/16/2004**

*By MarkEhlen on 4/19/04 1:34 PM*

Thanks for kicking in, everyone. This really helps me understand where the team's efforts are heading/hurdling...

M

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**Week Ending Friday, 4/23/2004**

*By Mike Procopio on 4/19/04 11:47 AM*

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**Progress Update - Mike Procopio**

*By Mike Procopio on 4/19/04 11:48 AM*

- \* More progress on v1.1
- \* Got 1.1 Pre-Alpha EXE to Bastian for initial Development
- \* Further progress on hold, as I got pulled onto the Dean Jones / Mark Hollingsworth / IRIS / Pantex project.

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**•Mark Bastian**

*•By MarkBastian on 4/22/04 7:08 AM*

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- Fixed some bugs in the v2.0 downloader tool.
- Implemented file node handling in the downloader.
- Investigated jar archiving so that we can eventually deploy standalone apps.
- Completed and deployed the 2.0 treeview in a state such that users can use it for downloading files of any type or size from the streamer. Aside: I still think this new tool eliminates the need for the same feature in 1.1, but I will listen to the hive mind and obey.

- Attended SNL/NM visualization forum. Volunteered to present N-ABLE graphics next month.
- Began looking at handheld devices to be used for the distributed/steerable N-ABLE feature.
- Began looking at space and hardware needed for visualization room in 6585.
- Assisted ORCA team with some XML issues.
- Attended NIWT UI meeting.

Upcoming:

- I have figured out how to archive our own classes and resources so that everything runs fine. Now, I need to figure out how to deploy classes with other people's archives (e.g. JOGL or jwsdp). Baby step one will consist of me getting a simple globe (not *THE* globe) working standalone, since it only depends two external files (1 jar, 1 native lib).

- Fixing the bugs I own for 1.1.
- Working with Eric to get the 1.1 treeview to download DEFINE files.
- Select a handheld device as an initial target platform for the distributed agent interaction feature. Perhaps Mike can recommend a handheld device that runs Java.

---

**Re: Andy Scholand's Week Ending Friday, 4/23/2004**

*By AndyScholand on 4/28/04 10:55 AM*

\* EnergyFest participation Wed night, Thursday, Friday; may lead to non-core DHS modeling activity for N-ABLE

\* Looked into weird Streamer issues; it is not running well under the n-able entity account

\* Set up testing SimRunner (9999) server with autostart

\* other CSRD overhead

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**Brooke Chenoweth**

*By Brooke Chenoweth on 4/28/04 12:33 PM*

Same old, same old...

More DataPool, More AgentSEM

Actually, DataPool was put on hold for a few days after Eric found a potential bug in TempFile. Unfortunately for me, it looks like I can't blame it for any of the quirks in my own code. :)

Converted CSV file of Lockheed-Martin site data into DEFINE file for viewing on the globe. Results were pretty nifty, although the deliberately distorted locations we were given placed some sites in the middle of the ocean. (Eh, what can you do?)

---

**Re: Brooke Chenoweth**

*By MarkBastian on 4/28/04 12:51 PM*

If there are a small number of sites that you would prefer to place in more realistic locations, you can do this easily by manually editing the text of the define file. The x, y, z elements correspond to long, lat, and elevation (elevation is not used). If you want to select a specific location, use MS MapPoint's Location Sensor (Tools->Location Sensor) to get long and lat. Remember to convert N, S, E, W to +, -, +, -.

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**Re: Brooke Chenoweth**

*By Brooke Chenoweth on 4/28/04 12:55 PM*



Oh, I was given deliberately distorted data, so the LM folks are expecting to see the sites in those places. There are over 200 sites in the file, so I'm leaving it be. If they send me better data, I'll give them a better picture.

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### **Week Ending Friday, 30 April 2004**

*By MarkBastian on 4/27/04 10:24 PM*

Call me crazy, but Groove seems to be dead again. Maybe I'm overreacting, but Mike and I are the only posters in this forum (despite me being the last bastion of resistance (no pun intended)).

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- Mark Bastian**

- By MarkBastian on 4/27/04 10:26 PM*

- 

- Figured out how to package up internal and external jars to create standalone apps. The short answer is that it's all about the manifest Class Path attribute. Mark Ehlen and I even tested out the new packaged jars on a P.O.S. (slime, not &!%\$) and it actually worked after a quick JVM update.

- Deployed the above to Dave Schoenwald and Brooke Chenoweth. They love it.

- Dave and Brooke want text that doesn't overlap and at least one level of texture detail zooming. These are non-trivial requests (i.e. HARD).

- Overlapping text will probably be solved with a spring-damper-force field system in which text repels text via the inverse squared power law but is anchored to their individual locations via a spring. The problem with this is that the forces need to be balanced so that the text isn't floating near Mars. Another problem is that the problem is  $N^2$ , in real time, but I think I can scale it down to not be so bad. It really isn't that bleak of a situation, but I need to think about it and proceed with caution.

- Texture LOD is hard. The first step is to get a good texture set. I found an excellent pair of textures on NASA's web site (one for each hemisphere). These individual textures are **only** 245 and 410 MB, respectively. Needless to say, they should provide enough detail for our zooming in, if only I can get them tiled down.

- Began working with Walt and Bob on some abstract network visualization. The initial results are very interesting. I read about some layout algorithms in an online article written by one of the Tom Sawyer guys. These were implemented in a class that I plan on pulling into my reusable code base. This should give us some very nice viz capabilities for N-ABLE 2.0. All I need now is a cloning machine so I can get everything done. These algorithms would probably extend well to 3D (They are 2D right now).

- Decided that Dave and Brooke's request for LOD on the globe is beyond our current scope.

- Looking into picking and feedback mechanisms for 3D rendering. This is a very important feature. It will allow us to do things like click on points on the globe with the mouse and find out what we are looking at. This is definitely more complicated in 3D than in 2D, but I can swing it. I just need to do a little math. My big question now is whether I use the OpenGL gluUnproject command or whether I roll my own function. This actually is not a big function, so it isn't like I am reinventing the wheel or anything. One problem with gluUnproject is that it requires you to apply all of your matrices before picking. Since I am using quaternions and each significant object has its own quaternion, I can just do the multiplication myself. This is also nice because quaternion multiplication is much cheaper than matrix multiplication.

- I need a computer algebra system for verification of matrix routines that I will be coding up. I have used MatLab, MathCad, and Maple in the past. The only major CAS I haven't used is Mathematica. I like MathCad the best, but it is Windoze only (Despite what some of you have heard, MathCad is a serious package that can do it all. It also has a GREAT UI.). It does look like the other CASEs have gotten better in terms of usability, though.

- Added some cool globe improvements, including colored arcs and non-overlapping text.

---

**Re: Andy Scholand's Week Ending Friday, 30 April 2004**

*By AndyScholand on 4/28/04 10:53 AM*

- \* Out sick M, Tu
- \* Working on the Goodyear Model Report, including some network analyses of the DEFINE file.
- \* Looking at PNW data
- \* Working on OST long-term DHS planning document

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**Brooke Chenoweth**

*By Brooke Chenoweth on 4/28/04 12:34 PM*

Continuing work on AgentSEM logistics model. Successfully submitted simulation to the SimStreamer. Of course, since the SiteAgent doesn't do anything yet, it just sits there with its initial values.

Gave a short Intro to N-ABLE talk for 9216 tech exchange meeting on Thursday. Possibly generated some new interest in N-ABLE, so be forewarned.

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**Eric Eidson**

*By EricEidson on 4/29/04 10:00 AM*

Spent almost all of this week and part of last looking for a major crashing bug in the SimStreamer.

As part of the debug process, I rewrote parts of the code, found other bugs and reimplemented a portion of the XML Processor. The net result is reduced contention for memory allocation mutexes, leading to moderate improvement in the XML processor, but vastly improved performance when importing 2 or more runs simultaneously. [While reproducing the crash, I got sick of waiting for all the multiple imports to get around to tickling the bug, so I improved the performance to get it to crash faster :-]

Identified other issues for future work :

- failed assert when importing 150+ runs simultaneously.
- exception-handling code is not releasing some or all locks as expected; throwing an exception results in deadlock.

I will now finish the download feature for v1.1, barring major problems with the SimStreamer.

Eric

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**Re: Eric Eidson**

*By MarkEhlen on 4/30/04 6:07 AM*

My two cents:

The streamer will continue to gain focus as a valuable way to view a lot of data from a lot of sims. Taking whatever time is necessary to get it right will pay us big bennies down the

road.

I will be heavily using the 1.1 interface for about 5 sets of sims over the next 6 months. The download feature *\*will\** be used a lot. In the meantime, if MPI development starts to suffer, let's re-evaluate.

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**Re: Week Ending Friday, 30 April 2004**

*By MarkEhlen on 4/30/04 5:54 AM*

Spent good part of week on my sore back:

1. Finished base level implementation of PNW data, focussing on SIC\_20 (food). Developing formal analysis for DHS presentatin on 5/14. Will likely involve interdependencies between food manufacturing, electric power, and banking sectors. Still have some more data to input (real bank and power utility data) and have to do mass balancing, but we should be able to deliver a high-fidelity model of PNW food makers.

As part of this process, I continue to beat on the 1.0 interface as I run sims. Input file is 5.0MB; upload even from home (on back, with wireless) is only about 30-45 seconds. Real time viewing is similar, very acceptable responsiveness.

2. Finished architecture document; after Eric's changes, will submit in small distribution to get feedback. Then R&N and the doc goes to SNL corporate for part of patent application.

3. Continue to develop working relationship with Sprigg and Jennifer; things are starting to look very promising for an advanced effort in consumer confidence modeling.

4. Several LDRDs are in the works that would involve N-ABLE modeling.

5. Is time to budget out the rest of this FY and start planning next FY.

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**Re: Week Ending Friday, 30 April 2004**

*By MarkEhlen on 4/30/04 6:06 AM*

Yeah, I'd say you are overreacting, you last bastian you ;)

Groove does well what it does uniquely: archive current progress and current thought. Because we *\*are\** humans, not machines, we tend to do better in face-to-face meetings. I'm actually getting a lot out of even this week-ending stuff; in particular what Brooke and Mike are up to. Until most of us are face-to-face in TA5, this is second best.

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**Re: Week Ending Friday, 30 April 2004**

*By Mike Procopio on 5/6/04 5:25 PM*

Work on N-ABLE v1.1 ALPHA.

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## **Week Ending Friday, 7 May 2004**

*By MarkBastian on 5/5/04 10:47 AM*

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### **•Mark Bastian**

*•By MarkBastian on 5/5/04 10:48 AM*

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•Made several improvements to the globe for the demo Dave Schoenwald is giving.

•Added 3D raycasting ability to globe. This has the potential of being huge in the future as it will allow us to select items in 3D.

•Looked at graphing software for Walt and Bob. Wrote a little software for this. Decided it might be better to use a commercial or open-source library. Will do more investigation when I have time.

•Began looking at ways to show temporal transactions on the globe. I think this is going to be hard unless we force some structure on the output data.

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### **Brooke Chenoweth**

*By Brooke Chenoweth on 5/6/04 5:07 PM*

Continuing work on the logistics model. The agents do absolutely nothing in more and more complicated ways. :) I expect to get happy supply chains Real Soon Now.

A lot of the work on AgentSEM is getting discrete items to pass around instead of "X units of CommodityType Y". It's not terribly complicated, but it is something that I don't get to steal from N-ABLE. (Actually, I imagine y'all might steal it from me once I get it working nicely.)

LM liked the globe viewer, according to Dave. (Ask him for details, I wasn't at that meeting.)

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### **Re: Brooke Chenoweth**

*By MarkEhlen on 5/7/04 5:17 PM*

Yes, \*please\* complete the commodity class changes, discrete, reusable, etc. We can use the BADLY!

M

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### **Mike Procopio**

*By Mike Procopio on 5/6/04 5:14 PM*

\* N-ABLE v1.1 Alpha Released

\* Java Web Start investigation

\* "Database" Positioning N-ABLE / CDR&D

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## **Re: Week Ending Friday, 7 May 2004**

*By MarkEhlen on 5/7/04 5:13 PM*

Continued work on PNW food industry analysis

Met with Jim Sprigg to plan out collaborate work for rest of this year.

Improved performance of Firm.cpp's genetic algorithm. General warning is that these things MUST be tuned for each particular application. More work is needed, possibly having the agents self tune. Dakota is best long-term solution

Andy-led telcon with Goodyear was better than our expectations; we're going to Akron!

Working on completing two-year old paper on GAs, using N-ABLE, starting simulations and paper for summer presentation at Arnie Baker-led conference,

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**Re: Andy Scholand**

*By AndyScholand on 5/10/04 2:33 PM*

\* Started initial runs of N-ABLE on ICC with DAKOTA; ran into a few brick walls with disk space; have been corresponding with Jeanette, DAKOTA, and ICC folks on this

\* Planning Market Test improvements with Ehlen

\* Wrapped up my LDRD proposal Monday

\* Coordinating with Scott Jones for DHS project on energy emissions using N-ABLE

\* Interfaced with NISAC Sys Admin folks on nable-run and nable-stream servers overheating

\* Met Stickland's crew on graph analysis; agreed to do deeper dive on open source packages

Richard Harris (09/30/05 16:39): Are there bigger define files I can test with  
Richard Harris (09/30/05 16:39): with tonnes of viz data?  
Richard Harris (09/30/05 16:39): but not too big  
Richard Harris (09/30/05 16:39): like the national milk that you guys were trying to run  
Richard Harris (09/30/05 16:40): it was up a few days ago  
Richard Harris (09/30/05 16:40): Andy, I made the red mask on the globe translucent again  
Lory Cooperstock (09/30/05 16:40): Andy- I'm trying to figure out the specs for the micro supply curve, are there no variable costs? I would think the supply would be a function of variable and fixed costs?  
Richard Harris (09/30/05 16:41): and fixed it so that it shows up more often  
Andy Scholand (09/30/05 16:41): Hi Rich, I saw those changes, they sound great!  
Andy Scholand (09/30/05 16:41): Don't know if they are in the current build or not, they were not in 929  
Andy Scholand (09/30/05 16:41): will try in a sec  
Andy Scholand (09/30/05 16:42): LC, for productions made internally, (no inputs) what would the variable costs be?  
Andy Scholand (09/30/05 16:42): labor maybe?  
Lory Cooperstock (09/30/05 16:42): what do you mean productions made internally?  
Andy Scholand (09/30/05 16:42): wait, I guess that is an input  
Andy Scholand (09/30/05 16:43): the empty <INPUT/> field in the DEFINE file we were talking about previously  
Mark Ehlen (09/30/05 16:43): regarding supply curves: I don't know yet whether Edwin's code does Julian's supplier, but I can speak about the FirmSeller classes, which we use a lot. The FirmSeller tries to sell at prices that max its profits; THIS IS VERY COMPLICATED IN REAL MARKETS, and our little agents do a good job of showing that complexity of competing with other firms, inferring their customer's demand function. We should do a day of MarketTest experiments and human experiments to give an intuition. But... FirmSellers prices are bounded below by their production costs (the inventory warehouse cost) and above by the maximum price a FirmBuyer is willing to pay. So... a supply curve can emerge, as an example, if each seller has different inventory costs...we need to go to a black board to make this clearer...  
Andy Scholand (09/30/05 16:43): Thats a macro supply curve, horse of a different color  
Andy Scholand (09/30/05 16:44): We're talking the MC of production internally  
Mark Ehlen (09/30/05 16:44): Sorry...  
Richard Harris (09/30/05 16:44): does anyone else have the problem that the small globe in the upper right doesn't always appear, meaning the earth texture doesn't appear, but the red mask does?  
Lory Cooperstock (09/30/05 16:44): For a farmer, I would imagine variable costs would be labor, fertilizer, amt of land he farms...  
Andy Scholand (09/30/05 16:44): RH, yes, it is dependent on the quality of your graphics card I think  
Mark Ehlen (09/30/05 16:45): RH: no, not for a long while...  
Richard Harris (09/30/05 16:45): I'm getting that  
Richard Harris (09/30/05 16:45): it loads up after a while, but I have to resize it a bit  
Richard Harris (09/30/05 16:45): strange  
Lory Cooperstock (09/30/05 16:45): Does that mean the production costs are the inventory warehouse cost? Are there other production costs?  
Lory Cooperstock (09/30/05 16:45): Are these in the define file?  
Lory Cooperstock (09/30/05 16:45): Can you have a function in the define file?  
Andy Scholand (09/30/05 16:46): Lory, so I think if we model in the DEFINE file that fertilizer and labor are needed inputs, we would get those variable costs. But the land under cultivation is another story, I'd have to think about that  
Mark Ehlen (09/30/05 16:46): Generally it would be a fixed cost (mortgate payments)  
Mark Ehlen (09/30/05 16:46): mortgage...  
Andy Scholand (09/30/05 16:47): Right, but you might approtation it differently to different crops, right? Soy, corn  
...  
Lory Cooperstock (09/30/05 16:47): Oooh, I'm begining to see a method to this madness. I think I'll need to look at

these define files a bit more.

Andy Scholand (09/30/05 16:47): LC, yes a production recipe can be in a DEFINE file

Lory Cooperstock (09/30/05 16:48): AS - right, I think, plus you can decide how much of the land you're wanting to farm - the cost of the land will be fixed, but the amount you use could be dependent on price and your production function?

Lory Cooperstock (09/30/05 16:48): (that was to your earlier comment)

Mark Ehlen (09/30/05 16:48): yes

Lory Cooperstock (09/30/05 16:49): okay, I'm going to spend some quality time with the define file. What a way to finish off a friday! :)

Andy Scholand (09/30/05 16:49): yes, there is an opportunity cost to not letting the land lie fallow and be more productive in out years, is that what you mean?

Lory Cooperstock (09/30/05 16:49): exactly

Andy Scholand (09/30/05 16:49): If not, why would not use all the land you own, since it represents a fixed cost?

Andy Scholand (09/30/05 16:49): oh ok

Andy Scholand (09/30/05 16:50): The DEFINE file is really our differentiating factor, Charlie has remarked on that too

Lory Cooperstock (09/30/05 16:50): well now wait a minute - you may not use all your land just because it's a fixed cost

Lory Cooperstock (09/30/05 16:50): (I think) ---

Andy Scholand (09/30/05 16:50): Well it is a fixed cost you want to offset as much as possible

Lory Cooperstock (09/30/05 16:50): It could be that the market price is so low that

Lory Cooperstock (09/30/05 16:51): it is not profitable for you to produce on all your land because the other costs of production (fertilizer, water, seed, etc) may be too great.

Andy Scholand (09/30/05 16:52): Wouldn't that be a binary all or nothing?

Andy Scholand (09/30/05 16:52): Seed cost should decrease with increasing purchase size (scale)

Andy Scholand (09/30/05 16:53): Same with fertilizer

Lory Cooperstock (09/30/05 16:53): My first instinct is no. to the binary question

Andy Scholand (09/30/05 16:53): Water costs may be increasing with volume if there are tiered penalties

Andy Scholand (09/30/05 16:53): but I don't think there are in the ag water market

Andy Scholand (09/30/05 16:54): Mark looked at that some for another SNL project on water rights

Lory Cooperstock (09/30/05 16:54): you would produce until your marginal cost = marginal rev. and if that quantity is not the maximum quantity that you physically can produce with the land you have, then you will not use all your land.

