PENNSTATE

Establishment of an Industry-Driven Consortium Focused on Improving the Production Performance of Domestic Stripper Wells

Third Quarterly Technical Progress Report for the Period 4/01/2001 to 6/30/2001

By

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DISCLAIMER

ABSTRACT

The Pennsylvania State University, under contract to the U.S. Department of Energy, National Energy Technology Laboratory will establish, promote, and manage a national industry-driven Stripper Well Consortium (SWC) that will be focused on improving the production performance of domestic petroleum and/or natural gas stripper wells. The consortium creates a partnership with the U.S. petroleum and natural gas industries and trade associations, state funding agencies, academia, and the National Energy Technology Laboratory.

This report serves as the third quarterly technical progress report for the SWC. During this reporting period the SWC entered into a co-funding arrangement with the New York State Energy Development Authority (NYSERDA) to provide an additional $100,000 in co-funding for stripper well production-orientated projects. The SWC hosted its first meeting in which members proposed research projects to the SWC membership. The meeting was held on April 9-10, 2001 in State College, Pennsylvania. Twenty three proposals were submitted to the SWC for funding consideration. Investigators of the proposed projects provided the SWC membership with a 20 minute (15 minute technical discussion, 5 minute question and answer session) presentation. Of the 23 proposals, the Executive Council approved $921,000 in funding for 13 projects. Penn State then immediately started the process of issuing subcontracts to the various projects approved for funding.

In addition to the April 9-10 2001 meeting, the SWC provided presentations at the following meetings: New York State Energy Development Authority (May 9, 2001), Independent Oil & Gas Association of Pennsylvania (May 23, 2001), and the Ohio Oil & Gas Association (June 8, 2001). By the end of this reporting period, the SWC attracted two new additional members (Marjo Operating, Company and the Petroleum Technology Transfer Council). In effort to expand the membership further, the SWC web site was updated. Penn State procured and currently utilizes the Funnel Web software to monitor and analyze the SWC web traffic. Of particular concern is the analysis of error statements that incoming visitors may have encountered. There will be considerable effort to maintain and continuously update the SWC web site so that it serves as an official, user-friendly, portal to gain information on the SWC.

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1.0 INTRODUCTION

The Pennsylvania State University, under contract to the U.S. Department of Energy (DOE), National Energy Technology Laboratory (NETL) is in the process of establishing an industry-driven stripper well consortium that will be focused on improving the production performance of domestic petroleum and/or natural gas stripper wells. Industry-driven consortia provide a cost-efficient vehicle for developing, transferring, and deploying new technologies into the private sector. The Stripper Well Consortium (SWC) will create a partnership with the U.S. petroleum and natural gas industries and trade associations, state funding agencies, academia, the National Energy Technology Laboratory, and the National Petroleum Technology Office.

Consortium technology development research will be conducted in the areas of reservoir remediation, wellbore clean up, and surface system optimization. Consortium members elected an Executive Council that will be charged with reviewing projects for funding consortium co-funding. Proposals must address improving the production performance of stripper wells and must provide significant cost share. The process of having industry develop, review, and select projects for funding will ensure that the consortium conducts research that is relevant and timely to industry. Co-funding of projects using external sources of funding will be sought to ensure that consortium funds are highly leveraged.

2.0 EXPERIMENTAL

A description of experimental methods is required by the DOE for all quarterly technical progress reports. In this program, Penn State is responsible for establishing and managing an industry-driven stripper well consortium. Technology development research awards are made on a competitive basis. Therefore, this section is not applicable to the Penn State contracted activities. Technical reports from the individual researchers will be required to contain an experimental discussion section and will be submitted to consortium members and DOE for their review.

3.0 RESULTS AND DISCUSSION

During the last reporting period, the following four activities were conducted: 1) the SWC entered into a co-funding arrangement with the New York State Energy Development Authority (NYSERDA) which has provided an additional $100,000 to co-fund stripper well production-orientated projects, 2) the SWC hosted its first meeting in which members proposed research projects to the consortium membership for co-funding, 3) the SWC provided several presentations in order that the petroleum and natural gas industry is kept informed of the consortium activities, and 4) the SWC web site was updated and software procured to analyze web traffic.

3.1 NYSERDA Co-Funding Agreement

During this reporting period, NYSERDA finalized its co-funding agreement with the SWC. NYSERDA committed an additional $100,000 to co-fund projects that would meet the funding requirements for the consortium and also have relevance to the State of New York. In addition, NYSERDA agreed to provide $10,000 to help support the management activities of the SWC.

3.2 SWC Project Funding

The SWC hosted a meeting on April 9-10, 2001 in State College, Pennsylvania to review proposals that were submitted to the SWC for co-funding consideration. Appendix A contains the meeting agenda. The meeting drew 62 attendees. Twenty-three proposals were submitted to the SWC. Investigators of the proposed projects provided the SWC membership with a 20-minute (15 minute technical discussion, 5 minute question and answer session) presentation. Of the 23 proposals, the Executive Council approved $921,000 in funding for 13 projects. Table 1 summarizes the projects which were approved for funding. Appendix B contains a one page executive summary for each program. After the meeting, Penn State immediately started the process of issuing subcontracts to the various projects approved for funding.

3.3 SWC Presentations

During the last reporting period, presentations on behalf of the consortium were made to the following organizations:

- New York State Energy Development Authority (May 9, 2001),
- Independent Oil & Gas Association of Pennsylvania (May 23, 2001)
- Ohio Oil & Gas Association (June 8, 2001).

TABLE 1. SWC 2001 FUNDED PROJECT SUMMARY

		Project Summary				
#	Project Title	Amount Cost Shared	Amount Requested	Total Project Value	% Cost Share	Project Participants
1	Developing methods to Identify Un-Stimulated and/or Ineffectively Stimulated Reservoirs Resulting From Multi-Stage Hydraulic fractures\ Treatment	$55,000	$100,000	$155,000	35.5%	Lead: Sclumberger Holditch Participants: Equitable Production
2	Chamber Lift: A Technology for Producing Stripper Oil Wells	$70,900	$53,162	$124,062	57.2%	Lead: Penn State Participants Bretagne
3	Design, Development and In Well Testing of Two Prototype Tools For Enhanced In Recovery of Natural Gas	$47,653	$60,000	$107,653	44.3%	Lead: Brandywine Energy and Development Co. (BEDCO)
4	Analysis of the Taylorstown Injectivity Problem	$86,579	$77,141	$163,720	52.9%	Lead: Penn State Participant: East Resources
5	On-Site Treatment of Brine	$31,301	$57,975	$89,276	35.1%	Lead: Hart Resource Technology Participant: Penn State
6	Optimization of Plunger Lift Performance in Stripper Gas Wells	$43,458	$95,261	$138,718	31.3%	Lead: Colorado School of Mines Participant: Marjo Operating Company
7	Applying and Developing New Approaches for Maximizing Recovery in the Barnett Shale Gas Play: From Understanding Capillary Forces to Improving EUR's	$25,550	$73,000	$98,550	25.9%	Lead: Republic Energy Participants: Texas A&M
	Total (p.1)	$360,441	$516,539	$876,979	41.1%	

TABLE 1. SWC 2001 FUNDED PROJECT SUMMARY (CONT'D)

		Project Summary				
#	Project Title	Amount Cost Shared	Amount Requested	Total Project Value	% Cost Share	Project Participants
8	Analysis of the Wileyville Waterflood	$55,000	$59,054	$114,054	51.8%	Lead: Penn State Participants: East Resources
9	Advanced Decline Model for Stripper Well Production Analysis (METEOR)	$35,000	$80,000	$115,000	30.4%	Lead: Advanced Resources International Participant: Equitable production, Belden & Blake
10	O New Technologies for Lifting Liquids From Natural Gas Wells	$$98,198	$93,944	$192,142	51.1%	Lead: Colorado School of Mines
11	Development of Diagnostic Techniques to Identify By-Passed Gas Reserves and Badly Damaged Productive Zones in Gas	$29,820	$29,771	$59,591	50.0%	Lead: Innovative Discovery Technologies
12	Environment and Regulatory Issues Relating to the utilization of recycled Produced Water from Oil and Gas Operations	$26,116	$56,649	$82,765	31.6%	Lead: Texas A&M
13	Identification of Effective Fluid Removal Technologies for Stripper Wells	$36,460	$85,070	$121,530	30.0%	Lead: James Engineering
	Total (p.2)	$280,584	$404,448	$685,082	41.0%	
	Grand Total (p1 & p2)	$641,035	$921,027	$1,562,061	41.0%	

3.4 Web Site Development

In effort to expand the membership further, the SWC web site was updated during the last reporting period. Penn State procured and currently utilizes the Funnel Web software to monitor and analyze the SWC web traffic. Of particular concern is the analysis of error statements that incoming visitors may have encountered. There will be considerable effort to maintain and continuously updated the SWC web site so that it serves as an official, user-friendly, portal to gain information on the SWC. Appendix C contains a typical Funnel Web Software report. Key indicators will be segregated in this report and then summarized in an executive summary style format.

4.0 CONCLUSION

Since its birth in October 1, 2000, the SWC has grown to a membership of 49. The consortium is now co-funding 13 projects having a total value of $1,562,061. The SWC is providing $921,000 in co-funding to these projects. The SWC projects had an average cost share of 41.0 %. Presentations to stripper well producers have continued through this reporting period.

5.0 REFERENCES

A listing of referenced materials is required by the DOE for each quarterly technical progress report. This technical progress did not utilize any reference materials.

APPENDIX A: Meeting Agenda for April 9-10, 2001 Meeting

STRIPPER WELL CONSORTIUM MEETING
TOFTREES RESORT AND CONFERENCE CENTER
STATE COLLEGE, PA
APRIL 9-10, 2001

MEETING AGENDA

Day 1: April 9, 2001

8:00-9:00 **Meeting registration**

Opening Session (9:00-10:00)

9:00-9:05 Welcoming Comments and Announcements
Joel Morrison
Director, Stripper Well Consortium

9:05-9:35 Invited Speaker
U.S. Representative John Peterson
5th District, Pennsylvania

9:35-10:00 Invited Speaker
Rita Bajura
Director, National Energy Technology Laboratory

Technical Session I Presentations (10:00-12:00)
15 min. presentation, 5 min. Question & Answers
Joel Morrison, Moderator

10:00-10:20 Field Expansion and Well Location Optimization for Low Productivity Tight Gas Reservoirs
Advanced Resources International

10:20-10:40 Developing Methods to Identify Unstimulated and/or Ineffectively Stimulated Reservoirs Resulting from Multi-Stage Hydraulic Fractures Treatment
Schlumberger Holditch-Reservoir Technologies

10:40-11:00 New Technologies for Lifting Liquids from Natural Gas Wells
Colorado School of Mines

11:00-11:20 Chamber Lift: A Technology for Producing Stripper Oil Wells
The Pennsylvania State University

11:20-11:40 Design, Development, and In-Well Testing of Two Prototype Tools for Enhancement in Recovery of Natural Gas
Brandywine Energy and Development Company

11:40-12:00 Passive Downhole Water Mitigation Assembly
GasDuct Technology, LLC

12:00-1:00 Stripper Well Consortium Luncheon

Technical Session II Presentations (1:00-3:00)
15 min. presentation, 5 min. Question & Answers
Gary Covatch, Moderator

1:00-1:20 Analysis of the Taylorstown Injectivity Problem
The Pennsylvania State University

1:20-1:40 Identification of Bypassed Infill Reserves in Stripper Gas Fields
Advanced Resources International

1:40-2:00 On-Site Treatment of Brine
Hart Resources Technologies

2:00-2:20 Advanced Reservoir Characterization with Hydrocarbon Microseepage Signatures
Geo-Microbial Technologies, Inc.

2:20-2:40 Advanced Technology for Infill and Recompletion Candidate Well Selection Application to the Cut Bank Field
Texas A&M

2:40-3:00 Optimization of Plunger Lift Performance in Stripper Gas Wells
Colorado School of Mines

3:00-3:20 Break/ Refreshments

Technical Session III Presentations (3:00-4:40)
15 min. presentation, 5 min. Question & Answers
Dan Ferguson, Moderator

3:20-3:40 Applying and Developing New Approaches for Maximizing Recovery in the Barnett Shale Gas Play: From Understanding Capillary Forces to Improving EUR's
Republic Energy, Inc

3:40-4:00 Analysis of the Wileyville Waterflood
The Pennsylvania State University

4:00-4:20 Liquid Lifting Device for Gas Wells
C-Fer Technologies, Inc.

4:20-4:40 Advanced Decline Model for Stripper Well Production Analysis (METEOR)
Advanced Resources International

4:40-5:00 Day One Wrap-up
Joel Morrison
General Question/ Answer/ Comment Session

6:00 Stripper Well Consortium Dinner Buffet

Day 2: April 10, 2001

8:00-9:00 Continental Breakfast

9:00-9:30 Strategic Planning Meeting for Consortium
Joel Morrison

Technical Session IV Presentations (9:30-11:30)
15 min. presentation, 5 min. Question & Answers
Liz Fajen, Moderator

9:30-9:50 Synthesis of Tertiary Alkyl Primary Amines from Pennsylvania Crude Oil for use in Well-Bore Clean-up
The Pennsylvania State University

9:50-10:10 Wellhead Compressor Systems Technology
New York State Electric & Gas Corporation

10:10-10:30 Dual-Fluid Real Time Stimulation System for Enhanced Completion
Real-Time Zone

10:30-10:50 Development of Diagnostic Techniques to Identify By-Passed Gas Reserves and Badly Damaged Productive Zones in Gas Stripper Wells in Rocky Mountain Laramide Basins
Innovative Discovery Technologies

10:50-11:10 Environment and Regulatory Issues Relating to the Utilization of Recycled Produced Water from Oil and Gas Operations
Texas A&M

11:10-11:30 Systematic, Low, Cost Method for Remediation of Unwanted Flow in Stripper Wells
Cementing Solutions, Inc.

11:30-11:50 Identification of Effective Fluid Removal Technologies for Stripper Wells
James Engineering, Inc.

11:50-12:10 Day Two Wrap-up
Joel Morrison
General Question/ Answer/ Comment Session

12:10 Meeting Adjourned

EXECUTIVE COUNCIL MEETING

12:15-1:00 Executive Council Working Luncheon

1:00-??? Review/ Selection of Stripper Well Projects for Funding
Executive Council

APPENDIX B: Executive Summary of SWC Co-Funded Projects

Advanced Decline Curve Model for Stripper Well Production Analysis (METEOR)

Lead Organization: Advanced Resources International, Inc.
Key Contact: Larry Pekot (703-528-8420 or lpekot@adv-res.com)
Other Participants: Equitable Production, Belden & Blake
Level of Funding: $80,000

Executive Summary

Successful stripper well production requires careful attention to cost control and this requirement extends to engineering and geologic evaluations to determine a stripper well's potential for remediation or production improvement. Thus, a premium should be placed on evaluation techniques that are fast, simple and reliable.

This project will meet this need by refining the use of advanced decline curve techniques into a fast and easy to use program that is designed specifically for low permeability, multiple completion gas wells. The availability of this program will provide a new tool to help analyze stripper wells allowing operators to make more informed decisions when considering well remediation, recompletion or drilling options in stripper production areas.

The applicant proposes to build upon an existing visual basic decline curve program, named *METEOR*, and incorporate additional advanced decline curve analysis techniques. Results of the program will be verified against a series of reservoir simulation cases constructed from real data taken from a variety of stripper well conditions. Based on industry feedback, considerable attention will also be given to create features that are fast and easy to use, especially concerning data input and output handling. This will allow the user an opportunity to evaluate low rate and low revenue stripper wells with a minimum of time and effort.

The project cost share will be supported by a $25,000 cash grant from Equitable Production Company (Equitable) and a $5,000 cash grant from Belden & Blake Corporation (BBC). Advanced Resources International (ARI), the project applicant, will also contribute $5000 in unbilled labor and expenses. Equitable will also provide the well and reservoir data necessary for the program verification study. To complete the project as proposed, a sum of $80,000 is requested from the Stripper Well Consortium.

Analysis of the Taylorstown Injectivity Problem

Lead Organization: Penn State University
Key Contact: Robert Watson (814-865-0531 or bob@pnge.psu.edu)
Other Participants: East Resources
Level of Funding: $77,141

Executive Summary

During recent years, the Appalachian basin has experienced a regional drought. Surface water that could be used for oilfield purposes such as waterflooding and hydrofracturing has been in short supply and as a consequence, operating companies have been forced to look elsewhere for supplies of water. Water from sources such as abandoned coalmines and produced oilfield brine have been used to augment and/or replace water obtained from fresh water sources. Given the complexity of most formations in terms of composition, there is the possibility of a deleterious impact on field injectivity and well performance given a mixture of various waters.

The objective of this study is to undertake an analysis of the injection practices at the Taylorstown Field in Washington County, Pennsylvania, where the Gordon sandstone is under waterflood. Initial injection began in March of 1996 using a mixture of water obtained from an abandoned coalmine and brine obtained from Oriskany wells. In December of 1999, freshwater injection began. The rate of injection has steadily dropped from 4000-barrels/day in 1996 to 800-barrels/day at the present. The plan is to drill a well off-pattern, obtain a core and evaluate the core for the impact of different fluids on injectivity and develop a water/formation treatment plan.

The significance of this project in terms of the stripper well consortium is that operators are facing the need to use water from unconventional sources for oil field operations. This project will address some of the issues attendant to the complex chemistry of formations and the use of multiple water sources.

Analysis of the Wileyville Waterfood

Lead Organization: Penn State University
Key Contact: Robert Watson (814-865-0531 or bob@pnge.psu.edu)
Other Participants: East Resources
Level of Funding: $59,054

Executive Summary

Gordon sandstone is one of many reservoirs located throughout the Appalachian basin that were developed for production during the nineteenth century and early twentieth century. Recovery of the remaining oil contained in the Gordon requires the implementation of secondary recovery methods such as waterflooding. The field infrastructure necessary for a waterflood is significant and its ultimate design a question of economics. Evaluation of the design often requires months given the fact that response at the production wells demands significant water injection. If no response is realized, the operator must reevaluate the project and consider a redesign of the injection pattern. Such is the case at the Wileyville Field in Wetzel County, West Virginia, which was designed using a line drive injection pattern. To date, approximately 5,000-Mbarrels of water has been injected with no response in the production wells. The principal objective of this project is to develop a mathematical model that can be used to assist the operator in revising the injection strategy.

The model will be developed using existing well and historical field data. Using the model, the location of a well to be drilled and cored will be made. The oriented core will be analyzed to determine the direction of maximum permeability and permeability contrast. The results of these analyses will be then be used to revise the model. Strategies for improving the performance of the waterflood will then be developed using the model.

One objective of the stripper well consortium is to enhance the production of stripper oil wells. Many stripper wells are found in areas undergoing waterflooding. Improvements in design methodologies and operating strategies will result in improving the performance of these wells.

Applying and Developing New Approaches for Maximizing Recovery in the Barnett Shale Gas Play: From Understanding Capillary Forces to Improving EUR's

Lead Organization: Republic Energy, Inc.
Key Contact: Jason Lacewell (940-683-5795 or jlacewell@republicenergy.com)
Other Participants: Texas A&M University
Level of Funding: $73,000

Executive Summary

Development of new approaches and application of proven production engineering technology for improved shale gas recovery are the basis for this funding request. Republic Energy Inc. (REI) is an independent operator in the highly active Barnett Shale area in Ft. Worth Basin in north Texas, and is looking to applying stripper well technology in a pro-active manner. While the Barnett Shale is perceived to be one of the nation's hottest gas plays, the sizeable number of marginal and underperforming wells from an initial productivity and EUR standpoint makes this area ripe for support of improved production technology.

Water-fracturing completions have gained acceptance in this area in recent years (moving away from MHF's), improving fracturing economics and stimulating growth and activity throughout the play. However, the REI project team plans to improve upon (and hopefully redefine) a "successful" Barnett Shale completion by testing gas-water co-production application as an initial well completion / flowback method. The goals of the project are to drive investigation and development of the actual pore-level mechanisms that control well productivity and fractured reservoir cleanup – through a three-phase laboratory testing and operational plan. Large scale successes using co-production / dewatering have been applied in south Texas and Delaware Basin fields, and serve as models for application in the Barnett Shale. Significant benefit will be derived from university personnel expertise and facilities, where detailed analyses on capillary pressure / drawdown relationships, surfactants, mutual solvents will be integrated with field tests.

Once the pore-level production mechanisms are rigorously tested and understood, wide-scale benefit could be realized by applying this production technology– both from an initial productivity and gas EUR perspective - to maximize the Barnett Shale area resource.

Chamber Lift -A Technology For Producing Stripper Oil Wells

Lead Organization: Penn State University
Key Contact: Robert Watson (814-865-0531 or bob@pnge.psu.edu)
Other Participants: Bretagne GP
Level of Funding: $53,162

Executive Summary

Arguably, the largest expense associated with operation of most stripper oil wells and many stripper gas wells is the lifting costs associated with the removal of fluids from the wellbore. Of the 400,000 plus stripper oil wells, half of the production is from reservoirs undergoing secondary recovery. Most of the remaining wells produce a small amount of fluid relative to the initial production. The predominant artificial lift method used is rod pumping. In most cases, the pumping equipment has not changed since the first production and thus the lifting system is inefficient. Moreover, much of the equipment is outdated and the maintenance costs large and increasing. The problem faced by the operator is how to upgrade the production systems at a low enough capital cost that the typical well can show a reasonable economic return on investment.

The proposed chamber lift system addresses the problem of minimizing capital investment. Gas is injected into the oil column via a small diameter tubing string that is set in the production tubing. This gas then displaces the accumulated fluid to the surface via the annular space between the injection string and the production string. The process is controlled using a sensor and motor valve located at the surface.

The proposed project calls for a field demonstration of the process. Prior to the field demonstration, a laboratory prototype of the system will be fabricated and tested. Pressure and flow measurements obtained will be used as input data to a hydrodynamic computer model that will provide to the well operator insights with respect to the field test. The field demonstration will be used to test the viability of the process.

Design, Development and In Well Testing of a Gas Operated Automatic Lift Pump

Organization: Brandywine Energy and Development Company
Key Contact: Gerald Swoyer (610-388-3824 or yanigapm@aol.com)
Level of Funding: $60,000

Executive Summary

Much of the known natural gas reserves of the Unites States are not readily recoverable by conventional techniques. Natural gas usage in the United States is projected to double in the next two decades inviting improved methods of gas recovery. Tens of thousands of existing "stripper wells" lie dormant or under producing gas due to the build up of brines in the well bore. These "watered out stripper wells" could supply part of that projected increased demand if more efficient methods of brine removal or in well separation of brines from gas were available.

The primary objectives of this study will be to develop, deploy, monitor and evaluate an alternative technique for the enhancement of natural gas production from stripper wells. A unique gas pressure controlled functioning tool will be constructed. The tool will subsequently be tested in a "watered out' gas "stripper well". Performance of the tool will be compared against current standard industry techniques for production of gas from brine-laden wells.

The tool/ technology will be constructed as a "gas operated automatic lift" pump. This tool will use the natural down hole pressure at the production zone of the well to operate a pressure sensitive automatically operated total fluids pump that will lift the fluids [brine and other fluids] to the surface. The well bore subsequently, sans brine, will allow natural gas flow to be restored from the well. The tool post delivering the brine to the process unit will automatically open its' pressure sensitive valve at such time as the pressure in the well drops below the preset valve pressure. The tool with valve assembly held open by the pre-charged pressure subsequently will return to the production zone. There the tool will allow all fluids to pass through the tool until such time as a column of fluid builds atop the tool is greater than the preset pressure control of the internal valve. Once the valve is closed all subsequent pressure will again build behind the tool, once again lifting the tool and brine load to the surface with subsequent promotion of natural gas production. This automatic regular purging or lifting of the fluids to the surface when successful will be superior to the current variable and often ad hoc methods of brine removal that are dependant on work over rigs, installation of siphon tubing or pump jacks and manpower.

The tool/ technology will be tested in an existing water producing well. The technical performance/ differences and commercial viability will be evaluated and compared to currently employed conventional techniques such as "tubing and soaping" and other common production techniques for "watered out" wells.

The project being successful could significantly increase natural gas production from wells while decreasing the capital cost of currently deployed brine process hardware, operational cost of "well tending" and potentially decrease by products and environmental impacts of natural gas production.

This program will develop a novel tool for the production of natural gas from wells. Where successful this tool could improve the recovery and production from tens of thousands of low productivity natural gas "stripper wells". This program could provide a more comprehensive environmentally benign technology for the production of gas from wells to supply the nations increasing domestic demand for clean energy.

Developing Methods to Identify Unstimulated and/or Ineffectively Stimulate Reservoirs Resulting From Multi-Stage Hydraulic Fracture Treatments

Lead Organization: Schlumberger Holditch-Reservior Technologies, Inc.
Key Contact: Joseph Frantz (412-787-5403 or frantz@pittsburgh.oilfield.slb.com)
Other Participants: Equitable Production, Schlumberger Dowell
Level of Funding: $100,000

Executive Summary

This proposal is submitted by Schlumberger Holditch-Reservoir Technologies (H-RT), Dowell, and Equitable Production (Equitable) to perform an evaluation in the area of reservoir remediation, characterization, and operations. Several groups of Equitable's Appalachian Basin wells in West Virginia (WV) and Kentucky (KY) will be used in this study. The objective of this project is to identify unstimulated and/or ineffectively stimulated reservoirs in stripper wells treated with multi-stage hydraulic fracture treatments. Multi-stage involves pumping two to four hydraulic treatments in a well with many low-permeability formations perforated and open to each treatment. Multi-stage treatments are common in the Appalachian Basin and in many low-permeability wells across the U.S., because multiple sand, shale, and carbonate reservoirs often occur over a thick, stratigraphic interval. Based on our experience, it is unlikely that all perforated intervals are treated effectively when performing multi-stage stimulation treatments due to the large gross interval open in the wellbore.

Using existing data and by collecting new downhole diagnostic data, we will determine the extent of stimulation in the perforated intervals in three groups of study wells. The downhole diagnostic data includes spinner surveys, isolation, communication, and injection/falloff tests, hydraulic fracture data analysis, tracer log analysis, and production data analysis. The three study groups will be located in WV and KY to evaluate a representative sample of Equitable's wells. In one or more test wells, Equitable plans to stimulate the unstimulated and/or ineffectively stimulated intervals identified by this study. The wells treated with multiple nitrogen stimulations will be of special interest, since many operators in the Appalachians Basin have switched to this method as the fluid of choice over the past five years. We will also evaluate wells treated with nitrogen-foam and possible other fluids depending on the data available for study.

At the end of the project, an evaluation methodology will be developed for use by any Appalachian Basin operator to determine which formations were ineffectively stimulated with past treatments. We anticipate that this methodology will also be useful for other operators throughout the United States where multi-stage treatments are pumped. Finally, we plan to identify new field test procedures and/or tools that should be developed to better assess stimulation effectiveness in the future. These procedures and/or tools can be included in future solicitations by the Stripper Well Consortium (SWC).

Ultimately, we believe that this work could result in paradigm shift for operators. If they understand that certain formations were not simulated and/or not effectively stimulated, they will restimulate these formations in existing stripper wells. This project could result in substantial new production from stripper wells for Appalachian Basin operators. Given the high value of natural gas, even very low flow rates resulting from restimulations may be economic. Operators may also change their field stimulation procedures in new wells to treat all formations more effectively.

The potential benefit to the Appalachian Basin stripper well community may be significant. We believe that about 75% of the 66,000 stripper wells in Pennsylvania (PA), WV and KY were stimulated with multi-stage treatments. We estimate that 50% of these (about 25,000 stripper wells) may have restimulation potential, but only half of them (12,500 wells) may be in sound mechanical condition for restimulation. If the restimulation treatments result in a 10 to 20 Mscf/d production increase per well, the overall significance to the Appalachian Basin in large. We estimate a potential impact to the Appalachian Basin of 187 MMscf/d or 68 Bscf/year if all the mechanically-sound stripper wells in PA, WV and KY were restimulated. This represents a 20% increase in the current total stripper well gas production level in these 3 states. This could represent $273 million in new revenue.

Development of Diagnostic Techniques to Identify By-Passed Gas Reserves and Badly Damaged Productive Zones in Gas Stripper Wells in Rocky Mountain Laramide Basins

Lead Organization: Innovative Discovery Technologies
Key Contact: Ronald Surdam (307-745-4464 or rcsurdam@idt-gti.com)
Level of Funding: $29,770

Executive Summary

In Rocky Mountain Laramide Basins (RMLB), over 80% of gas production is from anomalously pressured rock volumes that extend from an upper regional pressure surface boundary (i.e., boundary between normal and anomalous pressure regimes) to 2000 ft below this boundary. Until recently and certainly during drilling of most gas stripper wells, the position of the pressure surface boundary in the RMLB was unknown. Experience led drillers to anticipate only overpressuring at depth, which led them to increase mud weights during penetration. However, in most of the RMLB, the rocks *immediately* below the regional pressure surface boundary are underpressured and form a transitional zone between the boundary and deeper, overpressuring rock volumes. The lack of understanding of the transition between pressure regimes led to considerable bypassed pay and damaged productive zones in ostensibly the most productive part of the RMLB, and this resulted in numerous gas stripper wells (or drilled and abandoned wells). The potential to recover significant gas reserves from these wells in the RMLB is huge.

The essential problem to be addressed in the proposed work is how to identify bypassed gas and badly damaged productive zones in RMLB gas stripper wells and covert the significant gas resource residing in these wells to reserves. These objectives will be accomplished by completing the following tasks:

1) Acquire/evaluate sufficient data to determine the extent to which bypassed gas and damaged productive zones occur in RMLB gas stripper wells in underpressured regimes.

2) Develop analytical techniques that allow operators to efficiently determine the potential for bypassed gas and damaged production in their gas stripper wells.

3) Enable RMLB operators to design effective remediation and recompletion strategies for gas stripper wells in the underpressured zone beneath the regional pressure surface boundary (i.e., the regional velocity inversion surface).

4) Transfer technology to RMLB operators at workshops in Denver, CO and Casper, WY.

The proposed work will result in a detailed description of the (1) thickness of the underpressured zone; (2) distribution of gas-charged sands and fractured shales; (3) production characteristics of representative gas stripper wells; and (4) distribution of the rock-fluid system that has been exposed to overcompensated mud weight (i.e., the potential damage zone). Integrating these data will allow development of new diagnostic techniques and analytical procedures to identify bypassed pay and badly damaged productive zones in RMLB gas stripper wells, and will allow operators to design vastly improved remediation and recompletion strategies for their gas stripper wells.

Environmental and Regulatory Issues Relating to the Utilization of Recycled Produced Water from Oil and Gas Operations: 1: A Study of Existing Policies of State and Federal Agencies, 2: Development of an Approved Program for Re-Use of Water

Lead Organization: Texas A&M University
Key Contact: David Burnett (979-845-2274 or burnett@gpri.org)
Level of Funding: $56,649

Executive Summary

The Texas Water Resources Institute (TWRI) at Texas A&M University funds an interdisciplinary faculty team to focus on the re-use of water resources in the oil and gas industry. That project is being led by the Department of Petroleum Engineering at A&M. It is proposed that the Stripper Well Consortium participate as we work with the regulatory agencies to change their policies regarding re-use of this valuable resource. For this project with the SWC, we will conduct our study in two regions, the Eastern U.S. region (New York, Pennsylvania, West Virginia) and the Southwestern region (Texas, New Mexico, and Oklahoma).

The objective of this project is to create a program to effect change in the regulations governing the reuse of treated oilfield brine for use as a resource to the public.

The methods to be used are:

1) To document the existing policies of the two oil and gas producing regions.
2) To work with the independent operators and appropriate agencies to develop guidelines for companies to follow for making this new source of fresh water available for productive use.
3) To develop new practices to meet the needs of the oil and gas operator while maintaining the safety of the community..
4) To establish a Directory of Regulatory Information for the use of members of the SWC. A&M will maintain and update the Directory for the benefit of the Consortium members who wish to plan projects involved recycled produced water.

The program will utilize the resources of Texas A&M University in the field environmental assessment, decision support modeling, environmental risk modeling, toxicology, environmental remediation, waste management and waste water handling with emphasis on agricultural and industrial related natural resource and environmental quality issues. Water treatment programs include a robust and technically advanced oversight and audit program, administered by specialists in the field of genetics and toxicology. The resources of these groups will be available to members of the Stripper Well Consortium.

Identification of Effective Fluid Removal Technologies for Stripper Wells

Lead Organization: James Engineering
Key Contact: Tim Knobloch (740-373-9521 or jeitsk@ee.net)
Level of Funding: $85,070

Executive Summary

James Engineering, Inc., a petroleum engineering consulting firm in Marietta, Ohio presents the following proposal to the Stripper Well Consortium to develop and deliver a procedure guide to identify cost-effective fluid removal technologies for stripper wells.

James Engineering, Inc. proposes leveraging its years of experience with stripper wells combined with prior work performed for the Department of Energy to develop a procedure guide to address the problem of abnormal production decline resulting from fluid accumulation in stripper wells.

The prior study performed for the Department of Energy yielded the surprising fact that the largest problem contributing to abnormal production decline in stripper gas wells was the result of fluid accumulation in the wellbore. This study proposes to develop methodologies including decision trees and procedure guides to economically identify the most effective fluid removal technology for specific stripper well characteristics. The application of systematic methodologies and techniques will increase the efficiency of problem assessment and implementation of fluid removal solutions for stripper wells. Effective fluid removal from stripper wells will benefit every producer by increasing production and ultimate recoveries since it is the most common production decline problem.

The results of this study will be presented at Petroleum Technology Transfer Council meetings and or in a Society of Petroleum Engineering paper to be presented at the Society of Petroleum Engineers Eastern Regional Meeting, and on the Internet.

New Technologies for Lifting Liquids from Natural Gas Wells

Lead Organization: Colorado School of Mines
Key Contact: Richard Christiansen (303-273-3965 or rchristi@mines.edu)
Level of Funding: $93,944

Executive Summary

Objective. Test and develop new technologies for lifting liquids from natural gas wells, focusing on methods to enhance production of droplets at low gas flow rates.

Motivation. When initially completed, many natural gas wells are capable of lifting liquids to the surface. But, with depletion of the reservoir pressure, there comes a time when liquids can no longer be lifted to the surface and they begin to accumulate in the bottom of the well, dramatically inhibiting or stopping gas production. The cause of diminished liquid-lifting ability is the decline of liquid droplet production at gas flow rates below the Turner-Hubbard-Dukler critical velocity.

