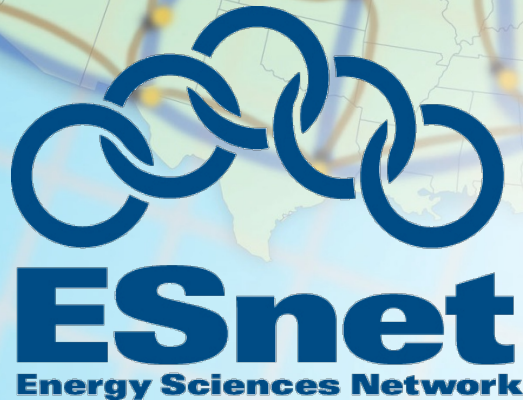


ESnet Services and Service Level Description Document Update

Joe Burrescia

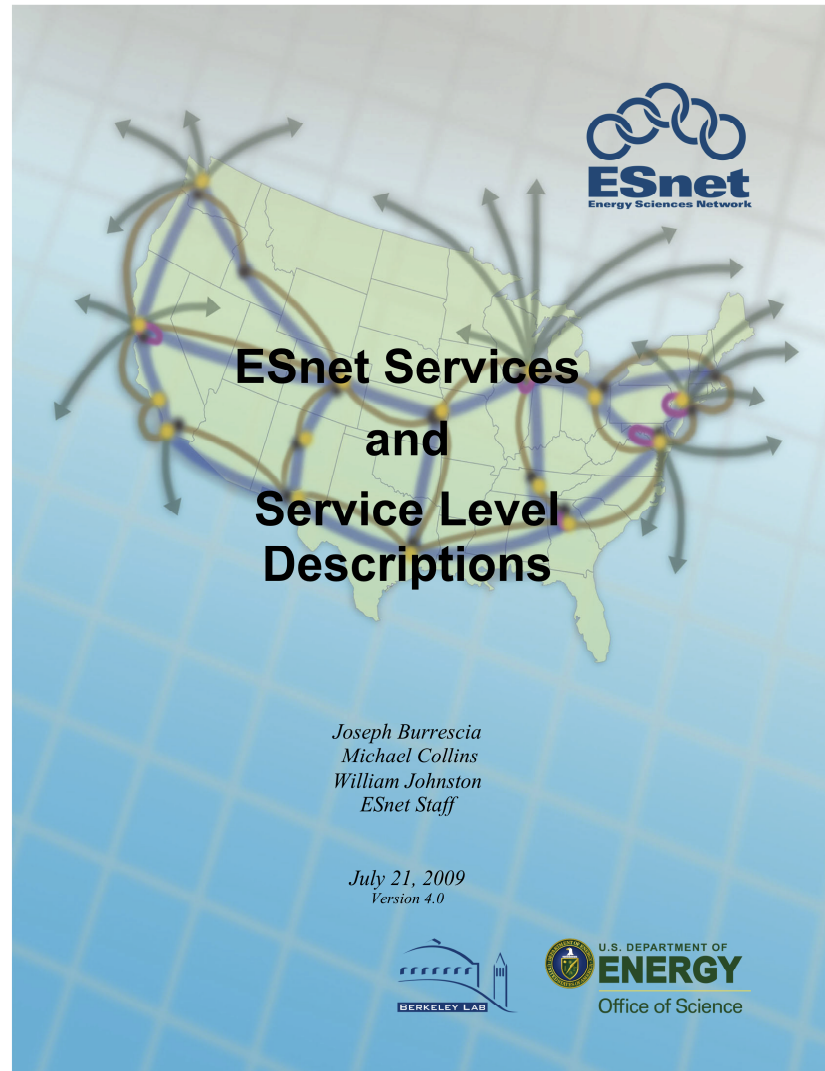


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What is it?

- A description of each ESnet service
 - Example:
 - Service: Network Layer Connectivity
 - Description: ESnet provides comprehensive and high quality network access to Office of Science Labs and other DOE sites...
- The corresponding service level provided
 - Example:
 - Service: Network Layer Connectivity
 - Latency: <100ms between any 2 sites
 - Packet Loss: typically 100TB with < 38 frames lost
 - Throughput: 95% of capacity
 - Availability: ESnet strives for 99.9% availability, and most often exceeds by a wide margin

- Comprehensive physical and logical connectivity
 - High bandwidth access to DOE sites and DOE's primary science collaborators: Research and Education institutions in the US, Europe, Asia Pacific, and elsewhere
 - Full access to the global Internet for DOE Labs

- A full suite of network services
 - IPv4 and IPv6 routing and address space management
 - IPv4 multicast
- Reservable, guaranteed bandwidth using the ESnet On-demand Secure Circuits and Advance Reservation System (OSCARs)
- Scavenger service so that certain types of bulk traffic will use all available bandwidth, but will give priority to all other traffic when it shows up

- An architecture tailored to accommodate DOE's large-scale science
 - Move huge amounts of data between a small number of sites that are scattered all over the world
- Comprehensive user support, including “owning” all trouble tickets involving ESnet users (including problems at the far end of an ESnet connection) until they are resolved – 24x7x365 coverage
 - ESnet's mission is to enable the network based aspects of SC science, and that includes troubleshooting network problems wherever they occur

Summary of Services

- Comprehensive monitoring and measuring of network resources
- Cybersecurity in the WAN environment
- An architecture and operations approach that is fault tolerant and supports a disaster recovery strategy for non-stop operation.
- Collaboration services and Grid middleware supporting collaborative science
 - Federated trust services with science oriented policy
 - Audio, video, and data conferencing
- A highly collaborative and interactive relationship with the DOE Labs and scientists for planning, configuration, and operation of the network
 - ESnet and its services evolve continuously in direct response to SC science needs

What's New in Version 4.0?

- Evolution, not revolution
- Better definitions of circuit services
 - OSCARS etc
- New section on network monitoring
 - perfSONAR
- Revised section on Authenticated Services

Comments?
Questions?

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