Richard Harris (09/30/05 16:55): Sue, can up put up the national milk run thats almost runnable?

Lory Cooperstock (09/30/05 16:55): so really, fixed costs don't matter much in the short term.

Richard Harris (09/30/05 16:55): I mean almost streamable

Andy Scholand (09/30/05 16:55): my gut is that unless there is a steep variable cost, if you don't account for the future value of fallow land, you use all the land available

Lory Cooperstock (09/30/05 16:55): ?? Mark .. back me up here?? Is this wrong?

Andy Scholand (09/30/05 16:56): Most farmers do, don't they?

Richard Harris (09/30/05 16:56): thats interesting

Andy Scholand (09/30/05 16:56): So MC is dependent only on variable costs? I didn't know that

Lory Cooperstock (09/30/05 16:57): YES!

Lory Cooperstock (09/30/05 16:57): In the short run

Richard Harris (09/30/05 16:57): making present value calculations of renewable resources (soil fertility)

Andy Scholand (09/30/05 16:57): It would seem the fixed costs should be divided into the amount produced to get a fixed cost component to the MC

Andy Scholand (09/30/05 16:58): to me (non economist)

Lory Cooperstock (09/30/05 16:58): because Marginal Cost is the derivative of Total cost, so any fixed number in that function will dissappear in the MC]

Andy Scholand (09/30/05 16:59): huh, makes sense

Lory Cooperstock (09/30/05 16:59): now, in the long run the fixed costs do matter ...

Lory Cooperstock (09/30/05 16:59): what is the long run? That's a good philosophical question!

Andy Scholand (09/30/05 17:00): So the long term adjustment in price accounts for the fixed costs incurred by raising the MR ... OK, I can see that

Lory Cooperstock (09/30/05 17:01): Right, and actually, I was being a little too dramatic, it's not a philosophical question.

Lory Cooperstock (09/30/05 17:01): It's a question of at what point in time do your perceived fixed costs become variable?

Andy Scholand (09/30/05 17:02): Still seems hard to answer, although I guess the study of economic migration might give you some quantification

Lory Cooperstock (09/30/05 17:03): true, and it depends on what the fixed cost is: you may rent a building for one year, so if your time meter is 10 years, then rent is a variable cost for you

Lory Cooperstock (09/30/05 17:03): but daily, rent is a fixed cost

Lory Cooperstock (09/30/05 17:04): did that make sense? Somehow it did in my little head...

Andy Scholand (09/30/05 17:04): ok

Andy Scholand (09/30/05 17:04): yes

Lory Cooperstock (09/30/05 17:05): great - now I'm really off to the define files

Andy Scholand (09/30/05 17:05): OK, have fun!



Andy Scholand (12/07/05 12:35): is collab slow for anyone else?  
Andy Scholand (12/07/05 12:35): I'm getting an ~30 sec delay on posts  
Lory Cooperstock (PC) (12/07/05 12:35): seems okay for me ...  
Lory Cooperstock (PC) (12/07/05 12:36): just kidding, I got a delay also  
Mark Ehlen (12/07/05 12:36): I'll show another without the red....  
Andy Scholand (12/07/05 12:36): wouldn't be the first time it was only me ...  
Andy Scholand (12/07/05 12:36): what are we looking at?  
Mark Ehlen (12/07/05 12:36): So...Lois has automated the creation of firms based on NAICS...what we are looking at are consumers of Soybeans...  
Lory Cooperstock (PC) (12/07/05 12:36): ME, can you resend?  
Lory Cooperstock (PC) (12/07/05 12:37): Thanks  
Mark Ehlen (12/07/05 12:37): ...some producers I think...I'll send without the arcs...  
Andy Scholand (12/07/05 12:37): Deb Ingram, you may want to look at the streamer 134.253.212.108, your run may be there already  
Andy Scholand (12/07/05 12:38): Shouldn't there be producers in every county?  
Mark Ehlen (12/07/05 12:38): ... so the green cones are amount ordered that day, so the two images show that orders are being sent, and the transport sector used...  
Mark Ehlen (12/07/05 12:38): There probably are, but I haven't looked at the data yet, at least closely  
Deb Ingram (12/07/05 12:39): AS: OK, I'll give that a try. Thanks, everyone!  
Andy Scholand (12/07/05 12:39): A cone is the source or sink?  
Mark Ehlen (12/07/05 12:39): sink  
Andy Scholand (12/07/05 12:40): oh, ok  
Mark Ehlen (12/07/05 12:40): the white circles are producers (#=30), where while is zero and red would be max  
Andy Scholand (12/07/05 12:40): slowness was WAN effect  
Mark Ehlen (12/07/05 12:40): .. it looks like the firms may not be producing, but they \*are selling\*  
Mark Ehlen (12/07/05 12:41): ...I'll change the production to sales and then repost  
John M. Linebarger @ PowerMac G5 (12/07/05 12:41): Delay is on sending ScreenBoard images?  
Andy Scholand (12/07/05 12:41): no, chat messages.  
John M. Linebarger @ PowerMac G5 (12/07/05 12:41): Hmm ... lemme time this one  
John M. Linebarger @ PowerMac G5 (12/07/05 12:41): Snappy  
Andy Scholand (12/07/05 12:41): delay after hitting enter  
Mark Ehlen (12/07/05 12:41): Is the lag the VPN effect?  
Andy Scholand (12/07/05 12:41): yes  
Andy Scholand (12/07/05 12:42): I think so  
John M. Linebarger @ PowerMac G5 (12/07/05 12:42): Tollbooth at the Maryland border  
Mark Ehlen (12/07/05 12:42): ajs: the screenboard now shows the sales in red...  
John M. Linebarger @ PowerMac G5 (12/07/05 12:42): The Achilles heel of a peer-to-peer push architecture is that a transmission is only as fast as the slowest link  
Andy Scholand (12/07/05 12:42): It does seem to be bursty - sometimes it is snappy, other times it slows right down  
Deb Ingram (12/07/05 12:43): :- ) Those tollbooths are some major bottlenecks! Anything I should do from my end (other than move back to NM) to prevent the slowdown?  
John M. Linebarger @ PowerMac G5 (12/07/05 12:43): I've traced some of the random slowdown to automatic garbage collection in the N2 client  
Andy Scholand (12/07/05 12:43): Deb, the value of having you online far outweighs any few second slow down  
Andy Scholand (12/07/05 12:44): That's just a comment for us to think about in designing national collaboration system  
Andy Scholand (12/07/05 12:44): We soon will have folks from Akron Ohio coming on board too  
John M. Linebarger @ PowerMac G5 (12/07/05 12:45): WAN architecture: Push to central server once, then everybody does threaded polling from there.  
Andy Scholand (12/07/05 12:45): And Deb Belasich is frequently online from Carlsbad, and Chris Davis from across town  
John M. Linebarger @ PowerMac G5 (12/07/05 12:45): No slowdown, but still the illusion of snappy response

Deb Ingram (12/07/05 12:45): OK, so Greg's machine rejected me :-(, but I changed the simstreamer host in the DEFINE file and I now see my run in the simulation list. Whoo hoo!

Mark Ehlen (12/07/05 12:45): ajs: I know you are fielding ten conversations at the moment, but the latest sb shows that all buyers and sellers have arcs, the way it should be (and wasn't in the past)

Lory Cooperstock (PC) (12/07/05 12:46): DI, That's great!

Andy Scholand (12/07/05 12:46): He probably doesn't have the streamer up and running - he typically only does that as a test

Andy Scholand (12/07/05 12:46): MAE: YOU ROCK!

Mark Ehlen (12/07/05 12:46): Do we have any clue as to how many runs are running on how many streamers??!?

Deb Ingram (12/07/05 12:46): :-) Thanks for getting me straightened out...

Andy Scholand (12/07/05 12:47): no, security by obscurity

Andy Scholand (12/07/05 12:47): jl: have you mentioned to Ben?

Andy Scholand (12/07/05 12:47): WAN architecture, that is

John M. Linebarger @ PowerMac G5 (12/07/05 12:48): Informally

Andy Scholand (12/07/05 12:48): ok, good

John M. Linebarger @ PowerMac G5 (12/07/05 12:49): Jabber seems a little more involved, however. Multiple Jabber servers. May be a good thing. Dunno.

Andy Scholand (12/07/05 12:49): Mark Bastian and I tried Jabber out - he built a java client that tunnelled out through SNL firewall to chat Jabber to outside server

Mark Ehlen (12/07/05 12:53): FWIW, he also looked into JXTA, but found limited support for it at SNL (about a year ago)

John M. Linebarger @ PowerMac G5 (12/07/05 12:54): There is a performance penalty, I think, for the dynamic discovery flexibility of JXTA.

Andy Scholand (12/07/05 12:55): and that's another p2p architecture - as John noted, I think we want centralized server(s)

John M. Linebarger @ PowerMac G5 (12/07/05 13:04): Key concept: Decouple the sender's perception of performance from the receiver's perception of performance

Andy Scholand (12/07/05 13:06): yes!

Andy Scholand (12/07/05 13:09): although, a shared perception is also valuable - the 'hear no evil' bug (where I can see other collaborators but they cannot 'hear' my voice/text) for example is insidious because I believe they can hear me and are just ignoring me. As you covered in your paper, a key component of collaboration is a shared world view. If a decoupling mechanism interferes with that shared perspective, than it will create more problems than it solves

John M. Linebarger @ PowerMac G5 (12/07/05 13:10): Well, it does make the "near-real-time" nature of GroupMeld just a little less real-time. But shifts and diversions of attention do that as well.

Andy Scholand (12/07/05 13:10): Reflecting back on what has happened this morning, notice how I reached out for verification of my experience in the group? Asymmetries in performance might introduce problems in a collective.

John M. Linebarger @ PowerMac G5 (12/07/05 13:14): But should all be affected by the performance characteristics of a few? Your topology may depend on your chosen group dynamic. A true democracy may want to stick with peer-to-peer push. Others might want a more decoupled network architecture.

Andy Scholand (12/07/05 13:16): hmmm, that's an interesting topic - connecting system performance to your location in a hierarchy of groups. For example, you are performance democratic across your work subgroup, but the distant collaborators from another center are slightly decoupled (and therefore slightly less synchronous).

Andy Scholand (12/07/05 13:18): Lois, nice work on that DEFINE file - it looks great

Sue Downes @ MAC (12/07/05 13:21): I'm back...and YAHOO on the commodity market DEFINE File

Andy Scholand (12/07/05 13:21): I'm ready to collaborate if you are

Sue Downes @ MAC (12/07/05 13:21): sure...is your streamer pointed to nisac-srn1?

Andy Scholand (12/07/05 13:21): yes

Lois Lauer (12/07/05 13:23): Andy - The SoyFarmer producers are summarized at the state level to reduce the number of agents - Should I change the parameter in the properties file and generate them at the county level now?

Sue Downes @ MAC (12/07/05 13:23): If you choose the milk supply chain generated by me with size 453,466,070 you will

have the same I do  
Sue Downes @ MAC (12/07/05 13:23): LL: Sure lets try it ou t  
Sue Downes @ MAC (12/07/05 13:24): AJS: it talkes a bit to load, but you will be surprised at the end!  
Andy Scholand (12/07/05 13:24): Lois - oh OK, if it is by design that is OK; I just thought it might be a bug that we needed to track down. Glad it is a feature!  
Lois Lauer (12/07/05 13:24): Here goes!  
Andy Scholand (12/07/05 13:24): Sue - launching now  
Andy Scholand (12/07/05 13:27): One other comment on speed - I have noted that when a network card gets full (as when pulling down a ton of data), the NIC congestion will slow down collaboration also  
Sue Downes @ MAC (12/07/05 13:28): I have noticed this behavior as well when trying to download a large simulation  
Andy Scholand (12/07/05 13:28): Sue, I'm going to see Greg real quick - its obvious analyzing milk would be a lot easier on a G5  
Sue Downes @ MAC (12/07/05 13:29): Its very consistently slow when large sims are being downloaded  
Andy Scholand (12/07/05 13:29): yes  
Sue Downes @ MAC (12/07/05 13:29): Oh...I thought you were on your G5...I prepare some screenboards  
Andy Scholand (12/07/05 13:30): OK, well lets see what I can contribute from an armchair  
Andy Scholand (12/07/05 13:30): I have my SB ready when you are  
Sue Downes @ MAC (12/07/05 13:31): OK...you can change machine if you want...  
Andy Scholand (12/07/05 13:31): that will take some time - it sounds like you have some stuff already queued up and ready to talk about?  
Sue Downes @ MAC (12/07/05 13:33): Well I can't get the sceenboard to work..hmmmm let me see if I am locked up  
John M. Linebarger @ PowerMac G5 (12/07/05 13:34): Symptoms? Greyed-out Send button?  
Andy Scholand (12/07/05 13:34): Can you draw on Mark's image?  
Andy Scholand (12/07/05 13:34): I can  
Sue Downes @ MAC (12/07/05 13:34): resend Marks image please  
Sue Downes @ MAC (12/07/05 13:35): JML Yes greyed out send, it's like my screenboard I am here  
Andy Scholand (12/07/05 13:35): Oh, actually I can't - my send button is greyed out, let me see if I can drag and drop a new image  
Sue Downes @ MAC (12/07/05 13:35): I have no connectivity with it..let reopen screenboard'  
Sue Downes @ MAC (12/07/05 13:36): reopening the screenboard worked...image in a few  
John M. Linebarger @ PowerMac G5 (12/07/05 13:36): That's the new protocol. One-time-only Send to prevent exceptions on Macs on a resend.  
Andy Scholand (12/07/05 13:36): Dec 7, 2005 1:36:01 PM gov.sandia.nable.n2views.N2ScreenBoardViewPanel drop  
INFO: !!! Exception in drop() method: net.java.games.jogl.GLEException: Method "wglChoosePixelFormatARB" not available  
net.java.games.jogl.GLEException: Method "wglChoosePixelFormatARB" not available  
at net.java.games.jogl.impl.windows.WindowsGLImpl.wglChoosePixelFormatARB(WindowsGLImpl.java:36619)  
at net.java.games.jogl.impl.windows.WindowsPbufferGLContext.createPbuffer(WindowsPbufferGLContext.java:263)  
at net.java.games.jogl.impl.windows.WindowsOnscreenGLContext.makeCurrent(WindowsOnscreenGLContext.java:131)  
at net.java.games.jogl.impl.GLContext.invokeGL(GLContext.java:248)  
at net.java.games.jogl.impl.windows.WindowsOnscreenGLContext.invokeGL(WindowsOnscreenGLContext.java:79)  
at net.java.games.jogl.GLCanvas.maybeDoSingleThreadedWorkaround(GLCanvas.java:236)  
at net.java.games.jogl.GLCanvas.display(GLCanvas.java:77)  
at gov.sandia.scip.cgs.graphics.basecode.BaseGLJPanel.captureImage(BaseGLJPanel.java:216)  
at gov.sandia.nable.n2views.common.GlobeLabelPanel.getTransferData(GlobeLabelPanel.java:188)  
at sun.awt.dnd.SunDropTargetContextPeer.getTransferData(Unknown Source)  
at sun.awt.datatransfer.TransferableProxy.getTransferData(Unknown Source)  
at java.awt.dnd.DropTargetContext\$TransferableProxy.getTransferData(Unknown Source)  
at gov.sandia.nable.n2views.N2ScreenBoardViewPanel.drop(N2ScreenBoardViewPanel.java:1317)  
at java.awt.dnd.DropTarget.drop(Unknown Source)  
at sun.awt.dnd.SunDropTargetContextPeer.processDropMessage(Unknown Source)  
at sun.awt.dnd.SunDropTargetContextPeer.access\$800(Unknown Source)

