

# Metrics Dashboard with Multiple Level Drilldown Capability

**American Society for Quality  
15<sup>th</sup> Annual Service Quality Conference  
September 19, 2006**

**Don Lifke  
Senior Member of Technical Staff**

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.





# Objectives

- Show an example of a metrics dashboard with multiple level drilldown capability
- Demonstrate how to use PowerPoint to create such a dashboard
- Provide tips and “lessons learned” for creating your own dashboard



A Department of Energy  
National Laboratory



# What is a Dashboard?

- A Dashboard should be:
  - A visual display of the status of the most important metrics in determining the overall health of an organization.
  - An aggregate of information that can be drilled down into to get to the level of detail needed to make data-based decisions.



A Department of Energy  
National Laboratory



# What Does Our Main Dashboard Need to Display?

## The overall health of Sandia National Laboratories (SNL) Safeguards & Security (S&S) Program

- By Topical and Subtopical areas, as identified by our customer, US Department of Energy (DOE)
- <http://www.directives.doe.gov/pdfs/forms/470-8.pdf>



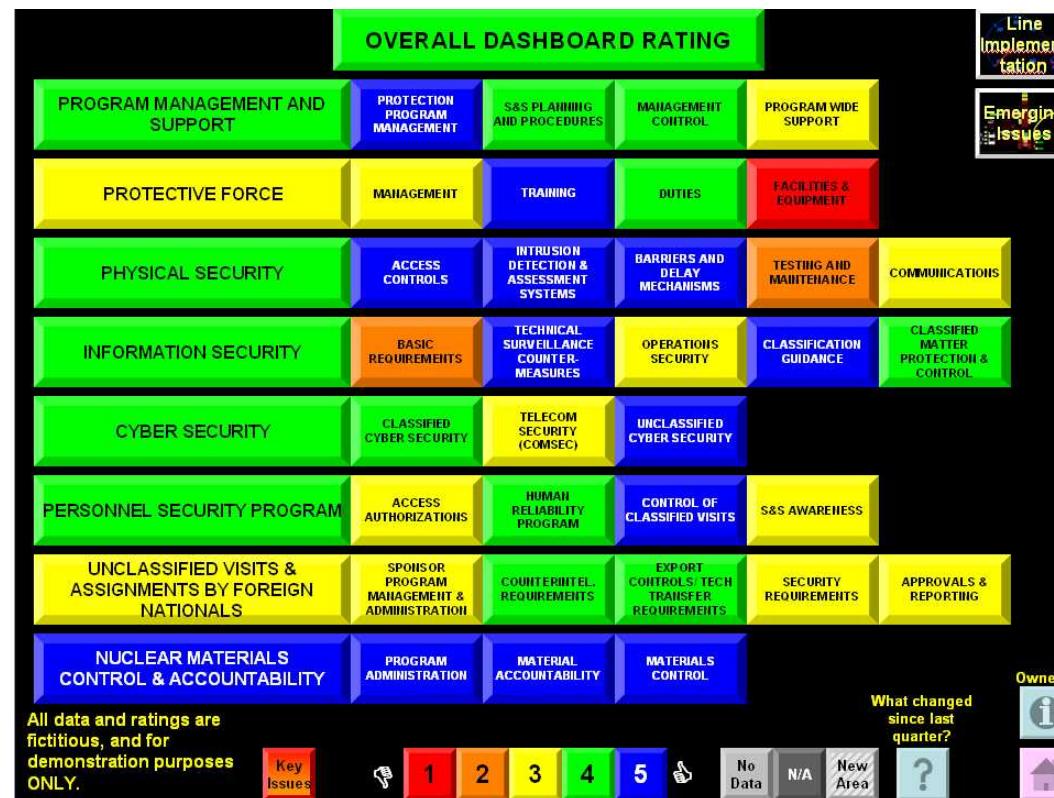
DOE F 470.8



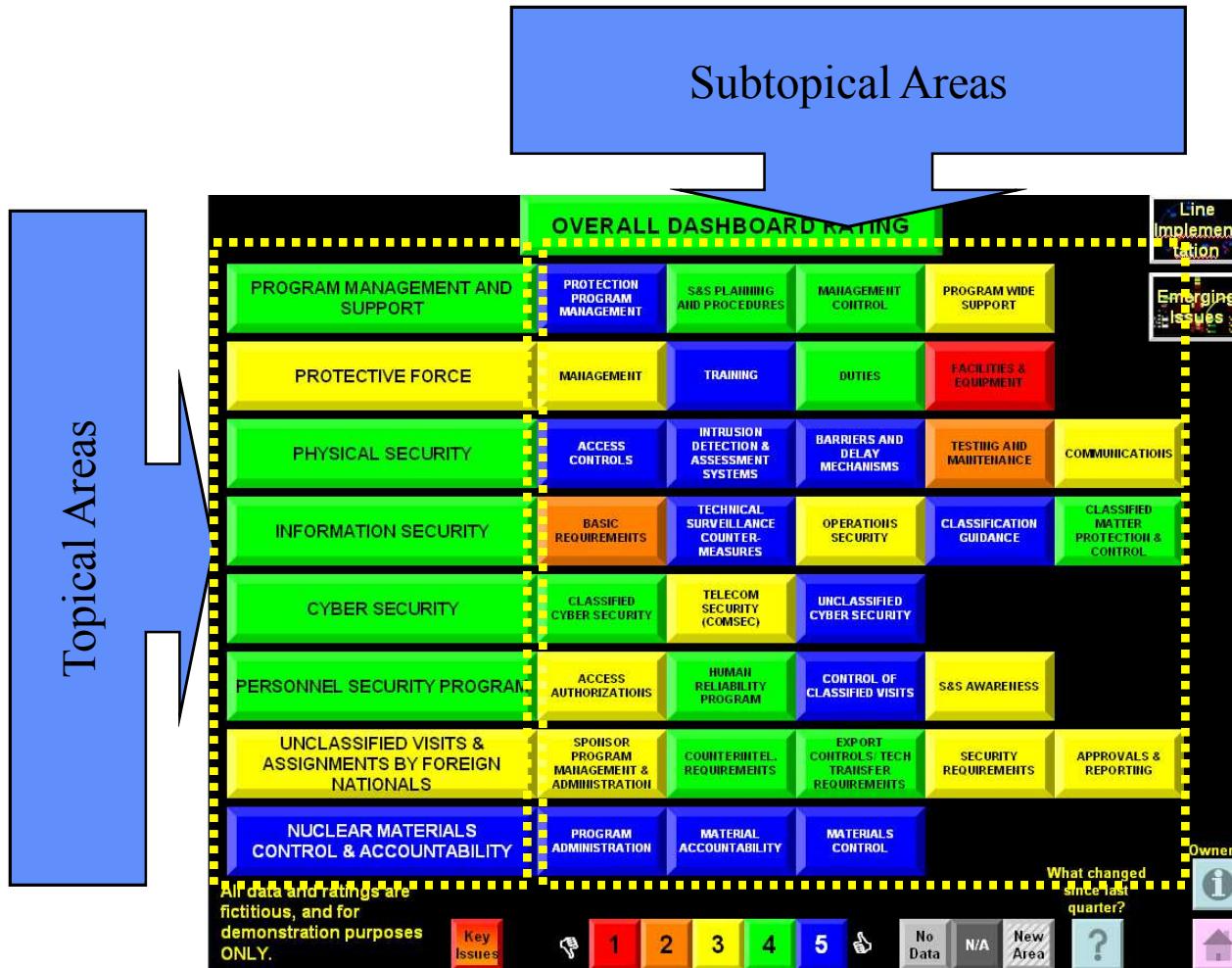


# SNL S&S Performance Metrics Dashboard

All data and ratings are fictitious and  
FOR DEMONSTRATION PURPOSES ONLY.