Specific Directions. Listed below are three proposed tasks for developing technologies that enhance droplet production and facilitate lifting at low gas flow rates. Tasks 1 and 2 will be completed during the first year of this work. If SWC chooses to fund a second year or if a suitable industrial partner is found during the first year, Task 3 will be implemented.

Figure 1. *Enhancing droplet production*. To overcome the limitation of diminished capacity for droplet generation at the low gas velocities of stripper gas wells, devices that stimulate droplet production by sonic and ultrasonic means will be tested and developed in the flow loop. Suitable methods of application in well-bores will be developed.

Figure 2. *Integrated modeling of gas well production*. Test and develop a numerical model that combines the complexities of two-phase flow in the wells and the adjacent reservoir with the droplet-stimulation technologies. Use this model to develop plans for field testing.

Figure 3. *Field testing of new technologies*. Using the results of Tasks 1 and 2, proceed to field testing of the most promising technologies. Find a suitable business partner for these tests.

On-Site Treatment of Brine

Lead Organization: Hart Resource Technologies
Key Contact: Paul Hart (724-349-8600 or harthrt@microserv.net)
Other Participants: Penn State University
Level of Funding: $57,975

Executive Summary

Hart Resource Technologies Inc. (HRT), has a unique technology to provide a comprehensive wastewater treatment system to meet the wastewater disposal demands of the Appalachian oil and gas industry and is requesting to develop it. The process will prove to be efficient and cost effective, compared to existing methods, for the treatment of brine water, a wastewater by-product of oil and gas production. HRT plans to initiate research and development of the process in cooperation with Pennsylvania State University, pending federal funding. Completion of this study will enable HRT to focus on those areas that have the greatest cost savings to the industry and positive effect on the environment. Paul Hart, President of HRT, has 16 years of experience with treatment and disposal of wastewater from the oil and gas industry. HRT is the only approved disposal facility with experience in designing, constructing, and operating an evaporator for the treatment of gas well brines.

Through researching previous failed attempts to provide an on-site treatment of the brine water, HRT has discovered that pretreatment is necessary. HRT has perfected the pretreatment process at its existing plant in Creakside, PA. Research assistance is needed to develop a mobile process to evaporate all the treated brine water at the site where the brine is generated. All the equipment needed for treatment of the brine water will be included on one mobile vehicle. Also, only one employee will be needed to perform the required process, which in turn will keep costs low. The focus of the research will be on the development of a mobile evaporator designed to reduce the volume of the treated brine water at the well site.

The market for brine water disposal encompasses all oil and gas producing regions in the Appalachian Basin which includes New York, Pennsylvania, West Virginia, Eastern Ohio, Kentucky and Tennessee. This is a vast area for existing companies to cover by means of permanent centralized facilities for treating water because of high transportation costs. Injection wells for disposal have not been successful in New York, Pennsylvania, West Virginia, and other areas. The development of this new portable brine treatment process will lower costs to producers with marginal wells to allow them to be more competitive. The costs of on-site treatment will be considerably lower than centralized treatment due to lower capital costs, fewer man-hours, and lower transportation costs. Less time is needed for on-site treatment, so up to four different sites can be completed in a given shift of an employee depending on the location, volume, and quality of brine. HRT recognizes that this process technology will change the disposal market dramatically by providing the industry more convenience at a lower cost.

Optimization of Plunger Lift Performance in Stripper Gas Wells

Lead Organization: Colorado School of Mines
Key Contact: Erdal Ozkan (303-273-3188 or eozkan@mines.edu)
Other Participants: Marjo Operating Company
Level of Funding: $95,261

Executive Summary

Low volume, stripper gas wells are usually produced by plunger lift. These wells are put on a timer clock that regulates the production and shut in periods. Some techniques are available to determine the production and shut in periods but they do not use the reservoir performance as their bases. The objective of the proposed work is to develop an algorithm that can optimize the production and shut in periods based on the knowledge about the reservoir parameters.

The technical approach will be the development of a solution for the flush production problem. This is a solution of the diffusion equation for a mixed inner boundary condition that reflects the sequences of constant pressure production and constant rate shut in periods. This solution is then used to develop an optimization algorithm for the performance of the well. The reservoir parameters required by this approach will be obtained by matching the prior production performance of the well and will be regularly updated. The algorithm will, then, be put in an electronic box that will monitor the casing pressure continuously, and based on the pressure information, send a signal to either shut in or produce the well.

The proposed approach is practical and cost effective. The validation of the proposed method will be checked on stripper gas wells in Oklahoma that will be provided by Marjo Operating Co., Inc. The technology will be transferred to the interested parties, through progress reports, publications, and informal contacts.

APPENDIX C: Funnel Web Report

Server Load Statistics:
8 log files

Time Period

Duration	4167:33:17 mins (174 Days)
Date Range from	Jan 08 2001 07:21:57
To	Jun 30 2001 22:55:14

Requests

Total Requests	13,206
Total Cached Requests	2,152
Total Failed Requests	260
Invalid Log Entries	626
Average Daily Requests	76
Average Requests/Hour	3

Sessions Info

Total Sessions	1,809
Total Unique Visitors	770
Total Repeat Visitors	265
Total One Time Visitors	505
Average Daily Sessions	10
Average Session Length	02:29
Average Pages/Session	1.83
Average Requests/Session	7.30

Pages Info

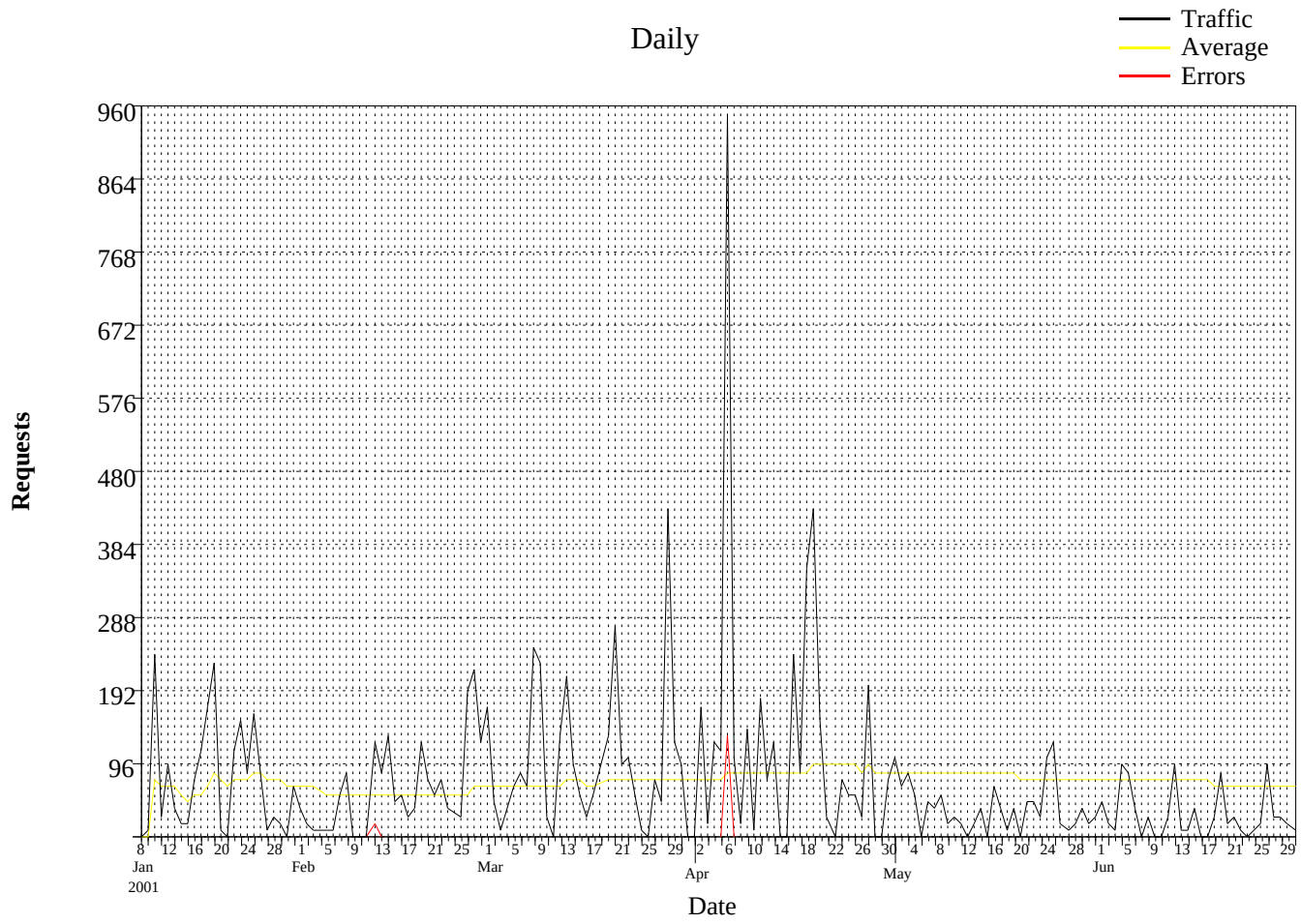
Total Pages	3,315
Average Pages/Day	19
Total Downloaded Files	3,620
Total Download	93.08

Bandwidth Out

Total Megabytes	213.55
Average Daily Megabytes	1.23
Average bits/sec	119.40
Percent of 64 kbps	0.19%

Bandwidth In

Total Kilobytes	0.00
Average Daily Kilobytes	0.00
Average bits/sec	0.00
Percent of 64 kbps	0.00%



Daily

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3	Wed Jan 10 2001	243	1.84%	4.7MB	2.20%	32	27	92	2
4	Thu Jan 11 2001	30	<1%	201.4kB	<1%	5	5	11	0
5	Fri Jan 12 2001	97	<1%	1.4MB	<1%	24	21	31	0
6	Sat Jan 13 2001	40	<1%	633.9kB	<1%	13	13	17	0
7	Sun Jan 14 2001	21	<1%	374.8kB	<1%	2	2	7	1
8	Mon Jan 15 2001	25	<1%	243.7kB	<1%	3	3	7	0
9	Tue Jan 16 2001	85	<1%	1.3MB	<1%	8	4	28	1
10	Wed Jan 17 2001	124	<1%	1.7MB	<1%	8	8	39	1
11	Thu Jan 18 2001	174	1.32%	2.3MB	1.06%	28	24	60	1
12	Fri Jan 19 2001	236	1.79%	2.5MB	1.19%	24	23	63	0
13	Sat Jan 20 2001	12	<1%	0	0%	2	1	2	0
14	Sun Jan 21 2001	6	<1%	0	0%	1	1	1	0
15	Mon Jan 22 2001	116	<1%	1.9MB	<1%	17	10	38	1
16	Tue Jan 23 2001	162	1.23%	2.0MB	<1%	13	9	48	0
17	Wed Jan 24 2001	88	<1%	1.3MB	<1%	17	16	25	0
18	Thu Jan 25 2001	169	1.28%	2.0MB	<1%	11	10	41	0
19	Fri Jan 26 2001	90	<1%	1.0MB	<1%	8	7	26	0
20	Sat Jan 27 2001	12	<1%	0	0%	2	1	2	0
21	Sun Jan 28 2001	33	<1%	473.4kB	<1%	5	4	8	1
22	Mon Jan 29 2001	23	<1%	311.1kB	<1%	3	3	6	0

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Daily

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26	Fri Feb 02 2001	22	<1%	365.5kB	<1%	3	3	6	0
27	Sat Feb 03 2001	15	<1%	277.1kB	<1%	4	2	7	0
28	Mon Feb 05 2001	16	<1%	159.4kB	<1%	2	2	5	0
29	Tue Feb 06 2001	12	<1%	244.4kB	<1%	2	2	4	0
30	Wed Feb 07 2001	67	<1%	791.3kB	<1%	8	5	22	0
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33	Sat Feb 10 2001	6	<1%	0	0%	1	1	1	0
34	Sun Feb 11 2001	1	<1%	0	0%	1	1	0	0
35	Mon Feb 12 2001	125	<1%	1003.9kB	<1%	12	8	33	23
36	Tue Feb 13 2001	91	<1%	1.3MB	<1%	10	6	28	0
37	Wed Feb 14 2001	140	1.06%	1.1MB	<1%	10	6	26	1
38	Thu Feb 15 2001	57	<1%	847.1kB	<1%	13	12	17	0
39	Fri Feb 16 2001	58	<1%	1.0MB	<1%	5	5	13	0
40	Sat Feb 17 2001	31	<1%	528.2kB	<1%	3	3	10	0
41	Sun Feb 18 2001	42	<1%	562.9kB	<1%	5	4	6	0
42	Mon Feb 19 2001	125	<1%	761.4kB	<1%	10	9	27	0
43	Tue Feb 20 2001	78	<1%	904.9kB	<1%	14	12	22	0
44	Wed Feb 21 2001	64	<1%	880.2kB	<1%	24	22	21	0
45	Thu Feb 22 2001	78	<1%	1.4MB	<1%	9	6	19	0
46	Fri Feb 23 2001	47	<1%	612.5kB	<1%	19	14	12	0
47	Sun Feb 25 2001	37	<1%	268.0kB	<1%	2	2	7	0
48	Mon Feb 26 2001	193	1.46%	2.8MB	1.30%	21	19	49	1
49	Tue Feb 27 2001	229	1.73%	6.4MB	3.00%	33	31	55	2
50	Wed Feb 28 2001	133	1.01%	4.0MB	1.87%	16	13	34	0
51	Thu Mar 01 2001	178	1.35%	5.0MB	2.34%	18	11	52	1
52	Fri Mar 02 2001	55	<1%	1.6MB	<1%	5	5	16	0
53	Sat Mar 03 2001	13	<1%	103.8kB	<1%	6	5	4	0
54	Mon Mar 05 2001	69	<1%	921.7kB	<1%	11	7	22	0
55	Tue Mar 06 2001	93	<1%	2.2MB	1.03%	12	10	20	0
56	Wed Mar 07 2001	70	<1%	722.2kB	<1%	4	4	15	0
57	Thu Mar 08 2001	258	1.95%	3.7MB	1.73%	18	12	49	0
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69	Wed Mar 21 2001	101	<1%	1.2MB	<1%	7	6	29	1
70	Thu Mar 22 2001	106	<1%	2.0MB	<1%	10	9	17	0
71	Fri Mar 23 2001	63	<1%	1.6MB	<1%	13	12	15	0
72	Sat Mar 24 2001	12	<1%	237.3kB	<1%	3	3	4	0
73	Sun Mar 25 2001	5	<1%	66.5kB	<1%	1	1	0	0
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Daily

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95	Mon Apr 16 2001	240	1.82%	2.6MB	1.23%	14	9	66	0
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124	Tue May 15 2001	5	<1%	85.7kB	<1%	1	1	1	0
125	Wed May 16 2001	71	<1%	966.8kB	<1%	5	5	19	1
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Daily

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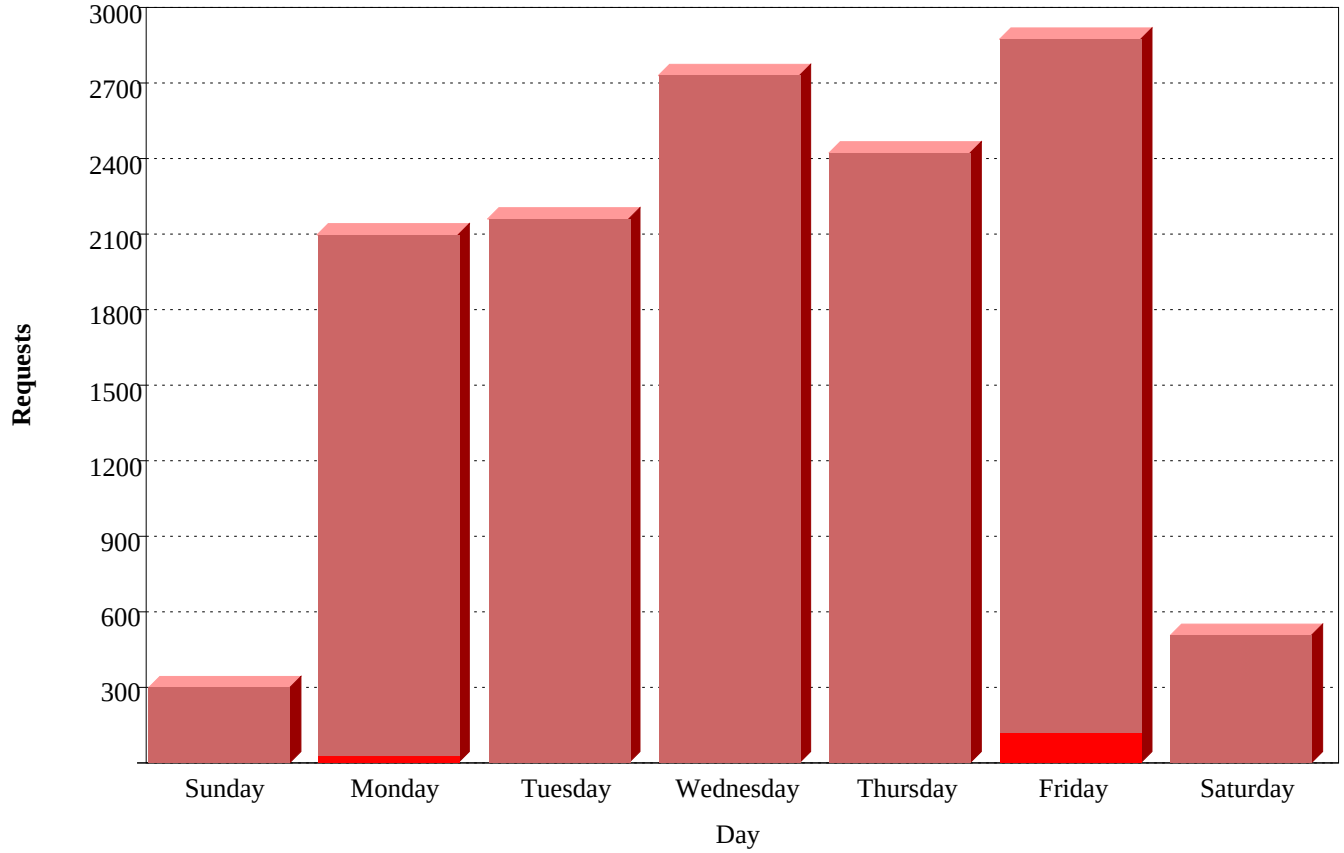
163	Sat Jun 23 2001	8	<1%	373.4kB	<1%	7	3	6	0
164	Sun Jun 24 2001	12	<1%	225.2kB	<1%	3	3	4	0
165	Mon Jun 25 2001	23	<1%	636.1kB	<1%	10	10	4	0
166	Tue Jun 26 2001	101	<1%	1.7MB	<1%	19	11	29	0
167	Wed Jun 27 2001	33	<1%	338.0kB	<1%	17	14	19	1
168	Thu Jun 28 2001	34	<1%	1.4MB	<1%	15	13	9	0
169	Fri Jun 29 2001	25	<1%	736.8kB	<1%	19	16	2	0
170	Sat Jun 30 2001	14	<1%	913.6kB	<1%	3	3	2	0
	Average	77	<1%	1.3MB	<1%	10	8	19	1
170	**Totals**	13,206	100%	213.5MB	100.00%	1,809	1,481	3,315	260

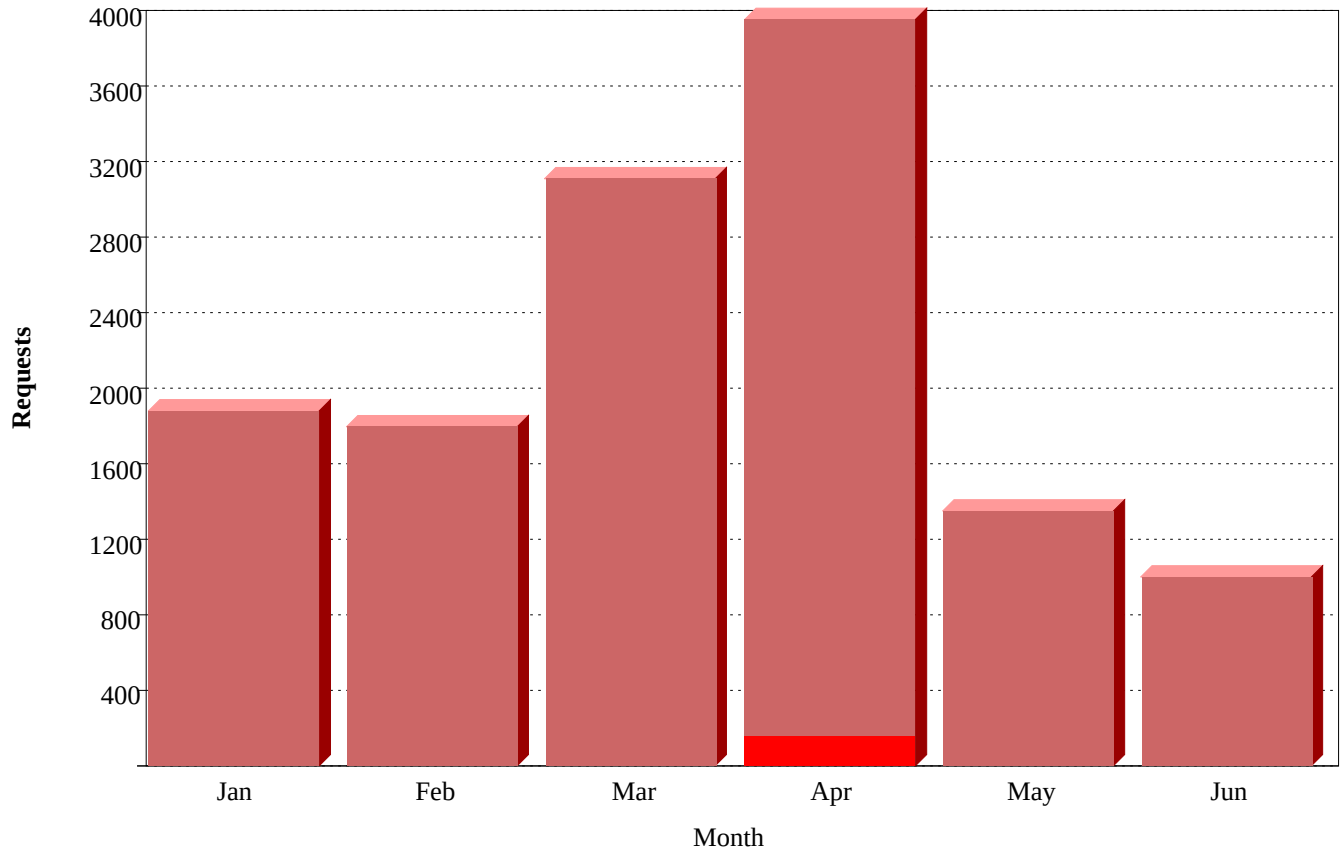
Weekly



Weekly

	Day	Requests	%	Bytes	%	Sessions	Visitors	Pages	Errors
1	Sunday	316	2.39%	4.2MB	1.96%	76	63	83	2
2	Monday	2,115	16.02%	28.1MB	13.18%	259	204	548	41
3	Tuesday	2,175	16.47%	35.5MB	16.62%	273	234	566	14
4	Wednesday	2,731	20.68%	42.3MB	19.82%	387	318	691	27
5	Thursday	2,453	18.57%	41.0MB	19.20%	334	265	626	17
6	Friday	2,886	21.85%	53.9MB	25.25%	369	309	651	149
7	Saturday	530	4.01%	8.5MB	3.98%	111	88	150	10
	Average	1,886	14.29%	30.5MB	14.29%	258	211	473	37
7	**Totals**	13,206	100%	213.5MB	100.00%	1,809	1,481	3,315	260

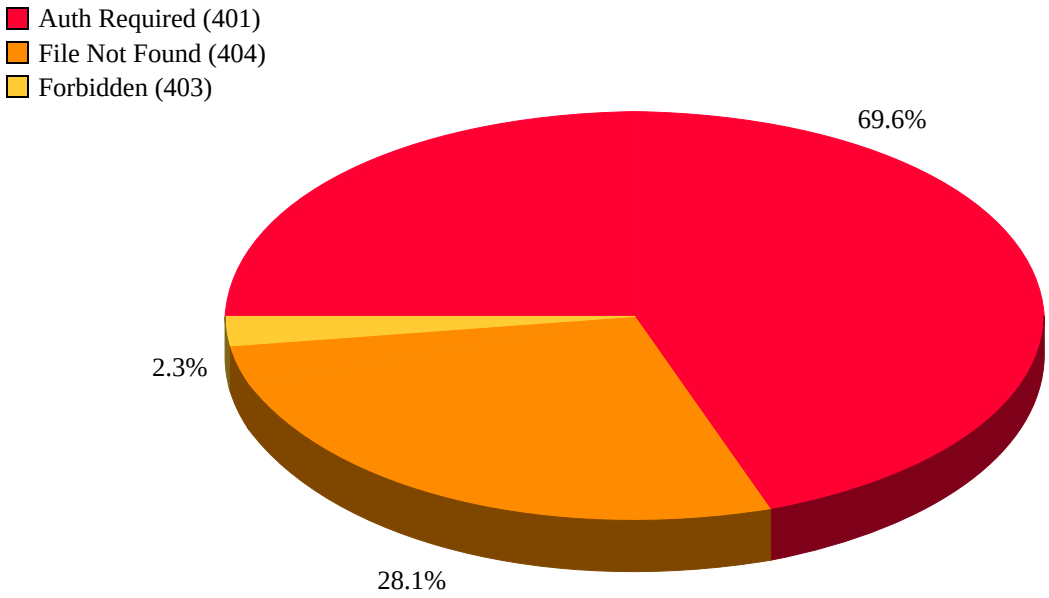
Monthly



Monthly

	Month	Requests	%	Bytes	%	Sessions	Visitors	Pages	Errors
1	Jan	1,886	14.28%	25.9MB	12.14%	247	210	589	10
2	Feb	1,809	13.70%	28.0MB	13.09%	264	211	490	28
3	Mar	3,129	23.69%	52.0MB	24.34%	359	290	711	15
4	Apr	3,994	30.24%	64.9MB	30.39%	418	336	852	176
5	May	1,362	10.31%	23.2MB	10.84%	283	230	406	23
6	Jun	1,026	7.77%	19.6MB	9.20%	238	204	267	8
	Average	2,201	16.67%	35.6MB	16.67%	301	246	552	43
6	**Totals**	13,206	100%	213.5MB	100.00%	1,809	1,481	3,315	260

Server Errors

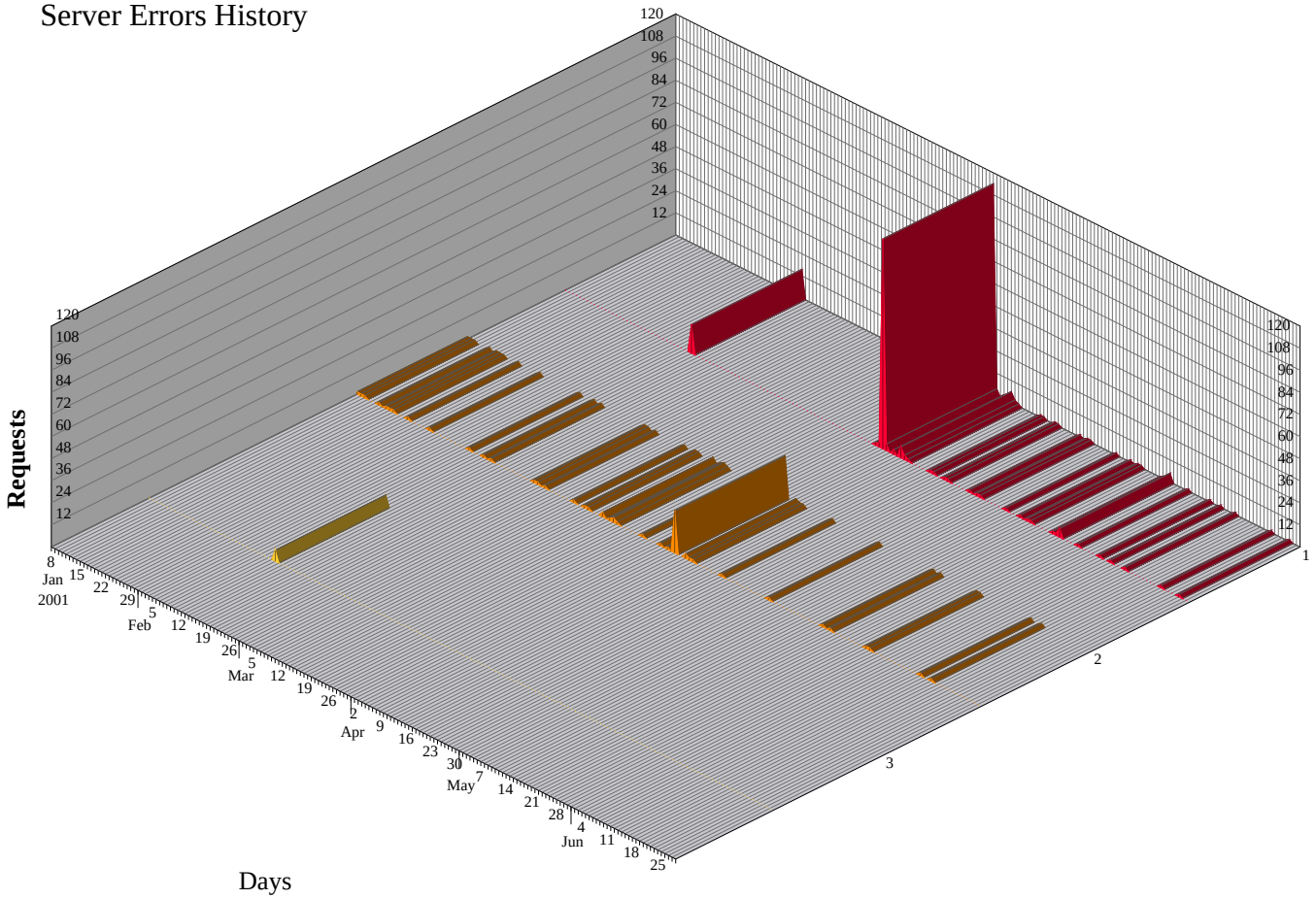


Requests

Server Errors

	Server Error	Requests	%	Bytes	%
1	Auth Required (401)	181	69.62%	70.8kB	78.39%
2	File Not Found (404)	73	28.08%	17.9kB	19.85%
3	Forbidden (403)	6	2.31%	1.6kB	1.75%
	Average	86	33.33%	30.1kB	33.33%
3	**Totals**	260	100%	90.3kB	100.00%

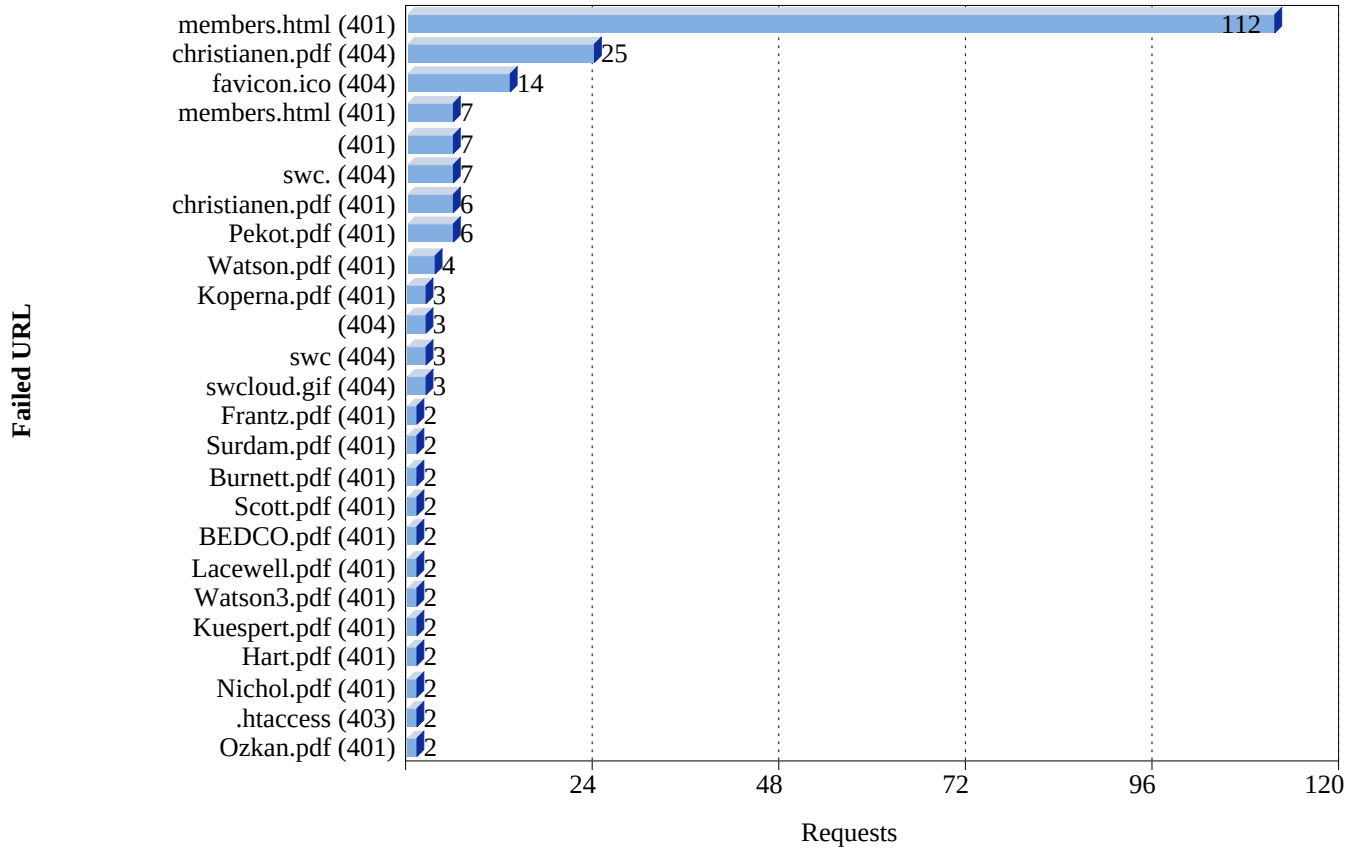
Server Errors History



Server Errors History

	Server Error	Requests	%	Bytes	%
1	Auth Required (401)	181	69.62%	70.8kB	78.39%
2	File Not Found (404)	73	28.08%	17.9kB	19.85%
3	Forbidden (403)	6	2.31%	1.6kB	1.75%
	Average	86	33.33%	30.1kB	33.33%
3	**Totals**	260	100%	90.3kB	100.00%