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at sun.awt.dnd.SunDropTargetContextPeer$EventDispatcher.dispatchDropEvent(Unknown Source)
at sun.awt.dnd.SunDropTargetContextPeer$EventDispatcher.dispatchEvent(Unknown Source)
at sun.awt.dnd.SunDropTargetEvent.dispatch(Unknown Source)
at java.awt.Component.dispatchEventImpl(Unknown Source)
at java.awt.Container.dispatchEventImpl(Unknown Source)
at java.awt.Component.dispatchEvent(Unknown Source)
at java.awt.LightweightDispatcher.retargetMouseEvent(Unknown Source)
at java.awt.LightweightDispatcher.processDropTargetEvent(Unknown Source)
at java.awt.LightweightDispatcher.dispatchEvent(Unknown Source)
at java.awt.Container.dispatchEventImpl(Unknown Source)
at java.awt.Window.dispatchEventImpl(Unknown Source)
at java.awt.Component.dispatchEvent(Unknown Source)
at java.awt.EventQueue.dispatchEvent(Unknown Source)
at java.awt.EventQueueDispatcher.pumpOneEventForHierarchy(Unknown Source)
at java.awt.EventQueueDispatcher.pumpEventsForHierarchy(Unknown Source)
at java.awt.EventQueueDispatcher.pumpEvents(Unknown Source)
at java.awt.EventQueueDispatcher.pumpEvents(Unknown Source)
at java.awt.EventQueueDispatcher.run(Unknown Source)
```

John M. Linebarger @ PowerMac G5 (12/07/05 13:37): Just DnD or import a new image to ungrey out the Send button

Sue Downes @ MAC (12/07/05 13:37): what is DnD

John M. Linebarger @ PowerMac G5 (12/07/05 13:37): Drag and drop

Andy Scholand (12/07/05 13:37): John, I got the above when I DnD globe - is that an OpenGL issue or collaboration?

Sue Downes @ MAC (12/07/05 13:38): I'm slow on the uptake today

Andy Scholand (12/07/05 13:38): looks like OpenGL to me

Andy Scholand (12/07/05 13:38): ANYway, SUE, back to your sb

John M. Linebarger @ PowerMac G5 (12/07/05 13:38): That one is indeed OpenGL, and ultimately a JOGL thing

John M. Linebarger @ PowerMac G5 (12/07/05 13:39): FYI, ever since I moved to Tiger I can't DnD the globe onto the ScreenBoard. Neither on my desktop or my laptop.

Sue Downes @ MAC (12/07/05 13:39): See the eastern portion, how all the flows go north-south

Sue Downes @ MAC (12/07/05 13:39): I should say a major portion

Andy Scholand (12/07/05 13:40): OK point granted

Andy Scholand (12/07/05 13:40): looks interconnected in the cheese producer region

Andy Scholand (12/07/05 13:41): So we are missing the ice cream cone? I thought we expected a lot of Florida's supply to come out of Midwest not NE

Sue Downes @ MAC (12/07/05 13:41): Sorry MAE knocked

Sue Downes @ MAC (12/07/05 13:41): back to the issue..right I expected the ice cream cone

Andy Scholand (12/07/05 13:42): Also, is California drawing enough? Or are they just eating their own product? West coast seems pretty un-dense

Sue Downes @ MAC (12/07/05 13:43): Part of this may be that the snapshot only has 10% of supermarkets...Mark is working getting a larger percentage

Andy Scholand (12/07/05 13:43): What is red commodity?

Sue Downes @ MAC (12/07/05 13:43): Red is bulk

Sue Downes @ MAC (12/07/05 13:43): make that mulk milk

Sue Downes @ MAC (12/07/05 13:43): you know what I meant

Andy Scholand (12/07/05 13:43): But 10% should be taken uniformly; there should not be a differential bias toward East Coast unless there are more supermarkets there to begin with

Sue Downes @ MAC (12/07/05 13:44): There are more counties in the east (1 supermarket per) than in the West. The West tends to have large counties and fewer while the east smaller and more..

Andy Scholand (12/07/05 13:45): Look at AZ

Andy Scholand (12/07/05 13:45): they are supplying east wards not westwards  
Sue Downes @ MAC (12/07/05 13:45): Green is butter  
Andy Scholand (12/07/05 13:46): So, fewer arcs but each arc pulls more stuff, is what you are saying?  
Andy Scholand (12/07/05 13:46): Are counties bigger in CA?  
Sue Downes @ MAC (12/07/05 13:46): There are only 34 production firms for the entire US, so CA may not have enough production for its on states  
Sue Downes @ MAC (12/07/05 13:46): back to counties  
Andy Scholand (12/07/05 13:46): Seems counterintuitive to me  
Sue Downes @ MAC (12/07/05 13:46): California not so much as the states in between it and the MS  
Sue Downes @ MAC (12/07/05 13:47): Mississippi River  
Andy Scholand (12/07/05 13:47): Yeah, I'm OK with that in the Midwest  
Andy Scholand (12/07/05 13:48): Its just that CA is like what, the 9th biggest economy in the world, and look how little orders they are pulling  
Sue Downes @ MAC (12/07/05 13:48): I agree, and I can't decide if it the number of SM beign sent to the SNAP shot that is the issue, or I have something incorrect in my supply chian  
Sue Downes @ MAC (12/07/05 13:49): Is MAE still online? I don't remember how the 10% gets distributed  
Andy Scholand (12/07/05 13:49): Can we do a count of supermarkets by state?  
Sue Downes @ MAC (12/07/05 13:50): IF you open composite view we can use the BEA agent to help us with that (have you seen it?)  
Andy Scholand (12/07/05 13:50): yes, I used it extensively for GT  
Andy Scholand (12/07/05 13:51): OK, actually it looks different now -  
Sue Downes @ MAC (12/07/05 13:51): cool...  
Sue Downes @ MAC (12/07/05 13:51):  
Sue Downes @ MAC (12/07/05 13:51): MAE made some changes for me that allow me to look at firms in geographic regions  
Sue Downes @ MAC (12/07/05 13:52): we can't get individual states but I can get the West Region  
Sue Downes @ MAC (12/07/05 13:52): If you look at agent id 412 under BEA the last variable will be the number SM in the WEST region  
Andy Scholand (12/07/05 13:52): all I see are agent numbers - how do you know what each region is which  
Andy Scholand (12/07/05 13:53): I don't have a 412 under BEA - I go from 592 down to 174  
Sue Downes @ MAC (12/07/05 13:54): let me open my composite  
Sue Downes @ MAC (12/07/05 13:54): Hmm let me come there, because I go all the way to 12  
Andy Scholand (12/07/05 14:05): Can I sb?  
Sue Downes @ MAC (12/07/05 14:07): go for it  
Andy Scholand (12/07/05 14:08): S Atlantic is pulling more than CA  
Sue Downes @ MAC (12/07/05 14:09): If you look at population centers the SAtlantic actually has more pop per county than CA not a lot, but possibly enough to explain this  
Sue Downes @ MAC (12/07/05 14:09): Thats actually why I theorized the ice cream cone market shape  
Sue Downes @ MAC (12/07/05 14:10): who is the blue?  
Sue Downes @ MAC (12/07/05 14:12): Hmm why would met demand go down for W after the disruption is over?  
Sue Downes @ MAC (12/07/05 14:12): Disruption is 400-430  
Andy Scholand (12/07/05 14:13): They're shipping more - cause the other stuff is not arriving?  
Sue Downes @ MAC (12/07/05 14:13): Is actually not going down, its recovering...  
Andy Scholand (12/07/05 14:14): maybe its just inventory backed up on the road  
Sue Downes @ MAC (12/07/05 14:14): 1) they could be shipping more because others can't (most likely)  
Sue Downes @ MAC (12/07/05 14:15):  
Andy Scholand (12/07/05 14:15): huh, so delays in collab also affect screenboard  
Sue Downes @ MAC (12/07/05 14:15): you noticed too?  
Andy Scholand (12/07/05 14:17): yes, that was a particularly long delay  
Andy Scholand (12/07/05 14:18): So why don't I see much effect on inventories in S Atlantic after disruption?

Sue Downes @ MAC (12/07/05 14:19): because they don't typically purchase from West of the Mississippi, so none of thier routes are affected or at least very few

Sue Downes @ MAC (12/07/05 14:19): MAE just stepped in...we may shortly have a run with all Supermarkets..he says the markets make a whole lot more sense with more firms

Andy Scholand (12/07/05 14:20): Will it break the client with the extra data?

Andy Scholand (12/07/05 14:20): I probably will need G5 for that one

Andy Scholand (12/07/05 14:20): I still don't see how sub sampling firms should change the answer, unless there is a sample bias in some way

Sue Downes @ MAC (12/07/05 14:20): He has one up with 70% that he says displays well

Sue Downes @ MAC (12/07/05 14:21): I asked about the sampling and it is a random sample regardless of geography our county population

Sue Downes @ MAC (12/07/05 14:22): Maybe 310 out of 3108 is not enough?

Andy Scholand (12/07/05 14:22): Oh, so he thinks it could be a small numbers problem- we just happened to pick smaller pulls in CA than in FL. OK

Sue Downes @ MAC (12/07/05 14:22): to make it unbiased

Sue Downes @ MAC (12/07/05 14:22): I think that may be the case...

Andy Scholand (12/07/05 14:22): OK I'll buy that. Let me go and see Greg about the G5... back in 5 min

Sue Downes @ MAC (12/07/05 14:23): I need to help Lory with an experiment...afk

Sue Downes @ MAC (12/07/05 14:46): I'm back--running a new sim with all supermatkets Mark's run doesn't have a disruption....so I created on that did

Sue Downes @ MAC (12/07/05 15:14): The run will be complete (calculation-wise) in about 5 minutes, but it will take about 15 more or so for all the data to get uploaded to the streamer...

Sue Downes @ MAC (12/07/05 15:26): OK the run is fully loaded on the streamer..wish me luck, I am going to try and open....

Andy Scholand (12/07/05 15:26): good luck

Andy Scholand (12/07/05 15:27): I am here to review results as they emerge

Andy Scholand (12/07/05 15:27): I will also use a composite results viewer

Andy Scholand (12/07/05 15:33): OK this is better

Andy Scholand (12/07/05 15:36): It will be interesting to see if the picture visually looks different

Andy Scholand (12/07/05 15:36): OK meanwhile I'm going to do my security training - continuous partial attention ...

Sue Downes @ MAC (12/07/05 15:40): It loaded, I am waiting for the display...

Andy Scholand (12/07/05 15:40): OK

Christopher Davis @ SNL 2602 (12/19/05 17:03): Well party people, time for me to head back to my casa. I've gotten the JOGL JSR port from about 200 errors to 52... the end is near!

Andy Scholand (12/19/05 17:04): Dood!

Christopher Davis @ SNL 2602 (12/19/05 17:04): "Hey what's my back say?"

Andy Scholand (12/19/05 17:05): ?

Christopher Davis @ SNL 2602 (12/19/05 17:05): Quote from "Dude where's my car?"

Charlie Gieseler @ mac (12/19/05 17:04): Sweet! Now what's mine say

Christopher Davis @ SNL 2602 (12/19/05 17:05): Duuuuude! (thanks Charlie!)

Charlie Gieseler @ mac (12/19/05 17:04): hehe good movie

Andy Scholand (12/19/05 17:05): Dood is from 'The Island'

Andy Scholand (12/19/05 17:06): Hi Sue

Christopher Davis @ SNL 2602 (12/19/05 17:05): hmm, "The Island"? Don't think I have seen it

John M. Linebarger @ PowerMac G5 (12/19/05 17:06): Hmm ... good thing we \*don't\* automatically save the chat log. Some things you want to disappear into the ether. ;)

Andy Scholand (12/19/05 17:06): worth renting for light entertainment

Andy Scholand (12/19/05 17:06): its in rental places now

Christopher Davis @ SNL 2602 (12/19/05 17:06): hah, I seem to be inspiring all kinds of arcane comments today

John M. Linebarger @ PowerMac G5 (12/19/05 17:06): 's about?

Sue Downes @ MAC (12/19/05 17:07): AJS...OK so the line is the response of inventories...

Andy Scholand (12/19/05 17:07): top line?

Sue Downes @ MAC (12/19/05 17:07): AJS: gold is bottled milk

Christopher Davis @ SNL 2602 (12/19/05 17:07): for a second there you were talking about "The beach"

Christopher Davis @ SNL 2602 (12/19/05 17:07): ok, enough mindless banter. I'll chat with you good people tomorrow

Andy Scholand (12/19/05 17:08): what is this line?

Christopher Davis @ SNL 2602 (12/19/05 17:07): <waves>

Charlie Gieseler @ mac (12/19/05 17:06): see you tomorrow

Andy Scholand (12/19/05 17:08): bye Chris

Sue Downes @ MAC (12/19/05 17:08): AJS: Inventory level

Christopher Davis @ SNL 2602 (12/19/05 17:08): virtually - don't expect to arrive here

Andy Scholand (12/19/05 17:08): of which commodity

Sue Downes @ MAC (12/19/05 17:08): Top line is bottled milk

Sue Downes @ MAC (12/19/05 17:08): disruption is between 382 and 397

Andy Scholand (12/19/05 17:08): can you see my arrow, far left hand side

Andy Scholand (12/19/05 17:09): it seems like there was no impact on bottom 2 commodities by volume

Sue Downes @ MAC (12/19/05 17:09): Sorry my screenboard hung for a sec....that line is butter

Andy Scholand (12/19/05 17:09): then you see a gradual increase in effect

Andy Scholand (12/19/05 17:09): maximum for bottled milk

Andy Scholand (12/19/05 17:10): is there a relation between shark fin effect and inventory turn?

Andy Scholand (12/19/05 17:10): hmmm looks like system does return to previous level, although slowly

Sue Downes @ MAC (12/19/05 17:10): If I understand correctly, its an over ordering issue. Buyers weren't receiving, so they kept ordering

Sue Downes @ MAC (12/19/05 17:11): then the disruption ended and tons of stuff arrived

Andy Scholand (12/19/05 17:11): ok that's the flash we've seen on the transport network

Sue Downes @ MAC (12/19/05 17:12): yes...

Andy Scholand (12/19/05 17:12): a step up in inventory

Sue Downes @ MAC (12/19/05 17:12): So one of my questions was answered...I do need to run longer to see actual recovery

Andy Scholand (12/19/05 17:12): are they ordering on this part of the curve, or is that natural attrition of inventory

Andy Scholand (12/19/05 17:13): when do they start ordering again?

Sue Downes @ MAC (12/19/05 17:13): let me take a look and send a new SB

Andy Scholand (12/19/05 17:13): Can you graph # of orders

Andy Scholand (12/19/05 17:13): wait one sec

Sue Downes @ MAC (12/19/05 17:13): yes hang on

Andy Scholand (12/19/05 17:13): is that a draw down due to sales without replenishing stock?

Sue Downes @ MAC (12/19/05 17:14): I am not sure, just yet, but it maps time-wise to the disruption period....

Andy Scholand (12/19/05 17:14): is this an industry wide average from BEA?

Andy Scholand (12/19/05 17:15): it seems high relative to demand then

Sue Downes @ MAC (12/19/05 17:15): BEA results are the only snapshot for this run

Andy Scholand (12/19/05 17:15): cool

Andy Scholand (12/19/05 17:15): so this is the net distributed inventory across the whole system - makes sense it would be high

Andy Scholand (12/19/05 17:15): lots of little caches for it to be in

Andy Scholand (12/19/05 17:16): how big is the disruption relative to the overall system?

Sue Downes @ MAC (12/19/05 17:16): 15 day MS river bridge disruption

Andy Scholand (12/19/05 17:16): Have you thought about a chlorine style disruption where all transport was disrupted?

Andy Scholand (12/19/05 17:16): for calibration/reference?

Sue Downes @ MAC (12/19/05 17:16): It would give me bounding conditions wouldn't it?

Andy Scholand (12/19/05 17:17): I would expect a much larger effect

Andy Scholand (12/19/05 17:17): both dip in inventory and then surge later

Andy Scholand (12/19/05 17:17): what's hard to see here is how much inventory is relative to demand

Sue Downes @ MAC (12/19/05 17:17): It would worst case largest possible response right?

Andy Scholand (12/19/05 17:18): yes I think so

Sue Downes @ MAC (12/19/05 17:18): We need more BEA variables....

Andy Scholand (12/19/05 17:18): the BEA is going to become our primary analytic tool I think

Andy Scholand (12/19/05 17:18): I'm sure that once we're parallel its going to be hated though (all that communication!)

Sue Downes @ MAC (12/19/05 17:19): I am trying to figure out how to show relative demand with the variables we have....shh don't say that too loud our main selling point is we can see individual firms

Sue Downes @ MAC (12/19/05 17:19): They hate me, but they love me too!

Eric Eidson (12/19/05 17:20): I don't think it'll be that bad really

Sue Downes @ MAC (12/19/05 17:20): YEAH!

Andy Scholand (12/19/05 17:20): well every firm has to report to the BEA

Andy Scholand (12/19/05 17:20): that's every node talking to a central node, for every firm!

Eric Eidson (12/19/05 17:20): right, but the BEA doesn't have to synchronize; it just gets the message

Andy Scholand (12/19/05 17:21): oh, OK

Sue Downes @ MAC (12/19/05 17:21): So if I show shipments, in this case its a relative indicator of demand right?

Andy Scholand (12/19/05 17:21): I'm just wondering about how much inventory the agents keep on hand

Andy Scholand (12/19/05 17:22): it looks like they are really conservative - the 14 day disruption takes 50 days to catch up

Sue Downes @ MAC (12/19/05 17:22): I can show min for this area which is basically safetystock

Sue Downes @ MAC (12/19/05 17:23): No I can't either...

Andy Scholand (12/19/05 17:23): that's why I was suggesting the all transport locations - it will let you see how many days worth of demand the agents keep (# of days until starvation occurs)

Andy Scholand (12/19/05 17:23): it may only be 2-3 days, which would be very JIT

Andy Scholand (12/19/05 17:23): or it could be 15-30 days, much more traditional

Andy Scholand (12/19/05 17:24): OK, you wanted to push # orders?

Sue Downes @ MAC (12/19/05 17:24): I think I turned off something I shouldn't have in the snapshot. I tried to make it very JIT...

Andy Scholand (12/19/05 17:24): well it could be, we just can't tell from here I think

Andy Scholand (12/19/05 17:24): I'm going to get some fresh tea, give me 3 min

Andy Scholand (12/19/05 17:25): please

Sue Downes @ MAC (12/19/05 17:25): With the other run (with full snapshot, I could see min levels and so forth, so I think I turned something off that the BEA Agent needed (or Mark's made modifications that I didn't pay attention to).

Andy Scholand (12/19/05 17:28): i'm back

Sue Downes @ MAC (12/19/05 17:28): OK

Andy Scholand (12/19/05 17:28): oh, you can't see order in this run?

Sue Downes @ MAC (12/19/05 17:28): if you point your set your simstreamer to nisac-srnl, you can see what I see, maybe I am choosing the wrong variables

Andy Scholand (12/19/05 17:29): Well, you've got some good stories to tell with run



Andy Scholand (12/19/05 17:29): this run that is  
Sue Downes @ MAC (12/19/05 17:29): I think so too.  
Andy Scholand (12/19/05 17:29): 1) a disruption has a noticeable effect  
Andy Scholand (12/19/05 17:29): 2) the effect damps out over time - ~50days in this case  
Sue Downes @ MAC (12/19/05 17:29): here is orders for the same region...wait for SB  
Andy Scholand (12/19/05 17:29): 3) the effect is dependent on the volume of ordering vs. time  
Sue Downes @ MAC (12/19/05 17:30): red = frozen ,  
Andy Scholand (12/19/05 17:30): such that scarcely ordered items (butter) are barely affected at all; a proportionally bigger effect is seen in more rapid turning inventory like milk  
Andy Scholand (12/19/05 17:30): phone afk  
Andy Scholand (12/19/05 17:32): ok - green must be bottled milk  
Andy Scholand (12/19/05 17:32): blue is butter  
Andy Scholand (12/19/05 17:33): orange is cheese? And yellow dried milk?  
Sue Downes @ MAC (12/19/05 17:33): no we still have color order, so green is cheese  
Sue Downes @ MAC (12/19/05 17:33): drymilk is blue  
Sue Downes @ MAC (12/19/05 17:33): butter is yellow and the gold color is bottled  
Andy Scholand (12/19/05 17:34): ok wait, so cheese orders spike more than bottled, yet the biggest shark fin was in bottled?  
Sue Downes @ MAC (12/19/05 17:34): ooops wait--color order is red, blue, green, yellow, gold and commodity order is frozen, dry, cheese, butter, bottled  
Andy Scholand (12/19/05 17:35): hmmm  
Andy Scholand (12/19/05 17:36): there's definite oscillation in the cheese ordering - maybe stock / purchase pattern interaction  
Sue Downes @ MAC (12/19/05 17:36): could it be a tight supply chain phenomena for cheese (green)  
Sue Downes @ MAC (12/19/05 17:37): the market is too tight maybe?  
Andy Scholand (12/19/05 17:37): could be - why not the other commodities though?  
Andy Scholand (12/19/05 17:38): The max inventory in the other graph was bottled not cheese, correct?  
Andy Scholand (12/19/05 17:38): The correspondence of fluctuation and shark fin size seems so logical otherwiswe  
Sue Downes @ MAC (12/19/05 17:38): maybe there is a location dependency associated with the tightness?...to your question I will verify  
Andy Scholand (12/19/05 17:38): this is where we need 'back' on sb  
Sue Downes @ MAC (12/19/05 17:39): true, and you are correct on the other graph, the large spike was bottled  
Andy Scholand (12/19/05 17:41): I just don't get it - here it is clear there was much less change in orders  
Sue Downes @ MAC (12/19/05 17:41): there is a location dependency...if I choose other regions the responses are different much less pronounced  
Andy Scholand (12/19/05 17:41): Is this number of orders or is qty factored in?  
Sue Downes @ MAC (12/19/05 17:41): number of orders isn't a volume though  
Sue Downes @ MAC (12/19/05 17:41):  
Andy Scholand (12/19/05 17:41): Aha  
Andy Scholand (12/19/05 17:41): OK then  
Sue Downes @ MAC (12/19/05 17:42): not according to Mark's lable anyway  
Andy Scholand (12/19/05 17:42): so a measure of stock variation expressed as a percent might show cheese to be much more affected  
Sue Downes @ MAC (12/19/05 17:42): or is it...I am going to ask Eric...  
Andy Scholand (12/19/05 17:43): he's online I think  
Sue Downes @ MAC (12/19/05 17:43): Mark talked about just such a percent, but I don't think he has got around to coding it yet  
Andy Scholand (12/19/05 17:44): yeah, I'm thinking in statistical terms, like numbers of std devs from median  
Andy Scholand (12/19/05 17:44): Even a Z statistic would be some measure of excursion different from normal fluctuation  