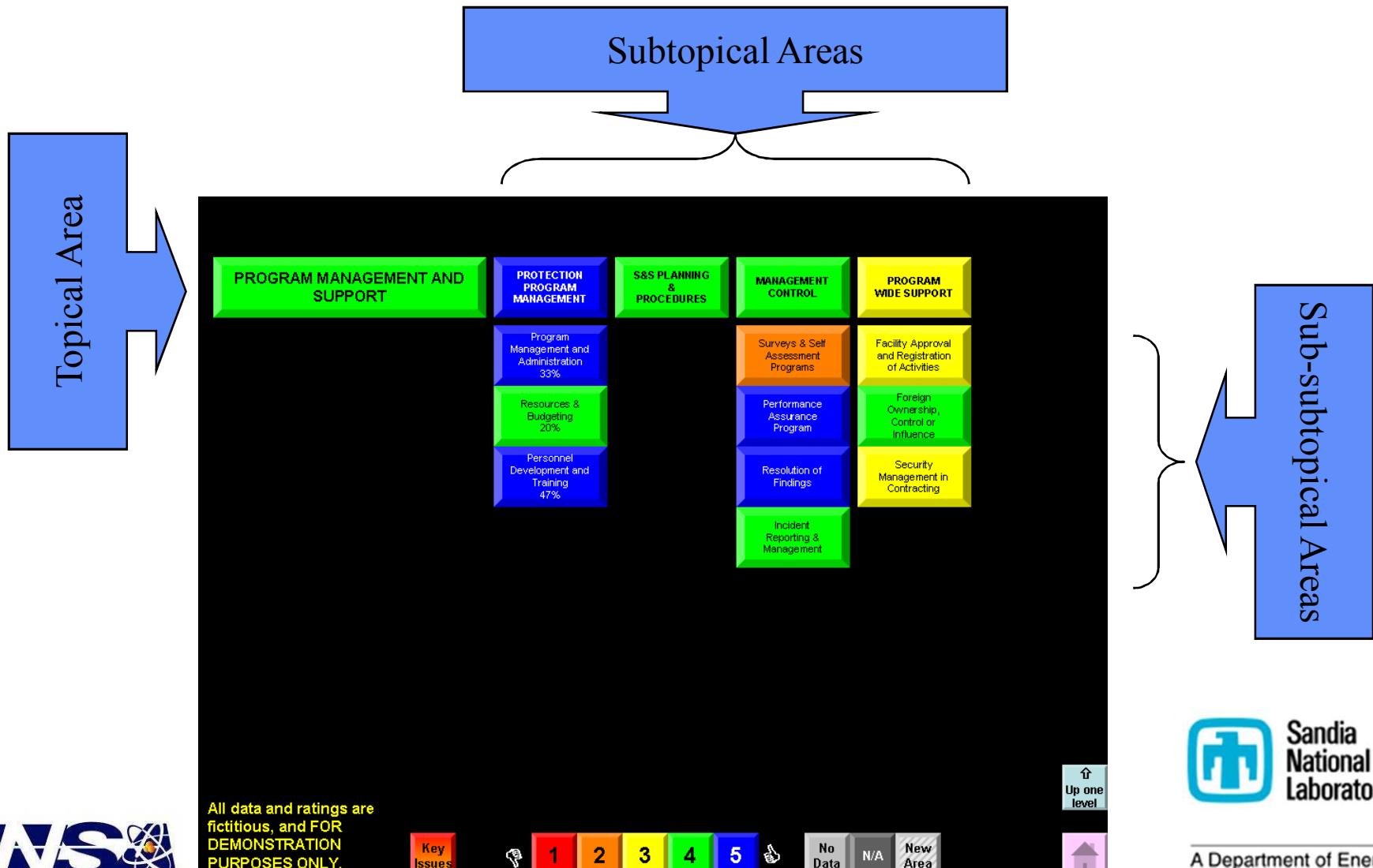


# Topical & Subtopical Areas on Main Dashboard

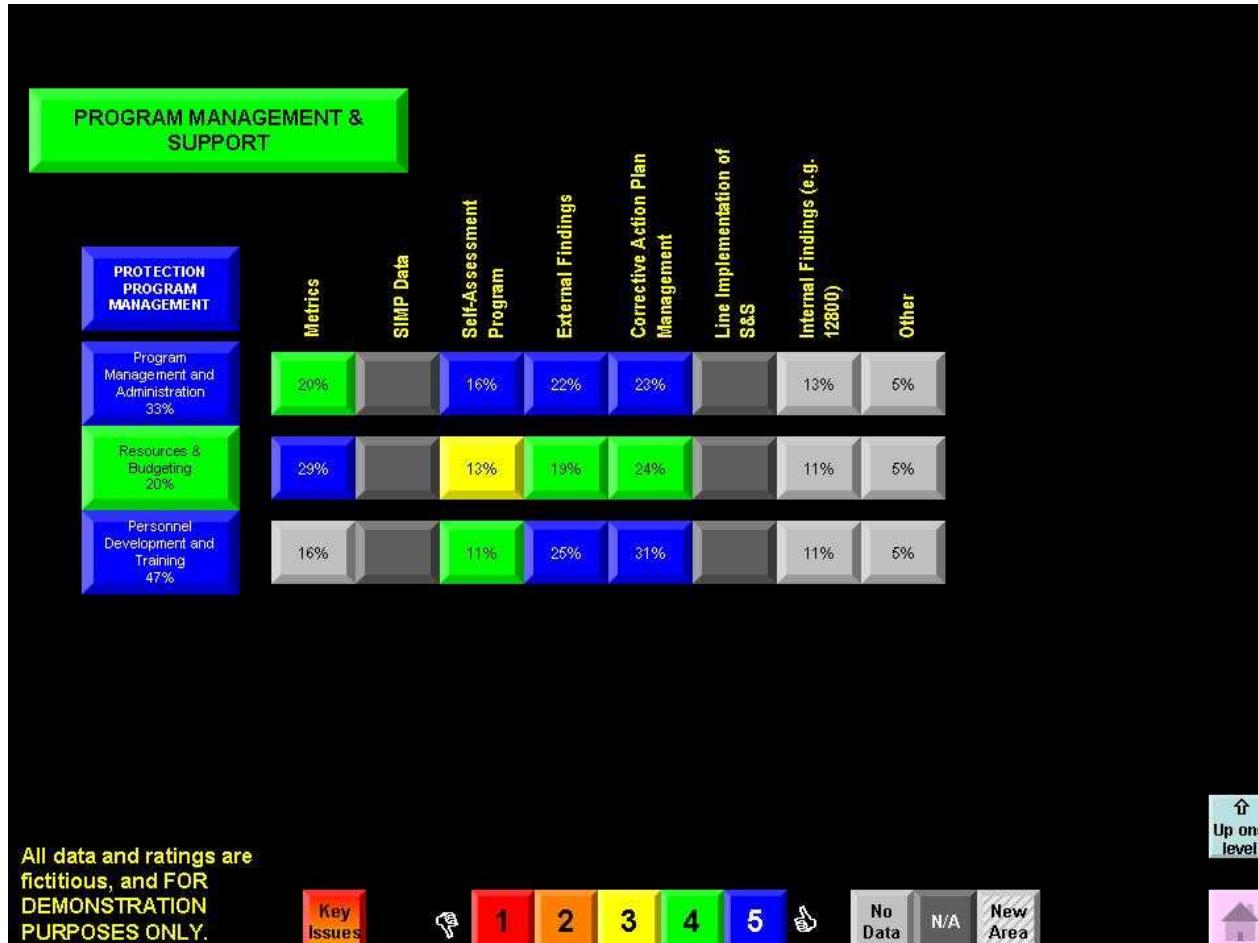




# Drill-down on Topical Area Reveals Subtopical and Sub-subtopical Areas



# Drill-down on Subtopical Area Reveals Factors used in Rating Each Sub-subtopical



# Drill-down on Factor Shows the Detail of the Factor Rating

PROGRAM MANAGEMENT & SUPPORT

PROTECTION PROGRAM MANAGEMENT

Metrics

4.25

A. Percent of subtopical areas that have Dashboard Metrics established (30% weight):

5 – 90-100%  
4 – 75-90%  
3 – 50-75%  
2 – 25-50%  
1 – <25%

B. How does our primary customer rate our working relationship? (15% weight)

5 – highest  
4 –  
3 –  
2 –  
1 – lowest

"I love these guys."  
-Carol Customer 7/24/06

C. Coffee quality rating (40% weight)

5 – green  
3 – yellow  
1 – red

D. Turnover Rate (15% weight)

5 – 8%  
4 – 10%  
3 – 12%  
2 – 14%  
1 – 16%

All data and ratings are fictitious, and FOR DEMONSTRATION PURPOSES ONLY.

