

Operations Excellence Community Steering Team

Global Summit Open Meeting

May 17, 2016

During the 2016 Internet2 Global Summit, on May 17, 2016, 3:00-4:00 p.m., the Operations Excellence Community Steering Team (OECST) held an open meeting for the community. The meeting agenda included:

- Introduction of the OECST charge
- Report on progress of the OECST
- Community input on future network operations requirements using small group discussion format

Questions for Community Discussion

The OECST created a list of questions for the community to discuss in a small group format during the Global Summit open session. The questions used for the small group discussion format included:

1. What do you like about the current Internet2 Service delivery and operations approach that should be retained?
2. As you envision your network operations requirements for Internet2 at the end of its next contract cycle in, 2020-2022, what would you expect in terms of service level expectations, transparency/ reporting, communications, online tools, integration with local NOC's/ regionals, etc.?
3. What operational improvements could/ should Internet2 make to its current network-services delivery approach?
4. Are there operational expectations you have across the community (Internet2, Regionals, Global, science projects, cloud, etc.) that will need different support by 2020/22?
5. What services do you want or do you need and how would you would prioritize them?
6. Are there practices or SLA provisions in your campuses and regionals that might be advantageous to apply at the national scale?

Community Input

During the open session discussion, five tables formed, each focusing on one of the questions listed above. Two tables discussed question 3.

1. What do you like about the current Internet2 Service delivery and operations approach that should be retained?
 - A strength of the current approach is the relationships that have been built over time; however, depending on relationships to get things done can sometimes be problematic
 - Community serving itself creates a nice feedback loop; maturity level of the community now indicates that things that have worked well before may not any longer

- Community is uniquely qualified to understand the issues that members of the community face
 - Vendors may not have the same understanding of the R&E community and some have experienced this with, for example, service vendors that have been focused only on higher education institutions vs. those that have many sectors as customers
 - Innovation has been a component of the services Internet2 offers
 - Internet2 builds networks and communities together
 - Higher education institutions are willing to share with each other and that is important to the community
 - It is important to preserve the strength behind the community, if possible
2. As you envision your network operations requirements for Internet2 at the end of its next contract cycle in, 2020-2022, what would you expect in terms of service level expectations, transparency/ reporting, communications, online tools, integration with local NOC's/ regionals, etc.?
- Statement from OECST objectives tells the story well: *To put agreements in place that include service objectives that articulate high expectations, accountability, measurability and transparency that will replace existing and long-standing generalized agreements*
 - Goal should be to have more transparency within our community
 - Frequently, transparency doesn't exist in a vendor relationship
 - When the user treats the provider as a vendor, then the vendor starts to treat the user as a customer rather than as a partner
 - The community needs to be more explicit about the network operations requirements and how we can monitor those requirements to ensure they are achieved
 - It is good to have an SLA, but what the community really wants are the results
 - May need just enough of an incentive for the provider to ensure they obtain the goals but a "weaker" penalty should lead to achieving much more transparency and transparency would allow the community to avoid imposing strict SLA's
 - It is important to note that following best practices is good way to control expenses associated with SLA, etc. and to also provide services efficiently to better meet those targets
3. What operational improvements could/should Internet2 make to its current network services delivery approach?
- Address the NSF-identified, end-to-end performance issue
 - Assurance/troubleshooting/tools/root cause analysis
 - IT Service Management – framework & practices
 - Requirements
 - More outsourcing to the cloud with an indeterminate boundary between cloud and on premise services
 - Seamless ticket handoff between providers with reciprocal technical trust (e.g., accepting each other's test results)

- Support for increasingly virtualized cloud services
 - Education ecosystem is very dependent on the cloud (e.g., Box, Webex, Canvas)
- Simplify underlying infrastructure since outsourcing intrinsically creates additional complications
- Prompt/proactive notification for outages
- Central change management worked for one campus
 - Core element: central change log (cohesive view of all changes – systems, network, Net+)
- NET+ service monitoring for key services that are critical to large number of Internet2 members
- More transparency on operational statistics
- More clarity in the use of Internet2 and commodity pipes
 - Analytic techniques applied to netflow data
 - “How much of my traffic is tied to Box storage?”
- My ESnet portal (<https://my.es.net>) is potentially applicable
- NSF view: support for experiments at scale
 - Take advantage of virtualization
 - Metric for network research
 - Potential ability to manipulate network traffic for experimentation
- One drive for national lab community in 2021
 - ‘Self service science’
 - Unique on-demand, seamless, programmable network
- We need to be able to make regular modifications during In-service hours
 - Need standards and best practices to be able to accomplish this
 - Need to build resiliency into the Internet2 Network architecture
 - Internet2 currently has no engineering staff; fixing that will help with service delivery
 - Some services can be outsourced but services that vital to you are kept in-house

Other comments

Universities rarely interact directly with the NOC, instead working through their regional connectors. Being notified when the network is broken seems to be working. With end-to-end performance, campuses want Internet2 to play a bigger role because there is usually a better view from the middle to see the problem. It would be great if Internet2 were the community conduit in the problem-solving effort (e.g. when there are performance problems).

It is important to maintain a balance between a stable and reliable production network and “crazy one-off” uses of the network; some of the issues to consider include:

- significant architecture issues going forward; more dependencies than now, will depend on rock solid stability
- SLA’s—choice between rigid requirements vs. common agreements or to not have SLA’s but work as a partner not a vendor