Andy Scholand (12/19/05 17:44): you could get into some fancy stats if you wanted too  
Sue Downes @ MAC (12/19/05 17:45): I probably should  
Andy Scholand (12/19/05 17:45): depends on the interest of your committee - some like more mathematical rigor  
Andy Scholand (12/19/05 17:46): That ringing in cheese is really interesting  
Andy Scholand (12/19/05 17:46): And why don't we see it in anything else?  
Sue Downes @ MAC (12/19/05 17:46): I have a mixed bag (committee-wise)  
Andy Scholand (12/19/05 17:47): so the take away from this graph is?

Andy Scholand (12/19/05 17:48): cheese might be tight - we should look at buyer calls to confirm

Eric Eidson (12/19/05 17:48): do you have a screenboard up?

Andy Scholand (12/19/05 17:48): yes

Sue Downes @ MAC (12/19/05 17:48): For this region there is little impact to the drymilk and butter industry, but the others have varying degrees of response which is a great NABLE story by the way

Eric Eidson (12/19/05 17:49): would you repost it for me please :-)

Andy Scholand (12/19/05 17:49): I can't I scribbled on mine

Sue Downes @ MAC (12/19/05 17:49): can you press send Andy, my send is greyed out for some reason...

Andy Scholand (12/19/05 17:50): John disabled multi send, it hung on the Macs periodically

Andy Scholand (12/19/05 17:50): Mine is grayed out too

Sue Downes @ MAC (12/19/05 17:50): I will send a new version...

Andy Scholand (12/19/05 17:50): k

Eric Eidson (12/19/05 17:50): hmm, the words turned red, but no picture for me

Andy Scholand (12/19/05 17:50): got it - can you see that Eric?

Eric Eidson (12/19/05 17:50): yes

Sue Downes @ MAC (12/19/05 17:51): this is the variable called placed orders, by commodity (dly)

Eric Eidson (12/19/05 17:51): I was hoping to learn which variable in EconDataReporter was the problem

Sue Downes @ MAC (12/19/05 17:51): under the BEA agent

Sue Downes @ MAC (12/19/05 17:51): placed orders, by commodity (dly)

Andy Scholand (12/19/05 17:52): I was trying to understand how a greater volume of placed orders could result in lower inventory levels, but it may be that order size varies substantially, such that cheese is ordered frequently in small quantities, while bottled milk is ordered less frequently but in huge lots

Andy Scholand (12/19/05 17:53): Also I see harmonics in cheese I don't see in the others

Andy Scholand (12/19/05 17:53): I will attempt to draw them

Eric Eidson (12/19/05 17:53): which agent is the BEA agent?

Sue Downes @ MAC (12/19/05 17:53): The order sizes do vary a lot, we don't have the code base to "pack" orders to a specific size yet in the shipper

Sue Downes @ MAC (12/19/05 17:54): EE you need an Agent ID #?

Eric Eidson (12/19/05 17:54): well, I need a run ... I have five listed and not sure which one has the BEA

Andy Scholand (12/19/05 17:54): we're looking at runs on nisac-srnl

Andy Scholand (12/19/05 17:54): I think

Eric Eidson (12/19/05 17:54): ooooooh. BRB

Andy Scholand (12/19/05 17:54): Correct, Sue?

Sue Downes @ MAC (12/19/05 17:54): yes

Eric Eidson (12/19/05 17:55): so it's the NOVIZ one?

Sue Downes @ MAC (12/19/05 17:55): yes

Eric Eidson (12/19/05 17:56): and now I need an Agent ID :-)

Sue Downes @ MAC (12/19/05 17:56): try 2928

Andy Scholand (12/19/05 17:57): Sue, I'll need to head out soon

Eric Eidson (12/19/05 17:57): I'm not seeing the structure in the program just yet ... there's no actual object named "BEA" but there is a "EconDataNetwork" which is not an Agent but is owned by some other agent ... do you know how it works offhand?

Sue Downes @ MAC (12/19/05 17:58): AJS: Me too...I didn't realize the time. Since Mark won't be here until noon tomorrow, I will puzzle through it some more in morning...

Sue Downes @ MAC (12/19/05 17:58): EE: Not really, but this can wait...I will ask Mark tomorrow afternoon.

Eric Eidson (12/19/05 17:58): okay

Sue Downes @ MAC (12/19/05 17:58): thanks for trying anyway!

Andy Scholand (12/19/05 17:59): OK see you tomorrow....

Sue Downes @ MAC (12/19/05 17:59): Bye for now...

Andy Scholand (12/19/05 17:59): bye

Eric Eidson (12/19/05 17:59): later :-)

Andy Scholand (12/20/05 11:33): John, at your convenience, can you send me a reference for the uniquely distinguishable colors algorithm you have implemented in GroupMeld? I would like to compare how well user-specified color spaces map to that algorithm

Christopher Davis @ RESPEC (12/20/05 11:49): well, I am down to between 1 and 5 errors now (still pre-testing though)

Andy Scholand (12/20/05 11:51): The King of WOOO HOOO

Andy Scholand (12/20/05 11:51): ;)

Christopher Davis @ RESPEC (12/20/05 11:50): Long live the King!

Christopher Davis @ RESPEC (12/20/05 11:50): So, there may be an issue though. The new JOGL requires me to move up to Java 1.5 (or 5.0, whatever it is being called)

Andy Scholand (12/20/05 11:52): nah, that should be fine

Andy Scholand (12/20/05 11:52): Apple is almost there

Andy Scholand (12/20/05 11:53): by the time we are ready for 1.5, they will be too

Christopher Davis @ RESPEC (12/20/05 11:51): ok, I knew that there was a previous mission statement about being 1.4 compliant, so I wanted to make sure this was not an issue

Andy Scholand (12/20/05 11:53): yeah, that was for the 2.0 release, which had to be running on Nov 1, our 'end of year' for NISAC

Christopher Davis @ RESPEC (12/20/05 11:52): but it also appears that the corba code is not in 1.5 (at least not in the release that I have)

Andy Scholand (12/20/05 11:54): yes, John has to compile for particular VMs

Christopher Davis @ RESPEC (12/20/05 11:53): I see

Andy Scholand (12/20/05 11:55): so we'll need to give the version you're working on a specific release number (2.2?)

Andy Scholand (12/20/05 11:55): and coordinate other components accordingly

Christopher Davis @ RESPEC (12/20/05 11:53): well, I am going to continue massaging to see if I can make it all fit in 1.4 so that all parts work together in one release

Andy Scholand (12/20/05 11:55): I dunno - we want to move to 1.5 anyway, don't we? Eventually?

Christopher Davis @ RESPEC (12/20/05 11:54): I got 99.5% of the way to getting it to all work in 1.4, but this last .5% is being a pain...

Christopher Davis @ RESPEC (12/20/05 11:54): eventually, but I want something that works \*now\* :-)

Andy Scholand (12/20/05 11:56): maybe a topic for the next group or developers meeting

Christopher Davis @ RESPEC (12/20/05 11:54): with all components

Andy Scholand (12/20/05 11:56): we could easily ask John for a 1.5 build if that is the only show stopper

Andy Scholand (12/20/05 11:57): we'll need that anyway when we go to that JVM

Christopher Davis @ RESPEC (12/20/05 11:55): yeah, I'll know better after today. So far my bug fixes have not introduced a cascading bug occurrence, so that may be a decent approach

Andy Scholand (12/20/05 11:58): let me ring John and ask him

Andy Scholand (12/20/05 12:03): Thanks Brooke, that's working perfectly now

Christopher Davis @ RESPEC (12/20/05 12:03): lol, one of my bugs was because I can't spell... these IDEs need a built in spell-check type function that compares your code to the known dictionary of functions and offers a correction to the closest edit-distance function...

Andy Scholand (12/20/05 12:07): ow

John M. Linebarger @ PowerMac G5 (12/20/05 12:07): Can someone summarise the issues you'd like me to understand and comment on? Thx

Andy Scholand (12/20/05 12:08): 1) do you have enough time to gen a JVM 1.5 build of the collab bindings for Chris to work with

Andy Scholand (12/20/05 12:08): 2) can you send me a reference for the uniquely distinguishable colors algorithm you have implemented in GroupMeld? I would like to compare how well user-specified color spaces map to that algorithm

Christopher Davis @ RESPEC (12/20/05 12:07): The only issue that I have run into with the 1.5 JVM is that the corba packages seem to be missing from the system library... This may be an easy fix

John M. Linebarger @ PowerMac G5 (12/20/05 12:10): Chris -- how can that be? Unless you're talking about the Mac

implementation of the 1.5 JVM. They are certainly present in the PC version.

Andy Scholand (12/20/05 12:10): or maybe not - are you a registered Apple developer? We should ask this question of apple specifically

Christopher Davis @ RESPEC (12/20/05 12:08): this is the MAC version

Andy Scholand (12/20/05 12:10): I can ask if you are not a registered developer

Christopher Davis @ RESPEC (12/20/05 12:09): I am not

Andy Scholand (12/20/05 12:11): 'k, let me fire up a browser ...

Christopher Davis @ RESPEC (12/20/05 12:09): We should probably google it first

Andy Scholand (12/20/05 12:11): good point

Andy Scholand (12/20/05 12:12): can you do that while I log in?

Christopher Davis @ RESPEC (12/20/05 12:10): sure

John M. Linebarger @ PowerMac G5 (12/20/05 12:13): 2) is not an algorithm but a hand-crafted RGB color table of colors that I eyeballed and found compatible. I can send you the code if you'd like. With your user-defined color choices, you are ending up with several people whose colors are just too close together, IMHO

Andy Scholand (12/20/05 12:15): didn't you have an algorithm for computing color distance? That is exactly the question I would like to answer quantitatively - how much color space \*do\* people select? A color table will wrap at some point... are humans infinitely adjustable? I want to write an article on this, especially since it drove a funding decision...

Christopher Davis @ RESPEC (12/20/05 12:15): Andy: see <http://www.w3.org/TR/AERT> checkpoint 2.2 for a good starting point

Andy Scholand (12/20/05 12:17): interesting, jvm 1.5 is now up to release 4

John M. Linebarger @ PowerMac G5 (12/20/05 12:18): No automated algorithm, just a rule of thumb on my part. Well ... I initially created a table of all the combinations of each of the RGB values as 0, then 127, then 255. Then I weeded out visual duplicates from there using a PC utility I found on the Web called "littlergb." I'll send you the code of what I ended up with.

John M. Linebarger @ PowerMac G5 (12/20/05 12:19): Oh ... I also weeded out those colors whose brightness was just too great, like true cyan and yellow.

Andy Scholand (12/20/05 12:19): Well, I'm sure there is an algorithm somewhere in the literature ... seems too much of a real Human Factors issue not to be

Christopher Davis @ RESPEC (12/20/05 12:18): Andy: see my above link for the algorithm that people use often

John M. Linebarger @ PowerMac G5 (12/20/05 12:20): I'm sure there is. But in which color space?

Andy Scholand (12/20/05 12:20): RGB, no?

John M. Linebarger @ PowerMac G5 (12/20/05 12:21): I'm rusty at the moment, but RGB is not linear in human perception

Christopher Davis @ RESPEC (12/20/05 12:19): I think that is what you are looking for... there is also one based on some power-scale on the RGB colorspace, but I can't remember it now

John M. Linebarger @ PowerMac G5 (12/20/05 12:21): I forget which color space is, but it is not RGB

Andy Scholand (12/20/05 12:21): Chris, yes, the W3C algorithm looks promising

Andy Scholand (12/20/05 12:21): still reading it

Christopher Davis @ RESPEC (12/20/05 12:19): there are 3 independant curves for responsiveness to R G and B

Andy Scholand (12/20/05 12:22): Color difference is determined by the following formula:  

$$(\text{maximum (Red value 1, Red value 2)} - \text{minimum (Red value 1, Red value 2)}) + (\text{maximum (Green value 1, Green value 2)} - \text{minimum (Green value 1, Green value 2)}) + (\text{maximum (Blue value 1, Blue value 2)} - \text{minimum (Blue value 1, Blue value 2)})$$

Christopher Davis @ RESPEC (12/20/05 12:20): B happens to be the least responsive, hence 99.9% of OSs choosing blue as their background color on default desktops

Andy Scholand (12/20/05 12:22): That will be a fine start

Andy Scholand (12/20/05 12:22): especially since its referencable

Andy Scholand (12/20/05 12:22): to W3C no less!

John M. Linebarger @ PowerMac G5 (12/20/05 12:22): What is your goal for this investigation?

Christopher Davis @ RESPEC (12/20/05 12:21): I have another reference, but I don't see the book here on my office bookshelf

Andy Scholand (12/20/05 12:23): paper

Christopher Davis @ RESPEC (12/20/05 12:21): "OpenGL: A Top Down Approach" by Edward Angel (my advisor) lists the 3 color curves and a handful of equations

Andy Scholand (12/20/05 12:25): can I borrow it?

Christopher Davis @ RESPEC (12/20/05 12:23): yes, assuming I have not lost it (I kind of thought it was here!)

John M. Linebarger @ PowerMac G5 (12/20/05 12:25): Tell me about paper! Cut me in, hombre!

Andy Scholand (12/20/05 12:25): sure!

Andy Scholand (12/20/05 12:26): I want to do a survey asking N2 users if, and to what degree, color selection aided their adoption of the software

Christopher Davis @ RESPEC (12/20/05 12:28): I don't have 1.5.4 I have 1.5 - let me upgrade and see if this fixes any issues

John M. Linebarger @ PowerMac G5 (12/20/05 12:30): Might be more powerful if you widened the net to include many other features and human interface elements

John M. Linebarger @ PowerMac G5 (12/20/05 12:30): ... a categorized "why I choose to use N2"

Andy Scholand (12/20/05 12:31): well, color is particularly interesting because it drove the anti-choice to defund collab as a NISAC level project

Andy Scholand (12/20/05 12:32): I'd like to capture that side of the discussion as well - it is important for designers of collaborative systems to know the boundaries within which they can work, politically as well as aesthetically and functionally

Andy Scholand (12/20/05 12:37): going to grab lunch - back in 10

John M. Linebarger @ PowerMac G5 (12/20/05 12:42): Purging ...

Christopher Davis @ RESPEC (12/20/05 12:52): woot 1 error left, and I am in JVM 1.4.2 right now! :-D

Andy Scholand (12/20/05 13:03): KoWH

John M. Linebarger @ PowerMac G5 (12/20/05 13:07): KoWH?

Christopher Davis @ RESPEC (12/20/05 13:06): King of Woo Hoo

Andy Scholand (12/20/05 13:08): :)

John M. Linebarger @ PowerMac G5 (12/20/05 13:08): Thank you. Collab chat needs a slang expander

Andy Scholand (12/20/05 13:08): language shortcuts are a known sign of a tight knit group

John M. Linebarger @ PowerMac G5 (12/20/05 13:09): MoaWH

John M. Linebarger @ PowerMac G5 (12/20/05 13:09): ... which of course means, "Mother of All Woo Hoos"

Andy Scholand (12/20/05 13:10): you had me wondering!

Christopher Davis @ RESPEC (12/20/05 13:08): lol

Andy Scholand (12/20/05 13:27): last IM please resend - Chris I think it was you - I clicked through it

Andy Scholand (12/20/05 13:29): Sue, is it possible to create a smaller version of IL milk? Something real lightweight and fast to load?

Andy Scholand (12/20/05 13:29): 1/2 to 1/3 the size of current IL model

Christopher Davis @ RESPEC (12/20/05 13:29): how do I drag to the public screenboard? (I feel really stupid asking this question)

Andy Scholand (12/20/05 13:29): grab title bar

Sue Downes @ MAC (12/20/05 13:29): Sure...but you want the same number of firms right?

Andy Scholand (12/20/05 13:30): maybe - just cut number of timesteps?

Christopher Davis @ RESPEC (12/20/05 13:30): yeah, something that is perhaps shorter by half or something

Sue Downes @ MAC (12/20/05 13:30): you got it, It will be up in a few minutes....

Christopher Davis @ RESPEC (12/20/05 13:30): many thanks!

Christopher Davis @ RESPEC (12/20/05 13:30): can we mark it to keep please?

Sue Downes @ MAC (12/20/05 13:31): easily done

Christopher Davis @ RESPEC (12/20/05 13:31): ok, what do I drag the little bar onto?

Christopher Davis @ RESPEC (12/20/05 13:31): (back to screen capture question, sorry for rapid context switch)

Andy Scholand (12/20/05 13:31): Use the Open Collaboration hyperlink under the Collaboration Task menu  
Andy Scholand (12/20/05 13:31): you will get a screen board  
Andy Scholand (12/20/05 13:32): drag onto that  
Christopher Davis @ RESPEC (12/20/05 13:34): ok, that was what I needed... previously the window was opening as a tab next to my geospatial view  
Andy Scholand (12/20/05 13:35): you also have to click the send button to send it - the + button sends it at high res (recommended)  
Christopher Davis @ RESPEC (12/20/05 13:35): hrrmmm... got a GL Stack Overflow... that shouldn't have happened....  
Christopher Davis @ RESPEC (12/20/05 13:35): be back in a minute  
Andy Scholand (12/20/05 13:36): OK Sue and I are leaving for Area 1 - be back ~2 hrs  
Christopher Davis @ RESPEC (12/20/05 13:34): ok  
Andy Scholand (12/20/05 13:36): good luck  
Christopher Davis @ RESPEC (12/20/05 13:34): thanks  
Christopher Davis @ RESPEC KOWH (12/20/05 13:39): that does not look right to me...  
Charlie Gieseler @ mac (12/20/05 13:39): what do you mean?  
Charlie Gieseler @ mac (12/20/05 13:39): hehe  
Christopher Davis @ RESPEC KOWH (12/20/05 13:41): the globe doesn't have anything on it does it? ( not the sad face, I mean the terrain)  
Charlie Gieseler @ mac (12/20/05 13:40): oh that's the globe? No, it doesn't have anything on it  
Christopher Davis @ RESPEC KOWH (12/20/05 13:41): lol  
Christopher Davis @ RESPEC KOWH (12/20/05 13:42): not much of a globe eh?  
Christopher Davis @ RESPEC KOWH (12/20/05 13:42): ahoot  
Christopher Davis @ RESPEC KOWH (12/20/05 13:42): \*shoot  
Charlie Gieseler @ mac (12/20/05 13:41): not really  
Charlie Gieseler @ mac (12/20/05 13:41): maybe this is the paper-plate creation theory though  
Christopher Davis @ RESPEC KOWH (12/20/05 13:43): urg. Must not have the correct context...  
Christopher Davis @ RESPEC (12/20/05 13:43): why can't I drag and drop!?!? blah  
Christopher Davis @ RESPEC (12/20/05 13:49): wow  
Christopher Davis @ RESPEC (12/20/05 13:49): there is a \*LOT\* of useless console output  
Andy Scholand (12/20/05 16:33): Chris, if this helps, I've seen that issue before when the graphics card is overloaded - it can't display the geotexture due to memory constraints.  
Andy Scholand (12/20/05 16:34): are you driving 2 displays or otherwise pushing it hard?  
Christopher Davis @ RESPEC (12/20/05 16:33): nope, this is a plain old bug-ola  
John M. Linebarger @ PowerMac G5 (12/20/05 16:36): Are you on Tiger or Panther? I moved to Tiger and my DnD stopped working; it was working fine before.  
John M. Linebarger @ PowerMac G5 (12/20/05 16:38): Dec 20, 2005 4:37:43 PM  
gov.sandia.nable.n2views.N2ScreenBoardViewPanel drop  
INFO: !!! Exception in drop() method: net.java.games.jogl.GLEException: Error creating nsContext  
net.java.games.jogl.GLEException: Error creating nsContext  
at net.java.games.jogl.impl.macosx.MacOSXGLContext.create(MacOSXGLContext.java:161)  
at net.java.games.jogl.impl.macosx.MacOSXPbufferGLContext.create(MacOSXPbufferGLContext.java:195)  
at net.java.games.jogl.impl.macosx.MacOSXGLContext.makeCurrent(MacOSXGLContext.java:171)  
at net.java.games.jogl.impl.macosx.MacOSXPbufferGLContext.makeCurrent(MacOSXPbufferGLContext.java:118)  
at net.java.games.jogl.impl.GLContext.invokeGL(GLContext.java:248)  
at net.java.games.jogl.impl.GLPbufferImpl.maybeDoSingleThreadedWorkaround(GLPbufferImpl.java:242)  
at net.java.games.jogl.impl.GLPbufferImpl.display(GLPbufferImpl.java:66)  
at gov.sandia.scip.cgs.graphics.basecode.BaseGLJPanel.captureImage(BaseGLJPanel.java:218)  
at gov.sandia.nable.n2views.common.GlobeLabelPanel.getTransferData(GlobeLabelPanel.java:188)  
at sun.awt.dnd.SunDropTargetContextPeer.getTransferData(SunDropTargetContextPeer.java:199)  
at sun.awt.datatransfer.TransferableProxy.getTransferData(TransferableProxy.java:55)

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at java.awt.dnd.DropTargetContext$TransferableProxy.getTransferData(DropTargetContext.java:359)
at gov.sandia.nable.n2views.N2ScreenBoardViewPanel.drop(N2ScreenBoardViewPanel.java:1317)
at java.awt.dnd.DropTarget.drop(DropTarget.java:398)
at sun.awt.dnd.SunDropTargetContextPeer.processDropMessage(SunDropTargetContextPeer.java:542)
at sun.awt.dnd.SunDropTargetContextPeer.access$800(SunDropTargetContextPeer.java:52)
at sun.awt.dnd.SunDropTargetContextPeer$EventDispatcher.dispatchDropEvent(SunDropTargetContextPeer.java:805)
at sun.awt.dnd.SunDropTargetContextPeer$EventDispatcher.dispatchEvent(SunDropTargetContextPeer.java:743)
at sun.awt.dnd.SunDropTargetEvent.dispatch(SunDropTargetEvent.java:29)
at java.awt.Component.dispatchEventImpl(Component.java:3560)
at java.awt.Container.dispatchEventImpl(Container.java:1671)
at java.awt.Component.dispatchEvent(Component.java:3543)
at java.awt.LightweightDispatcher.retargetMouseEvent(Container.java:3527)
at java.awt.LightweightDispatcher.processDropTargetEvent(Container.java:3313)
at java.awt.LightweightDispatcher.dispatchEvent(Container.java:3167)
at java.awt.Container.dispatchEventImpl(Container.java:1657)
at java.awt.Window.dispatchEventImpl(Window.java:1606)
at java.awt.Component.dispatchEvent(Component.java:3543)
at java.awt.EventQueue.dispatchEvent(EventQueue.java:480)
at java.awt.EventDispatchThread.pumpOneEventForHierarchy(EventDispatchThread.java:234)
at java.awt.EventDispatchThread.pumpEventsForHierarchy(EventDispatchThread.java:184)
at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:178)
at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:170)
at java.awt.EventDispatchThread.run(EventDispatchThread.java:100)
```