Key Issues

1 2 3 4 5

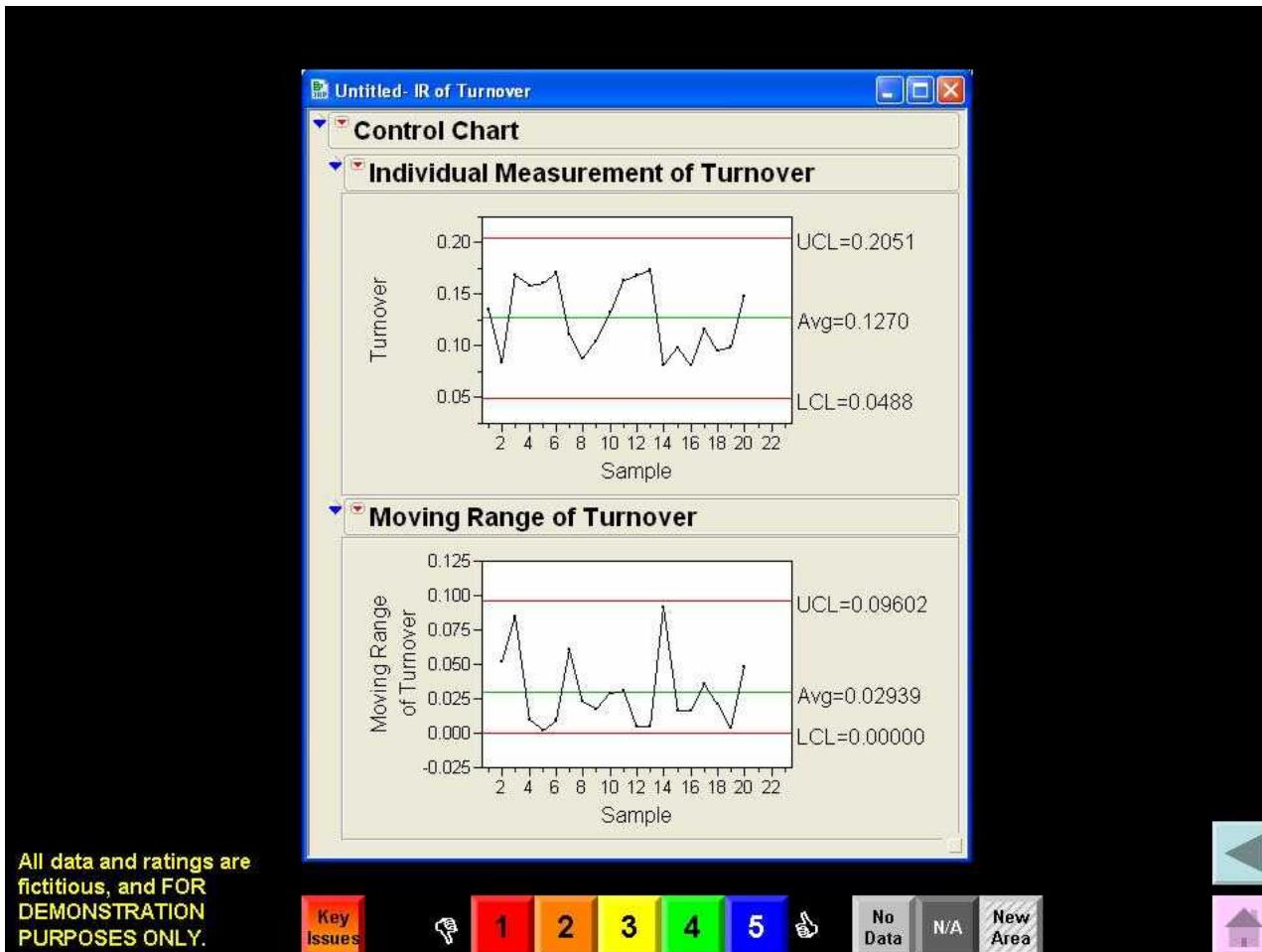
No Data

N/A

New Area

Up one level

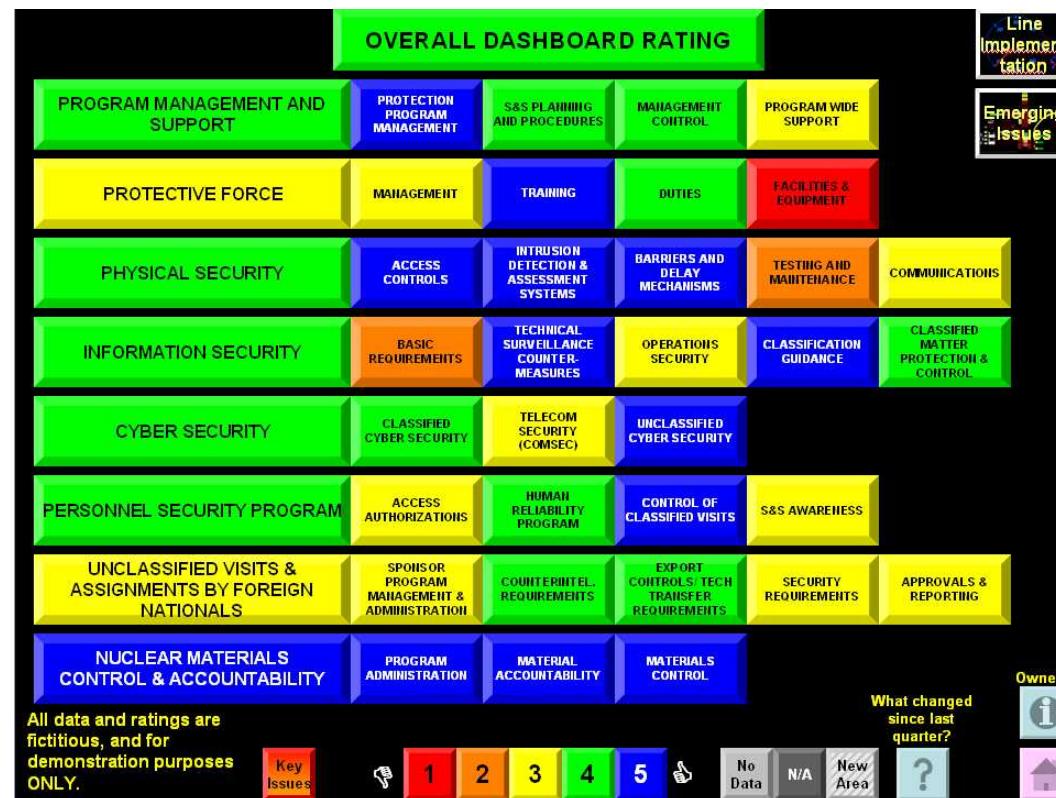
# Drill-down on Information Button Reveals Details