Failed URLs



Failed URLs

	Failed URL	Requests	%	Bytes	%
1	/swc/memonly/members.html (401)	112	43.08%	43.9kB	48.59%
2	/swc/memonly/proposals/christianen.pdf (404)	25	9.62%	0	0%
3	/swc/favicon.ico (404)	14	5.38%	0	0%
4	/enginst/swc/memonly/members.html (401)	7	2.69%	2.8kB	3.10%
5	/enginst/swc/memonly/ (401)	7	2.69%	2.8kB	3.06%
6	/swc. (404)	7	2.69%	0	0%
7	/swc/memonly/proposals/christianen.pdf (401)	6	2.31%	2.3kB	2.58%
8	/swc/memonly/proposals/Pekot.pdf (401)	6	2.31%	2.3kB	2.58%
9	/swc/memonly/proposals/Watson.pdf (401)	4	1.54%	1.6kB	1.72%
10	/swc/memonly/proposals/Koperna.pdf (401)	3	1.15%	1.2kB	1.29%
11	/SWC/ (404)	3	1.15%	0	0%
12	/swc (404)	3	1.15%	3.0kB	3.27%
13	/wx/usstats/swcloud.gif (404)	3	1.15%	9.0kB	9.96%
14	/swc/memonly/proposals/Frantz.pdf (401)	2	<1%	794	<1%
15	/swc/memonly/proposals/Surdam.pdf (401)	2	<1%	794	<1%
16	/swc/memonly/proposals/Burnett.pdf (401)	2	<1%	794	<1%
17	/swc/memonly/proposals/Scott.pdf (401)	2	<1%	794	<1%
18	/swc/memonly/proposals/BEDCO.pdf (401)	2	<1%	794	<1%
19	/swc/memonly/proposals/Lacewell.pdf (401)	2	<1%	794	<1%
20	/swc/memonly/proposals/Watson3.pdf (401)	2	<1%	794	<1%
21	/swc/memonly/proposals/Kuespert.pdf (401)	2	<1%	794	<1%
22	/swc/memonly/proposals/Hart.pdf (401)	2	<1%	794	<1%

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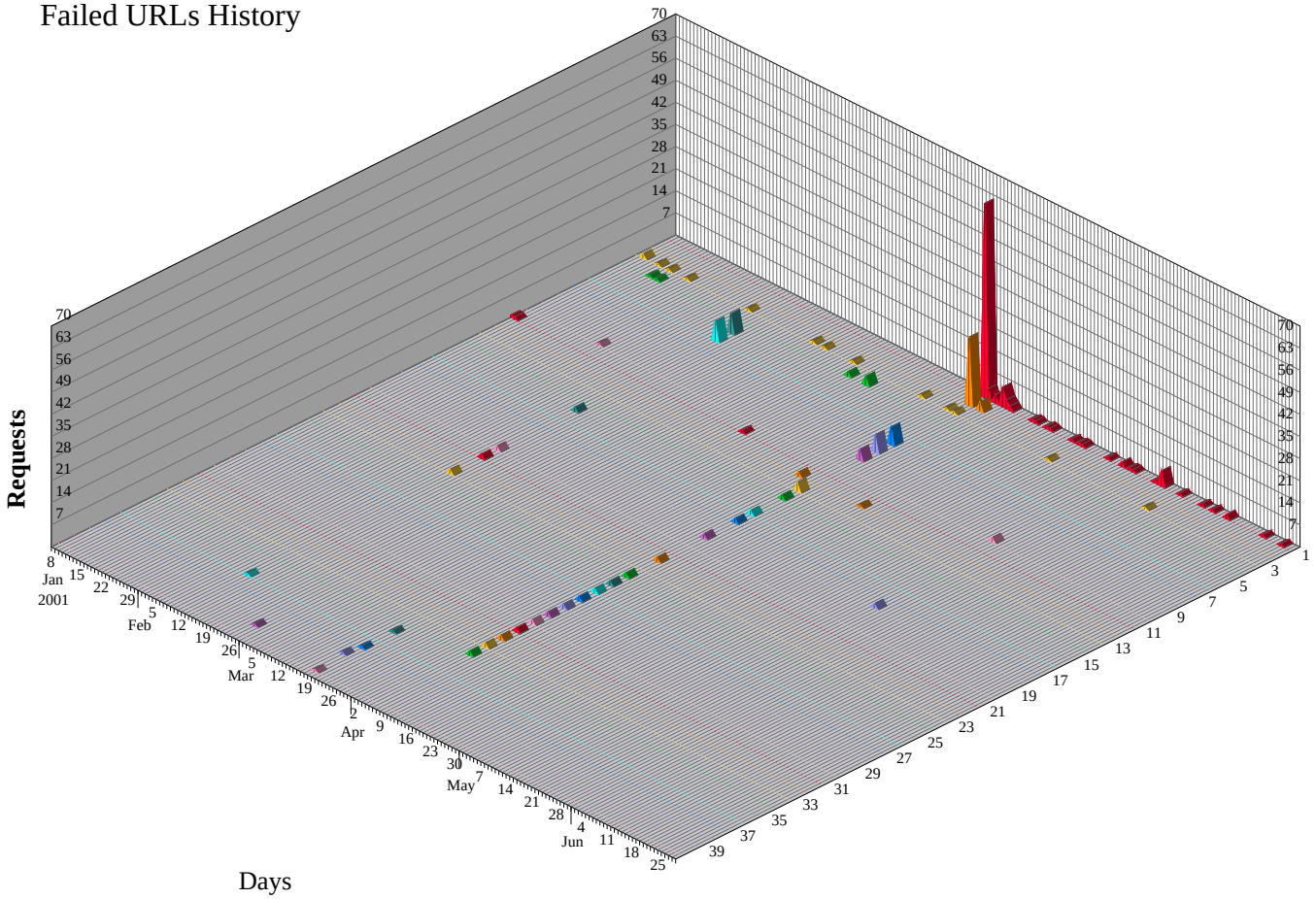
Failed URLs

	Failed URL	Requests	%	Bytes	%
23	/swc/memonly/proposals/Nichol.pdf (401)	2	<1%	794	<1%
24	/enginst/swc/memonly/.htaccess (403)	2	<1%	540	<1%
25	/swc/memonly/proposals/Ozkan.pdf (401)	2	<1%	794	<1%
26	/swc/memonly/proposals/Knobloch.pdf (401)	2	<1%	794	<1%
27	/swc/memonly/proposals/Reeves.pdf (401)	2	<1%	794	<1%
28	/swc/memonly/proposals/Watson2.pdf (401)	2	<1%	794	<1%
29	/enginst/swc/memonly (401)	2	<1%	818	<1%
30	/enginst/swc/memonly/.htpasswrd (403)	2	<1%	540	<1%
31	/enginst/swc/memonly/.htgroup (403)	2	<1%	540	<1%
32	/swc/memonly/proposals/McVay.pdf (401)	2	<1%	794	<1%
33	/swc/memonly/proposals/Schumacher.pdf (401)	2	<1%	794	<1%
34	/swc/proposals/Texas%2520A%26M.pdf (404)	2	<1%	0	0%
35	/swc/proposals/favicon.ico (404)	1	<1%	0	0%
36	/swc.%20 (404)	1	<1%	0	0%
37	/SWC.COM (404)	1	<1%	0	0%
38	/SWC (404)	1	<1%	0	0%
39	/swc/memonly/proposals/Akulis.pdf (401)	1	<1%	397	<1%
40	/swc/memonly/proposals/Burgess.pdf (401)	1	<1%	397	<1%
	Subtotals	248	95.38%	84.3kB	93.38%
12	**Others**	12	4.62%	6.0kB	6.62%
	Average	5	1.92%	1.7kB	1.92%
52	**Totals**	260	100%	90.3kB	100.00%

Failed URLs History



Failed URLs History

	Failed URL	Requests	%	Bytes	%
1	/swc/memonly/members.html (401)	112	43.08%	43.9kB	48.59%
2	/swc/memonly/proposals/christianen.pdf (404)	25	9.62%	0	0%
3	/swc/favicon.ico (404)	14	5.38%	0	0%
4	/swc. (404)	7	2.69%	0	0%
5	/enginst/swc/memonly/members.html (401)	7	2.69%	2.8kB	3.10%
6	/enginst/swc/memonly/ (401)	7	2.69%	2.8kB	3.06%
7	/swc/memonly/proposals/christianen.pdf (401)	6	2.31%	2.3kB	2.58%
8	/swc/memonly/proposals/Pekot.pdf (401)	6	2.31%	2.3kB	2.58%
9	/swc/memonly/proposals/Watson.pdf (401)	4	1.54%	1.6kB	1.72%
10	/wx/usstats/swcloud.gif (404)	3	1.15%	9.0kB	9.96%
11	/swc (404)	3	1.15%	3.0kB	3.27%
12	/SWC/ (404)	3	1.15%	0	0%
13	/swc/memonly/proposals/Koperna.pdf (401)	3	1.15%	1.2kB	1.29%
14	/swc/memonly/proposals/Watson2.pdf (401)	2	<1%	794	<1%
15	/enginst/swc/memonly (401)	2	<1%	818	<1%
16	/swc/memonly/proposals/Ozkan.pdf (401)	2	<1%	794	<1%
17	/swc/memonly/proposals/Knobloch.pdf (401)	2	<1%	794	<1%
18	/swc/proposals/Texas%2520A%26M.pdf (404)	2	<1%	0	0%
19	/swc/memonly/proposals/Schumacher.pdf (401)	2	<1%	794	<1%
20	/enginst/swc/memonly/.htpasswrd (403)	2	<1%	540	<1%
21	/enginst/swc/memonly/.htaccess (403)	2	<1%	540	<1%
22	/swc/memonly/proposals/McVay.pdf (401)	2	<1%	794	<1%

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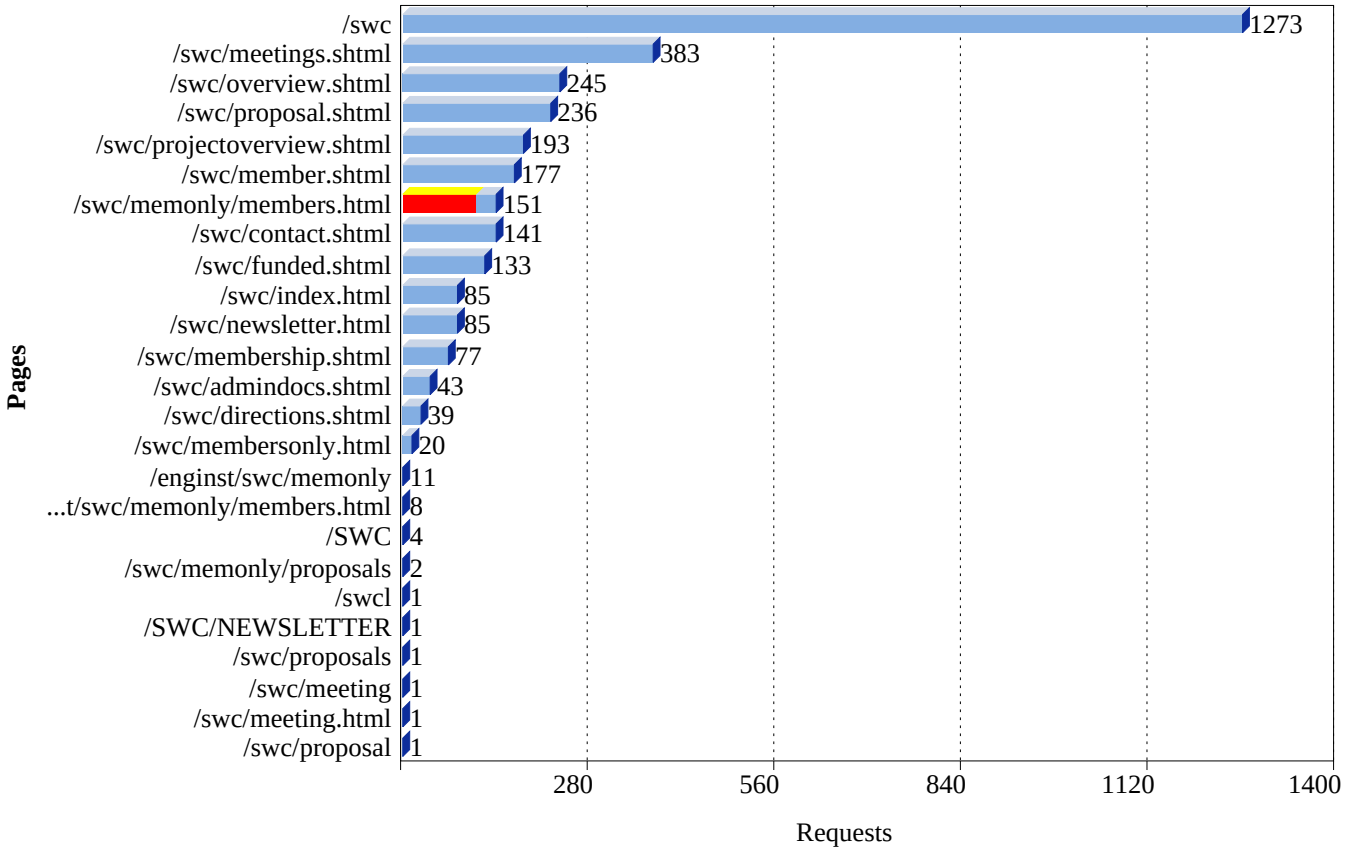
Failed URLs History

	Failed URL	Requests	%	Bytes	%
23	/enginst/swc/memonly/.htgroup (403)	2	<1%	540	<1%
24	/swc/memonly/proposals/Reeves.pdf (401)	2	<1%	794	<1%
25	/swc/memonly/proposals/Scott.pdf (401)	2	<1%	794	<1%
26	/swc/memonly/proposals/BEDCO.pdf (401)	2	<1%	794	<1%
27	/swc/memonly/proposals/Burnett.pdf (401)	2	<1%	794	<1%
28	/swc/memonly/proposals/Frantz.pdf (401)	2	<1%	794	<1%
29	/swc/memonly/proposals/Surdam.pdf (401)	2	<1%	794	<1%
30	/swc/memonly/proposals/Hart.pdf (401)	2	<1%	794	<1%
31	/swc/memonly/proposals/Nichol.pdf (401)	2	<1%	794	<1%
32	/swc/memonly/proposals/Kuespert.pdf (401)	2	<1%	794	<1%
33	/swc/memonly/proposals/Lacewell.pdf (401)	2	<1%	794	<1%
34	/swc/memonly/proposals/Watson3.pdf (401)	2	<1%	794	<1%
35	/swc/meeting.shtml (404)	1	<1%	0	0%
36	/enginst/swc/memonly/centers2.gif (404)	1	<1%	3.0kB	3.32%
37	/swc/meeting.html (404)	1	<1%	0	0%
38	/swc/meetings.shtml. (404)	1	<1%	0	0%
39	/SWC/NEWSLETTER (404)	1	<1%	0	0%
40	/swc/meeting (404)	1	<1%	0	0%
	Subtotals	248	95.38%	86.5kB	95.84%
12	**Others**	12	4.62%	3.8kB	4.16%
	Average	5	1.92%	1.7kB	1.92%
52	**Totals**	260	100%	90.3kB	100.00%

Pages



Pages

	Pages	Requests	%	Bytes	%	Sessions	Mean Time	Visitors	Errors
1	/swc	1,273	38.40%	7.2MB	24.46%	800	00:43	383	3
2	/swc/meetings.shtml	383	11.55%	4.5MB	15.09%	336	00:43	174	0
3	/swc/overview.shtml	245	7.39%	3.1MB	10.39%	218	01:14	152	0
4	/swc/proposal.shtml	236	7.12%	2.8MB	9.36%	207	00:44	135	0
5	/swc/projectoverview.shtml	193	5.82%	2.5MB	8.43%	180	00:46	121	0
6	/swc/member.shtml	177	5.34%	2.6MB	8.68%	164	00:58	117	0
7	/swc/memonly/members.html	151	4.56%	510.5kB	1.68%	91	01:22	51	112
8	/swc/contact.shtml	141	4.25%	1.4MB	4.76%	135	00:45	95	0
9	/swc/funded.shtml	133	4.01%	1.3MB	4.41%	123	00:24	88	0
10	/swc/index.html	85	2.56%	903.3kB	2.98%	77	00:27	49	0
11	/swc/newsletter.html	85	2.56%	783.8kB	2.59%	82	00:58	51	0
12	/swc/membership.shtml	77	2.32%	958.6kB	3.16%	71	00:44	57	0
13	/swc/admindocs.shtml	43	1.30%	482.7kB	1.59%	40	00:25	29	0
14	/swc/directions.shtml	39	1.18%	545.9kB	1.80%	32	01:21	23	0
15	/swc/membersonly.html	20	<1%	166.4kB	<1%	20	00:20	12	0
16	/enginst/swc/memonly	11	<1%	5.0kB	<1%	5	02:50	3	9
17	/enginst/swc/memonly/members.html	8	<1%	4.9kB	<1%	3	12:07	2	7
18	/SWC	4	<1%	0	0%	3	01:20	3	4
19	/swc/memonly/proposals	2	<1%	6.3kB	<1%	2	00:05	1	0
20	/swcl	1	<1%	0	0%	1	00:07	1	1
21	/SWC/NEWSLETTER	1	<1%	0	0%	1	00:30	1	1
22	/swc/proposals	1	<1%	2.1kB	<1%	1	00:07	1	0

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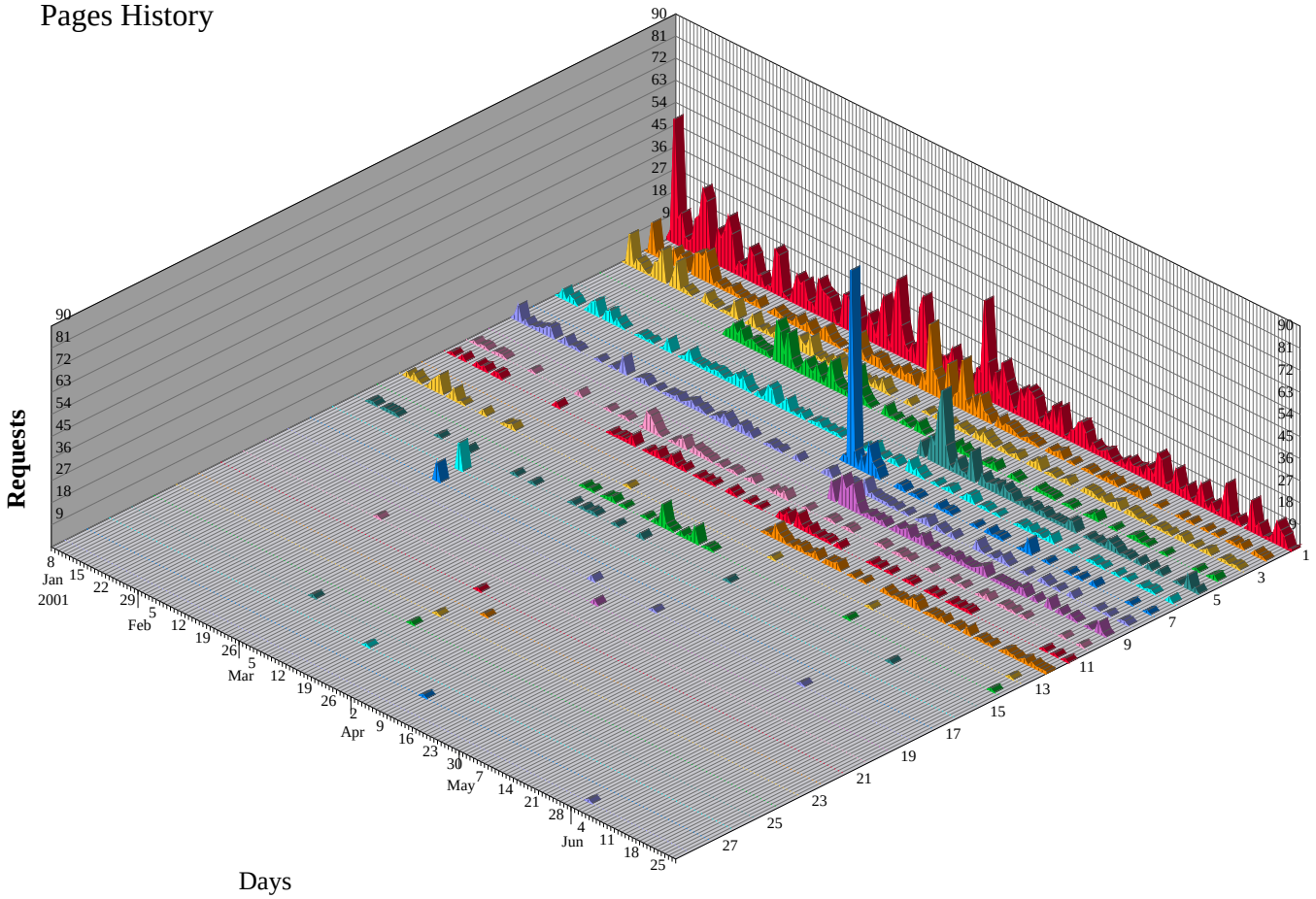
Pages

	Pages	Requests	%	Bytes	%	Sessions	Mean Time	Visitors	Errors
23	/swc/meeting	1	<1%	0	0%	1	01:12	1	1
24	/swc/meeting.html	1	<1%	0	0%	1	00:45	1	1
25	/swc/proposal	1	<1%	0	0%	1	00:24	1	1
26	/swc/meeting.shtml	1	<1%	0	0%	1	00:49	1	1
27	/swc/member.html	1	<1%	0	0%	1	00:30	1	1
28	/swc.html	1	<1%	0	0%	1	00:30	1	1
	Average	118	3.57%	1.1MB	3.57%	92	00:48	55	5
28	**Totals**	3,315	100%	29.6MB	100%	2,598	35:17:55	1,555	143

Pages History



Pages History

	Pages	Requests	%	Bytes	%	Sessions	Mean Time	Visitors	Errors
1	/swc	1,273	38.40%	7.2MB	24.46%	800	00:43	383	3
2	/swc/meetings.shtml	383	11.55%	4.5MB	15.09%	336	00:43	174	0
3	/swc/overview.shtml	245	7.39%	3.1MB	10.39%	218	01:14	152	0
4	/swc/proposal.shtml	236	7.12%	2.8MB	9.36%	207	00:44	135	0
5	/swc/projectoverview.shtml	193	5.82%	2.5MB	8.43%	180	00:46	121	0
6	/swc/member.shtml	177	5.34%	2.6MB	8.68%	164	00:58	117	0
7	/swc/memonly/members.html	151	4.56%	510.5kB	1.68%	91	01:22	51	112
8	/swc/contact.shtml	141	4.25%	1.4MB	4.76%	135	00:45	95	0
9	/swc/funded.shtml	133	4.01%	1.3MB	4.41%	123	00:24	88	0
10	/swc/newsletter.html	85	2.56%	783.8kB	2.59%	82	00:58	51	0
11	/swc/index.html	85	2.56%	903.3kB	2.98%	77	00:27	49	0
12	/swc/membership.shtml	77	2.32%	958.6kB	3.16%	71	00:44	57	0
13	/swc/admindocs.shtml	43	1.30%	482.7kB	1.59%	40	00:25	29	0
14	/swc/directions.shtml	39	1.18%	545.9kB	1.80%	32	01:21	23	0
15	/swc/membersonly.html	20	<1%	166.4kB	<1%	20	00:20	12	0
16	/enginst/swc/memonly	11	<1%	5.0kB	<1%	5	02:50	3	9
17	/enginst/swc/memonly/members.html	8	<1%	4.9kB	<1%	3	12:07	2	7
18	/SWC	4	<1%	0	0%	3	01:20	3	4
19	/swc/memonly/proposals	2	<1%	6.3kB	<1%	2	00:05	1	0
20	/swc/proposal	1	<1%	0	0%	1	00:24	1	1
21	/swc/meeting.shtml	1	<1%	0	0%	1	00:49	1	1
22	/swc/member.html	1	<1%	0	0%	1	00:30	1	1

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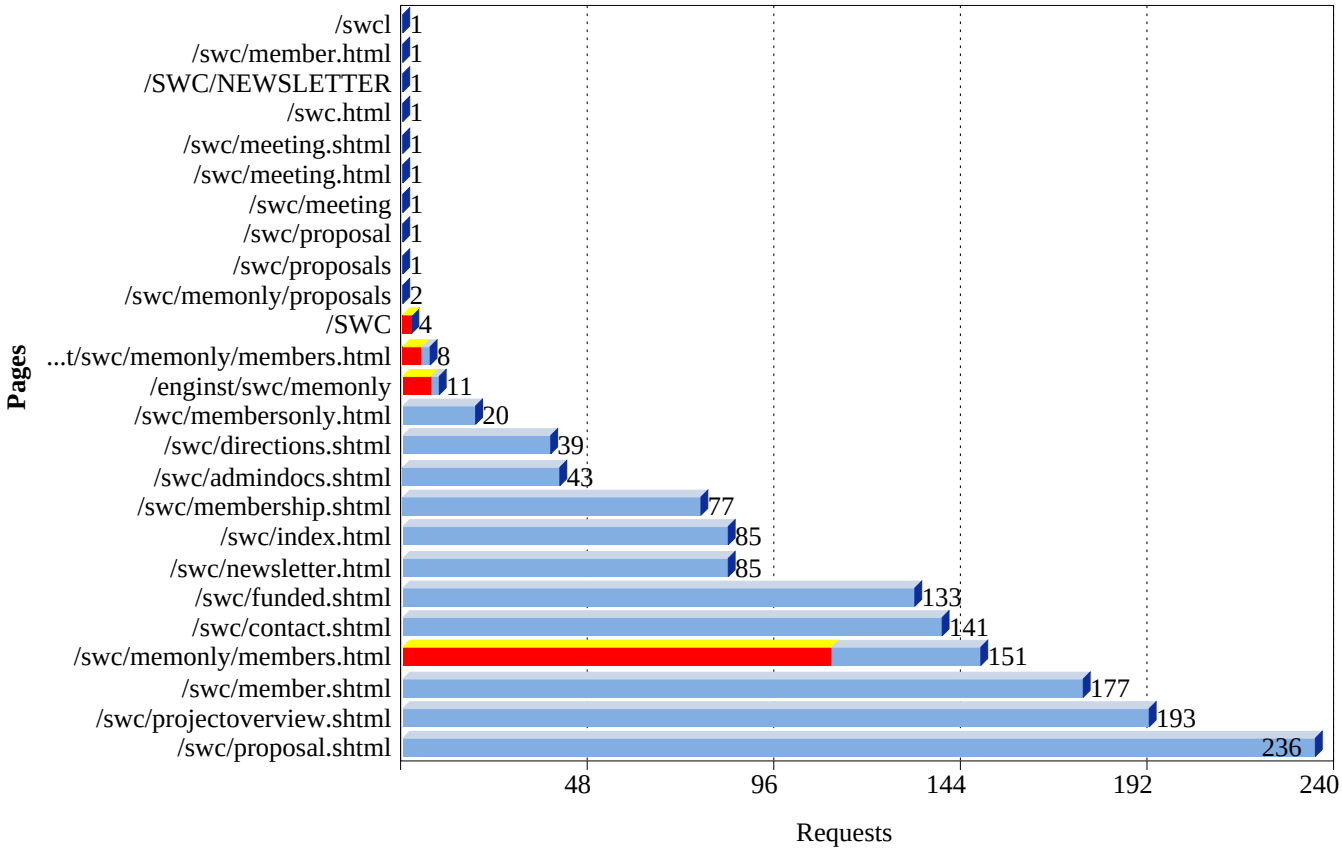
Pages History

	Pages	Requests	%	Bytes	%	Sessions	Mean Time	Visitors	Errors
23	/swc.html	1	<1%	0	0%	1	00:30	1	1
24	/swc/meeting.html	1	<1%	0	0%	1	00:45	1	1
25	/SWC/NEWSLETTER	1	<1%	0	0%	1	00:30	1	1
26	/swc/meeting	1	<1%	0	0%	1	01:12	1	1
27	/swcl	1	<1%	0	0%	1	00:07	1	1
28	/swc/proposals	1	<1%	2.1kB	<1%	1	00:07	1	0
	Average	118	3.57%	1.1MB	3.57%	92	00:48	55	5
28	**Totals**	3,315	100%	29.6MB	100%	2,598	35:17:55	1,555	143

Pages Least Visited



Pages Least Visited

	Pages	Requests	%	Bytes	%	Sessions	Mean Time	Visitors	Errors
1	/swcl	1	<1%	0	0%	1	00:07	1	1
2	/swc/member.html	1	<1%	0	0%	1	00:30	1	1
3	/SWC/NEWSLETTER	1	<1%	0	0%	1	00:30	1	1
4	/swc.html	1	<1%	0	0%	1	00:30	1	1
5	/swc/meeting.shtml	1	<1%	0	0%	1	00:49	1	1
6	/swc/meeting.html	1	<1%	0	0%	1	00:45	1	1
7	/swc/meeting	1	<1%	0	0%	1	01:12	1	1
8	/swc/proposal	1	<1%	0	0%	1	00:24	1	1
9	/swc/proposals	1	<1%	2.1kB	<1%	1	00:07	1	0
10	/swc/memonly/proposals	2	<1%	6.3kB	<1%	2	00:05	1	0
11	/SWC	4	<1%	0	0%	3	01:20	3	4
12	/enginst/swc/memonly/members.html	8	<1%	4.9kB	<1%	3	12:07	2	7
13	/enginst/swc/memonly	11	<1%	5.0kB	<1%	5	02:50	3	9
14	/swc/membersonly.html	20	<1%	166.4kB	<1%	20	00:20	12	0
15	/swc/directions.shtml	39	1.18%	545.9kB	1.80%	32	01:21	23	0
16	/swc/admindocs.shtml	43	1.30%	482.7kB	1.59%	40	00:25	29	0
17	/swc/membership.shtml	77	2.32%	958.6kB	3.16%	71	00:44	57	0
18	/swc/index.html	85	2.56%	903.3kB	2.98%	77	00:27	49	0
19	/swc/newsletter.html	85	2.56%	783.8kB	2.59%	82	00:58	51	0
20	/swc/funded.shtml	133	4.01%	1.3MB	4.41%	123	00:24	88	0
21	/swc/contact.shtml	141	4.25%	1.4MB	4.76%	135	00:45	95	0
22	/swc/memonly/members.html	151	4.56%	510.5kB	1.68%	91	01:22	51	112

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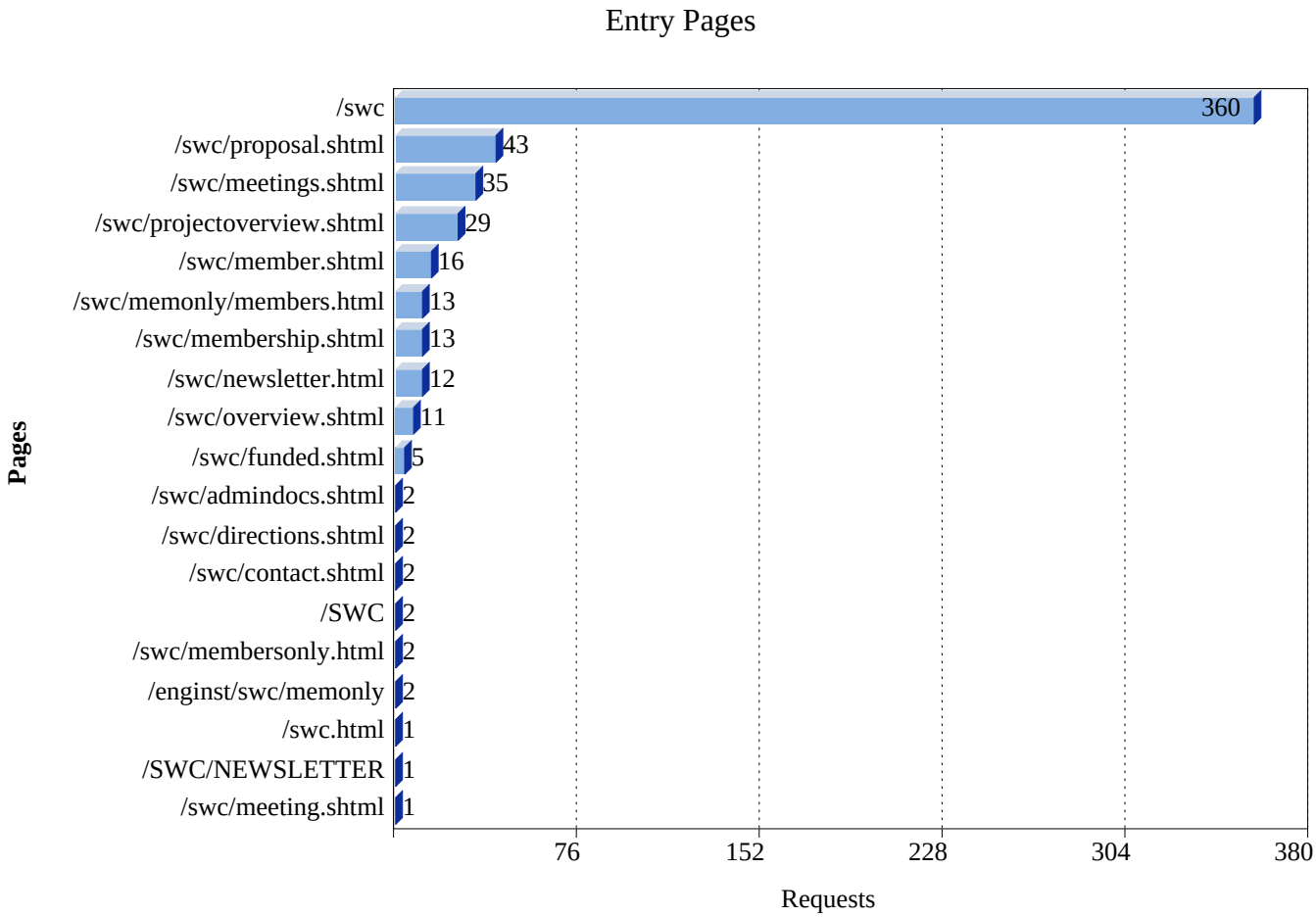
Pages Least Visited