John M. Linebarger @ PowerMac G5 (12/20/05 16:39): Getting something like this?

Christopher Davis @ RESPEC (12/20/05 16:38): nope :-) This is very hapilly failing silently

Andy Scholand (12/20/05 16:40): could be a bug in the JOGL bindings themselves?

John M. Linebarger @ PowerMac G5 (12/20/05 16:41): Personally, I prefer those sloppy slobbery failures myself

John M. Linebarger @ PowerMac G5 (12/20/05 16:41): More debug drool to work with

Christopher Davis @ RESPEC (12/20/05 16:40): yeah, this could be a JOGL bug. I haven't looked at the forums yet, but thanks for reminding me to "look up from my keyboard" :-D

Christopher Davis @ RESPEC (12/20/05 16:40): I keep forgetting this JOGL is super-mega-totally-beta

Andy Scholand (12/20/05 16:43): "it can't be our code, it must be theirs" :)

Christopher Davis @ RESPEC (12/20/05 16:41): lol -- if only...

Christopher Davis @ RESPEC (12/20/05 16:42): the port process was fairly painless except these two issues. I should really check those forums

Christopher Davis @ RESPEC (12/20/05 16:43): Oh! And - I should get the latest nightly build... Gah... I need to check myself next time I run-down-a-rabbit-hole

Christopher Davis @ RESPEC (12/20/05 16:45): does anyone here know of a handy way to keep my jars up to date with those on their site?

Andy Scholand (12/20/05 16:48): that sounds like a Ben question - I would probably cron a wget script

Christopher Davis @ RESPEC (12/20/05 16:48): that'd work... are you aware of a location for libraries on the system that is checked before the system libraries? I am thinking perhaps of keeping my personal libraries up to the day current, but keeping a system backup just in case (and for the other apps that want JOGL)

Andy Scholand (12/20/05 16:52): somewhere on the sun site there is a description of how to do that, for unix in general at least. I'm not sure if there is an apple equivalent

Christopher Davis @ RESPEC (12/20/05 16:50): comming from the land of C/C++ this seems like it should be easy to do... but maybe java views the world differently

Andy Scholand (12/20/05 16:52): it assumed you had write access to a directory under the jre root

Christopher Davis @ RESPEC (12/20/05 16:51): yeah, that is poor IMO. I want something in my user-space...

Andy Scholand (12/20/05 16:53): right... I dunno  
Christopher Davis @ RESPEC (12/20/05 16:52): something kind of equivalent to the LD\_LIBRARY\_PATH in \*nix  
Andy Scholand (12/20/05 16:54): actually, this is in Eclipse, right? That should be doable, in one of the config screens somewhere...  
Christopher Davis @ RESPEC (12/20/05 16:53): yeah  
Christopher Davis @ RESPEC (12/20/05 16:53): my thoughts exactly. I will google it this eve.  
Christopher Davis @ RESPEC (12/20/05 16:54): Anyway, my mind is toast with a knob of butter and a spoonful of marmalade so I am going to go home and get back to these topics later once I am sharper again  
Rich Harris (12/20/05 16:56): I think the eclipse classpath, as defined in the external jars part of the project build path, will override the system jars in the JRE home  
Andy Scholand (12/20/05 16:55): I'm trying to think who are our real Eclipse gurus in the business area -  
Andy Scholand (12/20/05 16:56): maybe John knows  
Christopher Davis @ RESPEC (12/20/05 16:55): good point. I can do a include there, and an exclude of the system one. That is the solution I think.  
Andy Scholand (12/20/05 16:56): hasta la mana Chris  
Sue Downes @ MAC (12/20/05 16:57): have a good evening Chris...  
Rich Harris (12/20/05 16:57): but the bindings are in the jre directories, and they have to be in sync I think  
Christopher Davis @ RESPEC (12/20/05 16:55): adios gatos frescas!  
Rich Harris (12/20/05 16:58): remember the problem we had setting your G5 up to begin with?  
Rich Harris (12/20/05 16:58): that was the problem  
Christopher Davis @ RESPEC (12/20/05 16:56): yeah, totally. But I'll be pointing ONLY at syched versions  
Christopher Davis @ RESPEC (12/20/05 16:56): \*synched  
Rich Harris (12/20/05 16:58): because eclipse was getting Ivy jars, which were out of date with the latest native bindings  
Christopher Davis @ RESPEC (12/20/05 16:57): right, I won't play with IVY anymore now that I have the system...  
Rich Harris (12/20/05 16:59): I think you'll have to point eclipse at the jogl.jar though, so it can compile  
Rich Harris (12/20/05 16:59): unless there's a smarter way  
Christopher Davis @ RESPEC (12/20/05 16:57): I'll try it out tonight and get back to the crew manana. I am really leaving now... :-P  
Rich Harris (12/20/05 17:00): hasta manana  
Christopher Davis @ RESPEC (12/20/05 16:58): Adios gatos frescas!  
Rich Harris (12/20/05 17:01): Yo soy un perro viejo. ;-)



Christopher Davis @ RESPEC (12/21/05 14:25): can anyone hear me?  
Lory Cooperstock (PC) (12/21/05 14:27): I can hear you  
Sue Downes @ MAC (12/21/05 14:38): I can hear you too  
Christopher Davis @ RESPEC (12/21/05 14:37): cool i am back  
Andy Scholand (12/21/05 14:39): Hi Chris - must have been a network issue  
Christopher Davis @ RESPEC (12/21/05 14:38): yeah, it is actually responsive now, so I am feeling much better!  
Christopher Davis @ RESPEC (12/21/05 14:40): hm... now my laptop is waiting to connect. This is strange behaviour. I wonder if my ping is junk or something.  
John M. Linebarger @ PowerMac G5 (12/21/05 14:42): Did you go ostrich or log off and back on?  
Christopher Davis @ RESPEC (12/21/05 14:41): my client was unresponsive, so I quit, restarted VPN, and re-connected.  
Christopher Davis @ RESPEC (12/21/05 14:42): 134ms - not a bad ping  
Christopher Davis @ RESPEC (12/21/05 14:43): what is ostrich?  
John M. Linebarger @ PowerMac G5 (12/21/05 14:47): You can see us but we can't see you. A reverse ostrich, actually.  
Christopher Davis @ RESPEC (12/21/05 14:45): I see. Nope. I was just plain old unresponsive.  
Andy Scholand (12/21/05 14:49): the ethernet on nable-collab looks ok - 100Mbps full duplex  
Andy Scholand (12/21/05 14:49): load is pretty high  
Christopher Davis @ RESPEC (12/21/05 14:48): oh well.  
Andy Scholand (12/21/05 14:49): CPU that is  
Andy Scholand (12/21/05 14:50): is anyone running a big job on nable-run?  
Andy Scholand (12/21/05 14:51): two big jobs actually  
Christopher Davis @ RESPEC (12/21/05 14:49): I got one of the remaining two bugs fixed ( updated library, twiddled one line, and it was fixed )  
Christopher Davis @ RESPEC (12/21/05 14:50): screen capture seems to work now, but I want someone who knows more than I to look at it to make sure that it looks right. I have not seen the partial image issues personally, so that may have just been a library bug  
Andy Scholand (12/21/05 14:52): do you want to screenboard to test?  
Christopher Davis @ RESPEC (12/21/05 14:51): I would love to, but I can't get my laptop connected. :-(  
Andy Scholand (12/21/05 14:53): let me kill the 2 big jobs  
Andy Scholand (12/21/05 14:53): hold on  
Christopher Davis @ RESPEC (12/21/05 14:52): I'm just leaving it at the infinite barber-pole-of-doom and hoping it will hop on when it is ready to do some work ;-)  
Andy Scholand (12/21/05 14:55): ok try a restart on it now  
Christopher Davis @ RESPEC (12/21/05 14:53): ok  
Christopher Davis @ RESPEC (12/21/05 14:55): well, I just heard my laptop connect  
Andy Scholand (12/21/05 14:57): I don't see it  
Christopher Davis @ RESPEC (12/21/05 14:55): still spinning the old-barber-pole  
Christopher Davis @ RESPEC (12/21/05 14:56): did you hear Butthead?  
Andy Scholand (12/21/05 14:57): no  
Christopher Davis @ RESPEC (12/21/05 14:56): hm, shoulda heard Butthead say "This is gonna be cool"  
Charlie Gieseler @ mac (12/21/05 14:57): I heard Butthead  
Charlie Gieseler @ mac (12/21/05 14:57): but he was stuttering... came through broken up  
Rich Harris (12/21/05 14:59): hear what?  
Christopher Davis @ RESPEC (12/21/05 14:57): do you think the length of the sound clip could be causing an issue (just chose it so I could hear it, my previous click was too short and quiet)  
Rich Harris (12/21/05 14:59): I just got back  
Rich Harris (12/21/05 14:59): is there audio or something?  
Andy Scholand (12/21/05 14:59): your intro wav file - to help others know you're now part of the collective  
Charlie Gieseler @ mac (12/21/05 14:58): Butthead announced Chris' arrival  
Christopher Davis @ RESPEC (12/21/05 14:58): right, should I set it back to a short click and see if that is the issue?  
Christopher Davis @ RESPEC (12/21/05 14:59): my desktop uses the short click intro noise  
Andy Scholand (12/21/05 15:01): I can't imagine that's the case - if it is we have a real bug  
Andy Scholand (12/21/05 15:02): we used to have folks playing the entire intro to star trek (Space, the final frontier...

Christopher Davis @ RESPEC (12/21/05 15:00): well, I set it to the click - and just heard it

Christopher Davis @ RESPEC (12/21/05 15:00): and just got on

Andy Scholand (12/21/05 15:02): you're in

Andy Scholand (12/21/05 15:02): bugzilla it please

Andy Scholand (12/21/05 15:03): you can assign ownership to me; cc John if you like

Christopher Davis @ RESPEC (12/21/05 15:03): what component do you think I should assign it to?

Andy Scholand (12/21/05 15:05): collaboration

Christopher Davis @ RESPEC (12/21/05 15:03): NABLE - collab services

Christopher Davis @ RESPEC (12/21/05 15:03): sweet,

Andy Scholand (12/21/05 15:10): ready

Christopher Davis @ RESPEC (12/21/05 15:09): k, 10 secs to loaded set

Christopher Davis @ RESPEC KoWH (12/21/05 15:12): did you get it?

Andy Scholand (12/21/05 15:12): no

Charlie Gieseler @ mac (12/21/05 15:12): I see it

Christopher Davis @ RESPEC (12/21/05 15:11): gah, my poor laptop is seeming very slow...

Andy Scholand (12/21/05 15:13): hmmm, my screenboard tab just went red, no image yet though

Christopher Davis @ RESPEC (12/21/05 15:12): right now I have a unresponsive laptop

Christopher Davis @ RESPEC (12/21/05 15:12): mouse still works, but the chat is waiting for my "now?" message to be sent

Andy Scholand (12/21/05 15:14): you may be pushing data to the collab server - RMI locks you up until successful ACK

Andy Scholand (12/21/05 15:14): from server

Charlie Gieseler @ mac (12/21/05 15:13): hmmm yeah. I can see, but it is very slow to respond to try to draw on it

Christopher Davis @ RESPEC (12/21/05 15:13): does it look correct Charlie?

Andy Scholand (12/21/05 15:15): I still don't see anything, nor are my markup tools enabled

Charlie Gieseler @ mac (12/21/05 15:14): I see a map with a network if that is correct

Christopher Davis @ RESPEC (12/21/05 15:13): mine aren't either

Andy Scholand (12/21/05 15:16): I'm wondering how chat can be responsive when the graphics exchange isn't - don't they use the same mechanism?

Christopher Davis @ RESPEC (12/21/05 15:14): yes, should the the Illi Milk run network with transport and transactions... have you ever seen the "partial image" problem people have mentioned?

Christopher Davis @ RESPEC (12/21/05 15:15): AJS: dunno. Your guess is better than mine.

Andy Scholand (12/21/05 15:17): Looks like John is out of the office unfortunately - he could tell us

Christopher Davis @ RESPEC (12/21/05 15:16): I did select the + like you suggested before, could that be part of the issue?

Andy Scholand (12/21/05 15:18): ah, yes, perhaps

Charlie Gieseler @ mac (12/21/05 15:17): The only time I saw the partial image problem was earlier when you sent a blank globe

Andy Scholand (12/21/05 15:18): try without selecting that

Christopher Davis @ RESPEC (12/21/05 15:16): should I close the window or kill the whole client?

Andy Scholand (12/21/05 15:18): AFAIK that feature was not tested in real life (across real WAN connections like we have now)

Andy Scholand (12/21/05 15:18): probably kill client

Christopher Davis @ RESPEC (12/21/05 15:17): it was working yesterday, but there were only like 4 or 5 ppl on

Andy Scholand (12/21/05 15:19): yes there is a scaling issue

Christopher Davis @ RESPEC (12/21/05 15:18): is this a token architecture or something?

Christopher Davis @ RESPEC (12/21/05 15:19): yeah, the small sound clip seems to get my laptop on nice and quick every time

Andy Scholand (12/21/05 15:22): well its peer to peer, so you have  $n^2$  connections to push data to

Christopher Davis @ RESPEC (12/21/05 15:20): I see

Andy Scholand (12/21/05 15:22): got it, in full color

Christopher Davis @ RESPEC (12/21/05 15:21): just sent a "non-plus size model"

Charlie Gieseler @ mac (12/21/05 15:22): I see it too

Andy Scholand (12/21/05 15:23): is this the half size model

Christopher Davis @ RESPEC (12/21/05 15:21): good

Christopher Davis @ RESPEC (12/21/05 15:21): yeah, it's the non plus size model

Christopher Davis @ RESPEC (12/21/05 15:21): er - yeah, the half run - right

Andy Scholand (12/21/05 15:23): zorro  
Charlie Gieseler @ mac (12/21/05 15:22): hehe  
Andy Scholand (12/21/05 15:24): good  
Christopher Davis @ RESPEC (12/21/05 15:22): so that looks correct?  
Andy Scholand (12/21/05 15:24): yes  
Christopher Davis @ RESPEC (12/21/05 15:22): excellent  
Christopher Davis @ RESPEC (12/21/05 15:24): so I think the second bug is most likely a JOGL issue, not a NABLE bug. I've gone through the whole section of code associated with the mini-map and can't find anything that looks awry  
Christopher Davis @ RESPEC (12/21/05 15:26): the basic issue is that the mini-map is drawn behind the globe as the view is zoomed in... depth buffering is off, and I am fairly sure the draw order is correct, so there aren't many other things that could be causing this besides a bug  
Andy Scholand (12/21/05 15:29): good  
Andy Scholand (12/21/05 15:29): phone - back in a few  
Christopher Davis @ RESPEC (12/21/05 15:27): in any case, it's not a show-stopper, so I've gone back to "goofing-with-graphs"  
Andy Scholand (12/21/05 15:31): ok  
Christopher Davis @ RESPEC (12/21/05 15:29): the screenshot comes out correctly for whatever reason ;-)  
John M. Linebarger @ PowerMac G5 (12/21/05 16:45): Chris, your RESPEC KoWH may be a reverse ostrich. I can't see you on peer monitor panel. Firewall, perhaps?  
Andy Scholand (12/21/05 17:15): I asked him about a firewall, he is only running the stock SNL firewall, which I believe we've been OK with in the past. There was some network traffic issues today I think - one issue with Chris coming in across the metro area is we are suseptible to traffic slow downs on a larger 'net.