# SNL S&S Performance Metrics Dashboard

## Dashboard Demonstration Volunteer?

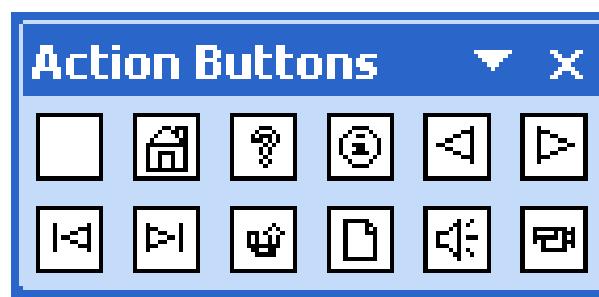




# Dashboard Construction

## (Follow along if you have a laptop with PowerPoint)

- Uses Action Buttons in AutoShapes

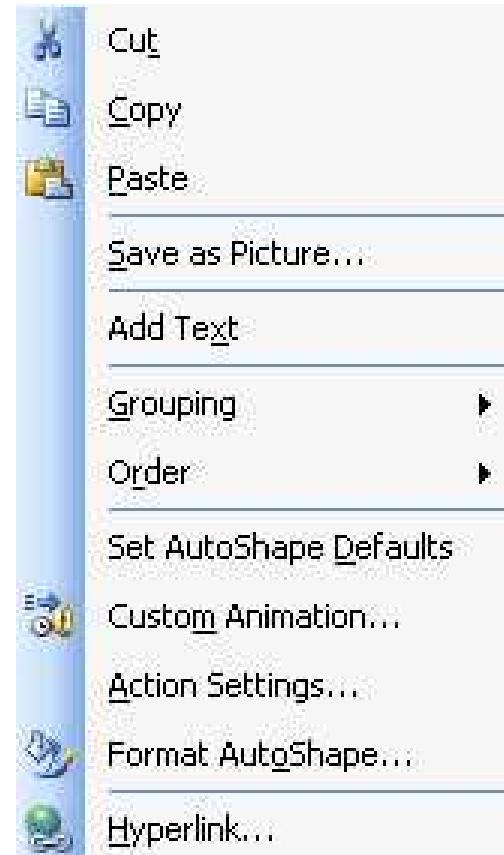


- Tip: You can drag to make menu float



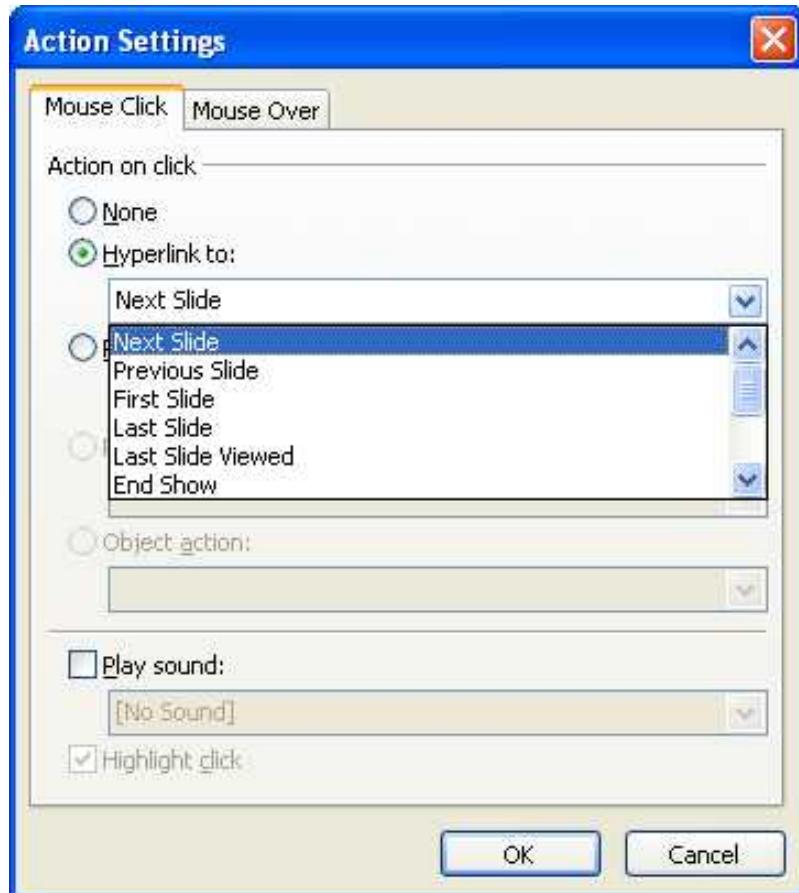
# Action Settings... → Hyperlink to

Right-click Action Button and click Action Settings...

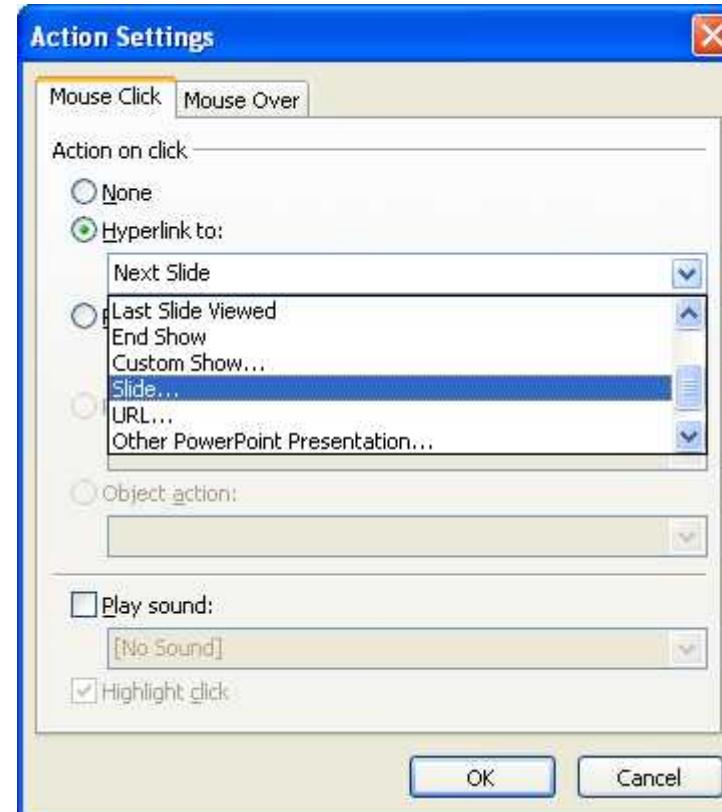


# Action Settings and Hyperlinks

Click Hyperlink to:

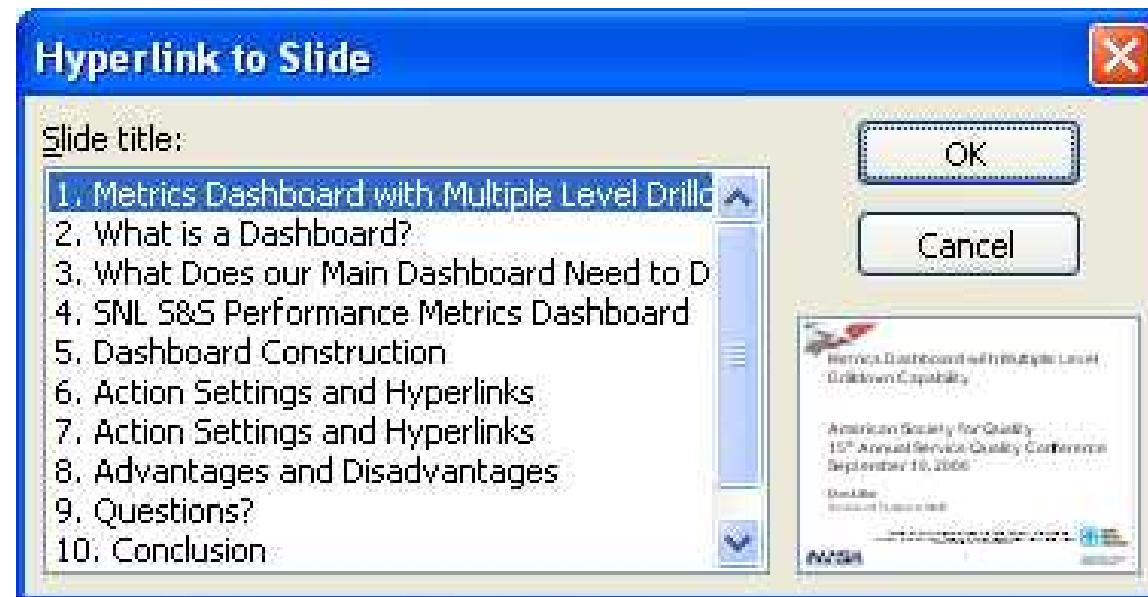


Select Slide...