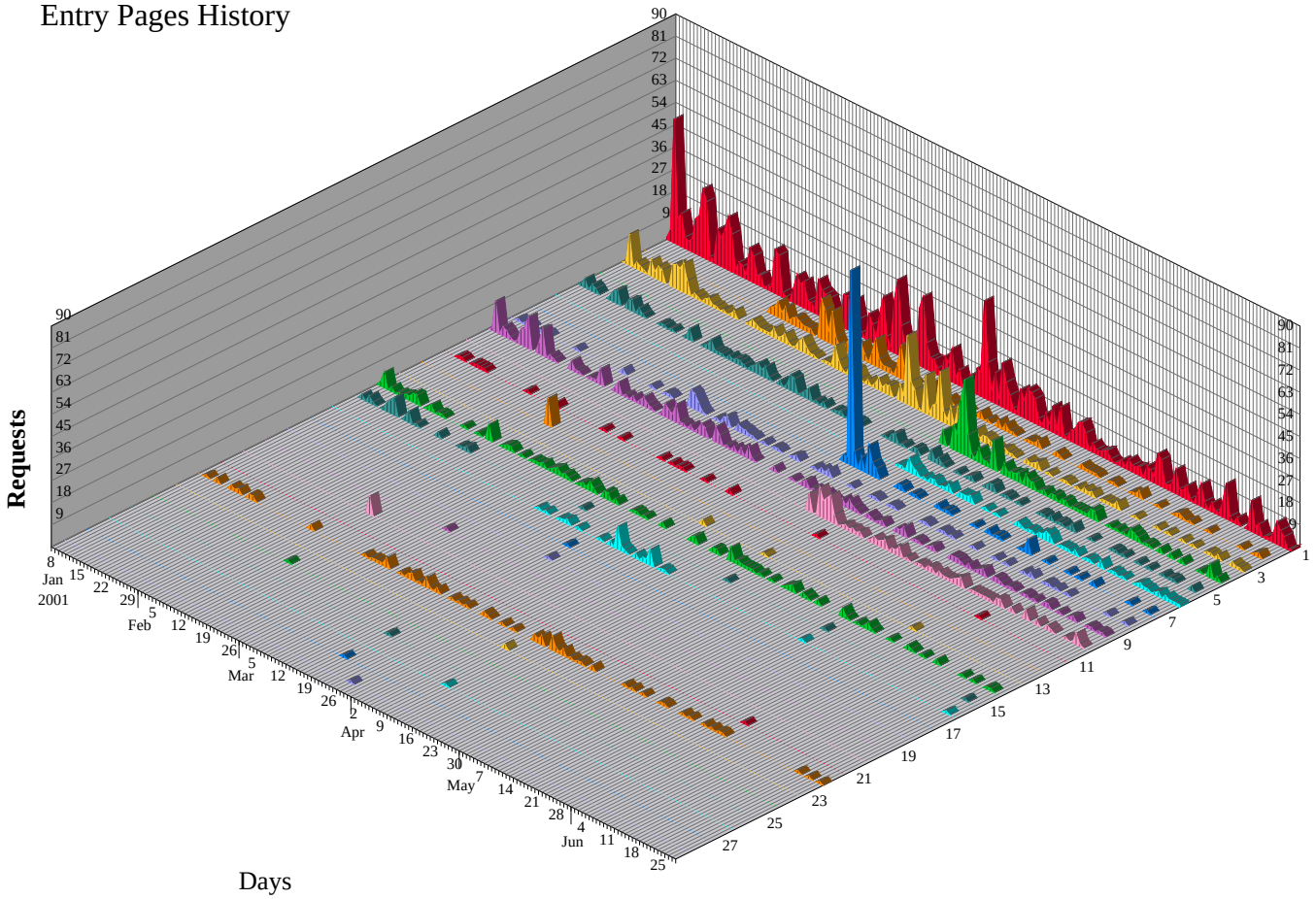
	Pages	Requests	%	Bytes	%	Sessions	Mean Time	Visitors	Errors
23	/swc/member.shtml	177	5.34%	2.6MB	8.68%	164	00:58	117	0
24	/swc/projectoverview.shtml	193	5.82%	2.5MB	8.43%	180	00:46	121	0
25	/swc/proposal.shtml	236	7.12%	2.8MB	9.36%	207	00:44	135	0
26	/swc/overview.shtml	245	7.39%	3.1MB	10.39%	218	01:14	152	0
27	/swc/meetings.shtml	383	11.55%	4.5MB	15.09%	336	00:43	174	0
28	/swc	1,273	38.40%	7.2MB	24.46%	800	00:43	383	3
	Average	118	3.57%	1.1MB	3.57%	92	00:48	55	5
28	**Totals**	3,315	100%	29.6MB	100%	2,598	35:17:55	1,555	143



Entry Pages

	Pages	First Sessions	Errors
1	/swc	360	3
2	/swc/proposal.shtml	43	0
3	/swc/meetings.shtml	35	0
4	/swc/projectoverview.shtml	29	0
5	/swc/member.shtml	16	0
6	/swc/memonly/members.html	13	112
7	/swc/membership.shtml	13	0
8	/swc/newsletter.html	12	0
9	/swc/overview.shtml	11	0
10	/swc/funded.shtml	5	0
11	/swc/admindocs.shtml	2	0
12	/swc/directions.shtml	2	0
13	/swc/contact.shtml	2	0
14	/SWC	2	4
15	/swc/membersonly.html	2	0
16	/enginst/swc/memonly	2	9
17	/swc.html	1	1
18	/SWC/NEWSLETTER	1	1
19	/swc/meeting.shtml	1	1
	Average	19	5
28	**Totals**	552	143

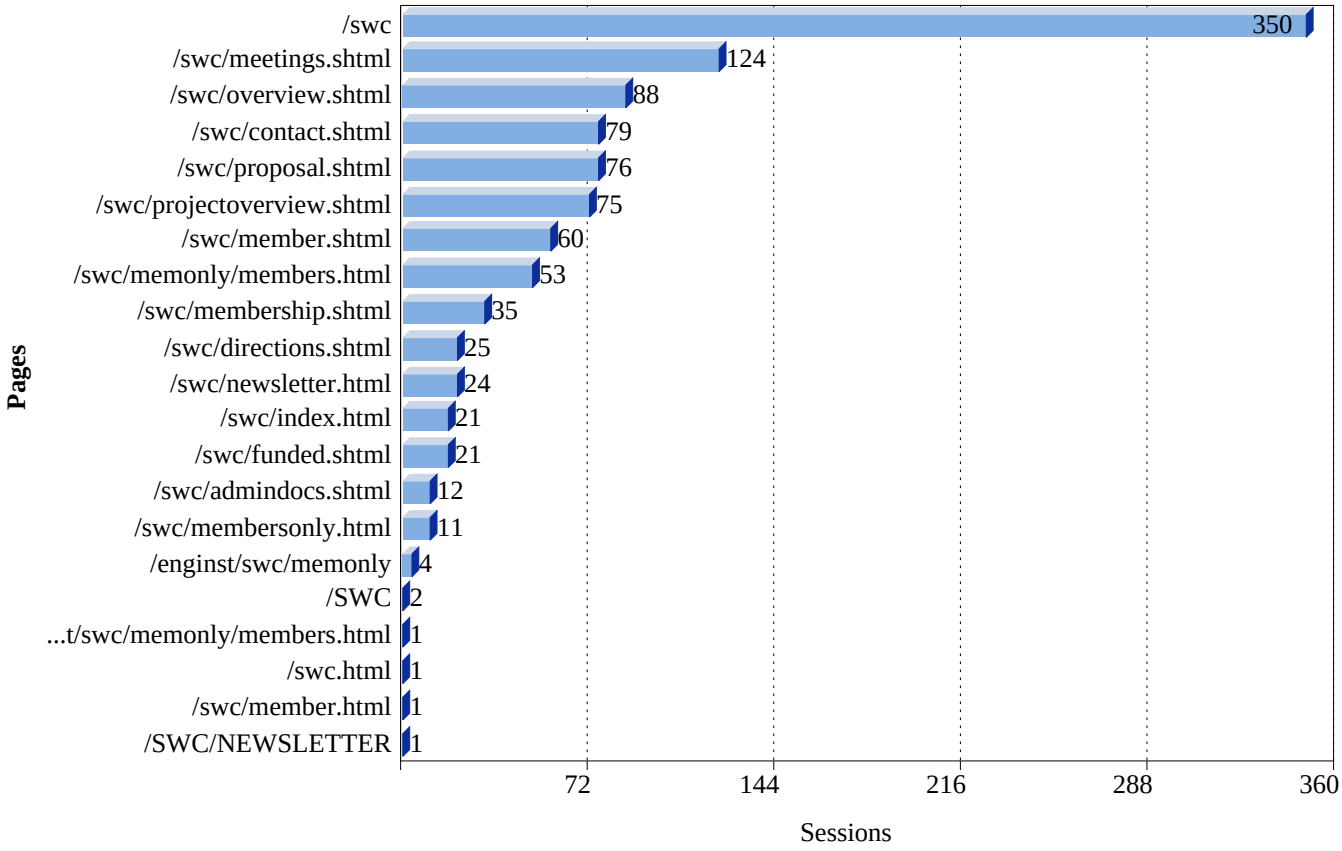
Entry Pages History



Entry Pages History

	Pages	First Sessions	Errors
1	/swc	360	3
2	/swc/proposal.shtml	43	0
3	/swc/meetings.shtml	35	0
4	/swc/projectoverview.shtml	29	0
5	/swc/member.shtml	16	0
6	/swc/membership.shtml	13	0
7	/swc/memonly/members.html	13	112
8	/swc/newsletter.html	12	0
9	/swc/overview.shtml	11	0
10	/swc/funded.shtml	5	0
11	/swc/membersonly.html	2	0
12	/enginst/swc/memonly	2	9
13	/SWC	2	4
14	/swc/contact.shtml	2	0
15	/swc/admindocs.shtml	2	0
16	/swc/directions.shtml	2	0
17	/swc/meeting.shtml	1	1
18	/swc.html	1	1
19	/SWC/NEWSLETTER	1	1
	Average	19	5
28	**Totals**	552	143

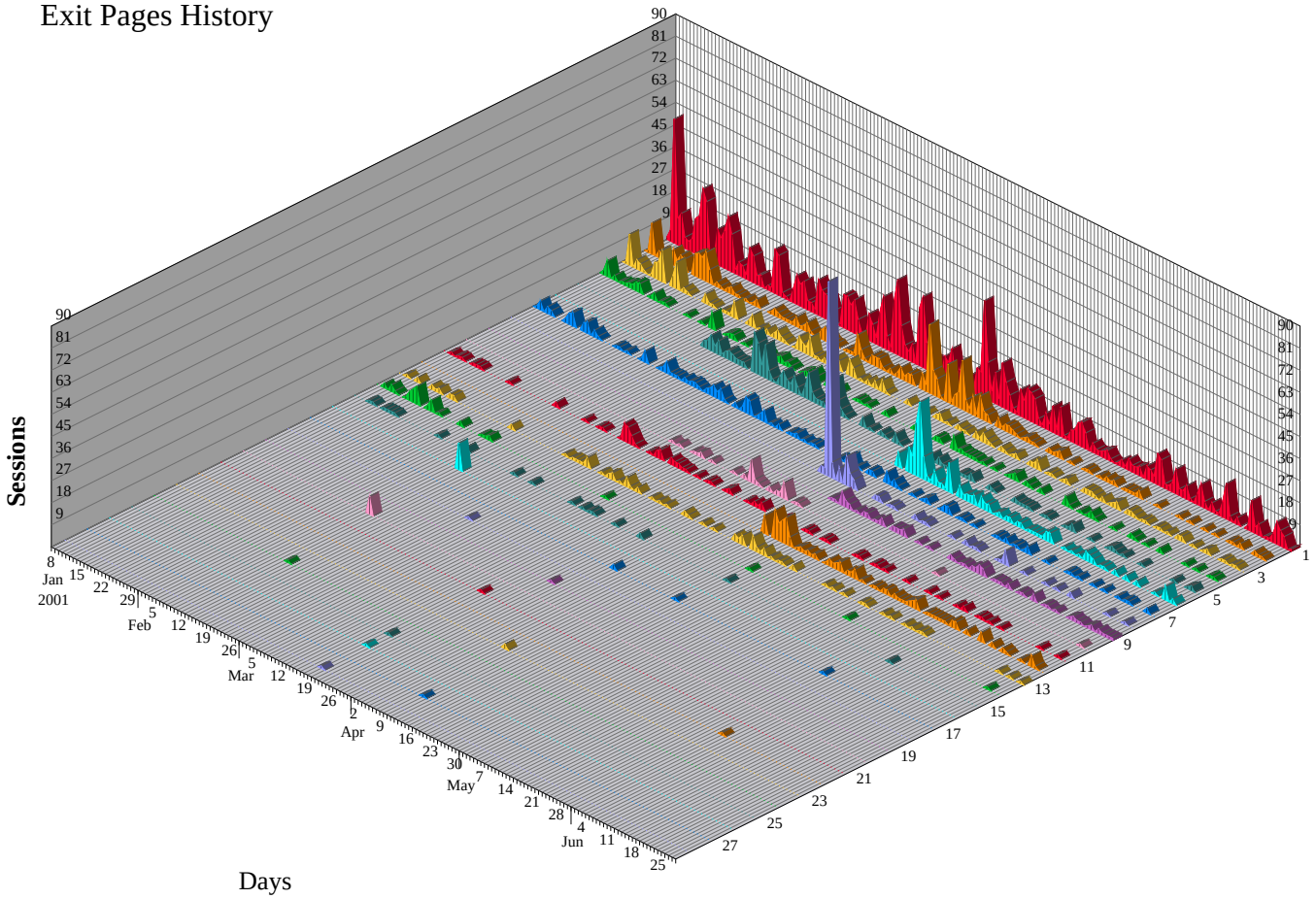
Exit Pages



Exit Pages

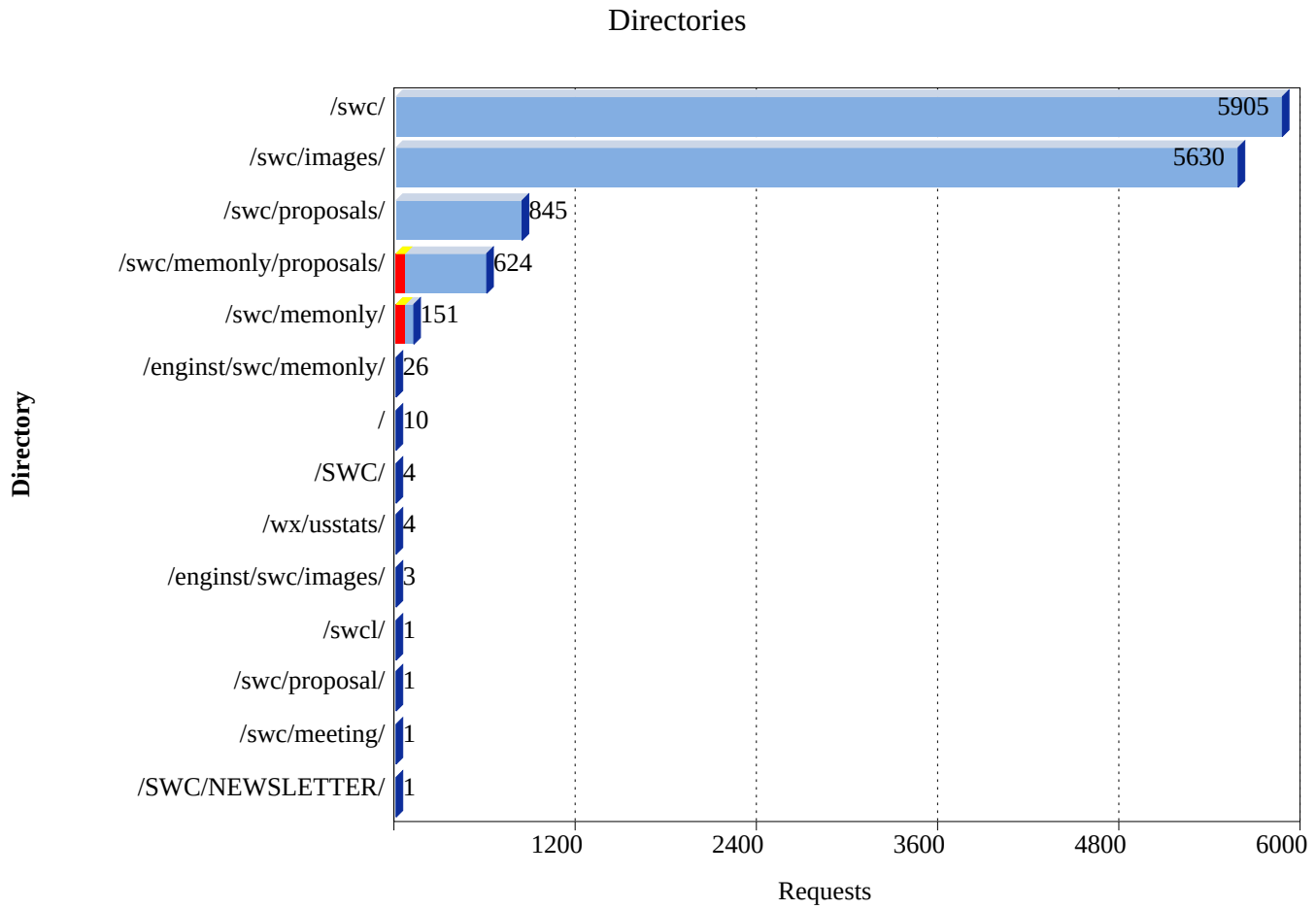
	Pages	Last Sessions	Errors
1	/swc	350	3
2	/swc/meetings.shtml	124	0
3	/swc/overview.shtml	88	0
4	/swc/contact.shtml	79	0
5	/swc/proposal.shtml	76	0
6	/swc/projectoverview.shtml	75	0
7	/swc/member.shtml	60	0
8	/swc/memonly/members.html	53	112
9	/swc/membership.shtml	35	0
10	/swc/directions.shtml	25	0
11	/swc/newsletter.html	24	0
12	/swc/index.html	21	0
13	/swc/funded.shtml	21	0
14	/swc/admindocs.shtml	12	0
15	/swc/membersonly.html	11	0
16	/enginst/swc/memonly	4	9
17	/SWC	2	4
18	/enginst/swc/memonly/members.html	1	7
19	/swc.html	1	1
20	/swc/member.html	1	1
21	/SWC/NEWSLETTER	1	1
	Average	38	5

Exit Pages History



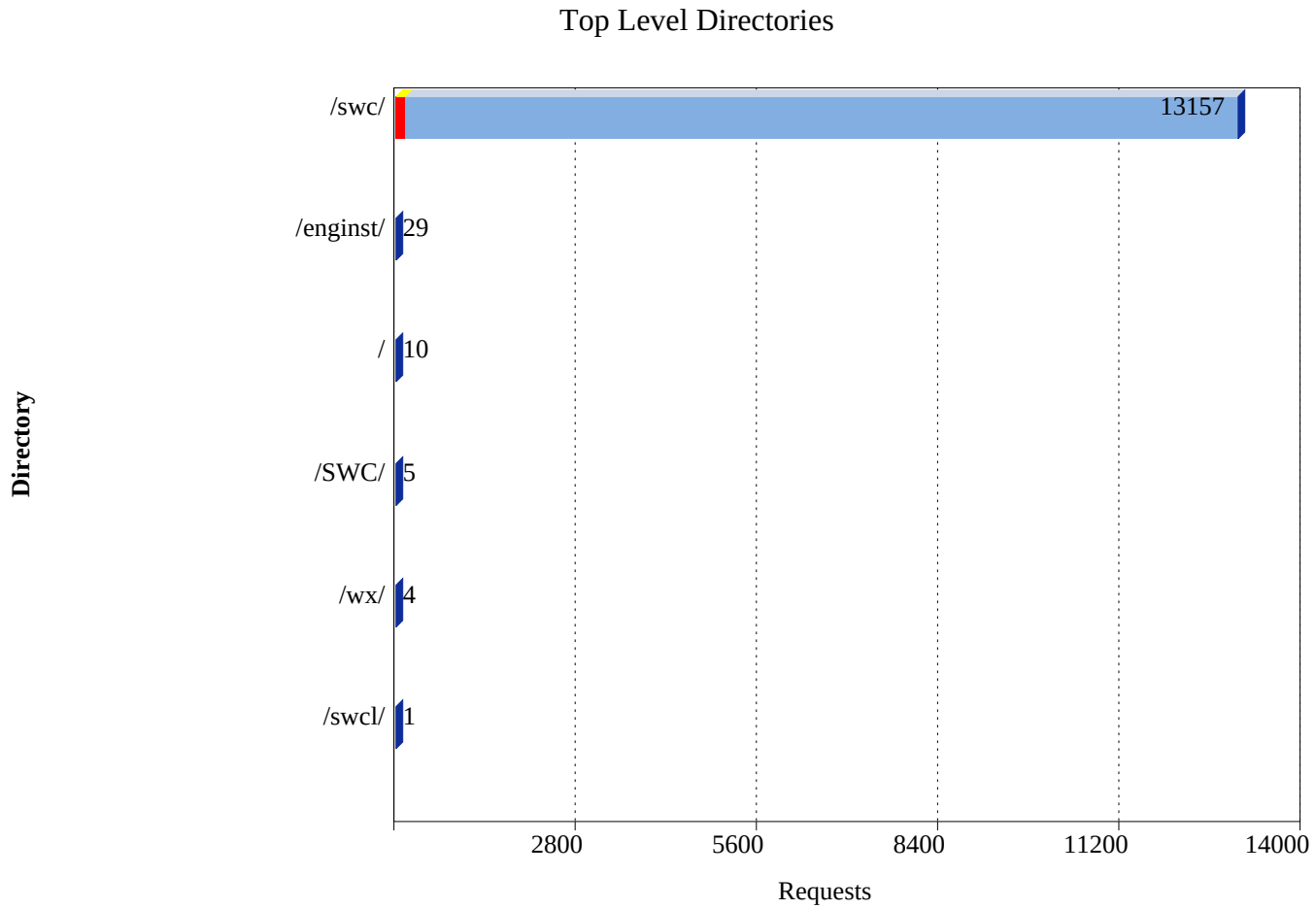
Exit Pages History

	Pages	Last Sessions	Errors
1	/swc	350	3
2	/swc/meetings.shtml	124	0
3	/swc/overview.shtml	88	0
4	/swc/contact.shtml	79	0
5	/swc/proposal.shtml	76	0
6	/swc/projectoverview.shtml	75	0
7	/swc/member.shtml	60	0
8	/swc/memonly/members.html	53	112
9	/swc/membership.shtml	35	0
10	/swc/directions.shtml	25	0
11	/swc/newsletter.html	24	0
12	/swc/funded.shtml	21	0
13	/swc/index.html	21	0
14	/swc/admindocs.shtml	12	0
15	/swc/membersonly.html	11	0
16	/enginst/swc/memonly	4	9
17	/SWC	2	4
18	/SWC/NEWSLETTER	1	1
19	/swc/member.html	1	1
20	/enginst/swc/memonly/members.html	1	7
21	/swc.html	1	1
	Average	38	5



Directories

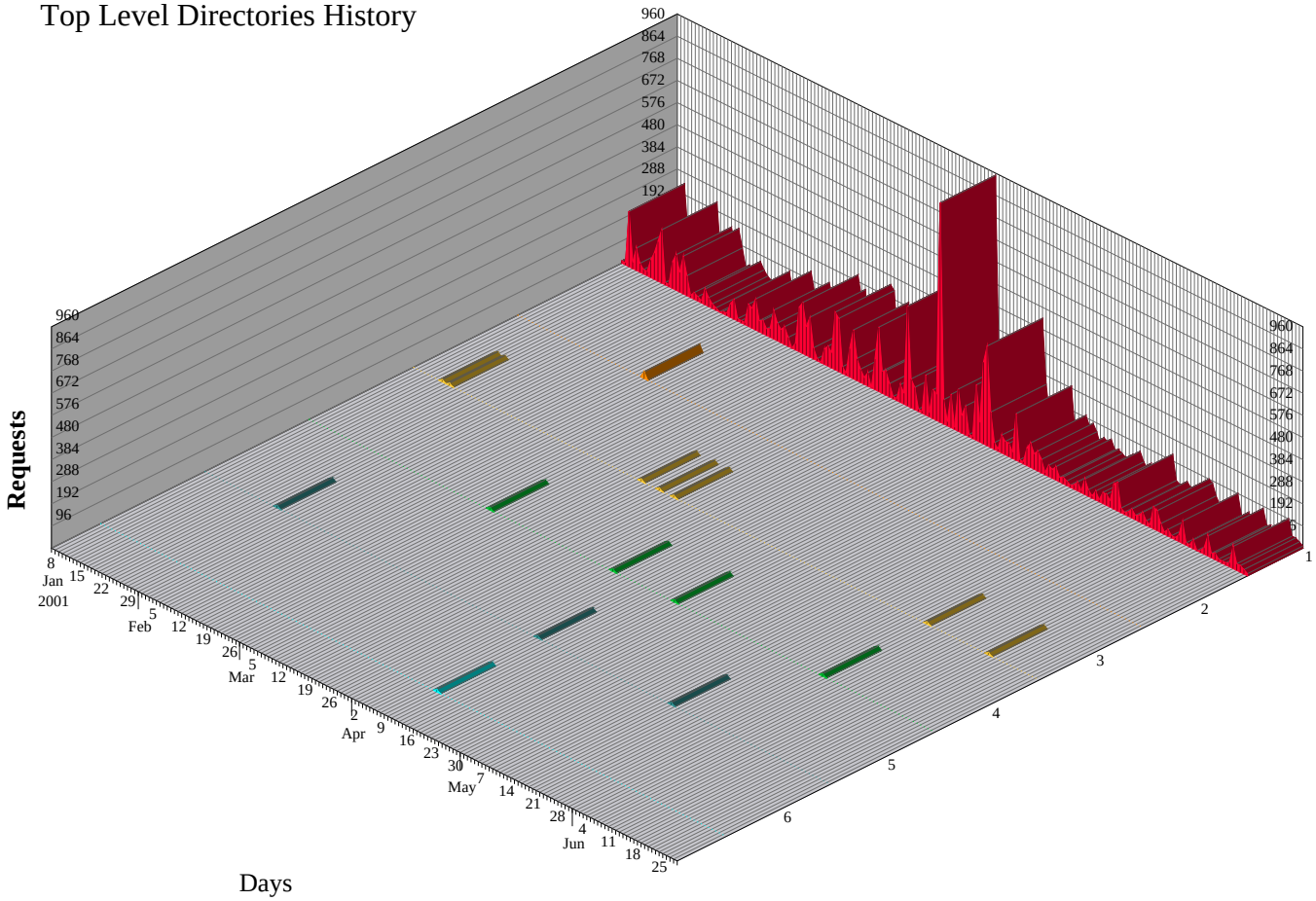
	Directory	Requests	%	Bytes	%	Pages	Errors
1	/swc/	5,905	44.71%	80.5MB	37.68%	3,133	22
2	/swc/images/	5,630	42.63%	90.8MB	42.53%	0	0
3	/swc/proposals/	845	6.40%	24.8MB	11.61%	1	3
4	/swc/memonly/proposals/	624	4.73%	16.9MB	7.92%	2	78
5	/swc/memonly/	151	1.14%	510.5kB	<1%	151	112
6	/enginst/swc/memonly/	26	<1%	14.5kB	<1%	19	23
7	/	10	<1%	0	0%	1	10
8	/SWC/	4	<1%	0	0%	4	4
9	/wx/usstats/	4	<1%	12.0kB	<1%	0	4
10	/enginst/swc/images/	3	<1%	18.9kB	<1%	0	0
11	/swcl/	1	<1%	0	0%	1	1
12	/swc/proposal/	1	<1%	0	0%	1	1
13	/swc/meeting/	1	<1%	0	0%	1	1
14	/SWC/NEWSLETTER/	1	<1%	0	0%	1	1
	Average	943	7.14%	15.3MB	7.14%	236	18
14	**Totals**	13,206	100%	213.5MB	100.00%	3,315	260



Top Level Directories

	Directory	Requests	%	Bytes	%	Pages	Errors
1	/swc/	13,157	99.63%	213.5MB	99.98%	3,289	217
2	/enginst/	29	<1%	33.4kB	<1%	19	23
3	/	10	<1%	0	0%	1	10
4	/SWC/	5	<1%	0	0%	5	5
5	/wx/	4	<1%	12.0kB	<1%	0	4
6	/swcl/	1	<1%	0	0%	1	1
	Average	2,201	16.67%	35.6MB	16.67%	552	43
6	**Totals**	13,206	100%	213.5MB	100.00%	3,315	260

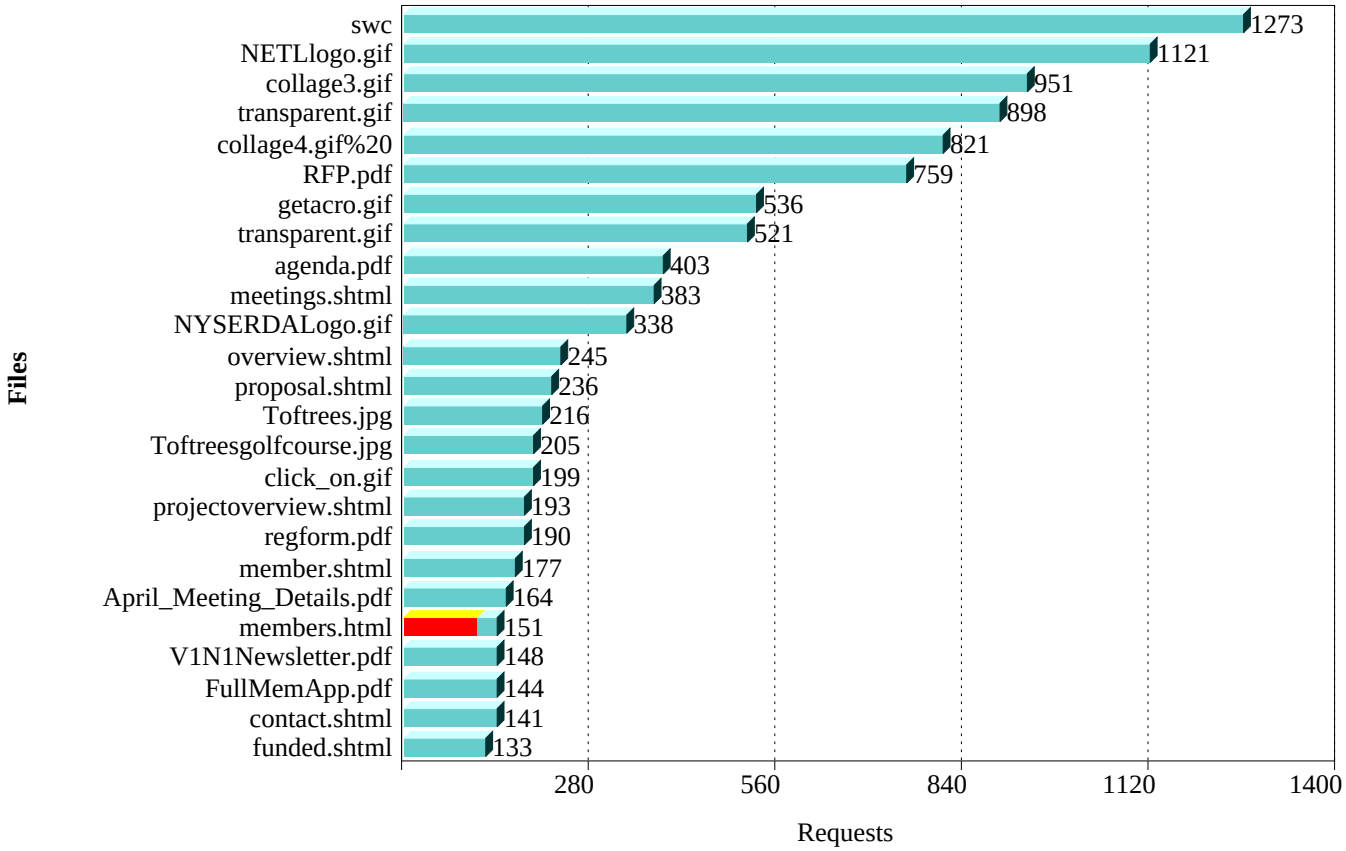
Top Level Directories History



Top Level Directories History

	Directory	Requests	%	Bytes	%	Pages	Errors
1	/swc/	13,157	99.63%	213.5MB	99.98%	3,289	217
2	/enginst/	29	<1%	33.4kB	<1%	19	23
3	/	10	<1%	0	0%	1	10
4	/SWC/	5	<1%	0	0%	5	5
5	/wx/	4	<1%	12.0kB	<1%	0	4
6	/swcl/	1	<1%	0	0%	1	1
	Average	2,201	16.67%	35.6MB	16.67%	552	43
6	**Totals**	13,206	100%	213.5MB	100.00%	3,315	260

URLs



URLs

	Files	Requests	%	Bytes	%	Errors
1	/swc	1,273	9.64%	7.2MB	3.39%	3
2	/swc/images/NETLlogo.gif	1,121	8.49%	1.2MB	<1%	0
3	/swc/images/collage3.gif	951	7.20%	37.8MB	17.70%	0
4	/swc/images/transparent.gif	898	6.80%	23.0kB	<1%	0
5	/swc/images/collage4.gif%20	821	6.22%	35.0MB	16.41%	0
6	/swc/RFP.pdf	759	5.75%	7.8MB	3.65%	0
7	/swc/images/getacro.gif	536	4.06%	662.6kB	<1%	0
8	/swc/transparent.gif	521	3.95%	13.1kB	<1%	0
9	/swc/agenda.pdf	403	3.05%	3.0MB	1.38%	0
10	/swc/meetings.shtml	383	2.90%	4.5MB	2.09%	0
11	/swc/images/NYSERDALogo.gif	338	2.56%	1.6MB	<1%	0
12	/swc/overview.shtml	245	1.86%	3.1MB	1.44%	0
13	/swc/proposal.shtml	236	1.79%	2.8MB	1.30%	0
14	/swc/images/Toftrees.jpg	216	1.64%	5.8MB	2.71%	0
15	/swc/images/Toftreesgolfcourse.jpg	205	1.55%	1.1MB	<1%	0
16	/swc/images/click_on.gif	199	1.51%	418.0kB	<1%	0
17	/swc/projectoverview.shtml	193	1.46%	2.5MB	1.17%	0
18	/swc/regform.pdf	190	1.44%	2.6MB	1.23%	0
19	/swc/member.shtml	177	1.34%	2.6MB	1.20%	0
20	/swc/April_Meeting_Details.pdf	164	1.24%	3.3MB	1.55%	0
21	/swc/memonly/members.html	151	1.14%	510.5kB	<1%	112
22	/swc/V1N1Newsletter.pdf	148	1.12%	29.2MB	13.67%	0