Andy Scholand (09/28/05 13:44): Hi Everyone  
John M. Linebarger @ ThinkPad (09/28/05 13:45): Hello! Boy, I sure hope this works ... I'm hanging with you for the afternoon to make sure  
Greg Mackey (09/28/05 13:45): Howdy!  
Andy Scholand (09/28/05 13:45): We are just waiting for Deb? Will Lory be joining us?  
Andy Scholand (09/28/05 13:45): Thanks John... any ideas why terminator is being problematic?  
Andy Scholand (09/28/05 13:46): Hi Lory... did you know you are invisible?  
John M. Linebarger @ ThinkPad (09/28/05 13:46): Really don't know. We run into seasons where we can't transition from the naming service to the collaborators when running on terminator  
John M. Linebarger @ ThinkPad (09/28/05 13:46): Moving the naming service to one of our desktop machines has always seemed to fix the problem, at least temporarily  
Andy Scholand (09/28/05 13:46): Hi Deb! Sue, will Charlie be joining us?  
Andy Scholand (09/28/05 13:47): John, can you run diagnostics on it while it is local?  
Deborah Belasich (09/28/05 14:46): hello, I am in. Where's Verne?  
John M. Linebarger @ ThinkPad (09/28/05 13:47): Naming Service diagnostics? Dunno how ... there is no console output talking to the naming service.  
Andy Scholand (09/28/05 13:47): Sue, maybe we should begin, since we are running late?  
John M. Linebarger @ ThinkPad (09/28/05 13:48): Maybe someone can show me how to use Ethereal sometime  
John M. Linebarger @ ThinkPad (09/28/05 13:48):  
Sue Downes @ MAC (09/28/05 13:48): I am trying to get Lori and chalie connected...hang on  
Andy Scholand (09/28/05 13:48): OK  
John M. Linebarger @ ThinkPad (09/28/05 13:48): Had a brief hang. Did someone drop off?  
Andy Scholand (09/28/05 13:48): do you need help? divide and conquer?  
Sue Downes @ MAC (09/28/05 13:48): We can see Lory, but she can't see us  
Deborah Belasich (09/28/05 14:47): What sim should I open?  
Sue Downes @ MAC (09/28/05 13:49): could you help charlie please  
Sue Downes @ MAC (09/28/05 13:49): don't open a sim yet please  
Andy Scholand (09/28/05 13:49): That means her collab hasn't initialized well yet. I will go check with him.  
John M. Linebarger @ ThinkPad (09/28/05 13:51): Which machine is Lory using? She continually has trouble with the PC.  
Sue Downes @ MAC (09/28/05 13:51): PC...I am having her switch to MAC  
John M. Linebarger @ ThinkPad (09/28/05 13:52): Cool. Just close down the zombie PC process.  
Sue Downes @ MAC (09/28/05 13:52): She will  
John M. Linebarger @ ThinkPad (09/28/05 13:52): Thx  
Sue Downes @ MAC (09/28/05 13:54): I am going to go ahead and get started...hang on for bunch of text  
Sue Downes @ MAC (09/28/05 13:55): I want to spend most of this afternoon:•catching everyone up on N2 tools and features  
•catching everyone up on milk and its new features If we get through catching everyone up and end up with some good video of the features including collaboration that Tom can use then we have accomplished A LOT.  
  
Deborah Belasich (09/28/05 14:55): I was having some trouble switching from peer to chat. I cannot see anybody's picture now.  
Deborah Belasich (09/28/05 14:55): test  
Greg Mackey (09/28/05 13:57): Deb, I had a similar problem. I closed the client and reopened it. That seemed to fix the problem.  
Sue Downes @ MAC (09/28/05 13:56): I think it is a refresh problem...  
Sue Downes @ MAC (09/28/05 13:57): closing and opening should cure it  
John M. Linebarger @ ThinkPad (09/28/05 13:58): There is a periodic refresh issue with the N-ABLE client we've noticed from time to time  
Sue Downes @ MAC (09/28/05 13:58): Deb's back online...

Sue Downes @ MAC (09/28/05 13:59): OK I wanted to start with something easy to get you all used to features i.e. not milk just yet

John M. Linebarger @ ThinkPad (09/28/05 13:59): Will Lory's zombie be going away? Want me to wander down and nuke the process?

Sue Downes @ MAC (09/28/05 13:59): Andy is helping Lory

John M. Linebarger @ ThinkPad (09/28/05 13:59): Cool.

Sue Downes @ MAC (09/28/05 14:00): Lets open VizTest Illinois

Sue Downes @ MAC (09/28/05 14:00): it should be at the top of your sim list

Greg Mackey (09/28/05 14:01): Sorry, Sue. Which Sim? I had to restart because of Collab refresh prob.

Sue Downes @ MAC (09/28/05 14:00): It will take a little while for this simulation to fully load...do not click until it is fully loaded

Sue Downes @ MAC (09/28/05 14:00): Illinois Vis test

Sue Downes @ MAC (09/28/05 14:01): Should be first in the list

Greg Mackey (09/28/05 14:01): Got it. Thanks!

Sue Downes @ MAC (09/28/05 14:01): It will be fully loaded when the current Day meter reads 30 days

Sue Downes @ MAC (09/28/05 14:02): and you see yellow and other colors over illinois on the globe

Sue Downes @ MAC (09/28/05 14:02): let me know when you are all ready to add layers so we can see where we are...

Greg Mackey (09/28/05 14:03): Ready Freddy.

Deborah Belasich (09/28/05 15:02): What commodities, firms and regions do you want to select?

Deborah Belasich (09/28/05 15:02): I'm ready.

Sue Downes @ MAC (09/28/05 14:03): Don't select anything yet...we are going to add layers first...NABLE works better if you add the stationary layers first

Deborah Belasich (09/28/05 15:03): ok

Sue Downes @ MAC (09/28/05 14:04): Charlie you there?

Charlie Gieseler (Andy's G5) (09/28/05 14:04): yep

Sue Downes @ MAC (09/28/05 14:05): ok---just to the left of the NABLE window there is a tab called Reference Layers

Open that tab and click on any layer you want to see

Sue Downes @ MAC (09/28/05 14:06): These are pretty self explanatory..if you check the boxes, layers appear, you can change colors and line thincknesses or types

Sue Downes @ MAC (09/28/05 14:06): These layers are provided to give a frame of reference for the analysis

Sue Downes @ MAC (09/28/05 14:07): let me know when you want to move on, or if you are having trouble

Deborah Belasich (09/28/05 15:06): Sue

Sue Downes @ MAC (09/28/05 14:08): yes

Deborah Belasich (09/28/05 15:08): There seems to be a lag here..I was going to ask..do you have a favorite set of layers you like to begin with?

Sue Downes @ MAC (09/28/05 14:10): I personally start with States

Sue Downes @ MAC (09/28/05 14:10): If you add states lines you can tell where you are

Sue Downes @ MAC (09/28/05 14:11): and you can decide if you want to add more or less detail

Deborah Belasich (09/28/05 15:10): thank you..I like the urban areas too

Sue Downes @ MAC (09/28/05 14:12): Once you have finished adding layers you can collapse that pane (arrow pointing to the left in the upper right corner of the pane (gives you more room)

Sue Downes @ MAC (09/28/05 14:12): And begin to work on commodities

Sue Downes @ MAC (09/28/05 14:13): from the Simulation Results Pane you can see that the default setting is to have all choices active

Deborah Belasich (09/28/05 15:12): Whatt would you like us to select first?

Sue Downes @ MAC (09/28/05 14:14): IF you zoom in on the globe you will see all firms and thier connectivity to other firms

Sue Downes @ MAC (09/28/05 14:14): (everything is already selected for you)

Sue Downes @ MAC (09/28/05 14:14): each color on the globe represents a commodity

Sue Downes @ MAC (09/28/05 14:15): IF you look at the the simulation results pane you have a table chooser for

commodity you can deselect any commodity you choose and you should see the lines disappear from the globe

Sue Downes @ MAC (09/28/05 14:16): at least some of them

Sue Downes @ MAC (09/28/05 14:16): the window at the top of each column is a search and select tool

Lory Cooperstock (09/28/05 14:17): looks like Lory is on OK

Greg Mackey (09/28/05 14:18): She needs to work on talking about herself in the 3rd person, though. :)

Sue Downes @ MAC (09/28/05 14:17): for example if you want to deselect everything that starts with the letter B you would go the Active column, type in B\* and Enter (Return) and anything beginning with B is highlighted.

Sue Downes @ MAC (09/28/05 14:18): Great!

Sue Downes @ MAC (09/28/05 14:18): We went ahead and started, but I can catch you up in a sec while others experiment with the table choosers,,,

Sue Downes @ MAC (09/28/05 14:19): back to table chooser: To move your selections out of the active window, just click the arrow facing left

Sue Downes @ MAC (09/28/05 14:19): more line are removed from the globe

Deborah Belasich (09/28/05 15:18): SD, I deselected all commodities except bulk milk. It appears as though there are about 8 bulk milk producers in Illinois.. Seem right?

Sue Downes @ MAC (09/28/05 14:20): The next set of tables work the same way, but they are firm specific

Sue Downes @ MAC (09/28/05 14:21): DB...I don't remember anymore. But if one shows up, they all should, so that should be right

Sue Downes @ MAC (09/28/05 14:21): We will come back to Economic and Transport Newtork Displays

Sue Downes @ MAC (09/28/05 14:21): Let me catch Lory up while you all get used to the syntax of the table chooser

Lory Cooperstock (09/28/05 14:22): great -

Charlie Gieseler (Andy's G5) (09/28/05 14:24): sorry I froze up

John M. Linebarger @ ThinkPad (09/28/05 14:27): Did other people freeze?

Deborah Belasich (09/28/05 15:26): Sue, please repeaat how to deselect firms from the active window to the inactive window. I am trying to deselect all except dry milk. I was only able to deselect one dry milk in saintclaire.

Deborah Belasich (09/28/05 15:27): just thinking, no freezing

Andy Scholand (09/28/05 14:28): I have a question, can I screenboard?

Sue Downes @ MAC (09/28/05 14:29): AJS please do; DB I will be there in a sec

Andy Scholand (09/28/05 14:29): nevermind, I can't drag the globe to the screenboard

Sue Downes @ MAC (09/28/05 14:29): ask anyway

Andy Scholand (09/28/05 14:30): Here's the question: if I select only bottled milk as the only commodity, the arcs seem to connect supermarkets to each other. Not to a bottle milk supplier. Any one else see this?

Sue Downes @ MAC (09/28/05 14:31): let me try query...and se ewhat I get

Deborah Belasich (09/28/05 15:30): let me do that and look

Andy Scholand (09/28/05 14:31): OK, there are suppliers, but they are not at the centroid of the web of connections

Andy Scholand (09/28/05 14:32): the most connected node is not a supplier - it looks like supermarkets are trading amongst themselves ?

Greg Mackey (09/28/05 14:33): So, is the distributor sending to one supermarket and then that supermarket distributes to all the others?

Greg Mackey (09/28/05 14:33): All the others in that cluster, that is.

Sue Downes @ MAC (09/28/05 14:35): Ok this a "bug" The labels at the top left of the globe are not always correct. We are trying to fix that

Andy Scholand (09/28/05 14:35): OK, we just had a f2f - turns out the labels in green on the globe are not indexed correctly, they do not label agents correctly

Andy Scholand (09/28/05 14:35): jinx

Sue Downes @ MAC (09/28/05 14:36): so who buys the coke

Sue Downes @ MAC (09/28/05 14:36): :)

Andy Scholand (09/28/05 14:36): :)

Andy Scholand (09/28/05 14:37): Rich, how hard would it be to put arrow heads on these arcs... I forget which one means destination, light or dark

Andy Scholand (09/28/05 14:37): nevermind, rich is not online

Sue Downes @ MAC (09/28/05 14:38): Good Idea...I never remember either--so we will ask Bugzilla..  
Lory Cooperstock (09/28/05 14:38): I agree, some arrows would be good  
Sue Downes @ MAC (09/28/05 14:38): Dark should be the receiving end I believe  
Sue Downes @ MAC (09/28/05 14:38): In my opinion there is not enough contrast between light and dark  
Charlie Gieseler (Andy's G5) (09/28/05 14:38): Can we rotate the view at all?  
Sue Downes @ MAC (09/28/05 14:39): yes... there you can click and move your mouse to move left right up and down.  
Andy Scholand (09/28/05 14:40): You have to hold down the splat button to rotate the camera angle  
Sue Downes @ MAC (09/28/05 14:40): IF you hold down the option/alt key you can change the tilt (angle) of hte view  
Deborah Belasich (09/28/05 15:39): I get a producer and distributor in Adams Illinois when I examine the firms in the cluster. Are these producer and distributor of bottled milk.  
Charlie Gieseler (Andy's G5) (09/28/05 14:40): Ah yes that's what I meant. Thanks  
Sue Downes @ MAC (09/28/05 14:40): splat or option?  
Andy Scholand (09/28/05 14:40): dunno - Charlie?  
Greg Mackey (09/28/05 14:41): alt  
Charlie Gieseler (Andy's G5) (09/28/05 14:41): yes it is option  
Greg Mackey (09/28/05 14:41): Oh, I guess that's option.  
Andy Scholand (09/28/05 14:41): k, thanks  
Andy Scholand (09/28/05 14:42): Can we move on to firm attributes or regions?  
Andy Scholand (09/28/05 14:43): Or should we animate the commodity selection we have already?  
Sue Downes @ MAC (09/28/05 14:44): lets move along  
Andy Scholand (09/28/05 14:44): Rich, glad you're back -- how hard would it be to put arrow heads on these arcs... I forget which one means destination, light or dark  
Sue Downes @ MAC (09/28/05 14:44): The next option we have in the simulation window is the economic network display  
Richard Harris (09/28/05 14:45): I'm not sure. I think that it would be not too difficult, but could be obscured by other lines  
Sue Downes @ MAC (09/28/05 14:45): clicking on the arrow to its leftyou will see two slider bars  
Andy Scholand (09/28/05 14:45): Deborah, sorry I missed your input - I think the labels are wrong. You have to use the firm selection list to know what is in a cluster, until that bug is fixed.  
Richard Harris (09/28/05 14:45): but its not so bad, now that we are showing less dense graphs of transaction data  
Andy Scholand (09/28/05 14:46): Rich, how about those glossy shimmers that move along arcs in OpenGL?  
Richard Harris (09/28/05 14:46): rather than complete markets  
Sue Downes @ MAC (09/28/05 14:46): you can change the thickness and the width of the connecting lines  
Andy Scholand (09/28/05 14:46): Rich, do you know what I mean?  
Richard Harris (09/28/05 14:46): you mean, kind of like an mac progress bar?  
Charlie Gieseler (Andy's G5) (09/28/05 14:46): Ah yes changing the thickness helps a lot  
Sue Downes @ MAC (09/28/05 14:46): yes it does  
Andy Scholand (09/28/05 14:47): not really, I will have to search for an example to show you - powerpoint has a slide template with it embedded in it.  
Sue Downes @ MAC (09/28/05 14:47): Now lets add transportation data  
Deborah Belasich (09/28/05 15:46): Can you select firms based on the city or county in which they are located in Illinois?  
Deborah Belasich (09/28/05 15:47): for any of the commodities in milk supply chain, that is...  
Sue Downes @ MAC (09/28/05 14:48): DB yes..you would have to create a query something like \*.albuquerque.NEW Mexic0.\*  
Richard Harris (09/28/05 14:48): well, not by the specs of the client, but if the firms happen to have the county name in their name, you can filter its text  
Sue Downes @ MAC (09/28/05 14:48): its is case sensitive though  
Charlie Gieseler (Andy's G5) (09/28/05 14:48): Andy, Rich: shimmers would be cool. Shimmering from source to destination would make direction of flow immediatly apparent  
Andy Scholand (09/28/05 14:49): Yeah, exactly!  
Sue Downes @ MAC (09/28/05 14:49): Would you be able to see a shimmer when you have 8000 firms?

Greg Mackey (09/28/05 14:49): I think it would need to be subtle, though, or it could overwhelm the picture.

Deborah Belasich (09/28/05 15:48): I may like to select all bulk milk distributors in the five county area around New Orleans for example...

Andy Scholand (09/28/05 14:49): yes, I have to show you the powerpoint template so you can see the effect

Sue Downes @ MAC (09/28/05 14:50): DB you would need to do two separate queries first for bulk milk

Richard Harris (09/28/05 14:50): Andy, are you saying this is an OpenGL feature, and not something that has to be animated from the outside?

Sue Downes @ MAC (09/28/05 14:50): then on those results search for \*.New Orleans Parish.\*

Sue Downes @ MAC (09/28/05 14:51): GM--you know me--lets try it and see....

Deborah Belasich (09/28/05 15:50): I wanted to know how complex and variable the query feature is.. thank you

Charlie Gieseler (Andy's G5) (09/28/05 14:51): Perhaps you could make the shimmer subtlty variable, like the line thickness or arc hieght. 8000 shimmering firms though could make a sweet iTunes visualizer

Sue Downes @ MAC (09/28/05 14:51): does everyone know how to add the transportation network results

Sue Downes @ MAC (09/28/05 14:52): CG Good idea

Deborah Belasich (09/28/05 15:51): please go through it with us

Lory Cooperstock (09/28/05 14:52): looks to me like the transport network is just a box to check?

Lory Cooperstock (09/28/05 14:52): But have you gone over how to query?

Sue Downes @ MAC (09/28/05 14:53): LC yes. it is a box to check

Sue Downes @ MAC (09/28/05 14:53): Let me catch you up on query...phone in a sec

Richard Harris (09/28/05 14:53): click on "Show Transport Network" in "Transport Network Display"

Charlie Gieseler (Andy's G5) (09/28/05 14:53): Sue, does that mean there is only one network right now, like highways?

Deborah Belasich (09/28/05 15:53): Can you change the color of the trans network?