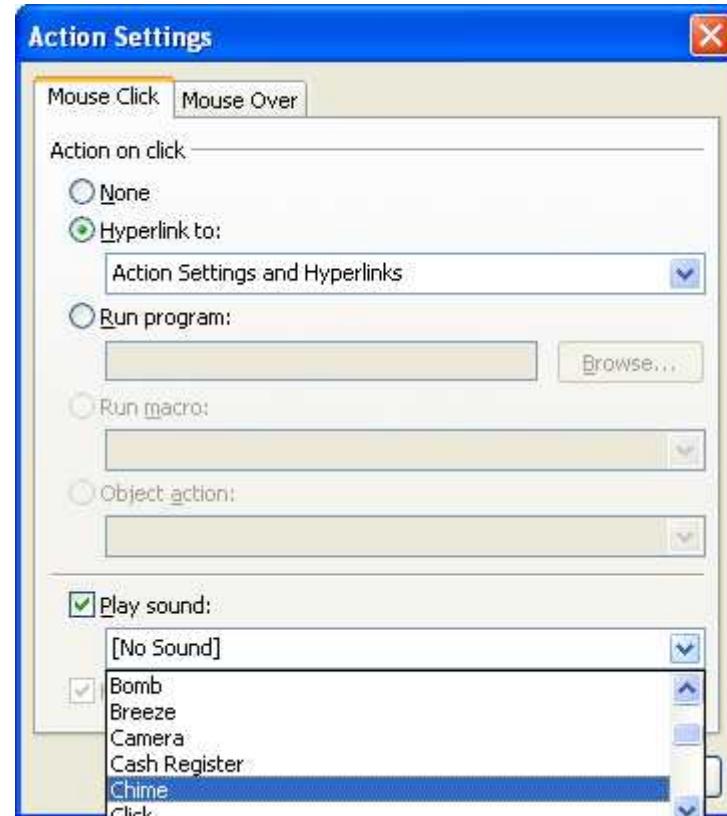
# Action Settings and Hyperlinks

Select the Slide to hyperlink to



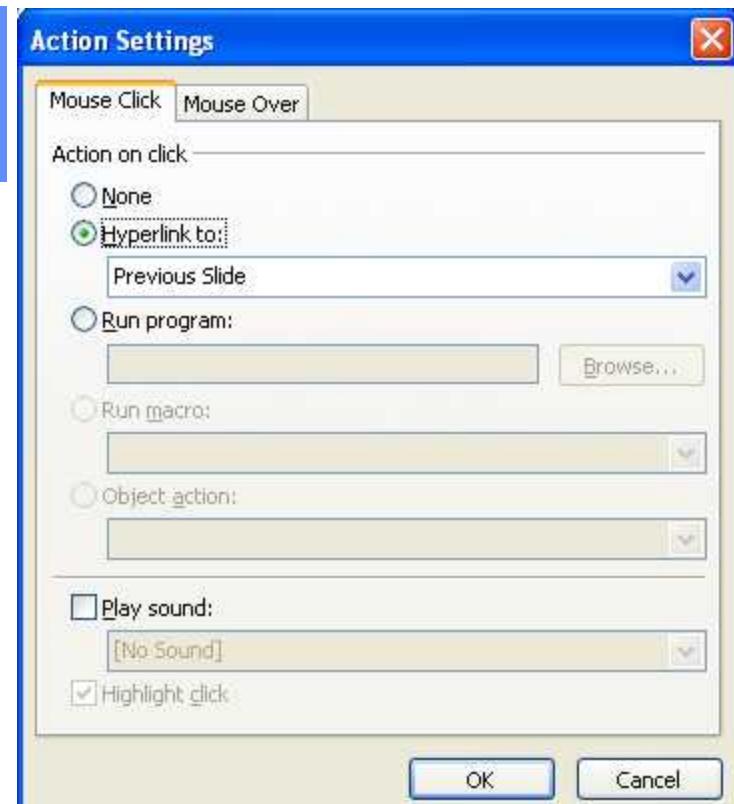
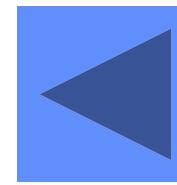
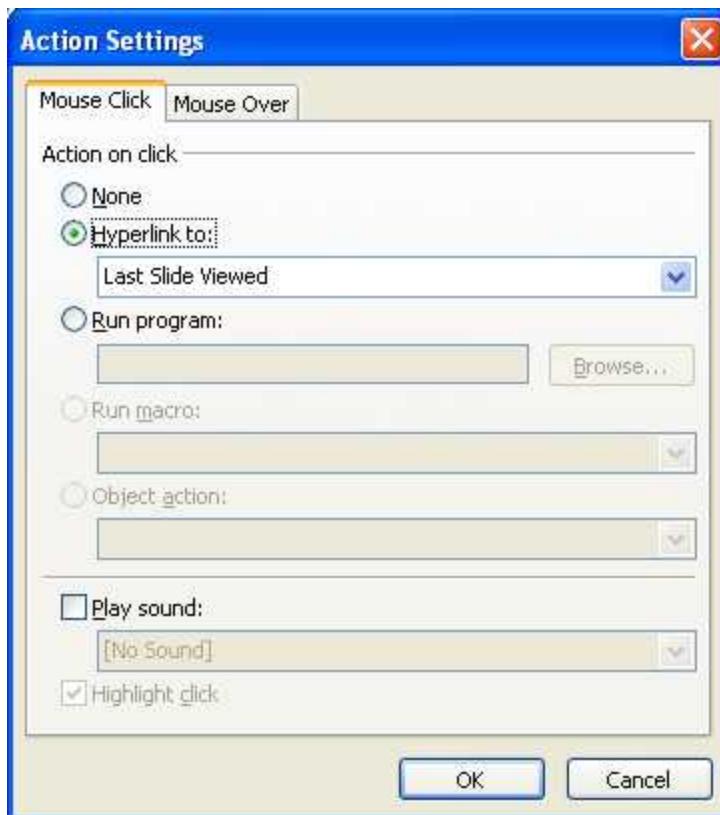
# Action Settings and Hyperlinks

Play sound:



# Action Settings and Hyperlinks

**Don't forget to include a return link!**





# Action Settings and Hyperlinks

**Don't forget to include a return link!**

**You can just use the higher level indicator as the link to the higher level.**

**For important links that need to be on every page, use the Slide Master.**

# Action Settings and Hyperlinks

**View → Master → Slide Master**

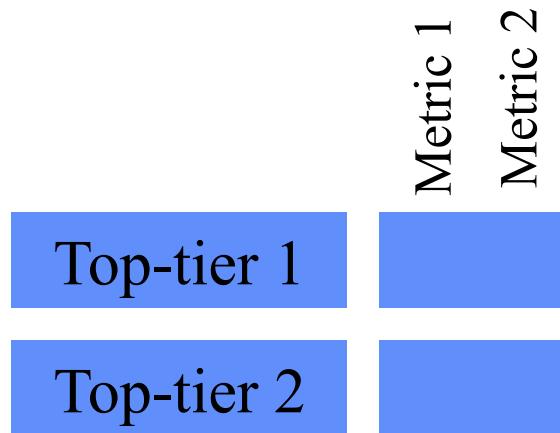




