

July 22nd 2013, XSEDE Network Performance Tutorial

Jason Zurawski – Internet2/ESnet

Kathy Benninger - Pittsburgh Supercomputing Center

Requesting Help

Outline

- Getting in Over Your Head
- XSEDE
- Internet2
- ESnet
- Regional Networks

Getting in Over Your Head

- Despite your best efforts in trying everything you've learned today, the problem persists. What to do?
- Ask for help!
- You will have already identified the basics for opening a well-informed trouble ticket. Include:
 - IP addresses and/or locations of endpoints
 - Traceroutes between endpoints
 - What you were trying to do
 - The result you expected
 - The result you obtained
 - When the problem occurred
 - Has it previously worked as expected?

World-Wide perfSONAR-PS Deployments: 572 bwctl nodes, 552 owamp nodes as of Jun '13



Outline

- Getting in Over Your Head
- XSEDE
- Internet2
- ESnet
- Regional Networks

XSEDE

- The central XSEDE help desk for trouble ticketing is help@xsede.org
- Identify your trouble-shooting team. Ideally includes the user seeing the problem and a site network engineer
- Contact help@xsede.org to create a trouble ticket and assign to XSEDE ops-network group
- Help may come from:
 - XSEDE network engineers at the relevant SP site
 - XSEDE network performance debugging team
 - End-to-end perspective
- XSEDE file system and data working group support available as well, especially for bulk data transfer issues

Outline

- Getting in Over Your Head
- XSEDE
- Internet2
- ESnet
- Regional Networks

Internet2

- Two Major Entry Methods:
 - NOC
 - Major responsibility is handling the backbone, and all things that it directly touches (e.g. regional peers, etc.)
 - Starting a ticket at the NOC comes with a risk – if this is an end to end ticket that doesn't involve the network, your ticket may be closed
 - noc@net.internet2.edu
 - Research Support
 - “End to End” support, e.g. there is no determination made on if this is related to backbone/customer site that will close the ticket prematurely.
 - Will be the ‘middle man’ and open tickets on involved networks, national and international
 - rs@internet2.edu

Outline

- Getting in Over Your Head
- XSEDE
- Internet2
- **ESnet**
- Regional Networks

ESnet

- Single shot address:
 - trouble@es.net
- Many types of problems are reported here:
 - General connectivity to ESnet/DOE sites
 - “End to end” problems, that may or may not cross ESnet
 - Application/software related issues
- Policy is to ensure the reporter gets an answer (e.g. even if the answer is ‘file a ticket at this location’).
- Goal is to fix all end to end problems (“rising tide lifts all boats”).

Outline

- Getting in Over Your Head
- XSEDE
- Internet2
- ESnet
- Regional Networks

Regional Networks

- Contact address will vary by network
- As in the Internet2/ESnet case, a Regional Network may not have resources to debug a problem that is perceived to be ‘not on their network’ (e.g. “end to end” may stop when they are not in the path)
- A regional is a good place to start if you are not sure what to do next.

Regional Networks (pS Participation)

- ***Regionals with, or acquiring, perfSONAR:***

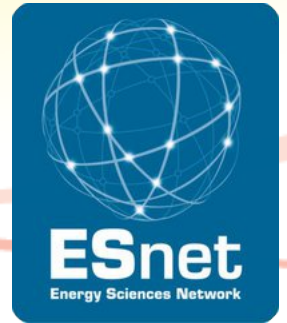
- 3ROX
- ARE-ON
- CEN
- CENIC
- CIC
- FLR
- SOX
- FRGP
- GPN
- KanREN
- LEARN
- LONI
- MAGPI
- MARIA
- MAX
- MCNC
- MERIT
- MissiON
- MOREnet
- MREN
- WVNET
- NJEDGE
- NOX

- ***Regionals with, or acquiring, perfSONAR (cont):***

- NYSERNET
- OneNet
- Oregon GigaPoP
- PNWGP
- PeachNet
- UEN
- WiscNet

- ***Regionals with unsure status:***

- ABQG
- C-Light
- Indiana GigaPoP
- IRON
- KyRON
- MDREN
- Northern Lights
- OARnet
- OSHEAN



Requesting Help

July 22nd 2013, XSEDE Network Performance Tutorial

Jason Zurawski – Internet2/ESnet

Kathy Benninger - Pittsburgh Supercomputing Center

For more information, visit <http://www.internet2.edu/workshops/npw>