Richard Harris (09/28/05 14:54): not yet

Greg Mackey (09/28/05 14:54): CG. Yes, there's only one transportation network.

Greg Mackey (09/28/05 14:54): It is a highway system representing truck deliveries.

Deborah Belasich (09/28/05 15:53): It is the interstate highways right??

Richard Harris (09/28/05 14:55): I'm also going to add a checkbox to all the user to see traffic as interpolated colors, the old way, or the current way as columns, Mark's way.

Greg Mackey (09/28/05 14:55): Yes. It includes the interstates and nothing else.

Richard Harris (09/28/05 14:55): yeah

Greg Mackey (09/28/05 14:56): RH. I like that idea. There are times when your method showed the data better than Mark's.

Charlie Gieseler (Andy's G5) (09/28/05 14:56): GM: thanks. Can multiple networks be added then (i.e. highway + railway)? If so do more options appear under Transport Network Display?

Sue Downes @ MAC (09/28/05 14:57): RH the analyst says for it

Sue Downes @ MAC (09/28/05 14:57): CG yes

Sue Downes @ MAC (09/28/05 14:57): the difference here is....

Richard Harris (09/28/05 14:57): right now the client only reads the road network

Greg Mackey (09/28/05 14:57): CG: Currently, the back end supports only the one network for actual data flow.

Sue Downes @ MAC (09/28/05 14:57): the data from this menu is result data

Richard Harris (09/28/05 14:57): although, I'm not sure, but the SimStreamer structure alludes to other types of shippers

Sue Downes @ MAC (09/28/05 14:57): so NABLE collects data about simulated highway traffic

Greg Mackey (09/28/05 14:58): Well, one at a time that is. We have rail and highways.

Sue Downes @ MAC (09/28/05 14:58): there are static layers that you can in reference layers that have rail, and so forth--they don't have data associated yet

Deborah Belasich (09/28/05 15:57): RH can you change colors when there is a transfer from one mode of transportation to another? This will be a feature in future.

Sue Downes @ MAC (09/28/05 14:58): RH they are prototype rail--not functioning yet



Richard Harris (09/28/05 14:59): I've only ever dealt with a single shipper, and that shipper has always been the road network

Sue Downes @ MAC (09/28/05 14:59): we don't intermodal yet so there is no way to change a color yet

Greg Mackey (09/28/05 15:00): Currently, with the way the backend works, only one type of transportation network can be used at time. That network is set up to be a highway system with trucks.

Greg Mackey (09/28/05 15:00): We intend to add multiple networks later on.

Richard Harris (09/28/05 15:00): thats also the working assumption on the client side

Richard Harris (09/28/05 15:00): the current working assumption, I mean

Andy Scholand (09/28/05 15:00): Sorry I was having java problems

Sue Downes @ MAC (09/28/05 15:00): GM--but its in your future to be able to do intermodal...my opinion is we will need parallel first

Deborah Belasich (09/28/05 15:59): What do you need to add the other networks?

Greg Mackey (09/28/05 15:01): SD: I agree. Parallel is the first thing. After that is working reasonably well, then I think we could look at multiple networks.

Andy Scholand (09/28/05 15:01): Rich wrote>Andy, are you saying this is an OpenGL feature, and not something that has to be animated from the outside?

Andy Scholand (09/28/05 15:01): Yes

Sue Downes @ MAC (09/28/05 15:01): we have enough issues with handling just one network using a single processor...multiple would kill it

Greg Mackey (09/28/05 15:01): Yeah. Performance could be an issue.

Sue Downes @ MAC (09/28/05 15:01): We need design, data, and patallel processing

Sue Downes @ MAC (09/28/05 15:01): parallel processing is paramount

Greg Mackey (09/28/05 15:02): It would involve a rearchitecture and recoding of the network shipper.

Sue Downes @ MAC (09/28/05 15:02): Lory asked a question on the phone about the color of the firm dots....which is a good segue into the next topic

Greg Mackey (09/28/05 15:03): It has been designed to be a single network system.

Andy Scholand (09/28/05 15:02): Rich wrote> I'm also going to add a checkbox to all the user to see traffic as interpolated colors, the old way, or the current way as columns, Mark's way.

Andy Scholand (09/28/05 15:02): I like tha

Lory Cooperstock (09/28/05 15:02): I think I've got it!

Andy Scholand (09/28/05 15:02): that

Lory Cooperstock (09/28/05 15:03): (the color changing thing)

Sue Downes @ MAC (09/28/05 15:03): GM yes it is not trivial by any means

Deborah Belasich (09/28/05 16:02): Is these schedule to be worked on after parallel processing is implemented? Or stated differently, is there a projected time to begin?

Sue Downes @ MAC (09/28/05 15:03): LC and the answer is

Andy Scholand (09/28/05 15:03): I prefer the interpolated colors - easier to view with the limitations on moving the camera

Lory Cooperstock (09/28/05 15:03): Andy, what do you mean?

Greg Mackey (09/28/05 15:04): DB: There's not a set schedule for that yet. I'm not sure how long getting parallel to work will take.

Andy Scholand (09/28/05 15:04): Lory, we are referring to a way of visualizing data that was used before you arrived

Andy Scholand (09/28/05 15:04): Rich, maybe you can explain

Andy Scholand (09/28/05 15:04): there used to be a screen shot on Sue's door

Sue Downes @ MAC (09/28/05 15:04): there still is...i think

Sue Downes @ MAC (09/28/05 15:04): or its in a drawer

Richard Harris (09/28/05 15:05): your referring to the transport network display being interpolated?

Richard Harris (09/28/05 15:05): the old way?

Sue Downes @ MAC (09/28/05 15:05): yes

Andy Scholand (09/28/05 15:05): instead of height - which you can't see from 90 degrees overhead looking straight down

Richard Harris (09/28/05 15:05): oh, its just that the roads will appear flat, and their color will vary between two colors according to the traffic on them

Richard Harris (09/28/05 15:06): sorry, vary, not very

Charlie Gieseler (Andy's G5) (09/28/05 15:06): Is interpolation where you have a gradation of color over the arc then?

Andy Scholand (09/28/05 15:06): like that, but on the network edge (could be called an arc, but different from the commodity arcs we were just looking at)

Richard Harris (09/28/05 15:06): a max color and a min (actually a "zero traffic" color), in a similar way to the firm attribute view Sue's about to talk about

Charlie Gieseler (Andy's G5) (09/28/05 15:07): AS: Ahhh I see

Richard Harris (09/28/05 15:07): and not arched like transaction and market edges you see now

Charlie Gieseler (Andy's G5) (09/28/05 15:08): RH: oh ok. I had lost whether you were talking about the transport net or commodities

Andy Scholand (09/28/05 15:08): Commodity arcs were originally graduated in color - I think that is where the light/dark ends came from - they used to be red -> green

Andy Scholand (09/28/05 15:09): they are that way on the posters in the hall back here

Andy Scholand (09/28/05 15:09): it's easier to see on the flat network edges though

Andy Scholand (09/28/05 15:09): for some reason (maybe thickness?)

Greg Mackey (09/28/05 15:10): The old method was just a set of lines representing the road network that had color variation.

Richard Harris (09/28/05 15:10): its supposed to be graduated now, but its only showing slightly now

Andy Scholand (09/28/05 15:11): Yeah, and what happened to transparency on the overlay on the globe?

John M. Linebarger @ ThinkPad (09/28/05 15:11): Testing

Andy Scholand (09/28/05 15:12): Seems like OpenGL went backwards in a recent release

Richard Harris (09/28/05 15:12): i don't understand

Richard Harris (09/28/05 15:12): transparency overlay?

Andy Scholand (09/28/05 15:12): the red patch on the globe that shows what part of the globe you are zoomed in to when you are close to the surface of the earth

Andy Scholand (09/28/05 15:12): in the upper rh corner

Deborah Belasich (09/28/05 16:13): Is there a setting for the simulation run continuously?

Greg Mackey (09/28/05 15:15): AS: I have found that sometimes the overlay is there and sometimes it isn't. When I tilt the camera angle, it sometimes disappears.

Andy Scholand (09/28/05 15:15): GM: huh

Andy Scholand (09/28/05 15:15): DB: I'm not sure I understand your question?

Andy Scholand (09/28/05 15:16): Rich, what should I do if I cannot get the globe to show the firms again? (had to close and reopen a window)

Greg Mackey (09/28/05 15:16): AS: Tilting the camera angle by holding down option and dragging.

Greg Mackey (09/28/05 15:16): Dragging the mouse.

Richard Harris (09/28/05 15:16): they might be there as faint gray dots

Andy Scholand (09/28/05 15:16): right, I was expressing surprise that those particular actions caused the overlay to disappear

Andy Scholand (09/28/05 15:17): but I'm not seeing any arcs

Andy Scholand (09/28/05 15:17): like I did first time

Greg Mackey (09/28/05 15:17): AS: It seems that if the top of the earth is visible, then the overlay won't display.

Andy Scholand (09/28/05 15:17): (first line was to Greg, second 2 to Rich)

Greg Mackey (09/28/05 15:18): AS: Gotcha.

Andy Scholand (09/28/05 15:18): Greg, sounds to me like we should bugzilla that

Richard Harris (09/28/05 15:18): It looks like all four projections of the visible plane onto the earth's surface have to actually hit the earth's surface for it to appear

Richard Harris (09/28/05 15:18): but I don't understand "transparency" in reference to that navigation view

Richard Harris (09/28/05 15:18): was it ever transparent?

Andy Scholand (09/28/05 15:18): the red patch used to be semi-transparent  
Richard Harris (09/28/05 15:18): oh, okay  
Greg Mackey (09/28/05 15:19): RH: What do you mean by all four projections?  
Andy Scholand (09/28/05 15:19): maybe we should just scratch it entirely - do folks think it helps much?  
Andy Scholand (09/28/05 15:19): it often doesn't display correctly on older graphics cards  
Richard Harris (09/28/05 15:20): gosh, maybe there's a OpenGL setting hiding in one of these strata of old code  
Richard Harris (09/28/05 15:20): a setting that disables alpha values  
Richard Harris (09/28/05 15:20): because both Mark and I have tried to use transarency, and can't figure out why it doesn't work  
Richard Harris (09/28/05 15:21): the code that deals with the rendering state is all scattered about Mark B's classes and hard trace  
Richard Harris (09/28/05 15:21):  
Richard Harris (09/28/05 15:22): hard to trace, I mean  
Andy Scholand (09/28/05 15:22): hairball  
Andy Scholand (09/28/05 15:23): I am going to restart my client, it had some exceptions earlier and seems hosed. Back in 2.  
Deborah Belasich (09/28/05 16:22): Where is the setting to change from the globe viewer to the composite results viewer?  
Deborah Belasich (09/28/05 16:24): Was the tab removed?  
Greg Mackey (09/28/05 15:25): DB: Which tab are you talking about?  
Andy Scholand (09/28/05 15:25): Ohhh, there is a new web startable client out.  
Greg Mackey (09/28/05 15:26): DB: The default is a drop down box titled 'Default Results Viewer' under the Profile tab of preferences.  
Andy Scholand (09/28/05 15:26): Deb, you can right click on the top and choose output view -> geospatial  
Deborah Belasich (09/28/05 16:26): In a previous version, there were two tabs at the top of the globe or the top of the graph in composite results. You could click on the tab for the one that was hidden. It was quick and easy to get from globe to graph.  
Andy Scholand (09/28/05 15:27): Problem is, geospatial doesn't work for all customers  
Andy Scholand (09/28/05 15:28): For example, some people have older machines with suboptimal graphics cards  
Andy Scholand (09/28/05 15:28): and some sims (like Brookes and Dave's) are geospatially referenced  
Andy Scholand (09/28/05 15:28): So by setting a preference, you could deal primarily with your view of choice.  
Andy Scholand (09/28/05 15:29): Were you able to right click and add the view you wanted? Then you can flip between the 2 tabs as desired.  
John M. Linebarger @ ThinkPad (09/28/05 15:29): Testing  
Andy Scholand (09/28/05 15:30): Maybe we need a prefs setting for 'both' - meaning 2 tabs, one with each view  
Deborah Belasich (09/28/05 16:30): I would think that many analysts would like to look at the numerical data in a table or graph and then look at it in the globe. That is what I found myself doing. Sometime I want to know the actual value of the increase in the commodity flow of bottled mild that I see flowing over I-40 in Illinois. I think this will become more apparent as time permits.  
John M. Linebarger @ ThinkPad (09/28/05 15:32): Testing  
Deborah Belasich (09/28/05 16:31): You cannot place both in front of you at h  
Deborah Belasich (09/28/05 16:31): the same time  
Richard Harris (09/28/05 15:32): "Both" would be a good option for both.  
Andy Scholand (09/28/05 15:32): OK, I will bugzilla a RFE for a both tab  
Richard Harris (09/28/05 15:32): option, I mean  
Andy Scholand (09/28/05 15:32): DB: actually you can, use a split pane view  
Andy Scholand (09/28/05 15:32): and a tab in each  
John M. Linebarger @ ThinkPad (09/28/05 15:33): One more test  
Charlie Gieseler (Andy's G5) (09/28/05 15:34): I like all the split pane options. I've got the public chat below the

globe now and it makes it easier to follow along

Deborah Belasich (09/28/05 16:33): I also did this for the collaboration tabs. I need to stay in Peers so I can read the conversation. But I need to jump to the globe quickly to view the topic to which you refer. This is very easy with the Mac because I set my window in a configuration like a tab. On the previous versions, I used the tabs to move back and forth.

Andy Scholand (09/28/05 15:35): Yeah, the split panes are amazing

Andy Scholand (09/28/05 15:35): Rich, I don't seem able to affect the transportation network height

Andy Scholand (09/28/05 15:36): Is that true for anyone else?

Andy Scholand (09/28/05 15:36): Width scales fine, but I perceive no difference with the height slider

Charlie Gieseler (Andy's G5) (09/28/05 15:37): AS: yes same for me

Deborah Belasich (09/28/05 16:36): I try to see as much as I can so I used split pane for graphed results, screen board etc. and jumped to globe and peer discussion. There is a rythm to it, not unlike swimming 50free 50 breast 50 back with 5 secs rest at 150 by 300s

Greg Mackey (09/28/05 15:39): AS: Same for me, too.

Andy Scholand (09/28/05 15:39): k, will bugzilla that; unless Rich you tell me it is expected behavior

Richard Harris (09/28/05 15:39): have you changed the time?

Andy Scholand (09/28/05 15:40): have not touched time buttons

Richard Harris (09/28/05 15:40): make sure its not on t=0

Andy Scholand (09/28/05 15:40): oh

Andy Scholand (09/28/05 15:40): whoops

Greg Mackey (09/28/05 15:40): Yup. Oops.

Charlie Gieseler (Andy's G5) (09/28/05 15:40): ahhh

Andy Scholand (09/28/05 15:41): Greg, what is the height representing - nable truck traffic only or also background/ambient traffic?

Greg Mackey (09/28/05 15:42): AS: Truck traffic only. Ambient traffic doesn't show up in any of the data.

Andy Scholand (09/28/05 15:42): Does white represent a 0 value Rich?

Andy Scholand (09/28/05 15:43): I thought the network had an ambient load on it - Sue can you comment if you are still with us?

Greg Mackey (09/28/05 15:43): AS: Ambient traffic is taken into account when calculate the traffic flow, but it is not visible directly.

Deborah Belasich (09/28/05 16:42): Sue left for the day, I think.

Andy Scholand (09/28/05 15:43): And ambient varies by hour, correct?

Lory Cooperstock (09/28/05 15:44): per sue -- it does have an ambient load on it.

Richard Harris (09/28/05 15:44): is the ambient traffic in the define file?

Lory Cooperstock (09/28/05 15:44): yes

Greg Mackey (09/28/05 15:45): Yes. By hour. And by whether it is a rural or urban area. The hourly variance is handled in the code. There is a base value that from the define file that is used in conjunction with the hourly data in the binary.

Greg Mackey (09/28/05 15:45): My response was to AS.

Richard Harris (09/28/05 15:45): is this all in the define file?

Greg Mackey (09/28/05 15:46): Each edge has a base ambient traffic value.

Andy Scholand (09/28/05 15:46): Rich, yes

Andy Scholand (09/28/05 15:47): values as urban or rural were looked up and then applied to appropriate edges

Deborah Belasich (09/28/05 16:46): Can you explain why ambient traffic is in the define file? Is that something the analyst set.

Greg Mackey (09/28/05 15:47): RH and AS: Part of the ambient traffic is in the define file, and part of it is hardcoded in the binary.

Andy Scholand (09/28/05 15:48): Deb, yes, it is something that the analyst should set. A policy we might analyze could be eliminating weight restrictions, or raising speed limits, or otherwise affecting the nature of the ambient traffic

Greg Mackey (09/28/05 15:48): DB: Yes. Each transport network edge (segment of interstate) has an ambient traffic value associated with it in the define file. The binary takes that value and uses an hourly distribution to determine the background traffic on that particular edge.

Andy Scholand (09/28/05 15:48): Greg, hopefully the only thing in the binary is some stochastic variation

Andy Scholand (09/28/05 15:49): Is there meaning in the hour distribution?

Greg Mackey (09/28/05 15:49): Per Sue, all of the edges follow the same hourly distribution.

Andy Scholand (09/28/05 15:49): Like commutes to work, etc?

Deborah Belasich (09/28/05 16:48): Where does the data come from to set the ambient traffic value in the define file?

Andy Scholand (09/28/05 15:49): Sue found it

Greg Mackey (09/28/05 15:49): The hourly distribution is based on normal traffic patterns.

Greg Mackey (09/28/05 15:50): DB: Sue got the data from some reliable source, but I don't remember where.

Andy Scholand (09/28/05 15:49): We should move that to the DEFINE file too, like consumption profiles

Andy Scholand (09/28/05 15:50): (that being the hourly traffic profile)

Andy Scholand (09/28/05 15:50): our mantra is: data driven

Greg Mackey (09/28/05 15:50): I'll bring that up with Sue.

Greg Mackey (09/28/05 15:51): She's the one who designed how that was separated.

Richard Harris (09/28/05 15:51): can I make a suggestion about the public chat pane?

Andy Scholand (09/28/05 15:51): GM: OK

John M. Linebarger @ ThinkPad (09/28/05 15:51): Absolutely

Richard Harris (09/28/05 15:51): if the person has the scroll at the very bottom, it should follow the conversation in the old way

Andy Scholand (09/28/05 15:51): Agreed, that is my bad

Andy Scholand (09/28/05 15:51): I requested that feature be turned off

Andy Scholand (09/28/05 15:52): and now I regret it

Richard Harris (09/28/05 15:52): just make it conditional on where the scroll is

Andy Scholand (09/28/05 15:52): constantly scrolling down is a pain

Greg Mackey (09/28/05 15:52): I agree with Rich, if it's possible. If not, then make it be the old way.

Richard Harris (09/28/05 15:52): Bottom -> stay at bottom Anywhere Else-> stay there

Richard Harris (09/28/05 15:52):

Andy Scholand (09/28/05 15:52): John, should I reopen the bug?