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URLs

	Files	Requests	%	Bytes	%	Errors
23	/swc/FullMemApp.pdf	144	1.09%	1.0MB	<1%	0
24	/swc/contact.shtml	141	1.07%	1.4MB	<1%	0
25	/swc/funded.shtml	133	1.01%	1.3MB	<1%	0
26	/swc/proposal.pdf	123	<1%	1.1MB	<1%	0
27	/swc/images/click_off.gif	117	<1%	94.9kB	<1%	0
28	/swc/Bylaws.pdf	117	<1%	1.2MB	<1%	0
29	/swc/proposals/completelist.pdf	116	<1%	13.3MB	6.24%	0
30	/swc/proposals/Rep.pdf	113	<1%	1.5MB	<1%	0
31	/swc/images/sheratoninn%20pitt.jpg	109	<1%	4.0MB	1.86%	0
32	/swc/meetingsum.pdf	105	<1%	1.6MB	<1%	0
33	/swc/newsletter.html	85	<1%	783.8kB	<1%	0
34	/swc/index.html	85	<1%	903.3kB	<1%	0
35	/swc/membership.shtml	77	<1%	958.6kB	<1%	0
36	/swc/proposals/chamberlift.pdf	72	<1%	1.1MB	<1%	0
37	/swc/proposals/Frantz.pdf	71	<1%	1.2MB	<1%	0
38	/swc/proposals/Christianen.pdf	70	<1%	1.1MB	<1%	0
39	/swc/proposals/ARI-METEOR.pdf	65	<1%	1.2MB	<1%	0
40	/swc/proposals/Brandywine.pdf	63	<1%	1013.9kB	<1%	0
	Average	121	<1%	2.0MB	<1%	2
109	**Totals**	13,206	100%	213.5MB	100.00%	260

Mean Path

	Mean Path	Sessions	%
1	1. /swc 2. /swc	342	18.91%
2	1. /swc 2. /swc 3. /swc/overview.shtml	71	3.92%
3	1. /swc 2. /swc 3. /swc/meetings.shtml	64	3.54%
4	1. /swc 2. /swc 3. /swc/proposal.shtml 4. 5. 6. 7.	58	3.21%
5	1. /swc 2. /swc 3. /swc/proposal.shtml 4. 5.	56	3.10%
6	1. /swc 2. /swc 3. /swc/proposal.shtml 4. 5. 6. 7. 8.	55	3.04%
7	1. /swc 2. /swc 3. /swc/proposal.shtml 4. 5. 6.	55	3.04%
8	1. /swc 2. /swc/meetings.shtml	53	2.93%
9	1. /swc 2. /swc/funded.shtml	51	2.82%
10	1. /swc 2. /swc 3. /swc/proposal.shtml 4. 5. 6. 7. 8. 9.	48	2.65%
11	1. /swc 2. /swc/funded.shtml 3. /swc/projectoverview.shtml	45	2.49%
12	1. /swc/proposal 2. /swc/proposal.shtml	44	2.43%
13	1. /swc/proposal.shtml 2. 3. 4.	44	2.43%
14	1. /swc 2. /swc/overview.shtml	38	2.10%
15	1. /swc 2. /swc/meetings.shtml 3. 4. 5.	36	1.99%
16	1. /swc/meetings.shtml 2.	36	1.99%

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Mean Path

	Mean Path	Sessions	%
17	1. /swc/proposal.shtml 2.	35	1.93%
18	1. /swc 2. /swc 3. /swc/meetings.shtml 4. 5. 6. 7.	34	1.88%
19	1. /swc 2. /swc/memonly/members.html	33	1.82%
20	1. /swc/meetings.shtml 2. 3. 4. 5. 6. 7. 8.	32	1.77%
21	1. /swc 2. /swc/meetings.shtml 3. 4. 5. 6.	32	1.77%
22	1. /swc 2. /swc 3. /swc/proposal.shtml 4.	32	1.77%
23	1. /swc/proposal.shtml 2. 3.	30	1.66%
24	1. /swc 2. /swc 3. /swc/proposal.shtml	29	1.60%
25	1. /swc 2. /swc 3. /swc	28	1.55%
26	1. /swc/meetings.shtml 2. 3. 4. 5. 6. 7. 8. 9.	27	1.49%
27	1. /swc 2. /swc/meetings.shtml 3. 4.	26	1.44%
28	1. /swc/meetings.shtml 2. 3.	25	1.38%
29	1. /swc/proposal 2. /swc/proposal.shtml 3.	23	1.27%
30	1. /swc/newsletter.html 2.	22	1.22%
31	1. /swc/overview.shtml 2. /swc/member.shtml	21	1.16%
32	1. /swc 2. /swc/contact.shtml	20	1.11%

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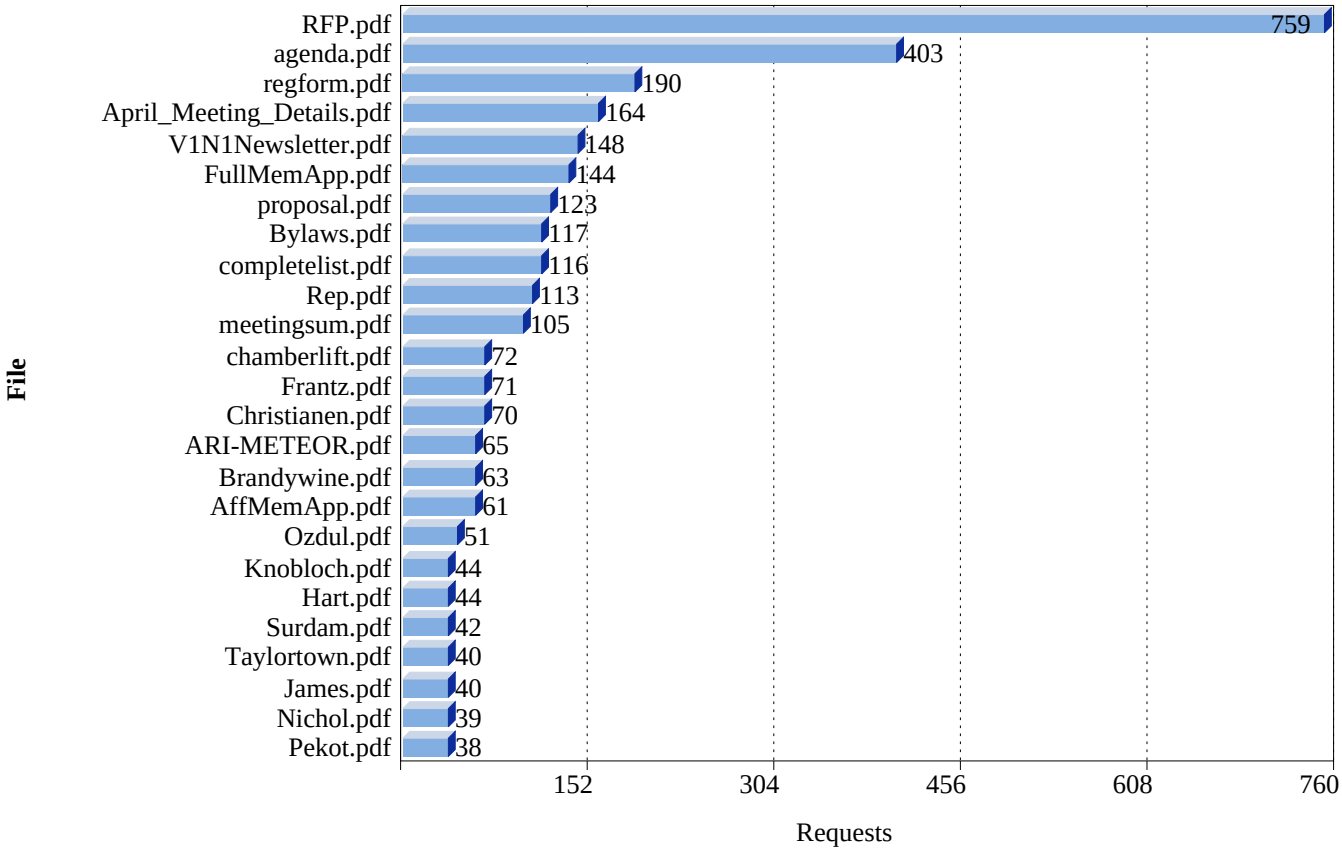
Mean Path

	Mean Path	Sessions	%
33	1. /swc/projectoverview.shtml 2.	20	1.11%
34	1. /swc/meetings.shtml 2. /swc/index.html 3. /swc/funded.shtml 4. /swc/projectoverview.shtml	20	1.11%
35	1. /swc/projectoverview.shtml 2.	20	1.11%
36	1. /swc/newsletter.html 2. 3. 4. 5. 6.	19	1.05%
37	1. /swc 2. /swc 3. /swc/funded.shtml	17	<1%
38	1. /swc/newsletter.html 2. 3. 4. 5.	17	<1%
39	1. /swc 2. /swc/membership.shtml	16	<1%
40	1. /swc 2. /swc 3. /swc/overview.shtml 4. /swc/admindocs.shtml	16	<1%
	Average	1	<1%
	Total Sessions	1,809	100%

File Downloads



File Downloads

	File	Requests	%	Bytes	%	Errors
1	/swc/RFP.pdf	759	20.51%	7.8MB	8.38%	0
2	/swc/agenda.pdf	403	10.89%	3.0MB	3.17%	0
3	/swc/regform.pdf	190	5.14%	2.6MB	2.83%	0
4	/swc/April_Meeting_Details.pdf	164	4.43%	3.3MB	3.56%	0
5	/swc/V1N1Newsletter.pdf	148	4.00%	29.2MB	31.37%	0
6	/swc/FullMemApp.pdf	144	3.89%	1.0MB	1.08%	0
7	/swc/proposal.pdf	123	3.32%	1.1MB	1.13%	0
8	/swc/Bylaws.pdf	117	3.16%	1.2MB	1.24%	0
9	/swc/proposals/completelist.pdf	116	3.14%	13.3MB	14.32%	0
10	/swc/proposals/Rep.pdf	113	3.05%	1.5MB	1.65%	0
11	/swc/meetingsum.pdf	105	2.84%	1.6MB	1.69%	0
12	/swc/proposals/chamberlift.pdf	72	1.95%	1.1MB	1.18%	0
13	/swc/proposals/Frantz.pdf	71	1.92%	1.2MB	1.26%	0
14	/swc/proposals/Christianen.pdf	70	1.89%	1.1MB	1.13%	0
15	/swc/proposals/ARI-METEOR.pdf	65	1.76%	1.2MB	1.27%	0
16	/swc/proposals/Brandywine.pdf	63	1.70%	1013.9kB	1.06%	0
17	/swc/AffMemApp.pdf	61	1.65%	543.7kB	<1%	0
18	/swc/proposals/Ozdul.pdf	51	1.38%	910.0kB	<1%	0
19	/swc/memonly/proposals/Knobloch.pdf	44	1.19%	1.1MB	1.19%	2
20	/swc/proposals/Hart.pdf	44	1.19%	684.3kB	<1%	0
21	/swc/proposals/Surdam.pdf	42	1.14%	676.6kB	<1%	0
22	/swc/proposals/Taylortown.pdf	40	1.08%	711.5kB	<1%	0

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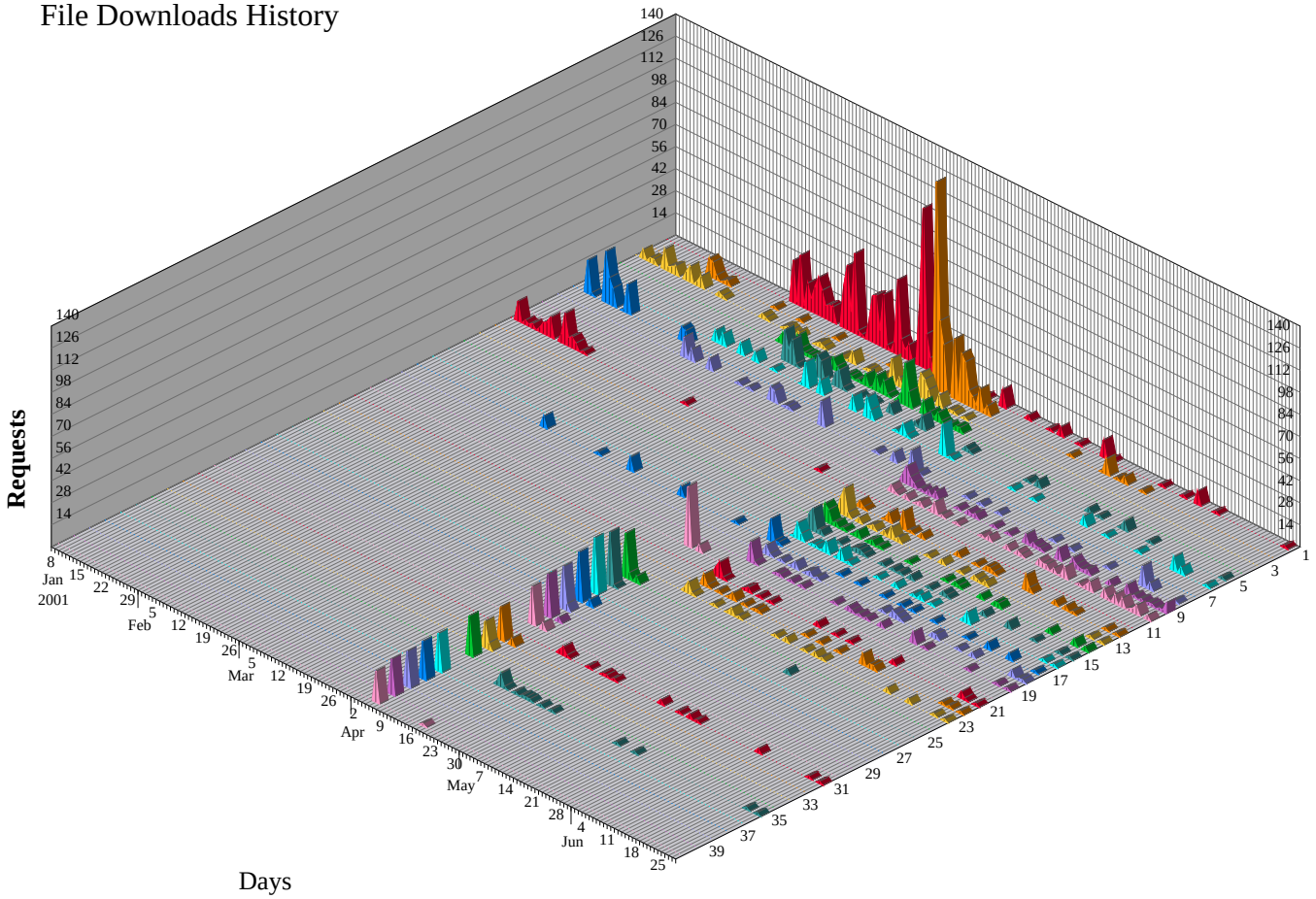
File Downloads

	File	Requests	%	Bytes	%	Errors
23	/swc/proposals/James.pdf	40	1.08%	555.7kB	<1%	0
24	/swc/memonly/proposals/Nichol.pdf	39	1.05%	1.0MB	1.12%	2
25	/swc/memonly/proposals/Pekot.pdf	38	1.03%	1.3MB	1.37%	6
26	/swc/memonly/proposals/Ozkan.pdf	36	<1%	966.9kB	1.01%	2
27	/swc/memonly/proposals/BEDCO.pdf	36	<1%	1.2MB	1.29%	2
28	/swc/memonly/proposals/Watson3.pdf	33	<1%	949.6kB	<1%	2
29	/swc/memonly/proposals/christianen.pdf	31	<1%	2.3kB	<1%	31
30	/swc/memonly/proposals/Sabins.pdf	30	<1%	747.6kB	<1%	0
31	/swc/proposals/Wileyville.pdf	29	<1%	513.6kB	<1%	0
32	/swc/memonly/proposals/Akulis.pdf	27	<1%	444.8kB	<1%	1
33	/swc/memonly/proposals/Kuespert.pdf	27	<1%	634.2kB	<1%	2
34	/swc/memonly/proposals/Reeves.pdf	26	<1%	768.5kB	<1%	2
35	/swc/memonly/proposals/Frantz.pdf	25	<1%	1.0MB	1.08%	2
36	/swc/proposals/Texas%20A&M.pdf	25	<1%	501.2kB	<1%	0
37	/swc/memonly/proposals/Surdam.pdf	24	<1%	770.7kB	<1%	2
38	/swc/memonly/proposals/Koperna.pdf	23	<1%	739.2kB	<1%	3
39	/swc/memonly/proposals/Hart.pdf	23	<1%	747.7kB	<1%	2
40	/swc/memonly/proposals/Schumacher.pdf	22	<1%	1.0MB	1.10%	2
	Average	74	2.00%	1.9MB	2.00%	1
50	**Totals**	3,700	100%	93.1MB	100.00%	80

File Downloads History



File Downloads History

	File	Requests	%	Bytes	%	Errors
1	/swc/RFP.pdf	759	20.51%	7.8MB	8.38%	0
2	/swc/agenda.pdf	403	10.89%	3.0MB	3.17%	0
3	/swc/regform.pdf	190	5.14%	2.6MB	2.83%	0
4	/swc/April_Meeting_Details.pdf	164	4.43%	3.3MB	3.56%	0
5	/swc/V1N1Newsletter.pdf	148	4.00%	29.2MB	31.37%	0
6	/swc/FullMemApp.pdf	144	3.89%	1.0MB	1.08%	0
7	/swc/proposal.pdf	123	3.32%	1.1MB	1.13%	0
8	/swc/Bylaws.pdf	117	3.16%	1.2MB	1.24%	0
9	/swc/proposals/completelist.pdf	116	3.14%	13.3MB	14.32%	0
10	/swc/proposals/Rep.pdf	113	3.05%	1.5MB	1.65%	0
11	/swc/meetingsum.pdf	105	2.84%	1.6MB	1.69%	0
12	/swc/proposals/chamberlift.pdf	72	1.95%	1.1MB	1.18%	0
13	/swc/proposals/Frantz.pdf	71	1.92%	1.2MB	1.26%	0
14	/swc/proposals/Christianen.pdf	70	1.89%	1.1MB	1.13%	0
15	/swc/proposals/ARI-METEOR.pdf	65	1.76%	1.2MB	1.27%	0
16	/swc/proposals/Brandywine.pdf	63	1.70%	1013.9kB	1.06%	0
17	/swc/AffMemApp.pdf	61	1.65%	543.7kB	<1%	0
18	/swc/proposals/Ozdul.pdf	51	1.38%	910.0kB	<1%	0
19	/swc/proposals/Hart.pdf	44	1.19%	684.3kB	<1%	0
20	/swc/memonly/proposals/Knobloch.pdf	44	1.19%	1.1MB	1.19%	2
21	/swc/proposals/Surdam.pdf	42	1.14%	676.6kB	<1%	0
22	/swc/proposals/James.pdf	40	1.08%	555.7kB	<1%	0

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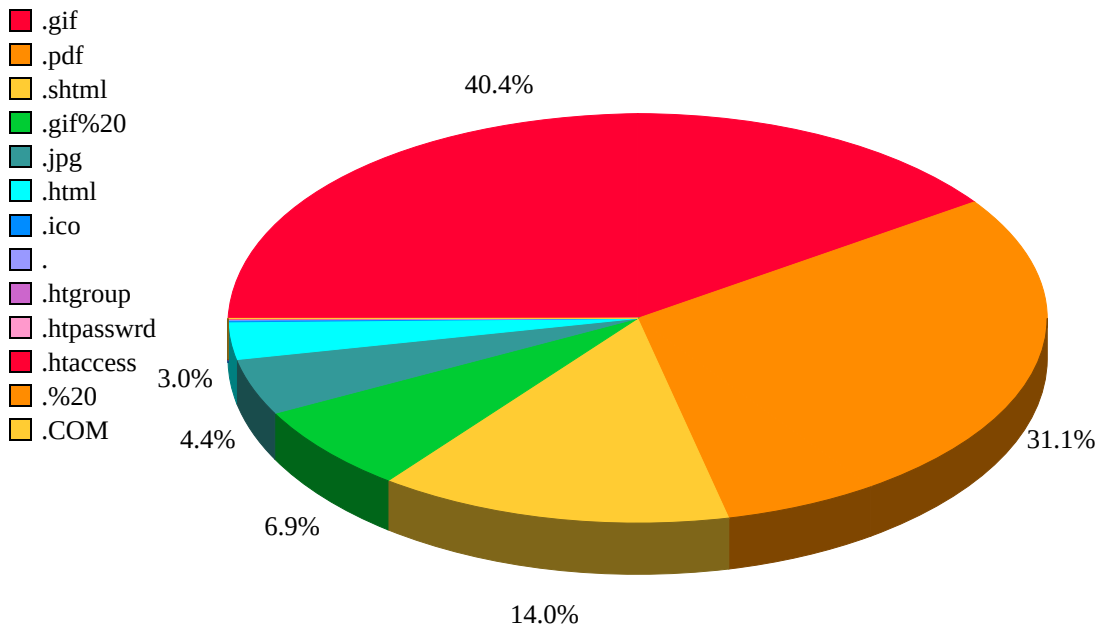
File Downloads History

	File	Requests	%	Bytes	%	Errors
23	/swc/proposals/Taylortown.pdf	40	1.08%	711.5kB	<1%	0
24	/swc/memonly/proposals/Nichol.pdf	39	1.05%	1.0MB	1.12%	2
25	/swc/memonly/proposals/Pekot.pdf	38	1.03%	1.3MB	1.37%	6
26	/swc/memonly/proposals/Ozkan.pdf	36	<1%	966.9kB	1.01%	2
27	/swc/memonly/proposals/BEDCO.pdf	36	<1%	1.2MB	1.29%	2
28	/swc/memonly/proposals/Watson3.pdf	33	<1%	949.6kB	<1%	2
29	/swc/memonly/proposals/christianen.pdf	31	<1%	2.3kB	<1%	31
30	/swc/memonly/proposals/Sabins.pdf	30	<1%	747.6kB	<1%	0
31	/swc/proposals/Wileyville.pdf	29	<1%	513.6kB	<1%	0
32	/swc/memonly/proposals/Kuespert.pdf	27	<1%	634.2kB	<1%	2
33	/swc/memonly/proposals/Akulis.pdf	27	<1%	444.8kB	<1%	1
34	/swc/memonly/proposals/Reeves.pdf	26	<1%	768.5kB	<1%	2
35	/swc/proposals/Texas%20A&M.pdf	25	<1%	501.2kB	<1%	0
36	/swc/memonly/proposals/Frantz.pdf	25	<1%	1.0MB	1.08%	2
37	/swc/memonly/proposals/Surdam.pdf	24	<1%	770.7kB	<1%	2
38	/swc/memonly/proposals/Hart.pdf	23	<1%	747.7kB	<1%	2
39	/swc/memonly/proposals/Koperna.pdf	23	<1%	739.2kB	<1%	3
40	/swc/memonly/proposals/McVay.pdf	22	<1%	619.8kB	<1%	2
	Average	74	2.00%	1.9MB	2.00%	1
50	**Totals**	3,700	100%	93.1MB	100.00%	80

File Types

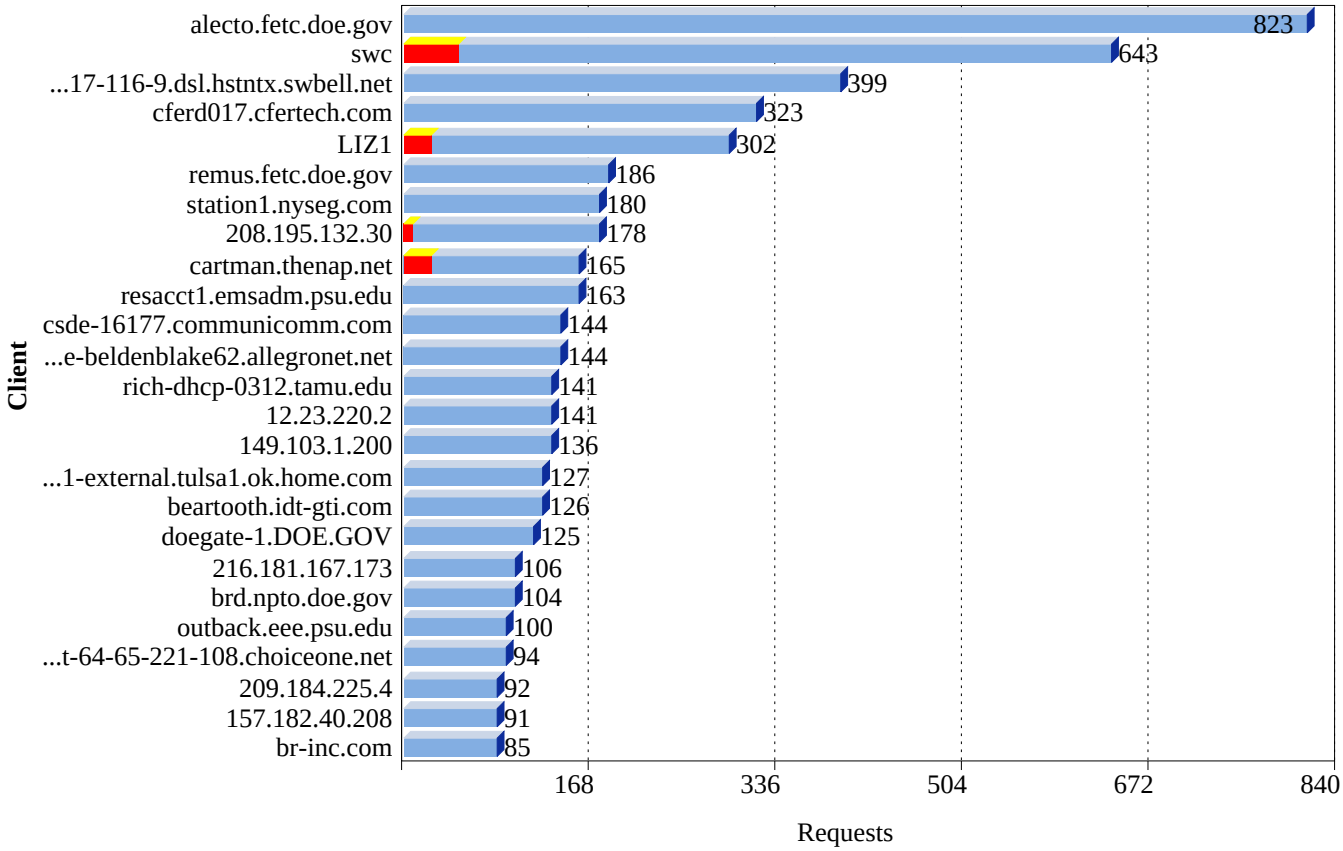


Requests

File Types

	File Type	Requests	%	Bytes	%	Errors
1	.gif	4,808	40.37%	45.0MB	21.80%	5
2	.pdf	3,700	31.06%	93.1MB	45.12%	80
3	.shtml	1,668	14.00%	20.0MB	9.71%	1
4	.gif%20	821	6.89%	35.0MB	16.99%	0
5	.jpg	530	4.45%	10.9MB	5.26%	0
6	.html	352	2.96%	2.3MB	1.12%	122
7	.ico	15	<1%	0	0%	15
8	.	9	<1%	0	0%	9
9	.htgroup	2	<1%	540	<1%	2
10	.htpasswrd	2	<1%	540	<1%	2
11	.htaccess	2	<1%	540	<1%	2
12	.%20	1	<1%	0	0%	1
13	.COM	1	<1%	0	0%	1
	Average	916	7.69%	15.9MB	7.69%	18
13	**Totals**	11,911	100%	206.3MB	100%	240

Clients



Clients

	Client	Requests	%	Bytes	%	Sessions	Mean Time	Pages	Errors
1	alecto.fetc.doe.gov	823	6.23%	14.8MB	6.91%	80	02:52	188	3
2	swc	643	4.87%	17.4MB	8.13%	28	08:57	72	55
3	adsl-64-217-116-9.dsl.hstntx.swbell.net	399	3.02%	7.5MB	3.49%	17	03:21	93	3
4	cferd017.cfertech.com	323	2.45%	6.2MB	2.90%	26	04:06	84	3
5	LIZ1	302	2.29%	2.5MB	1.17%	15	06:07	51	29
6	remus.fetc.doe.gov	186	1.41%	4.0MB	1.87%	22	01:53	51	0
7	station1.nyseg.com	180	1.36%	2.9MB	1.35%	17	03:17	59	0
8	208.195.132.30	178	1.35%	2.3MB	1.07%	15	04:09	43	11
9	cartman.thenap.net	165	1.25%	2.1MB	<1%	16	05:08	44	31
10	resacct1.emsadm.psu.edu	163	1.23%	1.3MB	<1%	18	01:59	35	1
11	csde-16177.communicomm.com	144	1.09%	879.7kB	<1%	10	06:08	25	1
12	frame-beldenblake62.allegronet.net	144	1.09%	3.1MB	1.45%	12	04:16	22	1
13	rich-dhcp-0312.tamu.edu	141	1.07%	2.7MB	1.28%	17	02:09	46	0
14	12.23.220.2	141	1.07%	415.0kB	<1%	25	01:33	38	0
15	149.103.1.200	136	1.03%	2.2MB	1.04%	16	04:55	38	0
16	proxy1-external.tulsa1.ok.home.com	127	<1%	3.8MB	1.77%	15	01:24	31	0
17	beartooth.idt-gti.com	126	<1%	1.7MB	<1%	10	03:51	21	1
18	doegate-1.DOE.GOV	125	<1%	1.5MB	<1%	13	02:37	40	0
19	216.181.167.173	106	<1%	882.9kB	<1%	12	02:18	25	6
20	brd.npto.doe.gov	104	<1%	1.1MB	<1%	13	02:30	28	0
21	outback.eee.psu.edu	100	<1%	1.2MB	<1%	7	01:45	10	1
22	host-64-65-221-108.choiceone.net	94	<1%	549.2kB	<1%	7	04:22	23	0

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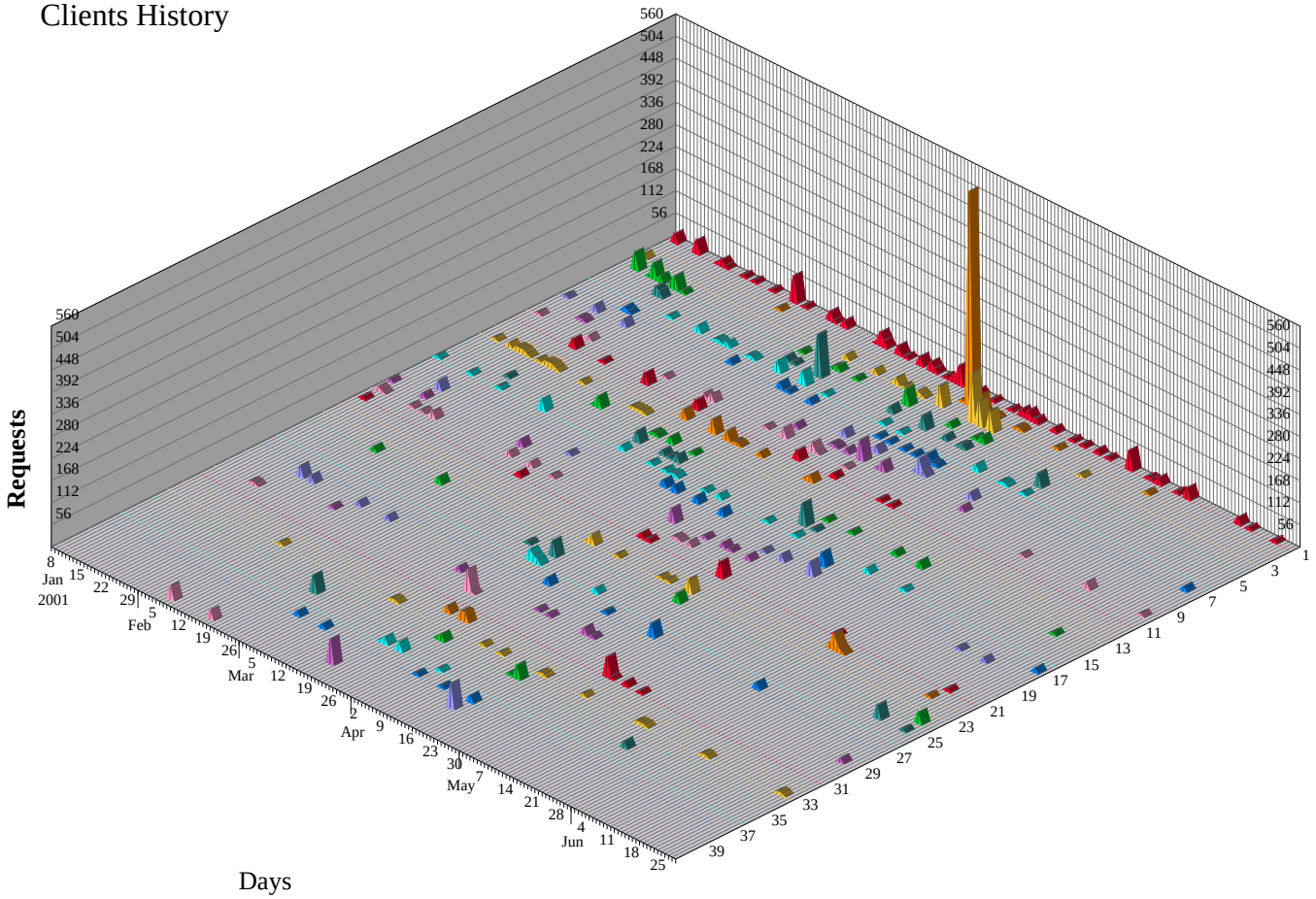
Clients

