

Measurement Group Summary

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2004-04-15 JET Roadmap Workshop

- Measurements

- Transport Protocols

Topics Covered

- Pervasive theme:
“End to End” performance
- Network reports
 - DREN, and DREN AMP
 - NASA EOS, ENSIGHT
 - Abilene

Topics Covered

- The importance of performance monitoring
- Real (pervasive) end-to-end monitoring success stories {via NetLogger}
- Internet2 piPEs
- Performance Debugging Measurement Architecture Workshop

The Importance of Cooperation

- “Seamless Performance”
- One infrastructure visibility for greater good (snmp from everywhere)
- NTP/timing for correlation
- Need test points to divide & conquer
- Support interdomain troubleshooting, ideally:
 - One “box” for users
 - One framework / schema
 - But it’s not baked yet – needs some experience

Let's Do An Experiment

- 2+ JETnets that talk
- With explicit timeline
- Install best interoperable platform
- See if it helps solve problems
 - Define success/failure clearly
- Start with communities that care
 - But must be widely applicable

Recommendation

- Charter a technical committee to design and lead the deployment of measurement infrastructures to measure end-to-end performance among and across this community of networks and their users.

Recommendation

- Contribute to and adopt the GGF NMWG schemas (or equivalent) for sharing network measurement data

- Measurements
- Transport Protocols

Topics Covered

- TCP or not TCP
 - Included some new TCP-ish protocols
HS-TCP, S-TCP, FAST, XCP
 - Fallacies in TCP vs. X comparisons
 - Wrong Q, better to improve for all
 - Instrumentation
 - Better congestion control algorithms
 - Remote Direct Data Placement to lower overhead
 - Raise MTU

Topics Covered

- Various UDP-based alternatives
 - NETBLT
 - Reliable Blast UDP
 - Tsunami
 - SABUL / UDT
 - Main advantages:
 - deployability and experimentation

Role of the JET

- No clear winner. As with the measurement session...
- JET networks have leading-edge needs not felt by commercial networks
- Encourage experimentation, lead/foster deployment
- Make our needs heard to vendors

Recommendation

- JETnets should foster the development and deployment of new protocols and network technologies