# Let's Do It! Create a Simple Dashboard

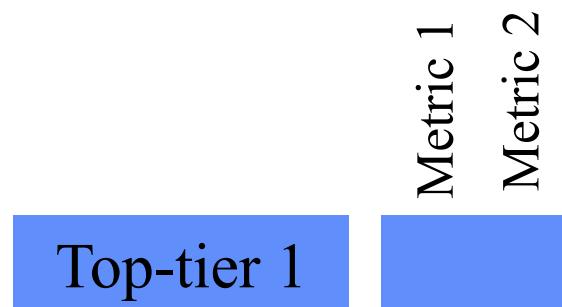
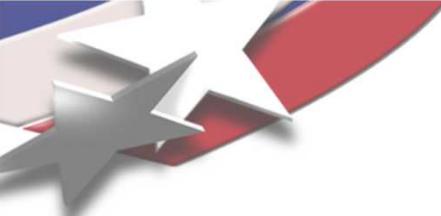
**Two Top-tier areas with two drill-down metrics each**





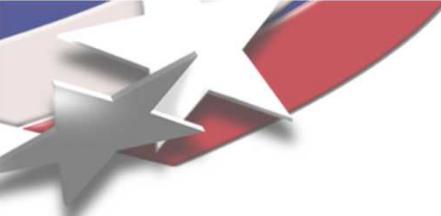
- **Start with the main dashboard. Include all high Top-tier areas as well as the primary metrics used to rate the Top-tiers.**
- **Don't forget to add a Home button to each slide (Slide Master is a good place for this)**
- **We'll add hyperlinks to the boxes above.**





- The first drilldown page is the first main Topical Area (Top-tier 1)
- Also included are the Subtopical Areas (Sub-metrics 1 and 2)
- We'll add hyperlinks to the boxes above.