	Client	Requests	%	Bytes	%	Sessions	Mean Time	Pages	Errors
23	209.184.225.4	92	<1%	2.2MB	1.01%	7	02:17	16	1
24	157.182.40.208	91	<1%	1.8MB	<1%	5	04:48	20	0
25	br-inc.com	85	<1%	1.2MB	<1%	5	03:46	21	0
26	206.10.251.5	81	<1%	793.9kB	<1%	5	02:28	17	0
27	cache2.gw.utexas.edu	80	<1%	1.7MB	<1%	5	02:07	25	0
28	knewcome.nrcce.wvu.edu	79	<1%	1.5MB	<1%	8	01:28	20	0
29	157.182.40.133	79	<1%	902.7kB	<1%	5	05:09	22	0
30	pa-monroeville1a-306.pit.adelphia.net	78	<1%	423.4kB	<1%	5	02:04	26	0
31	24.68.171.63	76	<1%	786.6kB	<1%	4	12:31	7	0
32	209.197.243.2	74	<1%	894.3kB	<1%	5	03:32	11	0
33	207.235.103.6	72	<1%	2.3MB	1.06%	6	03:11	9	1
34	crawler20.bos2.fast-search.net	72	<1%	701.1kB	<1%	58	01:34	71	1
35	64-56-36-195.comcasttel.net	68	<1%	691.4kB	<1%	2	07:30	17	0
36	cache2.ev1.net	67	<1%	1.1MB	<1%	4	05:48	14	0
37	dhcp209-6.rtc.und.NoDak.edu	66	<1%	233.1kB	<1%	2	01:56	8	0
38	rich-dhcp-0283.tamu.edu	66	<1%	612.2kB	<1%	6	02:55	19	1
39	csde-16190.communicomm.com	64	<1%	432.0kB	<1%	3	03:42	9	0
40	tulsa.ogci.com	62	<1%	581.8kB	<1%	5	03:54	18	1
	Average	17	<1%	284.0kB	<1%	2	02:29	4	0
770	**Totals**	13,206	100%	213.5MB	100.00%	1,809	75:02:59	3,315	260

Clients History



Clients History

	Client	Requests	%	Bytes	%	Sessions	Mean Time	Pages	Errors
1	alecto.fetc.doe.gov	823	6.23%	14.8MB	6.91%	80	02:52	188	3
2	swc	643	4.87%	17.4MB	8.13%	28	08:57	72	55
3	adsl-64-217-116-9.dsl.hstntx.swbell.net	399	3.02%	7.5MB	3.49%	17	03:21	93	3
4	cferd017.cfertech.com	323	2.45%	6.2MB	2.90%	26	04:06	84	3
5	LIZ1	302	2.29%	2.5MB	1.17%	15	06:07	51	29
6	remus.fetc.doe.gov	186	1.41%	4.0MB	1.87%	22	01:53	51	0
7	station1.nyseg.com	180	1.36%	2.9MB	1.35%	17	03:17	59	0
8	208.195.132.30	178	1.35%	2.3MB	1.07%	15	04:09	43	11
9	cartman.thenap.net	165	1.25%	2.1MB	<1%	16	05:08	44	31
10	resacct1.emsadm.psu.edu	163	1.23%	1.3MB	<1%	18	01:59	35	1
11	frame-beldenblake62.allegronet.net	144	1.09%	3.1MB	1.45%	12	04:16	22	1
12	csde-16177.communicomm.com	144	1.09%	879.7kB	<1%	10	06:08	25	1
13	12.23.220.2	141	1.07%	415.0kB	<1%	25	01:33	38	0
14	rich-dhcp-0312.tamu.edu	141	1.07%	2.7MB	1.28%	17	02:09	46	0
15	149.103.1.200	136	1.03%	2.2MB	1.04%	16	04:55	38	0
16	proxy1-external.tulsa1.ok.home.com	127	<1%	3.8MB	1.77%	15	01:24	31	0
17	beartooth.idt-gti.com	126	<1%	1.7MB	<1%	10	03:51	21	1
18	doegate-1.DOE.GOV	125	<1%	1.5MB	<1%	13	02:37	40	0
19	216.181.167.173	106	<1%	882.9kB	<1%	12	02:18	25	6
20	brd.npto.doe.gov	104	<1%	1.1MB	<1%	13	02:30	28	0
21	outback.eee.psu.edu	100	<1%	1.2MB	<1%	7	01:45	10	1
22	host-64-65-221-108.choiceone.net	94	<1%	549.2kB	<1%	7	04:22	23	0

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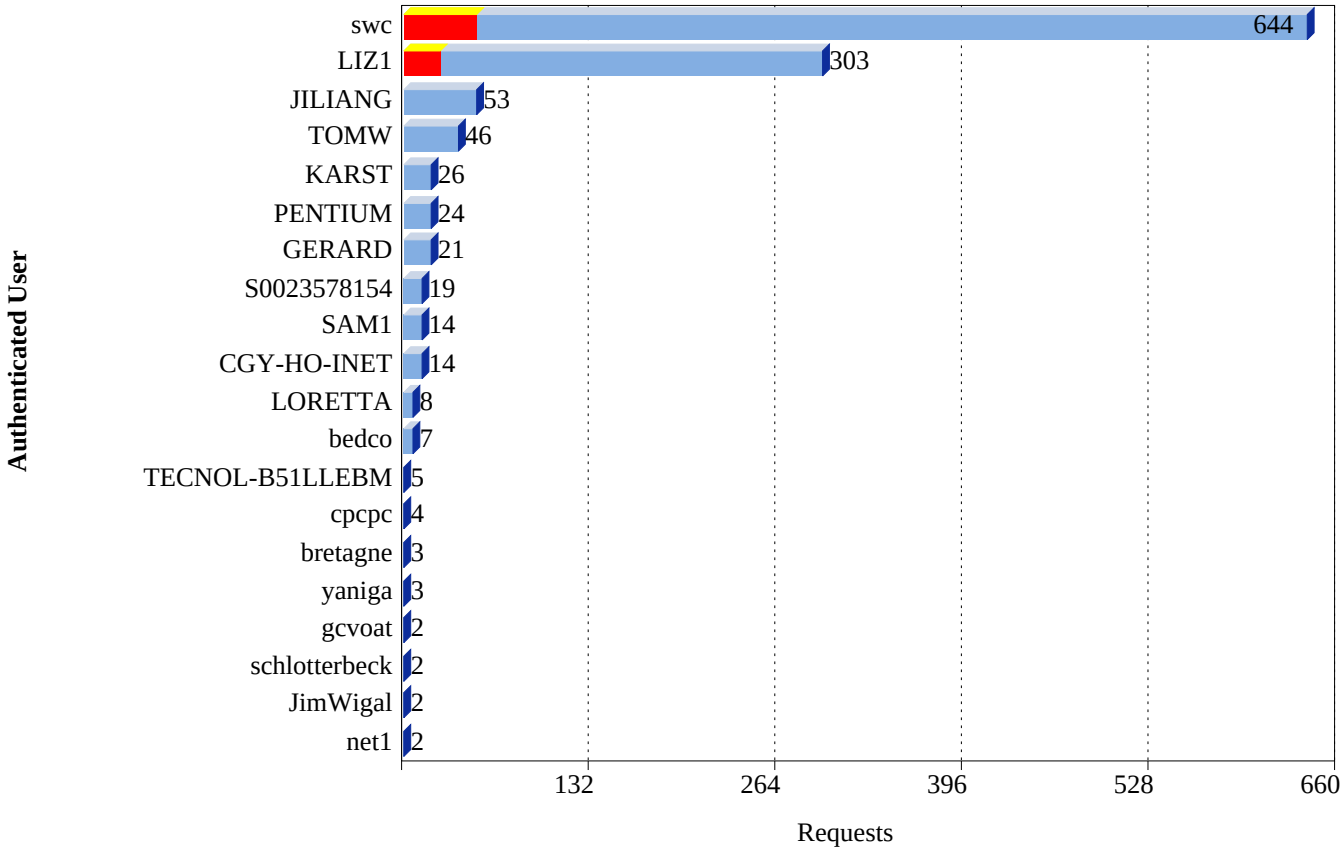
Clients History

	Client	Requests	%	Bytes	%	Sessions	Mean Time	Pages	Errors
23	209.184.225.4	92	<1%	2.2MB	1.01%	7	02:17	16	1
24	157.182.40.208	91	<1%	1.8MB	<1%	5	04:48	20	0
25	br-inc.com	85	<1%	1.2MB	<1%	5	03:46	21	0
26	206.10.251.5	81	<1%	793.9kB	<1%	5	02:28	17	0
27	cache2.gw.utexas.edu	80	<1%	1.7MB	<1%	5	02:07	25	0
28	157.182.40.133	79	<1%	902.7kB	<1%	5	05:09	22	0
29	knewcome.nrcce.wvu.edu	79	<1%	1.5MB	<1%	8	01:28	20	0
30	pa-monroeville1a-306.pit.adelphia.net	78	<1%	423.4kB	<1%	5	02:04	26	0
31	24.68.171.63	76	<1%	786.6kB	<1%	4	12:31	7	0
32	209.197.243.2	74	<1%	894.3kB	<1%	5	03:32	11	0
33	crawler20.bos2.fast-search.net	72	<1%	701.1kB	<1%	58	01:34	71	1
34	207.235.103.6	72	<1%	2.3MB	1.06%	6	03:11	9	1
35	64-56-36-195.comcasttel.net	68	<1%	691.4kB	<1%	2	07:30	17	0
36	cache2.ev1.net	67	<1%	1.1MB	<1%	4	05:48	14	0
37	rich-dhcp-0283.tamu.edu	66	<1%	612.2kB	<1%	6	02:55	19	1
38	dhcp209-6.rtc.und.NoDak.edu	66	<1%	233.1kB	<1%	2	01:56	8	0
39	csde-16190.communicomm.com	64	<1%	432.0kB	<1%	3	03:42	9	0
40	tulsa.ogci.com	62	<1%	581.8kB	<1%	5	03:54	18	1
	Average	17	<1%	284.0kB	<1%	2	02:29	4	0
770	**Totals**	13,206	100%	213.5MB	100.00%	1,809	75:02:59	3,315	260

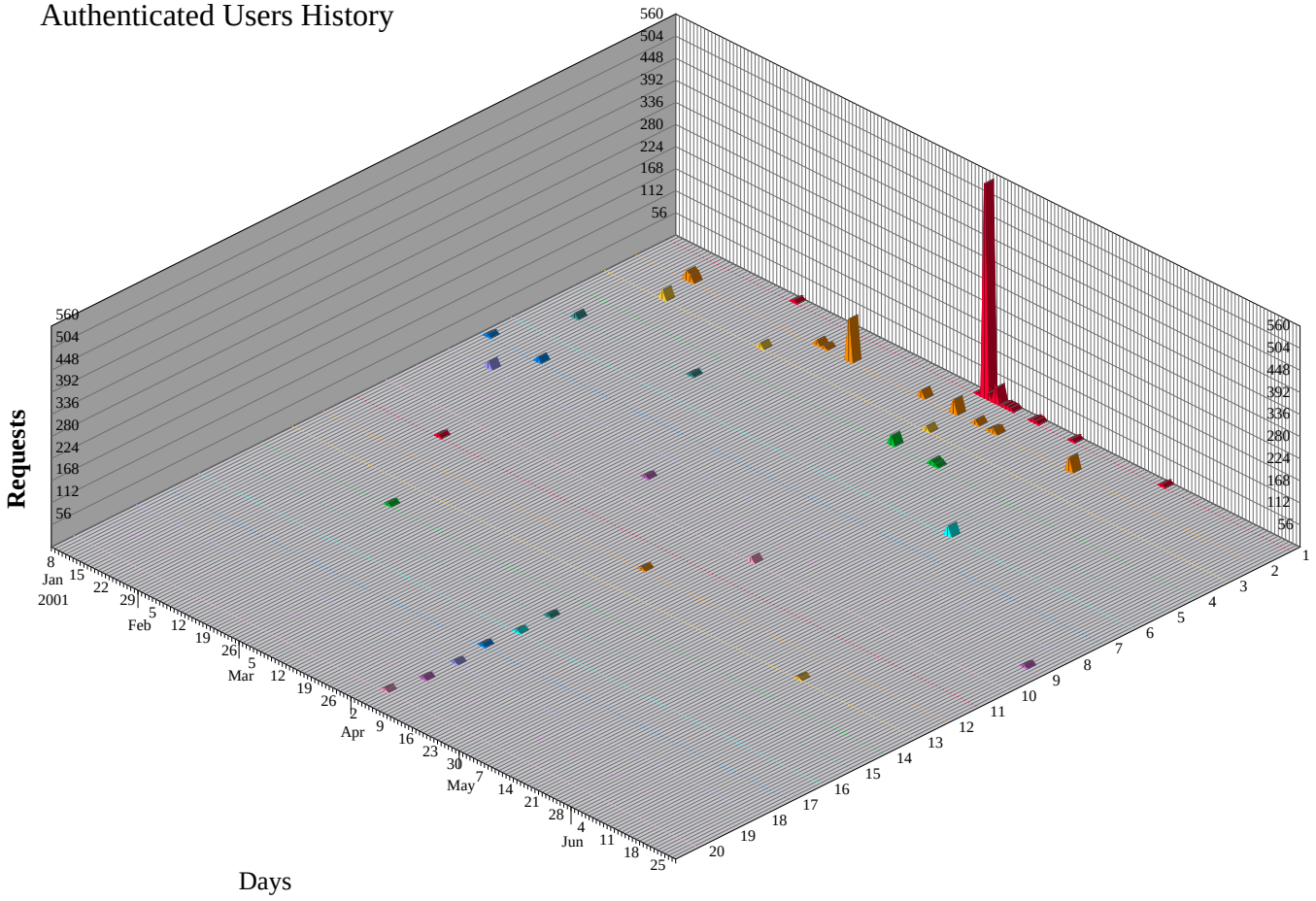
Authenticated Users



Authenticated Users

	Authenticated User	Requests	%	Bytes	%	Sessions	Mean Time	Pages	Errors
1	swc	644	54.48%	17.4MB	77.80%	28	08:57	72	55
2	LIZ1	303	25.63%	2.5MB	11.17%	15	06:07	51	29
3	JILIANG	53	4.48%	572.2kB	2.50%	4	02:12	12	2
4	TOMW	46	3.89%	293.0kB	1.28%	4	02:14	14	1
5	KARST	26	2.20%	428.9kB	1.88%	2	00:36	7	0
6	PENTIUM	24	2.03%	286.1kB	1.25%	1	16:54	4	0
7	GERARD	21	1.78%	281.9kB	1.23%	2	00:50	6	0
8	S0023578154	19	1.61%	168.9kB	<1%	1	02:12	4	0
9	SAM1	14	1.18%	179.0kB	<1%	1	02:17	5	1
10	CGY-HO-INET	14	1.18%	164.2kB	<1%	2	00:43	6	0
11	LORETTA	8	<1%	77.7kB	<1%	1	00:31	1	0
12	bedco	7	<1%	2.3kB	<1%	1	01:49	6	6
13	TECNOL-B51LLEBM	5	<1%	62.4kB	<1%	1	00:32	0	0
14	cpcpc	4	<1%	1.2kB	<1%	2	00:30	3	3
15	bretagne	3	<1%	818	<1%	1	01:54	2	2
16	yaniga	3	<1%	794	<1%	1	00:40	2	2
17	gcvoat	2	<1%	397	<1%	1	00:30	1	1
18	schlotterbeck	2	<1%	397	<1%	1	00:30	1	1
19	JimWigal	2	<1%	397	<1%	1	00:30	1	1
20	net1	2	<1%	397	<1%	1	00:30	1	1
	Average	59	5.00%	1.1MB	5.00%	3	05:33	9	5
20	**Totals**	1,182	100%	22.3MB	100%	71	06:34:42	199	105

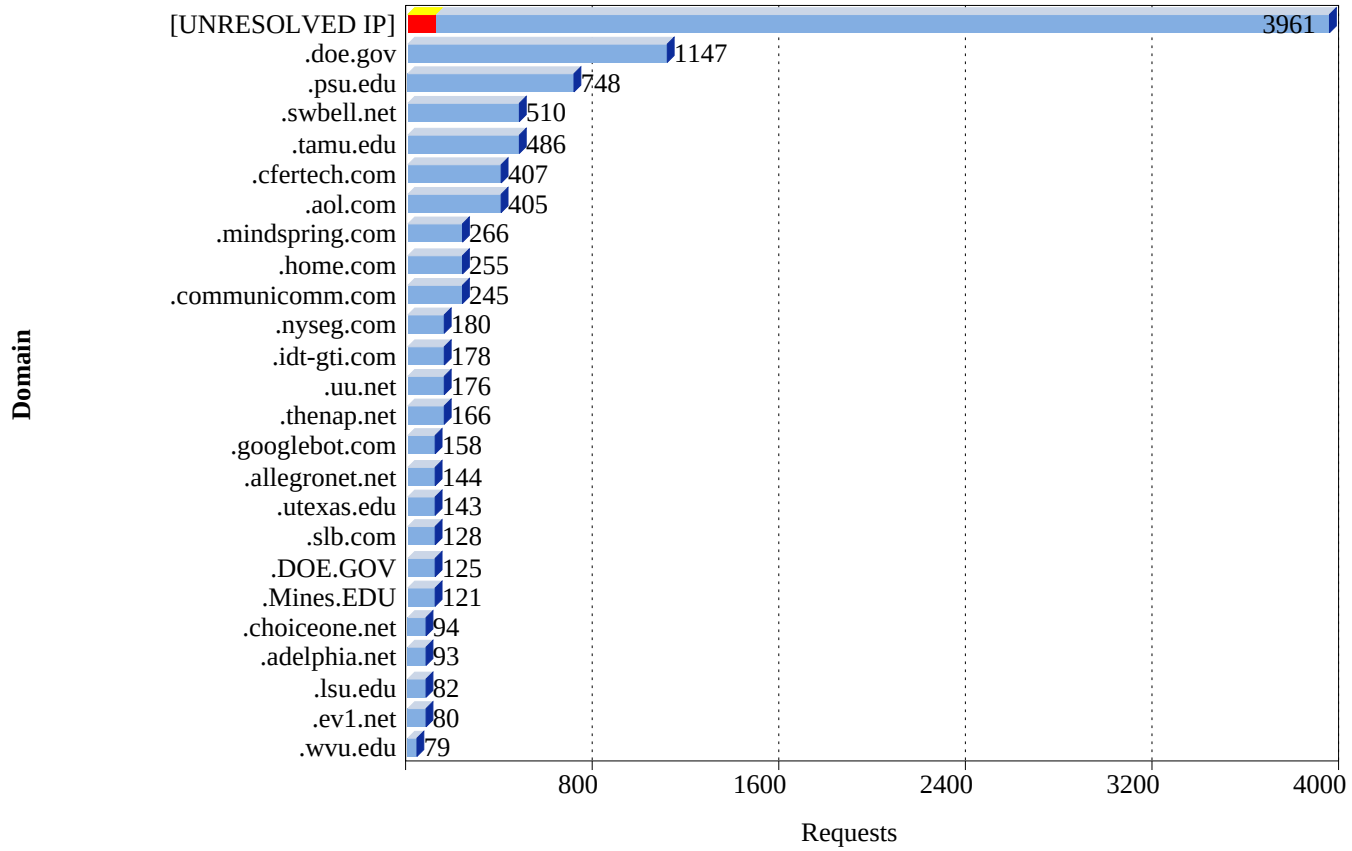
Authenticated Users History



Authenticated Users History

	Authenticated User	Requests	%	Sessions	Mean Time	Pages
1	644	54.48%	28	08:57	72	55
303	25.63%	15	06:07	51	29	PDFError
4.48%	4	02:12	12	2	PDFError	3
4	02:14	14	1	PDFError	4	46
00:36	7	0	PDFError	5	26	2.20%
4	0	PDFError	6	24	2.03%	1
0	PDFError	7	21	1.78%	2	00:50
PDFError	8	19	1.61%	1	02:12	4
9	14	1.18%	2	00:43	6	0
14	1.18%	1	02:17	5	1	PDFError
<1%	1	00:31	1	0	PDFError	11
1	01:49	6	6	PDFError	12	7
00:32	0	0	PDFError	13	5	<1%
3	3	PDFError	14	4	<1%	2
2	PDFError	15	3	<1%	1	00:40
PDFError	16	3	<1%	1	01:54	2
17	2	<1%	1	00:30	1	1
2	<1%	1	00:30	1	1	PDFError
<1%	1	00:30	1	1	PDFError	19
1	00:30	1	1	PDFError	20	2
3	05:33	9	5		**Average**	59
71	06:34:42	199	105	20	**Totals**	1,182

Domains



Domains

	Domain	Requests	%	Bytes	%	Sessions	Visitors	Pages	Total Time	Errors
1	[UNRESOLVED IP]	3,961	29.99%	64.1MB	30.00%	400	161	893	19:10:47	136
2	.doe.gov	1,147	8.69%	20.2MB	9.47%	117	5	277	05:26:47	3
3	.psu.edu	748	5.66%	11.1MB	5.22%	83	50	185	02:51:21	19
4	.swbell.net	510	3.86%	8.9MB	4.16%	27	9	114	01:08:50	3
5	.tamu.edu	486	3.68%	7.2MB	3.35%	49	17	122	01:29:16	1
6	.cfertech.com	407	3.08%	7.2MB	3.37%	35	3	103	02:08:24	6
7	.aol.com	405	3.07%	8.1MB	3.79%	293	126	119	04:22:32	13
8	.mindspring.com	266	2.01%	2.3MB	1.09%	14	13	55	55:00	2
9	.home.com	255	1.93%	7.4MB	3.46%	39	12	70	59:05	1
10	.communicomm.com	245	1.86%	1.5MB	<1%	15	3	41	01:14:40	1
11	.nyseg.com	180	1.36%	2.9MB	1.35%	17	1	59	56:00	0
12	.idt-gti.com	178	1.35%	2.5MB	1.19%	13	3	33	47:52	4
13	.uu.net	176	1.33%	1.8MB	<1%	15	14	31	44:40	2
14	.thenap.net	166	1.26%	2.1MB	<1%	17	2	44	01:22:44	32
15	.googlebot.com	158	1.20%	6.8MB	3.17%	151	60	85	01:50:54	7
16	.allegronet.net	144	1.09%	3.1MB	1.45%	12	1	22	51:22	1
17	.utexas.edu	143	1.08%	3.0MB	1.41%	11	6	44	23:24	1
18	.slb.com	128	<1%	1.8MB	<1%	15	12	18	26:44	1
19	.DOE.GOV	125	<1%	1.5MB	<1%	13	1	40	34:04	0
20	.Mines.EDU	121	<1%	1.6MB	<1%	10	4	18	40:38	0
21	.choiceone.net	94	<1%	549.2kB	<1%	7	1	23	30:40	0
22	.adelphia.net	93	<1%	659.7kB	<1%	6	2	32	18:35	0

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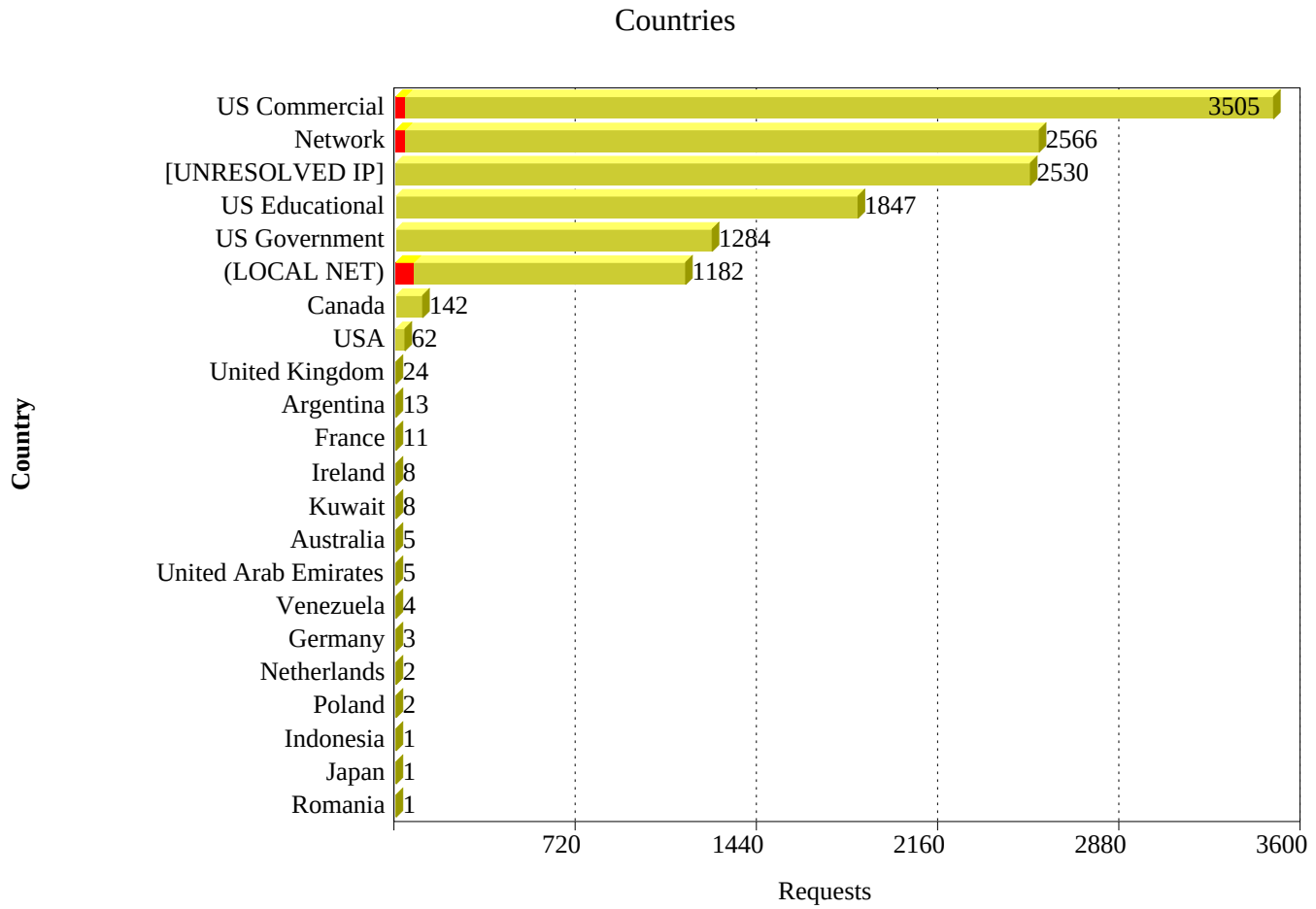
Domains

	Domain	Requests	%	Bytes	%	Sessions	Visitors	Pages	Total Time	Errors
23	.lsu.edu	82	<1%	883.9kB	<1%	3	3	21	30:56	0
24	.ev1.net	80	<1%	1.3MB	<1%	5	2	16	24:28	0
25	.wvu.edu	79	<1%	1.5MB	<1%	8	1	20	11:47	0
26	.kscable.com	78	<1%	2.5MB	1.18%	5	2	22	04:20	0
27	.fast-search.net	72	<1%	701.1kB	<1%	58	1	71	01:31:29	1
28	.comcasttel.net	68	<1%	691.4kB	<1%	2	1	17	15:00	0
29	.NoDak.edu	66	<1%	233.1kB	<1%	2	1	8	03:52	0
30	.eogresources.com	65	<1%	591.1kB	<1%	32	2	27	41:38	0
31	.ogci.com	62	<1%	581.8kB	<1%	5	1	18	19:31	1
32	.global-com.com	61	<1%	815.6kB	<1%	3	1	11	16:36	0
33	.flex.net	61	<1%	382.6kB	<1%	7	7	22	08:04	2
34	.supernet.com	61	<1%	959.9kB	<1%	4	4	13	12:59	1
35	.cadvision.com	60	<1%	916.4kB	<1%	7	5	11	07:21	2
36	.state.ny.us	57	<1%	863.1kB	<1%	5	5	14	06:47	0
37	.salsgiver.com	57	<1%	1.0MB	<1%	5	1	13	10:13	1
38	.penn.com	57	<1%	1.4MB	<1%	7	2	15	20:37	0
39	.uiuc.edu	54	<1%	716.4kB	<1%	5	3	18	20:53	1
40	.buffnet.net	46	<1%	824.4kB	<1%	2	2	5	14:22	0
	Average	69	<1%	1.1MB	<1%	9	4	17	02:09	1
191	**Totals**	13,206	100%	213.5MB	100.00%	1,809	770	3,315	65:16:41	260



Countries

	Country	Requests	%	Bytes	%	Sessions	Visitors	Pages	Total Time	Errors
1	US Commercial	3,505	26.54%	61.1MB	28.61%	795	328	983	20:31:25	49
2	Network	2,566	19.43%	37.4MB	17.49%	288	153	651	12:24:01	47
3	[UNRESOLVED IP]	2,530	19.16%	38.3MB	17.91%	293	128	632	11:40:03	30
4	US Educational	1,847	13.99%	27.2MB	12.75%	187	94	447	06:44:16	24
5	US Government	1,284	9.72%	22.0MB	10.30%	132	8	322	06:07:08	4
6	(LOCAL NET)	1,182	8.95%	22.3MB	10.45%	71	20	199	06:34:42	105
7	Canada	142	1.08%	3.4MB	1.58%	15	14	45	51:41	1
8	USA	62	<1%	948.8kB	<1%	6	6	15	07:18	0
9	United Kingdom	24	<1%	296.5kB	<1%	5	3	2	02:45	0
10	Argentina	13	<1%	241.0kB	<1%	2	2	3	02:47	0
11	France	11	<1%	178.7kB	<1%	1	1	3	01:05	0
12	Ireland	8	<1%	89.9kB	<1%	1	1	1	00:32	0
13	Kuwait	8	<1%	25.4kB	<1%	1	1	6	02:00	0
14	Australia	5	<1%	85.7kB	<1%	1	1	1	00:45	0
15	United Arab Emirates	5	<1%	85.7kB	<1%	1	1	1	00:33	0
16	Venezuela	4	<1%	20.9kB	<1%	1	1	1	01:09	0
17	Germany	3	<1%	1.9kB	<1%	2	2	2	01:01	0
18	Netherlands	2	<1%	3.3kB	<1%	2	2	0	01:00	0
19	Poland	2	<1%	1.7kB	<1%	2	1	0	01:00	0
20	Indonesia	1	<1%	1.7kB	<1%	1	1	0	00:30	0
21	Japan	1	<1%	234	<1%	1	1	1	00:30	0
22	Romania	1	<1%	1.7kB	<1%	1	1	0	00:30	0

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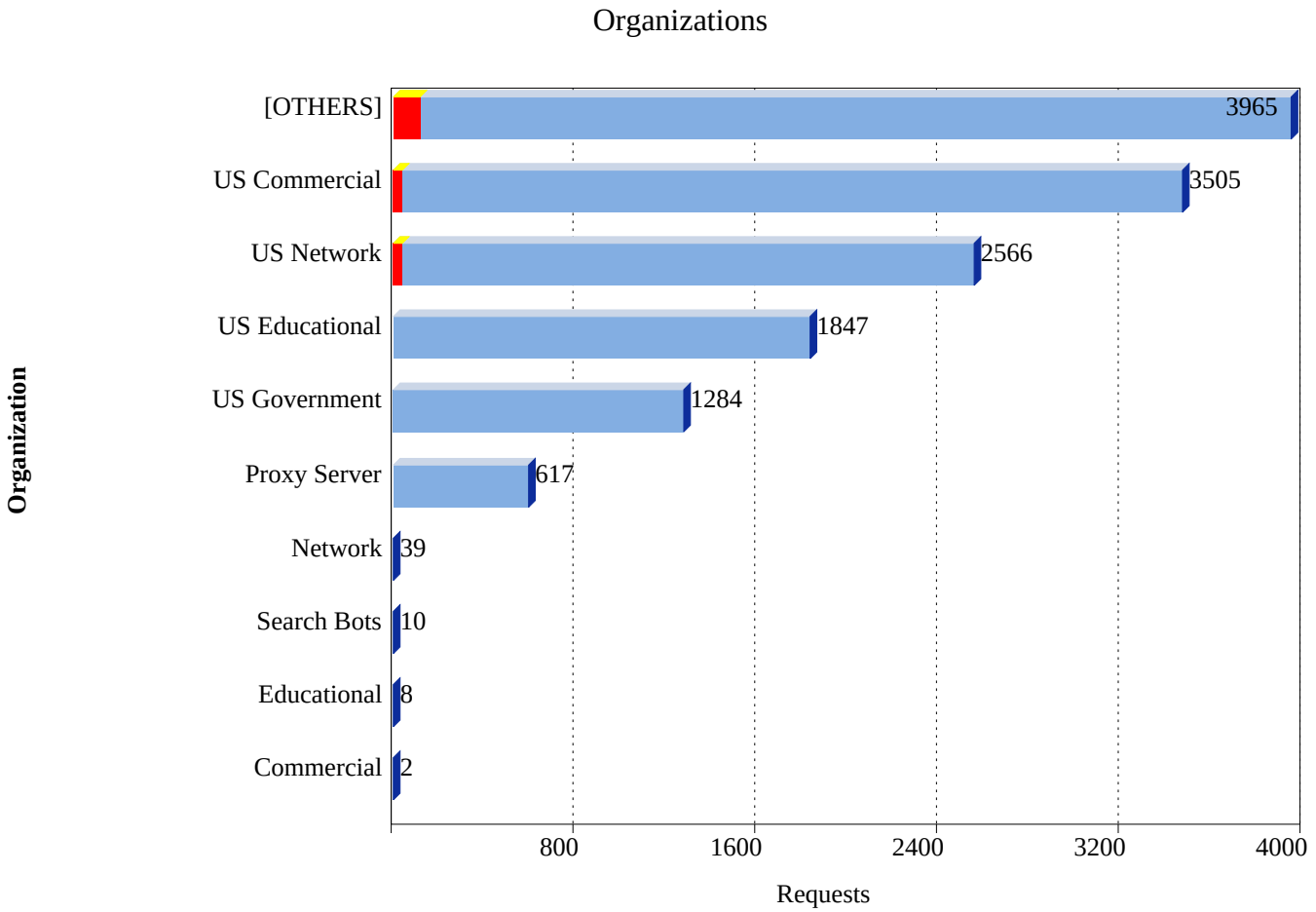
Countries

	Country	Requests	%	Bytes	%	Sessions	Visitors	Pages	Total Time	Errors
	Average	600	4.55%	9.7MB	4.55%	82	35	150	02:09	11
22	**Totals**	13,206	100%	213.5MB	100.00%	1,809	770	3,315	65:16:41	260