John M. Linebarger @ Dual WinXP (09/28/05 15:53): Lemme see if I can make it smart right now. I have to do it in terms of cursor position in the document, not scroll bar position.

John M. Linebarger @ Dual WinXP (09/28/05 15:53): If the cursor is at the end of the document, move it back to the end of the document. Otherwise, keep it where it is. Cool?

Richard Harris (09/28/05 15:54): oh, since you can't assume that the message area will be in scrollpane

John M. Linebarger @ Dual WinXP (09/28/05 15:54): Right

Richard Harris (09/28/05 15:54): there might be a sneaky underhanded way

John M. Linebarger @ Dual WinXP (09/28/05 15:54): I love sneaky and underhanded

John M. Linebarger @ Dual WinXP (09/28/05 15:55): It's a ministry opportunity

Andy Scholand (09/28/05 15:55): I had no idea the ministers were so Machiavellian

Richard Harris (09/28/05 15:55): that's my spec - i - al - it -y ;-)

John M. Linebarger @ Dual WinXP (09/28/05 15:55): It was the Apostle Paul who coined the phrase, "All things to all men."

John M. Linebarger @ Dual WinXP (09/28/05 15:56): But you have to understand the context ...

Andy Scholand (09/28/05 15:56): I believe that is also in the CIA operations manual...

Andy Scholand (09/28/05 15:57): alrighty, enough of the entertaining diversions... are we going to tour any other features today?

Andy Scholand (09/28/05 15:58): or are we approaching wind down?

Deborah Belasich (09/28/05 16:57): I would like to keep goin for awhile...It is neice to have everyone together again.

Andy Scholand (09/28/05 15:58): OK

Deborah Belasich (09/28/05 16:57): nice...

Andy Scholand (09/28/05 15:59): What do regions do?  
 Richard Harris (09/28/05 15:59): they, combined with commodities, determine the active markets  
 Richard Harris (09/28/05 15:59): and firms and transactions only appear if they are in an active market  
 Richard Harris (09/28/05 15:59): either as a buyer or a seller  
 Richard Harris (09/28/05 16:01): a market is specified by a commodity and a region  
 Andy Scholand (09/28/05 16:01): So if I remove the supermarket regions, I should see only raw material going to each supplier?  
 Richard Harris (09/28/05 16:01): and only those firms which participate in an active market are allowed to be active  
 Richard Harris (09/28/05 16:02): that's getting into the particulars of how you define regions  
 Richard Harris (09/28/05 16:03): I think  
 Andy Scholand (09/28/05 16:04): Does anyone see a pattern in the way the commodities move?  
 Deborah Belasich (09/28/05 17:03): I just did this and am looking at it now.  
 Andy Scholand (09/28/05 16:05): Looking at the arcs play over time, the only insight I get is that there seems to be less ordering on days 28 and 29  
 Andy Scholand (09/28/05 16:09): What is the difference between bulk truck and local truck regions?  
 Andy Scholand (09/28/05 16:09): Nevermind, I just ran the inverse query and found out  
 Andy Scholand (09/28/05 16:10): local trucks supply supermarkets  
 Deborah Belasich (09/28/05 17:09): I am trying to check average daily production ofr alll the commodities. Has there been are bug request to be able to check and indicatethe same variable in firm attributes across all commodities.  
 Andy Scholand (09/28/05 16:11): I think that is firm attributes display, under Firms  
 Richard Harris (09/28/05 16:11): John, getting back to sneaky, when you add rows to the message text area, you can do something like if( getParent() instanceof JViewport) { ... }  
 Richard Harris (09/28/05 16:12): and then look at the current view rect, etc.  
 Deborah Belasich (09/28/05 17:11): When I check bott  
 Deborah Belasich (09/28/05 17:12):  
 Deborah Belasich (09/28/05 17:12):  
 Deborah Belasich (09/28/05 17:12):  
 Deborah Belasich (09/28/05 17:12): I am still getting used to the Mac key board  
 Deborah Belasich (09/28/05 17:12): dry milk color  
 Richard Harris (09/28/05 16:15): Going back, Andy, what if we played with attenuating the tranaction and market edges, instead of using arrows?  
 Richard Harris (09/28/05 16:15): by changing the line width from the first segment to the last?  
 Deborah Belasich (09/28/05 17:15): When I try to check ave daily production for the following commodities, this is what I get: bottled milk BA dry milk C bulk milk box cannot be checked. Is this a bug?  
 Richard Harris (09/28/05 16:16): attenuation might interfere with relating line thickness with the amount transacted though  
 Deborah Belasich (09/28/05 17:18): Rich, for the cones are you supposed to rotate through the selection of height, base and color until you keep the one you want?  
 Richard Harris (09/28/05 16:20): yeah, until you have the firm attribute associated with the desired cone attribute  
 Deborah Belasich (09/28/05 17:21): ding.....so does that mean that I can have different selections for each variable --- ave sales, sold amt, unsold amt, act production --- for bottled milk?  
 Richard Harris (09/28/05 16:23): yes, at different times  
 Deborah Belasich (09/28/05 17:22): Rich may I then create a different set for bulk milk and so on....??  
 Richard Harris (09/28/05 16:23): I don't understand "set" in this context?  
 Richard Harris (09/28/05 16:25): okay, your gonna see something for all active firms, as described previously  
 Richard Harris (09/28/05 16:25): if they have their attributes associated with cone attributes, thats how their cones will be drawn  
 Richard Harris (09/28/05 16:26): otherwise, they will be drawn with default cone attributes  
 Richard Harris (09/28/05 16:26): the three attributes here bing "base area", "height", and "color."

Deborah Belasich (09/28/05 17:25): May I represent another commodity by completeley different settings for the same variables-- color represents ave dail production for bulk milk but height represents ave daily production for frozen milk

Deborah Belasich (09/28/05 17:26): it sounds like the attribute is associated with the variable and not the commodity

Richard Harris (09/28/05 16:28): and firm variables are commodity specific

Richard Harris (09/28/05 16:28): so, its not REALLY the same variable

Deborah Belasich (09/28/05 17:28): thank you...let me work with this now

Richard Harris (09/28/05 16:29): meaning, you'll notice that the daily productions, etc. are broken down by commodity

Deborah Belasich (09/28/05 17:28): John can you save this chat log so I can refer to this and some other points

Lory Cooperstock (09/28/05 16:30): How can I tell when a simulation is done loading?

Richard Harris (09/28/05 16:30): so "Bulk Milk.daily\_production" is as separate and distinct from "Cheese.daily\_production" as it is from "Cheese.price"

Deborah Belasich (09/28/05 17:30): This discussion helped. I have to leave for the day. bye

Richard Harris (09/28/05 16:31): bye

Richard Harris (09/28/05 16:35): so, anyone still there?

Richard Harris (09/28/05 16:35): Andy, do you have any thoughts on attenuation?

Andy Scholand (09/28/05 16:39): hi, I'm back now

Richard Harris (09/28/05 16:39): I've posed another alternative for arrows

Andy Scholand (09/28/05 16:40): I think you mean reducing the diameter of the arc at either end - making it one giantic elongated arrowhead, effectively?

Richard Harris (09/28/05 16:40): yeah

Richard Harris (09/28/05 16:40): not diameter, but line width

Andy Scholand (09/28/05 16:41): I think that would be hard to make out at the width we are using now

Richard Harris (09/28/05 16:41): you'd have to just look at where the arc starts

Richard Harris (09/28/05 16:41): to compare widths

Andy Scholand (09/28/05 16:41): Lory, when the timescale at the bottom is complete, and the arcs for the selected commodities appear

Andy Scholand (09/28/05 16:42): I still think some use of OpenGL lighting or particle streams would be easier

Andy Scholand (09/28/05 16:43): these effects can be seen at a greater elevation from the earth surface, and I think, would be able to lend some 'forest' sense

Andy Scholand (09/28/05 16:43): we might have to try to definitively say that however

Lory Cooperstock (09/28/05 16:44): but how do I know when all arcs appear?

Andy Scholand (09/28/05 16:44): do you see any arcs at all?

Andy Scholand (09/28/05 16:45): I had an issue where no arcs appeared, it was some bug in the code, I had to start with a fresh simulation window

Lory Cooperstock (09/28/05 16:45): yes, many - and the longer I sit here, the more I see

Lory Cooperstock (09/28/05 16:45):

Andy Scholand (09/28/05 16:45): Rich, sounds like a question for you

Andy Scholand (09/28/05 16:45): which sim?

Andy Scholand (09/28/05 16:46): what is the last timestep in the time slider?

Lory Cooperstock (09/28/05 16:46): 10-milk supply chain

Andy Scholand (09/28/05 16:47): Looks to me like you should have data out to day 200

Andy Scholand (09/28/05 16:47):

Richard Harris (09/28/05 16:47): Where should I look?

Richard Harris (09/28/05 16:48): whoops, I was stuck on one part of the screen and didn't see the conversation kept going

Andy Scholand (09/28/05 16:48): Q is, how do you know if all commodity arcs are present?

Andy Scholand (09/28/05 16:48): Maybe RFE for an end-of-download, safe to interact signal

Andy Scholand (09/28/05 16:49): I think you can look at the time line for the last value downloaded, but maybe that

is not true

Andy Scholand (09/28/05 16:49): I got a value by using the composite view, and selecting a single data item - that told me `t_final`.

Richard Harris (09/28/05 16:49): well, no, the timeline will only tell you when the first flat data element is done

Andy Scholand (09/28/05 16:50): sounds like we need more stress testing with these bigger, slower sims

Andy Scholand (09/28/05 16:50): it is bringing out interaction needs we didn't know we needed

Richard Harris (09/28/05 16:50): if there were more time, we could put in a progress bar somewhere, as its downloading transaction and traffic data

Andy Scholand (09/28/05 16:51): I thought you were taking those out

Lory Cooperstock (09/28/05 16:51): I've got out to day 200. Now I'm running in slow - motion

Richard Harris (09/28/05 16:51): that was for the composite results view, which isn't supposed to take much time

Richard Harris (09/28/05 16:51): the thing slowing it down was the progress bar itself

Richard Harris (09/28/05 16:52): it, being the composite results view

Andy Scholand (09/28/05 16:52): oh, ok I thought you pulled it because it was buggy

Andy Scholand (09/28/05 16:52): I think we need one here

Andy Scholand (09/28/05 16:52): Especially because we could probably make a good estimate of when done will be

Richard Harris (09/28/05 16:53): no, I actually fixed the bug, then notice it wasn't needed because it was the thing that was taking time

Richard Harris (09/28/05 16:53): noticed, I mean

Andy Scholand (09/28/05 16:53): (you know time to pull down 1 flat element over all timesteps, then multiply by number of flat elements to pull)

Lory Cooperstock (09/28/05 16:53): Exactly! I'd like to know if it's worth it for me to shut it down, or am I close to being done? Or will I just run out of memory?

Andy Scholand (09/28/05 16:54): I thought that machine was loaded with RAM?

Richard Harris (09/28/05 16:54): well, the first one takes much longer, because it is firing off events which increment the time selector

Andy Scholand (09/28/05 16:54): OK, so scale from the second pull

Andy Scholand (09/28/05 16:54): You can leave it on overnight if you lock the screen

Richard Harris (09/28/05 16:54): in reference to flat data elements being downloaded

Richard Harris (09/28/05 16:55): well, no, you can count child request end events, etc.

Richard Harris (09/28/05 16:56): but this will only work if the simulation is done

Andy Scholand (09/28/05 16:55): An overestimate is probably better than an underestimate

Andy Scholand (09/28/05 16:56): OK, agreed

Andy Scholand (09/28/05 16:56): do you know that when you start getting elements?

Richard Harris (09/28/05 16:56): because no child request end event is fired until a simulation is done

Andy Scholand (09/28/05 16:56): it is run meta data, right?

Richard Harris (09/28/05 16:57): well, we'd have to count child request end events, and see when all our flat data elements are done

Richard Harris (09/28/05 16:57): and populate a proposed progress bar that way

Andy Scholand (09/28/05 16:58): how do you get time from that calculation?

Richard Harris (09/28/05 16:58): you don't need it

Andy Scholand (09/28/05 16:58): that's just remaining items I'm waiting for - are you assuming constant time to do them?

Richard Harris (09/28/05 16:59): if you know that you need 15,000 flat data elements for the transport network, and 20,000, for the transaction data, then you can set the progress to how many end events you've recieved for these elements, divided by this number

Richard Harris (09/28/05 16:59): if the simulation is finished

Richard Harris (09/28/05 17:00): otherwise, you have no way of knowing anyway

Richard Harris (09/28/05 17:00): divided by 35,000 I mean



Richard Harris (09/28/05 17:01): being the total number of flat data elements required for the transport and transaction networks

Richard Harris (09/28/05 17:01): in the example I gave

Andy Scholand (09/28/05 17:02): OK -

Andy Scholand (09/28/05 17:03): well that does apply regardless of whether the run is done or not

Richard Harris (09/28/05 17:03): it only applies if the run is done

Andy Scholand (09/28/05 17:03): but what Lory really needs, is how many more minutes before this download is done

Richard Harris (09/28/05 17:03): otherwise, there's no way to know anyway

Andy Scholand (09/28/05 17:04): The run meta data we can see in the console that says 'Run Complete' - isn't that from the streamer?

Richard Harris (09/28/05 17:04): unless you counted starts, that might be possible, if flat data elements are guaranteed to come down from the streamer sequentially

Richard Harris (09/28/05 17:05): yeah, what does that relate to?

Andy Scholand (09/28/05 17:05): knowing if the run is done or not

Richard Harris (09/28/05 17:06): I thought we were talking about a status on market and transport data being downloaded

Richard Harris (09/28/05 17:06): to know when its all been downloaded

Richard Harris (09/28/05 17:06): since it can take hours

Andy Scholand (09/28/05 17:06): I guess I'm confused - I thought there was a bifurcation in predicting download time depending on whether the run was finished or not

Andy Scholand (09/28/05 17:07): if the run is finished, it is a simple linear extrapolation of the time to download one element to all N elements (35000 or whatever)

Andy Scholand (09/28/05 17:07): if the run is not finished yet, there is no way to know when it will be done, so no calculation can be made

Andy Scholand (09/28/05 17:08): ? am I way off base

Richard Harris (09/28/05 17:08): those statements are correct, but I don't see where the inconsistency lies

Richard Harris (09/28/05 17:09): So, you were talking about meta data, so as to know when to bother with these calculations?

Richard Harris (09/28/05 17:09): and when not to?

Andy Scholand (09/28/05 17:09): Yes, with the end goal of reporting 'X minutes remaining'

Richard Harris (09/28/05 17:09): sort of like, when to use a candy cane progress bar, or one that actually shows status?

Andy Scholand (09/28/05 17:09): Exactly

Richard Harris (09/28/05 17:10): oh, well, I'd much rather just show progress, since you can't assume things will be at a constant rate

Lory Cooperstock (09/28/05 17:10): I think anything is better than nothing

Richard Harris (09/28/05 17:11): you never know when 60 "bcheno" runs will be plaguing the server

Andy Scholand (09/28/05 17:11): But that is the classic programmer / user dichotomy - the user doesn't care that you've got 13,378 items out of 35,000, they want to know when will they be able to conduct their analysis - should they go for a cup of coffee or a long lunch

Richard Harris (09/28/05 17:11): like a plague of locusts

Andy Scholand (09/28/05 17:11): LOL

Richard Harris (09/28/05 17:12): well, you don't have to let them see or know about those numbers, since its a fraction, just put that fraction in a progress bar

Andy Scholand (09/28/05 17:12): Anyway, Lory is right, in the time frames of interest, anything is OK

Richard Harris (09/28/05 17:14): if the user sees a progress bar that aint doin nothing, then its a good time to go get coffee

Andy Scholand (09/28/05 17:14): bugzilla it?

Richard Harris (09/28/05 17:15): its not trivial, it needs to be prioritized

Richard Harris (09/28/05 17:15): I'm just saying I think its possible

Lory Cooperstock (09/28/05 17:18): okay - I'm heading out - but the milk supply chain isn't fully loaded....can I just

leave this on and come back in the am?

Andy Scholand (09/28/05 17:18): yes

Andy Scholand (09/28/05 17:18): I'm heading out too

Richard Harris (09/28/05 17:19): bye folks

Andy Scholand (09/28/05 17:19): See everyone tomorrow

John M. Linebarger @ Dual WinXP (09/28/05 17:19): Should I leave my machine on? Or will you try another server tomorrow? I may need to reboot ...

Lory Cooperstock (09/28/05 17:19): I like the purple! I now see why colors consumed so much discussion earlier.

Andy Scholand (09/28/05 17:19): Lory, lock your screen

Charlie Gieseler (Andy's G5) (09/28/05 17:19): bye

Lory Cooperstock (09/28/05 17:19): ok

John M. Linebarger @ Dual WinXP (09/28/05 17:20): We don't tend to have good luck leaving machines on with collaboration active; they hibernate.

Andy Scholand (09/28/05 17:20): John, I think we need your machine to stay on - changing collab forces a restart of the client, and that will lose all the data coming down to the client right now for milk 10%

Andy Scholand (09/28/05 17:21): Just macs hibernate, right?

Andy Scholand (09/28/05 17:21): Does XP do that too?

John M. Linebarger @ Dual WinXP (09/28/05 17:21): Yes. My ThinkPad did it until I told it to stop. Bad ThinkPad.

Andy Scholand (09/28/05 17:21): maybe it is a laptop thingk

John M. Linebarger @ Dual WinXP (09/28/05 17:21): Yes, it is, to conserve battery resources.

John M. Linebarger @ Dual WinXP (09/28/05 17:22): Will leave on, hope for the best

Andy Scholand (09/28/05 17:22): well, if all non-essential clients log off (ie you are not in a big download) we will minimize our exposure to the risk

Andy Scholand (09/28/05 17:23): ciao

Richard Harris (09/28/05 17:23): John, does collab handle Cyrillic?

Andy Scholand (09/28/05 17:23): why?

Richard Harris (09/28/05 17:23): I've never tried to paste in Bulgarian words

Andy Scholand (09/28/05 17:23): just out of curiosity

Richard Harris (09/28/05 17:23): just wondering

Andy Scholand (09/28/05 17:23): try it

Charlie Gieseler (Andy's G5) (09/28/05 17:24): see you all tomorrow. Have a good night

Richard Harris (09/28/05 17:24): hold on a sec

Andy Scholand (09/28/05 17:26): gotta run Rich, may be tomorrow?

Richard Harris (09/28/05 17:26): ??????????

Andy Scholand (09/28/05 17:26): it worked!

Richard Harris (09/28/05 17:26): cool!

Andy Scholand (09/28/05 17:26): ?????????? yourself!

Andy Scholand (09/28/05 17:26): ?????????? ?????????? ?????????? ??????????

Andy Scholand (09/28/05 17:26): you ??????????

Andy Scholand (09/28/05 17:27): he he he

Andy Scholand (09/28/05 17:27): ?????????? you!