Metric 1

Top-tier 1

**5 – >50**

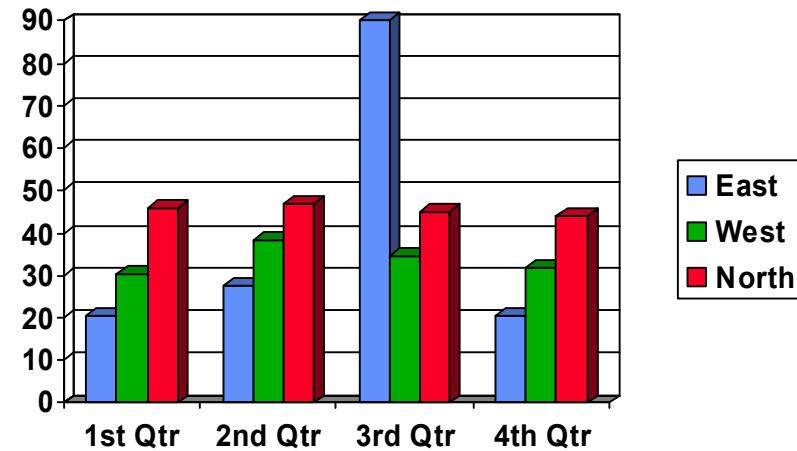
**4 – 40**

**3 – 30**

**2 – 20**

**1 – <20**

**The second drilldown pages will show the details for the metrics, including the rating scale used. Coloring of boxes starts at the lowest level. Let's color these.**



 Sandia  
National  
Laboratories



Top-tier 1

Metric 2

Rating Scale

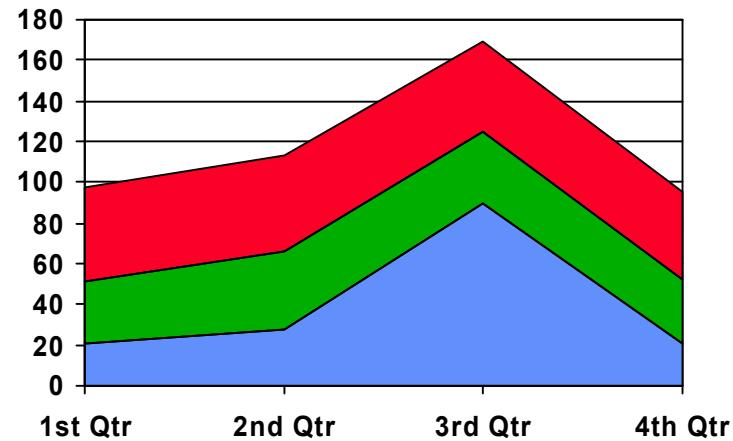
5 = >100

4 = 90

3 = 80

2 = 70

1 = 60



North  
West  
East



 Sandia  
National  
Laboratories



 Sandia  
National  
Laboratories



Metric 1

Top-tier 2



**5 – 100%**

**4 – 90%**

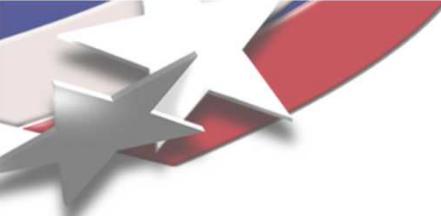
**3 – 80%**

**2 – 70%**

**1 – <70%**



 Sandia  
National  
Laboratories



Metric 2

Top-tier 2



## Rating Scale

5 = 20 days or less

4 = 20-25 days

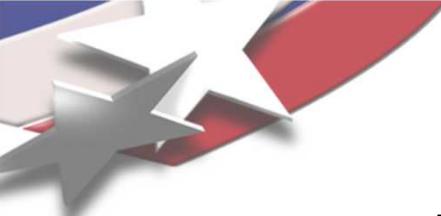
3 = 25-30 days

2 = 30-35 days

1 = 35-40 days or more



 Sandia  
National  
Laboratories



# Tips and “Lessons Learned”

- Your highest level dashboard should be what the customer cares about, not just what you happen to be measuring.
- Take advantage of multiple level drilldowns. Some customers will never go past the first screen, while others will drill down until they see the raw data.
- Weight the factors accordingly. Do not always assume they should be weighted evenly. That will rarely be the case.



A Department of Energy  
National Laboratory



# Advantages and Disadvantages

- **Advantages**
  - Easy to customize
  - Easy to revise
  - Uses software everyone has
  - Can cut and paste screenshots from other sources
  - Serves as great prototype to show Information Technology folks when it comes time to automate
- **Disadvantages**
  - Ratings must be changed manually
  - Data not downloaded automatically





# Questions?



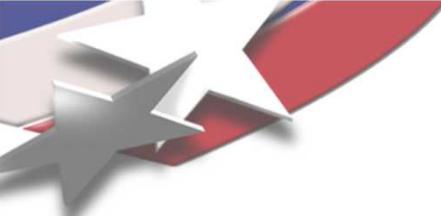
# Conclusion

**You can build your own metrics dashboard with multiple level drilldown capability using PowerPoint!**

**You don't need to buy fancy dashboard software to get started. Most of us already have PowerPoint, so what are you waiting for? Go create your Metrics Dashboard!**



A Department of Energy  
National Laboratory



**“If what we know about our processes can’t be expressed in numbers, we don’t know much about them.”**

— Lord Kelvin