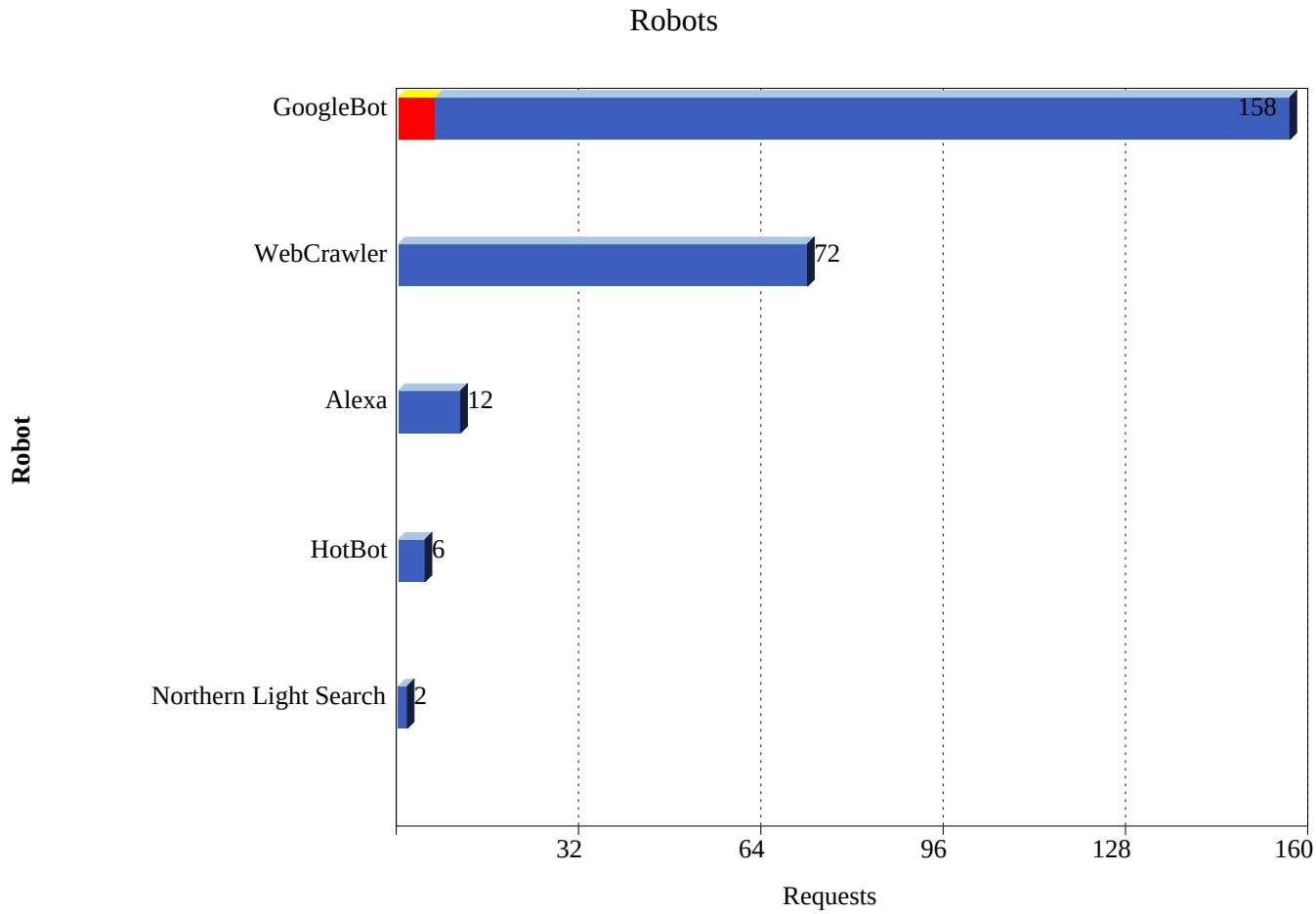
World Regions

	Region	Requests	%	Bytes	%	Sessions	Visitors	Pages	Total Time	Errors
1	North America	6,840	51.79%	114.6MB	53.67%	1,135	450	1,812	34:21:48	78
2	Unknown	6,278	47.54%	97.9MB	45.86%	652	301	1,482	30:38:46	182
3	Europe	51	<1%	573.5kB	<1%	14	11	8	07:53	0
4	South America	17	<1%	261.9kB	<1%	3	3	4	03:56	0
5	Asia	15	<1%	112.9kB	<1%	4	4	8	03:33	0
6	Oceania	5	<1%	85.7kB	<1%	1	1	1	00:45	0
	Average	2,201	16.67%	35.6MB	16.67%	301	128	552	02:09	43
6	**Totals**	13,206	100%	213.5MB	100.00%	1,809	770	3,315	65:16:41	260



Organizations

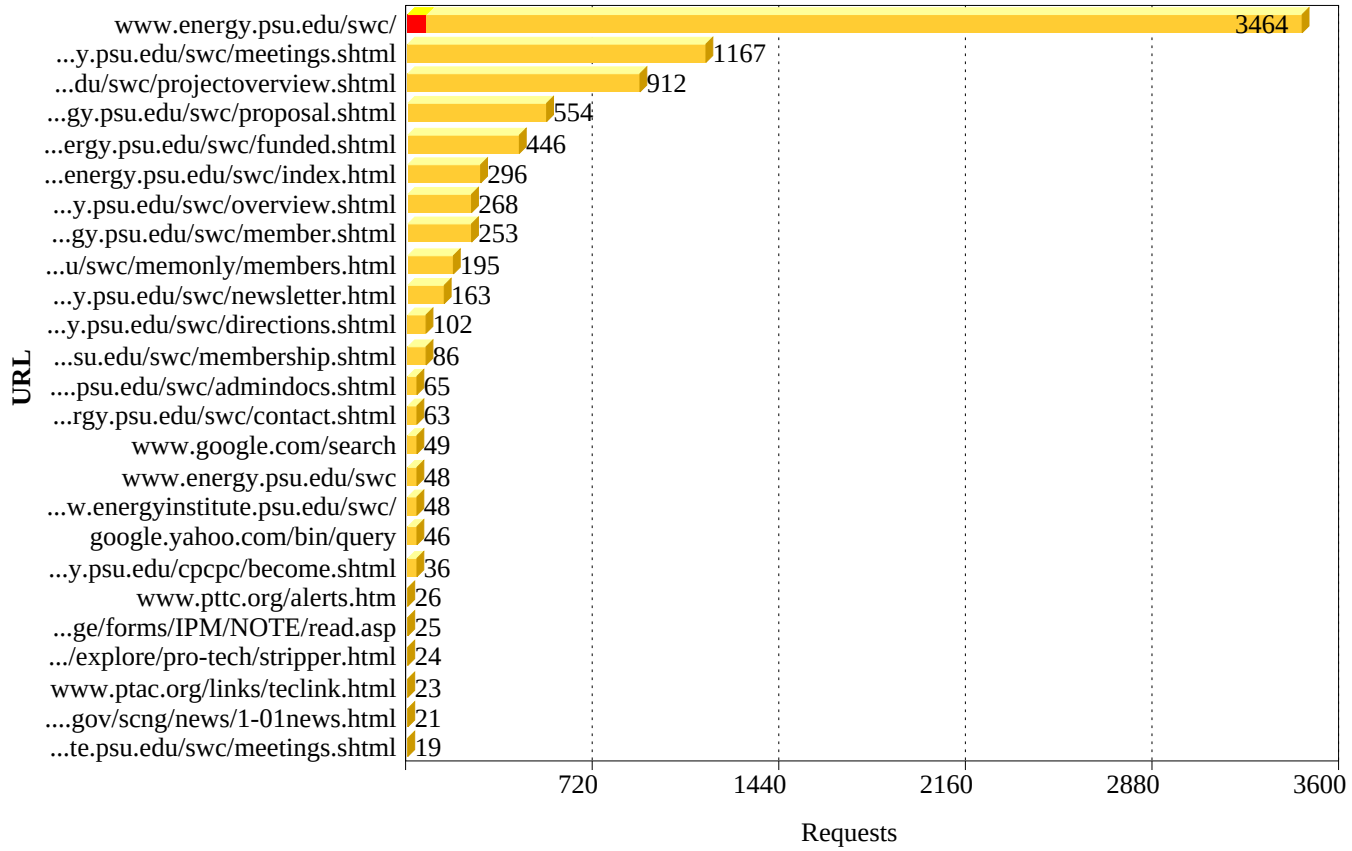
	Organization	Requests	%	Bytes	%	Sessions	Visitors	Pages	Total Time	Errors
1	[OTHERS]	3,965	28.64%	65.4MB	28.71%	397	177	899	19:20:37	136
2	US Commercial	3,505	25.32%	61.1MB	26.82%	795	328	983	20:31:25	49
3	US Network	2,566	18.54%	37.4MB	16.40%	288	153	651	12:24:01	47
4	US Educational	1,847	13.34%	27.2MB	11.95%	187	94	447	06:44:16	24
5	US Government	1,284	9.28%	22.0MB	9.65%	132	8	322	06:07:08	4
6	Proxy Server	617	4.46%	13.9MB	6.10%	327	136	177	05:15:29	14
7	Network	39	<1%	718.6kB	<1%	7	7	10	11:31	0
8	Search Bots	10	<1%	102.8kB	<1%	4	4	10	04:01	0
9	Educational	8	<1%	25.4kB	<1%	1	1	6	02:00	0
10	Commercial	2	<1%	1.9kB	<1%	2	2	1	01:00	0
	Average	1,384	10.00%	22.8MB	10.00%	214	91	350	01:58	27
10	**Totals**	13,843	100%	227.8MB	100%	2,140	910	3,506	70:41:28	274



Robots

	Robot	Requests	%	Bytes	%	Errors
1	GoogleBot	158	63.20%	6.8MB	89.06%	7
2	WebCrawler	72	28.80%	701.1kB	9.02%	1
3	Alexa	12	4.80%	100.7kB	1.29%	1
4	HotBot	6	2.40%	40.0kB	<1%	0
5	Northern Light Search	2	<1%	8.8kB	<1%	0
	Average	50	20.00%	1.5MB	20.00%	1
5	**Totals**	250	100%	7.6MB	100.00%	9

Referrals



Referrals

	URL	Requests	%	Bytes	%	Sessions	Pages	Errors
1	http://www.energy.psu.edu/swc/	3,464	40.20%	42.4MB	30.43%	192	951	95
2	http://www.energy.psu.edu/swc/meetings.shtml	1,167	13.54%	24.8MB	17.80%	73	84	0
3	http://www.energy.psu.edu/swc/projectoverview.shtml	912	10.58%	11.2MB	8.06%	4	9	0
4	http://www.energy.psu.edu/swc/proposal.shtml	554	6.43%	9.8MB	7.02%	18	14	0
5	http://www.energy.psu.edu/swc/funded.shtml	446	5.18%	5.4MB	3.84%	11	108	0
6	http://www.energy.psu.edu/swc/index.html	296	3.44%	3.2MB	2.30%	6	115	4
7	http://www.energy.psu.edu/swc/overview.shtml	268	3.11%	7.5MB	5.37%	14	92	0
8	http://www.energy.psu.edu/swc/member.shtml	253	2.94%	3.5MB	2.49%	12	32	0
9	http://www.energy.psu.edu/swc/memonly/members.html	195	2.26%	4.0MB	2.84%	5	2	16
10	http://www.energy.psu.edu/swc/newsletter.html	163	1.89%	11.7MB	8.42%	3	18	0
11	http://www.energy.psu.edu/swc/directions.shtml	102	1.18%	3.1MB	2.25%	5	4	0
12	http://www.energy.psu.edu/swc/membership.shtml	86	<1%	2.1MB	1.52%	1	11	0
13	http://www.energy.psu.edu/swc/admindocs.shtml	65	<1%	602.7kB	<1%	2	5	0
14	http://www.energy.psu.edu/swc/contact.shtml	63	<1%	1.6MB	1.12%	8	14	0
15	http://www.google.com/search	49	<1%	1.0MB	<1%	42	14	0
16	http://www.energy.psu.edu/swc	48	<1%	262.4kB	<1%	20	48	0
17	http://www.energyinstitute.psu.edu/swc/	48	<1%	742.2kB	<1%	0	16	0
18	http://google.yahoo.com/bin/query	46	<1%	1.5MB	1.10%	43	12	0
19	http://www.energy.psu.edu/cpcpc/become.shtml	36	<1%	51.2kB	<1%	34	0	0
20	http://www.pttc.org/alerts.htm	26	<1%	295.3kB	<1%	24	26	0
21	http://www.bretagnegp.com/exchange/forms/IPM/NOTE/read.asp	25	<1%	113.9kB	<1%	9	25	0
22	http://www.netl.doe.gov/scng/explore/pro-tech/stripper.html	24	<1%	265.9kB	<1%	24	24	0

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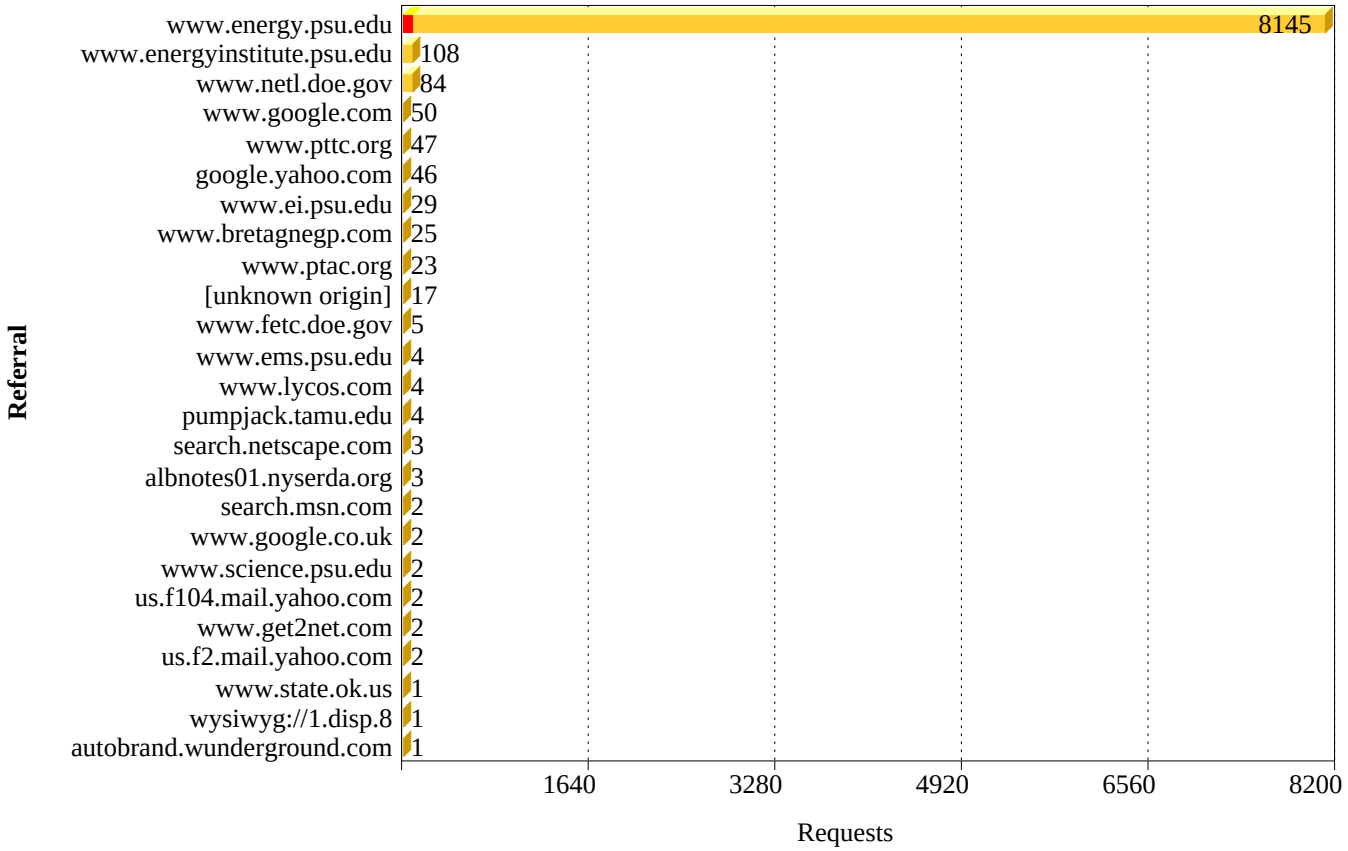
Referrals

	URL	Requests	%	Bytes	%	Sessions	Pages	Errors
23	http://www.ptac.org/links/teclink.html	23	<1%	144.0kB	<1%	11	23	0
24	http://www.netl.doe.gov/scng/news/1-01news.html	21	<1%	206.7kB	<1%	19	21	0
25	http://www.energyinstitute.psu.edu/swc/meetings.shtml	19	<1%	524.3kB	<1%	0	3	0
26	http://www.energy.psu.edu/swc/membersonly.html	18	<1%	406.9kB	<1%	0	2	0
27	[unknown origin]	17	<1%	201.9kB	<1%	17	17	0
28	http://www.ei.psu.edu/swc/	17	<1%	211.2kB	<1%	0	2	0
29	http://www.netl.doe.gov/scng/demo/news/1-01news.html	16	<1%	92.1kB	<1%	9	16	0
30	http://www.netl.doe.gov/scng/explore/ep_refshlf.html	11	<1%	83.4kB	<1%	8	11	0
31	http://www.energyinstitute.psu.edu/swc/agenda.pdf	9	<1%	51.1kB	<1%	0	0	0
32	http://www.ei.psu.edu/swc/newsletter.html	9	<1%	992.0kB	<1%	0	0	0
33	http://www.pttc.org/tech_sum/ts_249.htm	8	<1%	53.2kB	<1%	3	8	0
34	http://www.energyinstitute.psu.edu/swc/funded.shtml	7	<1%	94.2kB	<1%	0	2	0
35	http://www.energyinstitute.psu.edu/swc/member.shtml	7	<1%	62.6kB	<1%	0	2	0
36	http://www.pttc.org/test/index.html	5	<1%	56.0kB	<1%	5	5	0
37	http://www.pttc.org/NewWeb/alerts.htm	5	<1%	23.2kB	<1%	5	5	0
38	http://www.lycos.com/srch/	4	<1%	52.4kB	<1%	4	4	0
39	http://pumpjack.tamu.edu/pete-news2.html	4	<1%	11.9kB	<1%	2	4	0
40	http://www.energyinstitute.psu.edu/swc\	4	<1%	79.6kB	<1%	0	1	0
	Average	97	1.14%	1.6MB	1.14%	7	20	1
88	**Totals**	8,617	100%	139.4MB	100%	676	1,795	121

Referral Sites



Referral Sites

	Referral	Requests	%	Bytes	%	Sessions	Pages	Errors
1	http://www.energy.psu.edu	8,145	94.52%	131.7MB	94.46%	409	1,512	115
2	http://www.energyinstitute.psu.edu	108	1.25%	1.8MB	1.30%	1	27	0
3	http://www.netl.doe.gov	84	<1%	786.9kB	<1%	70	84	0
4	http://www.google.com	50	<1%	1.1MB	<1%	43	15	0
5	http://www.pttc.org	47	<1%	452.2kB	<1%	39	47	0
6	http://google.yahoo.com	46	<1%	1.5MB	1.10%	43	12	0
7	http://www.ei.psu.edu	29	<1%	1.3MB	<1%	0	4	0
8	http://www.bretagnegp.com	25	<1%	113.9kB	<1%	9	25	0
9	http://www.ptac.org	23	<1%	144.0kB	<1%	11	23	0
10	[unknown origin]	17	<1%	201.9kB	<1%	17	17	0
11	http://www.fetc.doe.gov	5	<1%	60.3kB	<1%	5	5	0
12	http://www.ems.psu.edu	4	<1%	21.9kB	<1%	2	0	1
13	http://www.lycos.com	4	<1%	52.4kB	<1%	4	4	0
14	http://pumpjack.tamu.edu	4	<1%	11.9kB	<1%	2	4	0
15	http://search.netscape.com	3	<1%	64.4kB	<1%	3	1	0
16	http://albnotes01.nyserda.org	3	<1%	24.5kB	<1%	2	3	0
17	http://search.msn.com	2	<1%	13.4kB	<1%	1	2	0
18	http://www.google.co.uk	2	<1%	33.8kB	<1%	2	0	0
19	http://www.science.psu.edu	2	<1%	25.1kB	<1%	2	2	0
20	http://us.f104.mail.yahoo.com	2	<1%	11.4kB	<1%	1	2	0
21	http://www.get2net.com	2	<1%	11.4kB	<1%	1	2	0
22	http://us.f2.mail.yahoo.com	2	<1%	11.0kB	<1%	1	2	0

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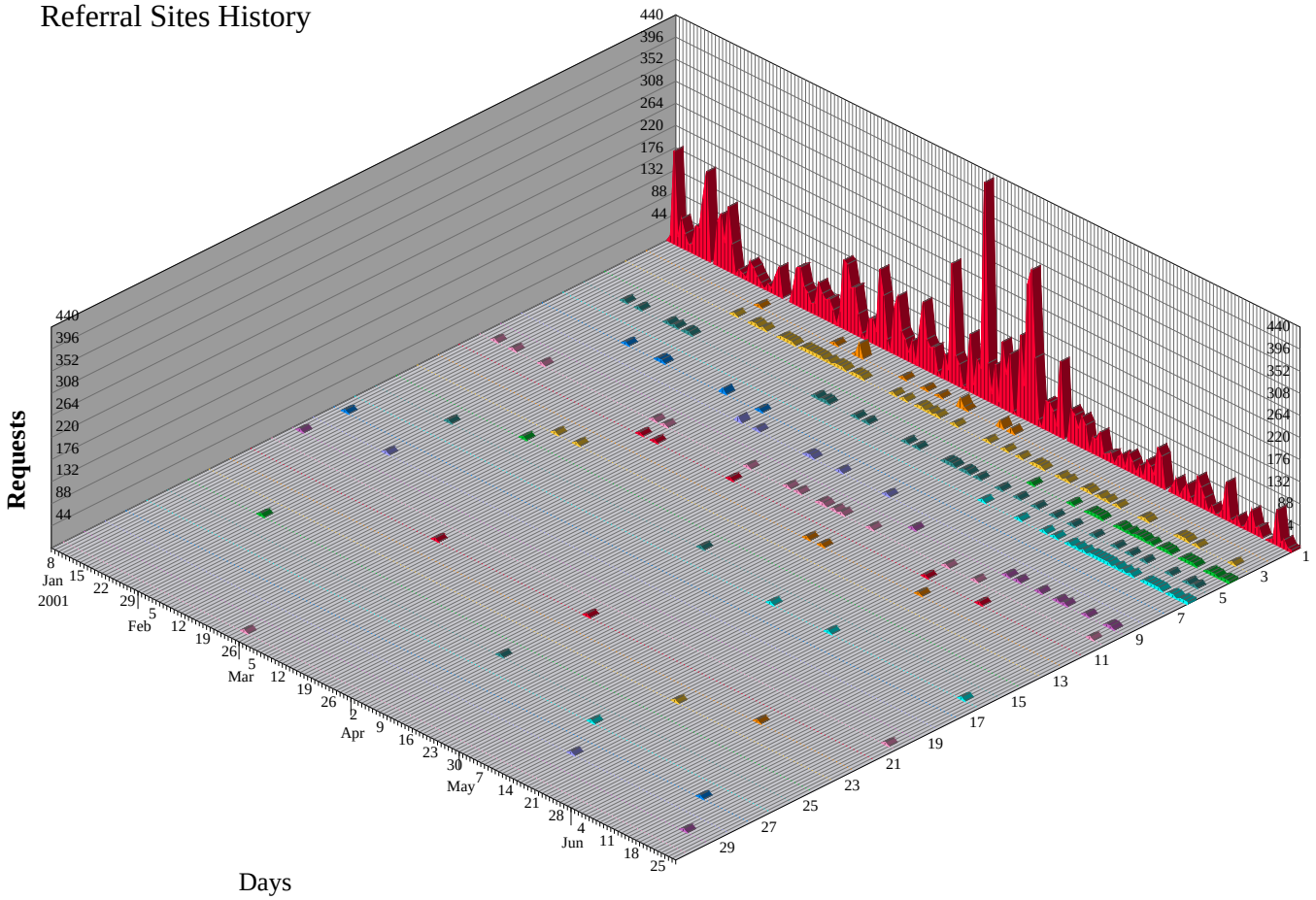
Referral Sites

	Referral	Requests	%	Bytes	%	Sessions	Pages	Errors
23	http://www.state.ok.us	1	<1%	0	0%	1	0	1
24	wysiwyg://1.disp.8	1	<1%	3.0kB	<1%	1	0	1
25	http://autobrand.wunderground.com	1	<1%	32.0kB	<1%	1	0	0
26	http://mail.chem.psu.edu:8383	1	<1%	12.5kB	<1%	1	1	0
27	wysiwyg://1.disp.1	1	<1%	3.0kB	<1%	1	0	1
28	http://mir.maricopa.edu	1	<1%	3.0kB	<1%	1	0	1
29	wysiwyg://1.disp.50	1	<1%	3.0kB	<1%	1	0	1
30	http://crown.pnge.psu.edu	1	<1%	13.9kB	<1%	1	1	0
	Average	287	3.33%	4.6MB	3.33%	22	59	4
30	**Totals**	8,617	100%	139.4MB	100%	676	1,795	121

Referral Sites History



Referral Sites History

	Referral	Requests	%	Bytes	%	Sessions	Pages	Errors
1	http://www.energy.psu.edu	8,145	94.52%	131.7MB	94.46%	409	1,512	115
2	http://www.energyinstitute.psu.edu	108	1.25%	1.8MB	1.30%	1	27	0
3	http://www.netl.doe.gov	84	<1%	786.9kB	<1%	70	84	0
4	http://www.google.com	50	<1%	1.1MB	<1%	43	15	0
5	http://www.pttc.org	47	<1%	452.2kB	<1%	39	47	0
6	http://google.yahoo.com	46	<1%	1.5MB	1.10%	43	12	0
7	http://www.ei.psu.edu	29	<1%	1.3MB	<1%	0	4	0
8	http://www.bretagnegp.com	25	<1%	113.9kB	<1%	9	25	0
9	http://www.ptac.org	23	<1%	144.0kB	<1%	11	23	0
10	[unknown origin]	17	<1%	201.9kB	<1%	17	17	0
11	http://www.fetc.doe.gov	5	<1%	60.3kB	<1%	5	5	0
12	http://www.lycos.com	4	<1%	52.4kB	<1%	4	4	0
13	http://pumpjack.tamu.edu	4	<1%	11.9kB	<1%	2	4	0
14	http://www.ems.psu.edu	4	<1%	21.9kB	<1%	2	0	1
15	http://albnotes01.nyserda.org	3	<1%	24.5kB	<1%	2	3	0
16	http://search.netscape.com	3	<1%	64.4kB	<1%	3	1	0
17	http://us.f104.mail.yahoo.com	2	<1%	11.4kB	<1%	1	2	0
18	http://www.get2net.com	2	<1%	11.4kB	<1%	1	2	0
19	http://us.f2.mail.yahoo.com	2	<1%	11.0kB	<1%	1	2	0
20	http://search.msn.com	2	<1%	13.4kB	<1%	1	2	0
21	http://www.science.psu.edu	2	<1%	25.1kB	<1%	2	2	0
22	http://www.google.co.uk	2	<1%	33.8kB	<1%	2	0	0

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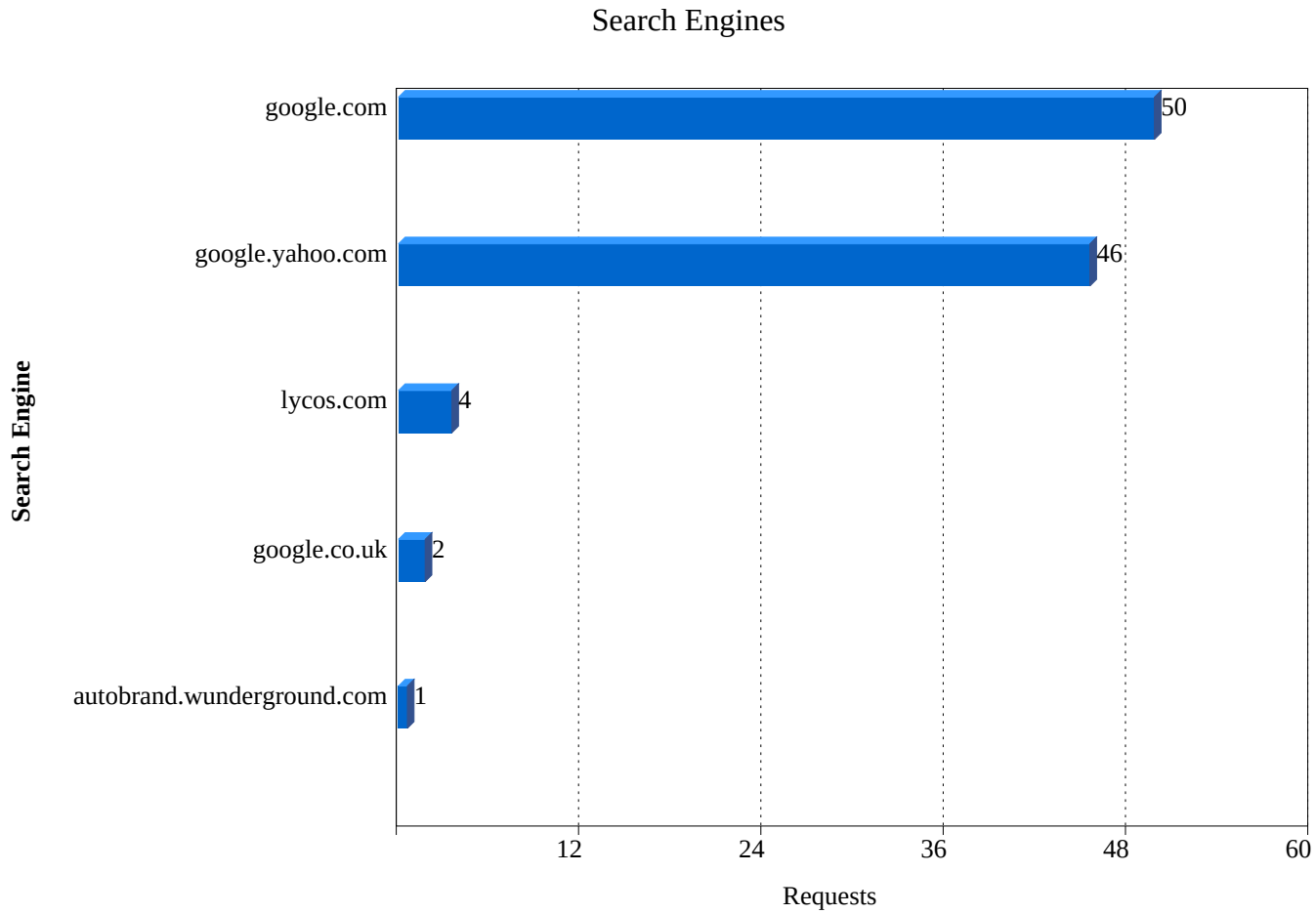
Referral Sites History

	Referral	Requests	%	Bytes	%	Sessions	Pages	Errors
23	wysiwyg://1.disp.50	1	<1%	3.0kB	<1%	1	0	1
24	wysiwyg://1.disp.1	1	<1%	3.0kB	<1%	1	0	1
25	http://mir.maricopa.edu	1	<1%	3.0kB	<1%	1	0	1
26	http://crown.pnge.psu.edu	1	<1%	13.9kB	<1%	1	1	0
27	http://www.state.ok.us	1	<1%	0	0%	1	0	1
28	wysiwyg://1.disp.8	1	<1%	3.0kB	<1%	1	0	1
29	http://autobrand.wunderground.com	1	<1%	32.0kB	<1%	1	0	0
30	http://mail.chem.psu.edu:8383	1	<1%	12.5kB	<1%	1	1	0
	Average	287	3.33%	4.6MB	3.33%	22	59	4
30	**Totals**	8,617	100%	139.4MB	100%	676	1,795	121



Search Engines

	Search Engine	Visitors	%	Bytes	%	Errors
1	google.com	50	48.54%	1.1MB	39.15%	0
2	google.yahoo.com	46	44.66%	1.5MB	56.57%	0
3	lycos.com	4	3.88%	52.4kB	1.90%	0
4	google.co.uk	2	1.94%	33.8kB	1.22%	0
5	autobrand.wunderground.com	1	<1%	32.0kB	1.16%	0
	Average	20	20.00%	552.8kB	20.00%	0
5	**Totals**	103	100%	2.7MB	100%	0

google.com

	Search Term	Req	%	Bytes	%
1	cache:ENwuyE6ngtw:www.energy.psu.edu/swc/membership.shtml geo-microbial technologies/lata group	5	10.00%	71.7kB	6.63%
2	James Engineering Inc., Marietta, Ohio	2	4.00%	22.6kB	2.09%
3	stripper well consortium	2	4.00%	13.1kB	1.21%
4	stripper well	2	4.00%	26.2kB	2.42%
5	barnett shale drilling	2	4.00%	128.0kB	11.83%
	Others	37	74.00%	820.5kB	75.82%
	Average	1	2.00%	27.7kB	2.56%
	Totals	50	100%	1.1MB	100%

google.yahoo.com

	Search Term	Requests	%	Bytes Sent	%
1	barnett shale	7	15.22%	95.4kB	6.10%
2	Barnett Shale	3	6.52%	66.1kB	4.23%
3	"barnett shale"	3	6.52%	66.1kB	4.23%
4	site:www.energy.psu.edu	2	4.35%	13.9kB	<1%
5	stripper well consortium	2	4.35%	26.2kB	1.68%
	Others	29	63.04%	1.3MB	82.87%
	Average	1	2.17%	48.9kB	3.12%
	Totals	46	100%	1.5MB	100%

lycos.com

	Search Term	Requests	%	Bytes Sent	%
1	stripper-well	2	50.00%	26.2kB	50.00%
2	Stripper Well Consortium	1	25.00%	13.1kB	25.00%
3	stripper wells	1	25.00%	13.1kB	25.00%
	Average	1	25.00%	17.5kB	33.33%
	Totals	4	100%	52.4kB	100%

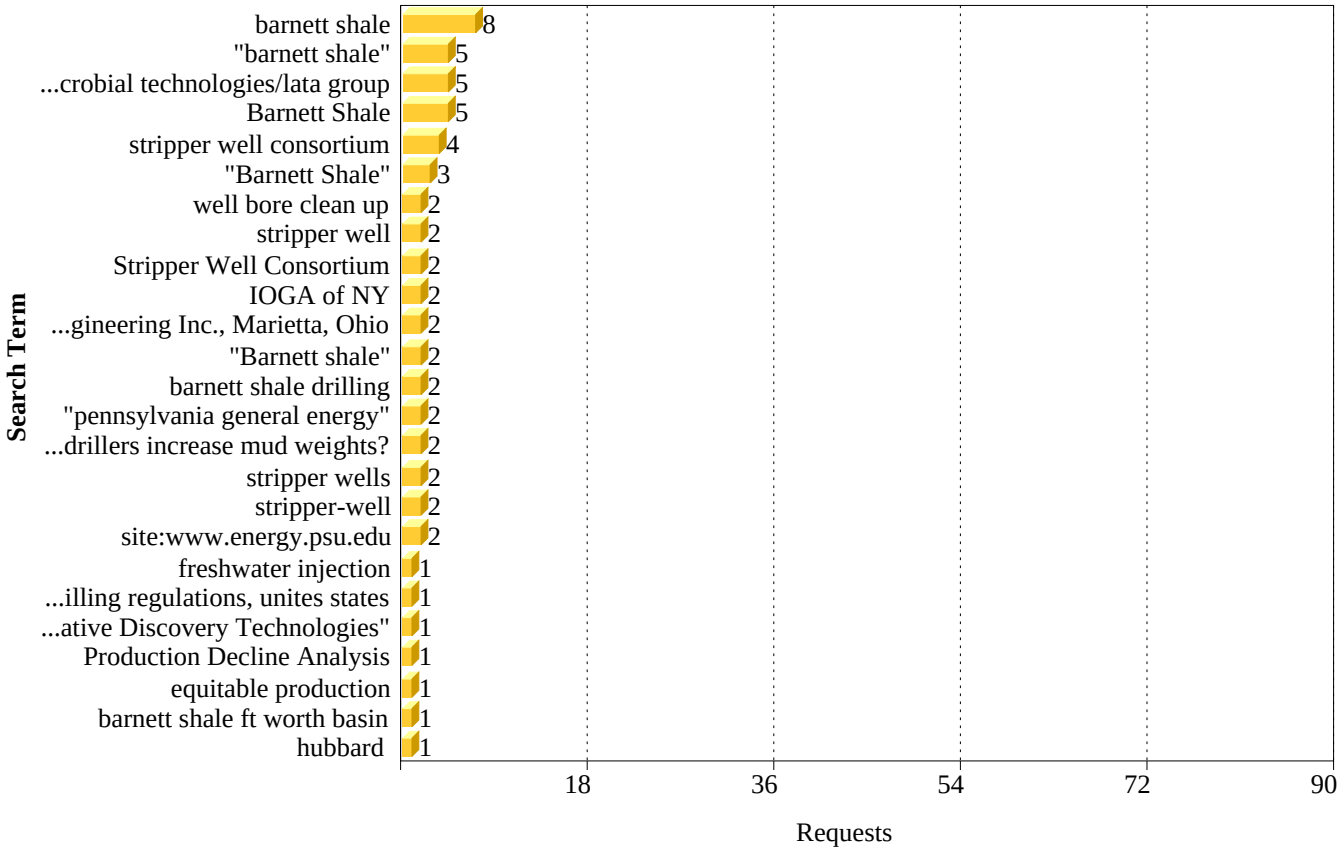
google.co.uk

	Search Term	Requests	%	Bytes Sent	%
1	brine water treating	1	50.00%	16.9kB	50.00%
2	brine water disposal	1	50.00%	16.9kB	50.00%
	Average	1	50.00%	16.9kB	50.00%
	Totals	2	100%	33.8kB	100%

autobrand.wunderground.com

	Search Term	Requests	%	Bytes Sent	%
1	Barnett Shale	1	100%	32.0kB	100%

Search Terms



Search Terms

	Search Term	Sea	%	Bytes	%	Err
1	barnett shale	8	7.77%	95.4kB	3.45%	0
2	"barnett shale"	5	4.85%	88.2kB	3.19%	0
3	cache:ENwuyE6ngtw:www.energy.psu.edu/swc/membership.shtml geo-microbial technologies/lata group	5	4.85%	71.7kB	2.59%	0
4	Barnett Shale	5	4.85%	98.1kB	3.55%	0
5	stripper well consortium	4	3.88%	39.3kB	1.42%	0
6	"Barnett Shale"	3	2.91%	66.1kB	2.39%	0
7	well bore clean up	2	1.94%	20.6kB	<1%	0
8	stripper well	2	1.94%	26.2kB	<1%	0
9	Stripper Well Consortium	2	1.94%	26.2kB	<1%	0
10	IOGA of NY	2	1.94%	25.2kB	<1%	0
11	James Engineering Inc., Marietta, Ohio	2	1.94%	22.6kB	<1%	0
12	"Barnett shale"	2	1.94%	290.7kB	10.52%	0
13	barnett shale drilling	2	1.94%	128.0kB	4.63%	0
14	"pennsylvania general energy"	2	1.94%	25.2kB	<1%	0
15	why do oilfield drillers increase mud weights?	2	1.94%	0	0%	0
16	stripper wells	2	1.94%	30.2kB	1.09%	0
17	stripper-well	2	1.94%	26.2kB	<1%	0
18	site:www.energy.psu.edu	2	1.94%	13.9kB	<1%	0
19	freshwater injection	1	<1%	19.7kB	<1%	0
20	oil drilling regulations, unites states	1	<1%	32.0kB	1.16%	0
21	"Innovative Discovery Technologies"	1	<1%	12.6kB	<1%	0
22	Production Decline Analysis	1	<1%	22.7kB	<1%	0

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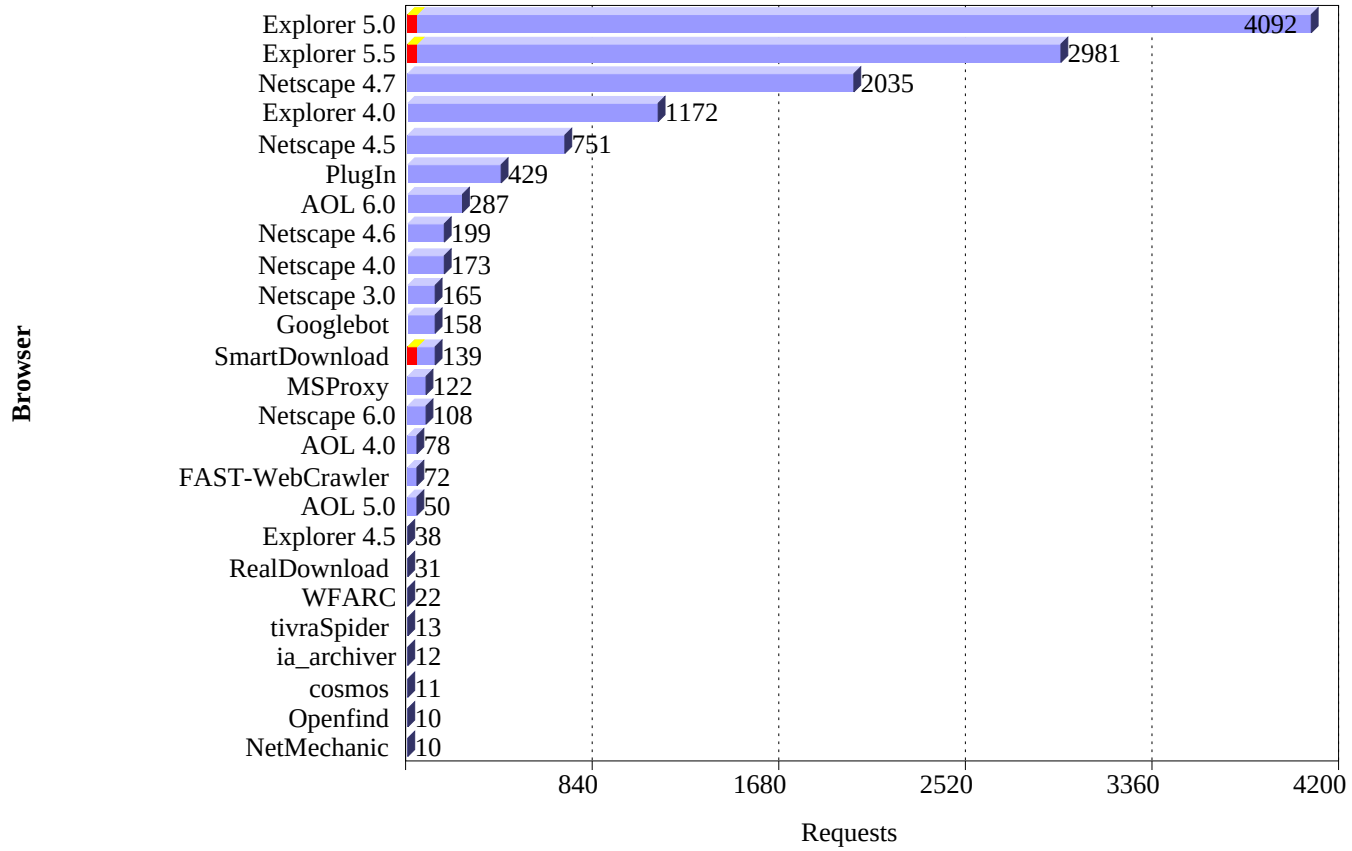
Search Terms

	Search Term	Sea	%	Bytes	%	Err
23	equitable production	1	<1%	12.6kB	<1%	0
24	barnett shale ft worth basin	1	<1%	22.0kB	<1%	0
25	hubbard	1	<1%	27.8kB	1.01%	0
26	ohio abandoned gas wells	1	<1%	32.0kB	1.16%	0
27	covatch	1	<1%	9.1kB	<1%	0
28	chamber lift	1	<1%	22.0kB	<1%	0
29	brine treatment	1	<1%	16.9kB	<1%	0
30	Brandywine Energy and Development Corporation	1	<1%	29.2kB	1.06%	0
31	Barnett shale	1	<1%	22.0kB	<1%	0
32	"pennsylvania oil	1	<1%	12.6kB	<1%	0
33	plunger lift	1	<1%	19.4kB	<1%	0
34	ohio oil well supplies pump jacks	1	<1%	268.7kB	9.72%	0
35	Production Engineering Gas	1	<1%	22.0kB	<1%	0
36	Pennsylvania General Energy corp.	1	<1%	12.6kB	<1%	0
37	"ft worth basin"	1	<1%	0	0%	0
38	Texas oil geologic formation barnett shale	1	<1%	268.7kB	9.72%	0
39	barnett shale gas	1	<1%	0	0%	0
40	innovative discovery technologies IDT	1	<1%	24.2kB	<1%	0
	Average	1	1.49%	41.3kB	1.49%	0
67	**Totals**	103	100%	2.7MB	100%	0

Browsers



Browsers

	Browser	Requests	%	Bytes	%	Visitors	Pages	Errors
1	Explorer 5.0	4,092	30.99%	65.9MB	30.88%	462	1,076	44
2	Explorer 5.5	2,981	22.57%	44.2MB	20.69%	485	740	71
3	Netscape 4.7	2,035	15.41%	33.7MB	15.77%	272	475	13
4	Explorer 4.0	1,172	8.87%	19.8MB	9.27%	147	306	6
5	Netscape 4.5	751	5.69%	10.3MB	4.81%	52	165	4
6	PlugIn	429	3.25%	3.9MB	1.81%	431	0	0
7	AOL 6.0	287	2.17%	6.4MB	2.98%	193	86	19
8	Netscape 4.6	199	1.51%	3.3MB	1.56%	24	30	4
9	Netscape 4.0	173	1.31%	3.8MB	1.79%	42	26	0
10	Netscape 3.0	165	1.25%	2.6MB	1.23%	64	46	0
11	Googlebot	158	1.20%	6.8MB	3.17%	120	85	7
12	SmartDownload	139	1.05%	5.1MB	2.38%	34	0	63
13	MSProxy	122	<1%	91.1kB	<1%	8	24	0
14	Netscape 6.0	108	<1%	869.8kB	<1%	14	22	2
15	AOL 4.0	78	<1%	1.6MB	<1%	81	24	3
16	FAST-WebCrawler	72	<1%	701.1kB	<1%	2	71	1
17	AOL 5.0	50	<1%	969.8kB	<1%	57	14	0
18	Explorer 4.5	38	<1%	430.5kB	<1%	7	19	20
19	RealDownload	31	<1%	2.1MB	<1%	19	0	0
20	WFARC	22	<1%	346.9kB	<1%	2	13	1
21	tivraSpider	13	<1%	127.4kB	<1%	2	13	1
22	ia_archiver	12	<1%	100.7kB	<1%	10	12	1

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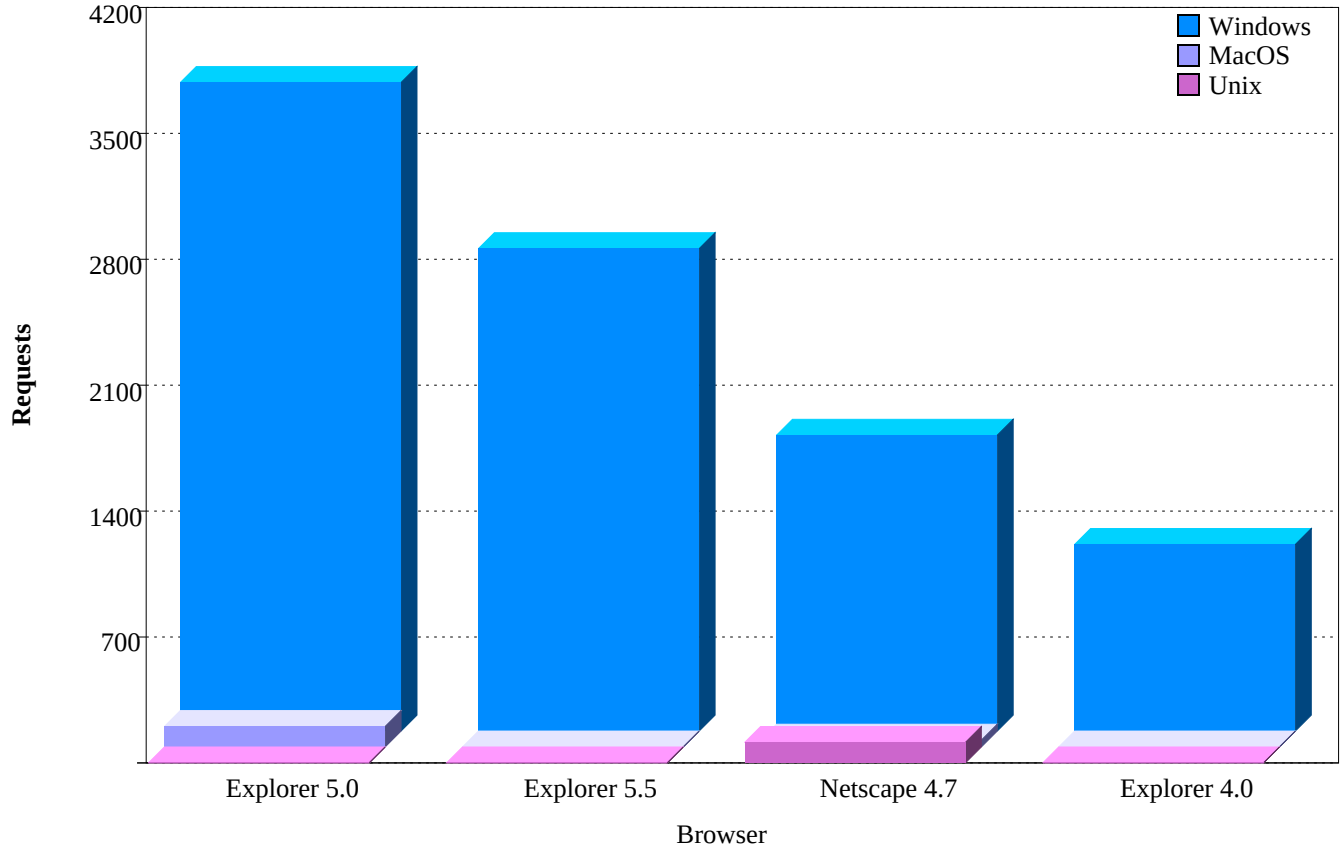
Browsers

	Browser	Requests	%	Bytes	%	Visitors	Pages	Errors
23	cosmos	11	<1%	115.1kB	<1%	2	11	0
24	Openfind	10	<1%	102.8kB	<1%	8	10	0
25	NetMechanic	10	<1%	0	0%	4	10	0
26	Spider	10	<1%	110.2kB	<1%	2	10	0
27	Java1.2.2	7	<1%	26.4kB	<1%	2	3	0
28	Netscape 2.0	6	<1%	0	0%	8	6	0
29	EmailSiphon	5	<1%	36.3kB	<1%	6	5	0
30	ZyBorg	4	<1%	37.8kB	<1%	4	4	0
31	Download	3	<1%	98.2kB	<1%	4	0	0
32	-	3	<1%	3	<1%	3	0	0
33	psbot	2	<1%	14.8kB	<1%	4	1	0
34	Gulliver	2	<1%	8.8kB	<1%	2	2	0
35	Marvin	2	<1%	246	<1%	2	2	0
36	BMClient	1	<1%	11.1kB	<1%	1	1	0
37	Webclipping.com	1	<1%	13.1kB	<1%	2	1	0
38	polybot	1	<1%	13.1kB	<1%	2	1	0
39	MultiText	1	<1%	13.1kB	<1%	2	1	0
	Average	338	2.56%	5.5MB	2.56%	66	85	6
39	**Totals**	13,206	100%	213.5MB	100.00%	2,586	3,315	260

Browsers / Operating Systems



Browsers / Operating Systems

	Browser	Requests	%	Bytes	%	Win	Mac	Unix	Visitors	Pages	Errors
1	Explorer 5.0	4,092	30.99%	65.9MB	30.88%	3,955	136	0	462	1,076	44
2	Explorer 5.5	2,981	22.57%	44.2MB	20.69%	2,973	7	0	485	740	71
3	Netscape 4.7	2,035	15.41%	33.7MB	15.77%	1,832	75	127	272	475	13
4	Explorer 4.0	1,172	8.87%	19.8MB	9.27%	1,152	19	0	147	306	6
5	Netscape 4.5	751	5.69%	10.3MB	4.81%	586	164	0	52	165	4
6	PlugIn	429	3.25%	3.9MB	1.81%	0	0	0	431	0	0
7	AOL 6.0	287	2.17%	6.4MB	2.98%	287	0	0	193	86	19
8	Netscape 4.6	199	1.51%	3.3MB	1.56%	155	43	0	24	30	4
9	Netscape 4.0	173	1.31%	3.8MB	1.79%	133	11	7	42	26	0
10	Netscape 3.0	165	1.25%	2.6MB	1.23%	24	0	0	64	46	0
11	Googlebot	158	1.20%	6.8MB	3.17%	0	0	0	120	85	7
12	SmartDownload	139	1.05%	5.1MB	2.38%	139	0	0	34	0	63
13	MSProxy	122	<1%	91.1kB	<1%	0	0	0	8	24	0
14	Netscape 6.0	108	<1%	869.8kB	<1%	108	0	0	14	22	2
15	AOL 4.0	78	<1%	1.6MB	<1%	78	0	0	81	24	3
16	FAST-WebCrawler	72	<1%	701.1kB	<1%	0	0	0	2	71	1
17	AOL 5.0	50	<1%	969.8kB	<1%	50	0	0	57	14	0
18	Explorer 4.5	38	<1%	430.5kB	<1%	0	38	0	7	19	20
19	RealDownload	31	<1%	2.1MB	<1%	0	0	0	19	0	0
20	WFARC	22	<1%	346.9kB	<1%	0	0	0	2	13	1
21	tivraSpider	13	<1%	127.4kB	<1%	0	0	0	2	13	1
22	ia_archiver	12	<1%	100.7kB	<1%	0	0	0	10	12	1

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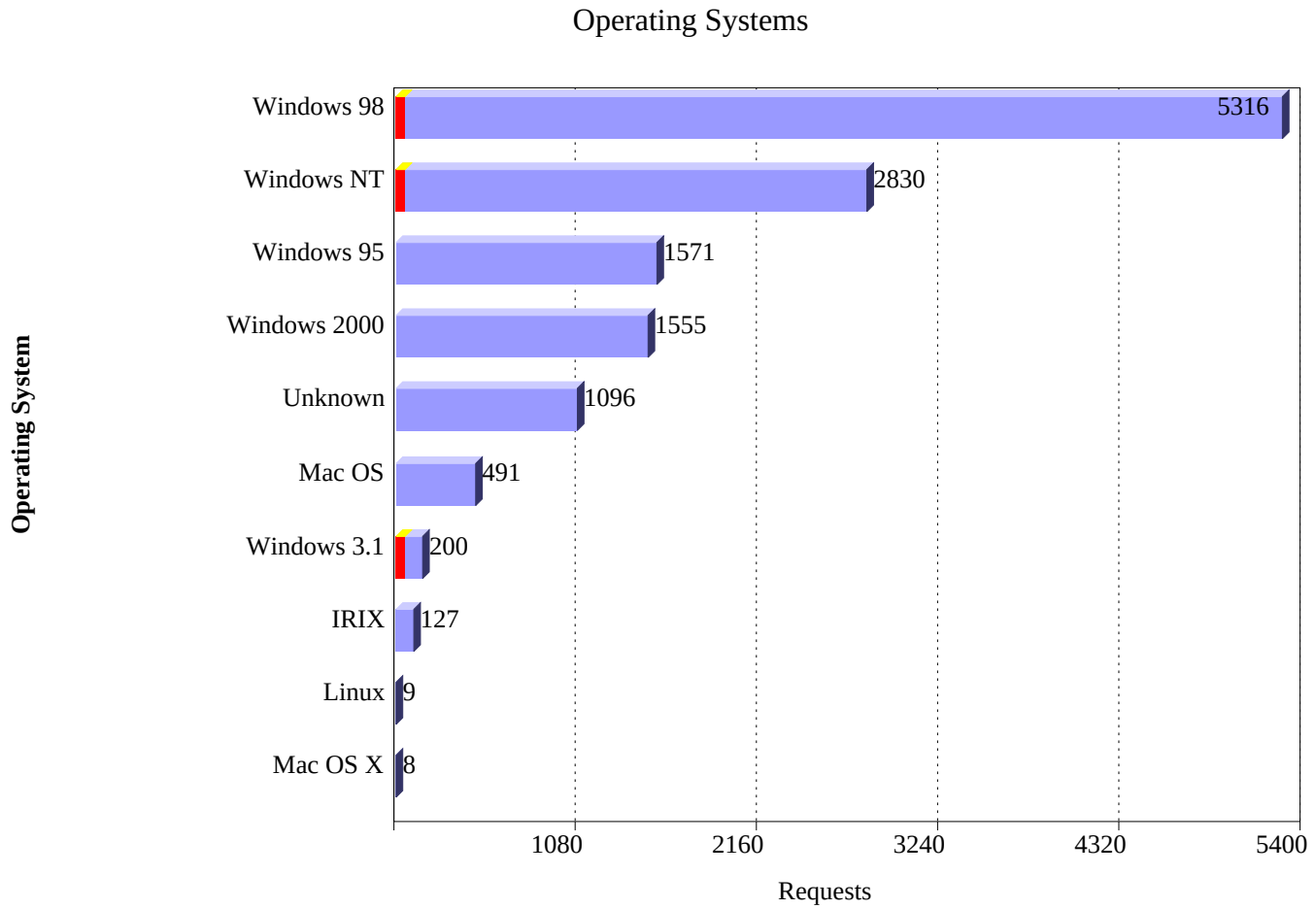
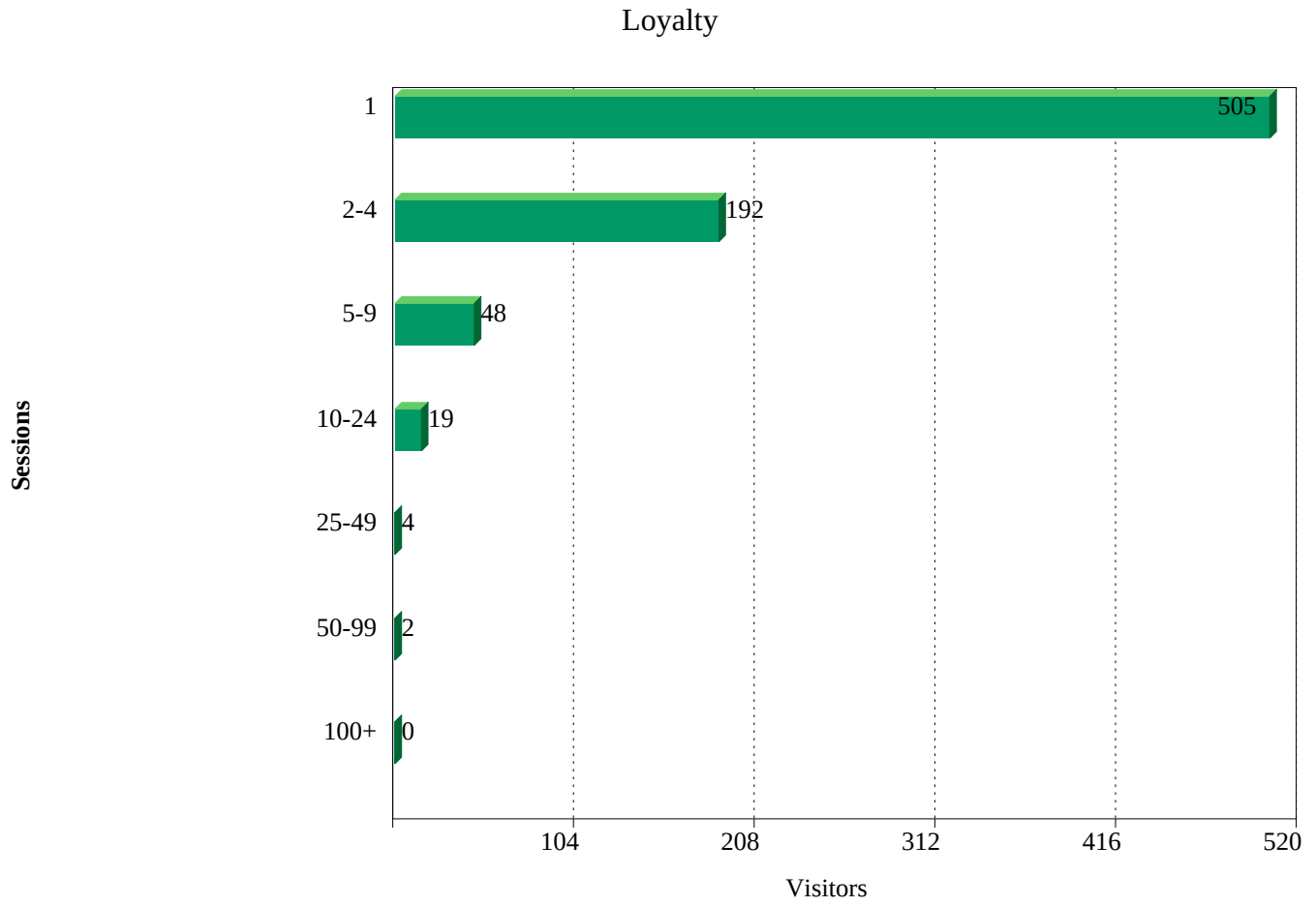
Browsers / Operating Systems

	Browser	Requests	%	Bytes	%	Win	Mac	Unix	Visitors	Pages	Errors
23	cosmos	11	<1%	115.1kB	<1%	0	0	0	2	11	0
24	NetMechanic	10	<1%	0	0%	0	0	0	4	10	0
25	Spider	10	<1%	110.2kB	<1%	0	0	0	2	10	0
26	Openfind	10	<1%	102.8kB	<1%	0	0	0	8	10	0
27	Java1.2.2	7	<1%	26.4kB	<1%	0	0	0	2	3	0
28	Netscape 2.0	6	<1%	0	0%	0	0	0	8	6	0
29	EmailSiphon	5	<1%	36.3kB	<1%	0	0	0	6	5	0
30	ZyBorg	4	<1%	37.8kB	<1%	0	0	0	4	4	0
31	-	3	<1%	3	<1%	2	0	0	3	0	0
32	Download	3	<1%	98.2kB	<1%	0	0	0	4	0	0
33	Marvin	2	<1%	246	<1%	0	0	0	2	2	0
34	Gulliver	2	<1%	8.8kB	<1%	0	0	0	2	2	0
35	psbot	2	<1%	14.8kB	<1%	0	0	0	4	1	0
36	MultiText	1	<1%	13.1kB	<1%	0	0	0	2	1	0
37	polybot	1	<1%	13.1kB	<1%	0	0	0	2	1	0
38	Webclipping.com	1	<1%	13.1kB	<1%	0	0	0	2	1	0
39	BMClient	1	<1%	11.1kB	<1%	0	0	0	1	1	0
	Average	338	2.56%	5.5MB	2.56%	294	12	3	66	85	6
39	**Totals**	13,206	100%	213.5MB	100.00%	11,474	493	134	2,586	3,315	260



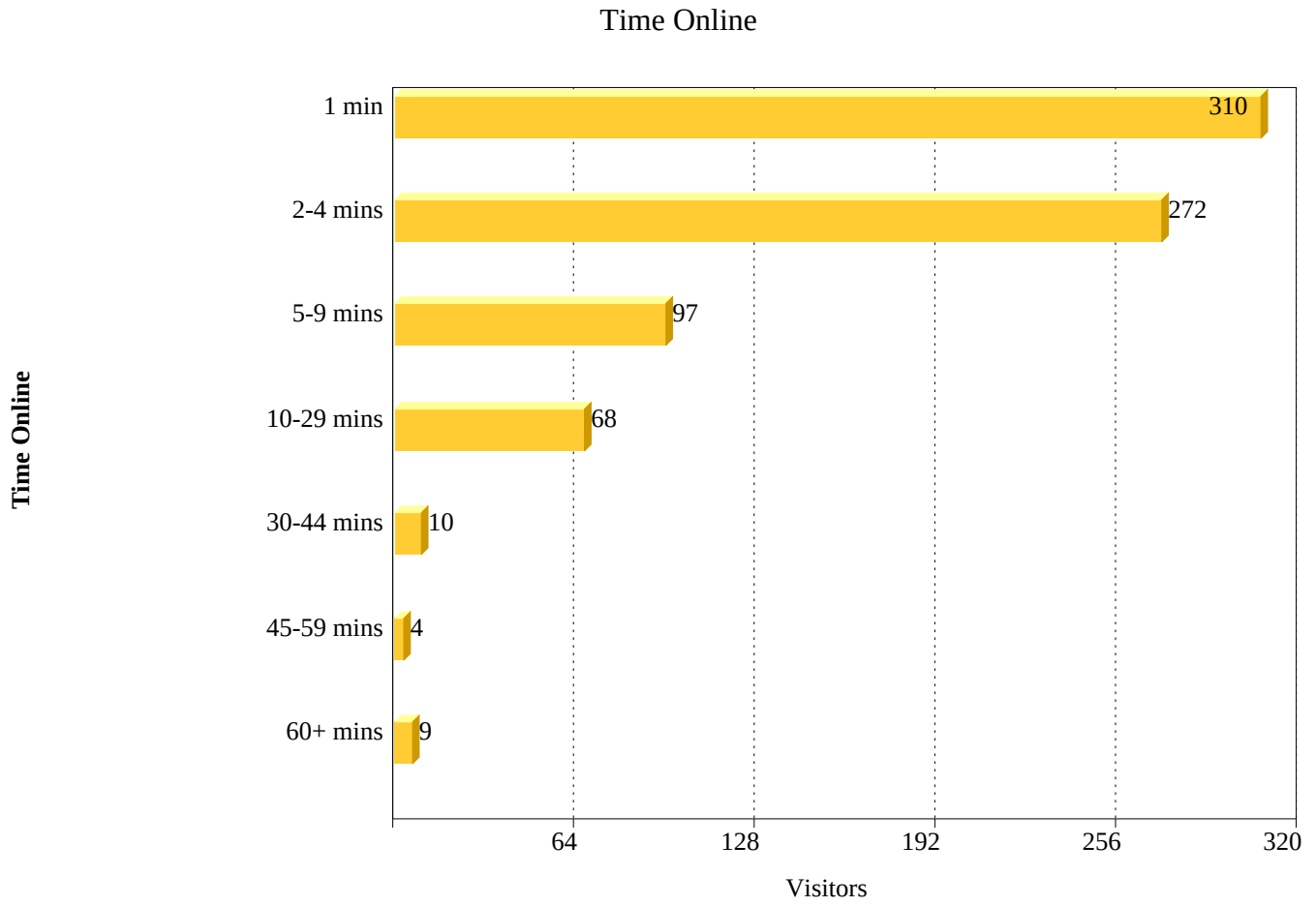
Operating Systems

	Operating System	Requests	%	Bytes	%	Visitors	Pages	Errors
1	Windows 98	5,316	40.26%	84.2MB	39.42%	957	1,325	66
2	Windows NT	2,830	21.43%	45.7MB	21.42%	377	677	66
3	Windows 95	1,571	11.90%	25.3MB	11.85%	181	408	9
4	Windows 2000	1,555	11.78%	22.9MB	10.71%	197	410	17
5	Unknown	1,096	8.30%	17.4MB	8.13%	707	324	11
6	Mac OS	491	3.72%	10.4MB	4.88%	82	133	27
7	Windows 3.1	200	1.51%	5.6MB	2.62%	47	12	63
8	IRIX	127	<1%	1.7MB	<1%	3	22	1
9	Linux	9	<1%	220.9kB	<1%	2	3	0
10	Mac OS X	8	<1%	109.2kB	<1%	2	1	0
	Average	1,320	10.00%	21.4MB	10.00%	255	331	26
10	**Totals**	13,203	100%	213.5MB	100%	2,555	3,315	260



Loyalty

	Sessions	Requests	%	Bytes	%	Pages	Visitors
1	1	3,784	28.65%	61.0MB	28.56%	960	505
2	2-4	2,799	21.19%	40.5MB	18.96%	728	192
3	5-9	1,781	13.49%	30.1MB	14.08%	462	48
4	10-24	2,787	21.10%	42.2MB	19.78%	688	19
5	25-49	1,160	8.78%	24.3MB	11.38%	218	4
6	50-99	895	6.78%	15.4MB	7.23%	259	2
7	100+	0	0%	0	0%	0	0
	Average	1,886	14.29%	30.5MB	14.29%	473	110
7	**Totals**	13,206	100%	213.5MB	100.00%	3,315	770



Time Online

	Time Online	Requests	%	Bytes	%	Pages	Visitors
1	1 min	992	7.51%	17.5MB	8.18%	258	310
2	2-4 mins	2,798	21.19%	44.4MB	20.81%	753	272
3	5-9 mins	1,796	13.60%	30.8MB	14.42%	438	97
4	10-29 mins	2,887	21.86%	44.1MB	20.63%	756	68
5	30-44 mins	1,148	8.69%	13.7MB	6.40%	313	10
6	45-59 mins	799	6.05%	14.2MB	6.65%	181	4
7	60+ mins	2,786	21.10%	48.9MB	22.91%	616	9
	Average	1,886	14.29%	30.5MB	14.29%	473	110
7	**Totals**	13,206	100%	213.5MB	100.00%	3,315	770