

Internet2 NTAC face-to-face meeting

Thursday, December 7, 2006

8:00 AM – 12:00 PM CST

CC 20 B/C

Chicago, IL

e-Dial: access 0147076#

Participants:

Internet2 support staff: Rob Vietzke, Steve Wallace, Steve Cotter, Heather Bruning, Ana Preston, Erick Boyd, Rick Summerhill, Matt Zekauskas, Cheryl Fremon, Christian Todorov, Terri Saarinen (scribe)

Community: Jose A. Dominguez, Jerry Sobieski, Bill Owens, Dan Magorian, Joe St Sauver, Cas D'Angelo, Michael Lambert, John Moore, John Streck, Leo Donnelly, George Loftus, Dave Jent, Dave Reese, Brian Court, Linda Winkler, Dale Finkelson, Dave Pokorney, Tim Lance, Paul Schopis, Dave Farmer, Mike Schlicht, Cort Buffington, Mark Johnson

Unable to attend: Ron Hutchins

****If you were at the meeting and we did not note your name, apologies – send Ana or Terri a note on this.**

There were no participants via phone.

ACTION ITEMS noted from meeting:

1. Dave Farmer, Paul Schopis, Dave Reese offered to write an initial recommendation/write up on membership within this group, roles and expectations.
2. Ana will work to get all those that attended the meeting today (and those in the current NTAC roster) access to the wiki and will work with George to alert people when this has happened. Determined that people should create their account and then alert Ana or George Brett to give read/write access to wiki. George needs verbal or oral ok from Paul or Ana.
3. Ana will compile latest roster (including those attending today's meeting) and send it to full NTAC list. Will add those that attended in person meeting to list
4. Eric Boyd to create new list (consolidated on measurement – see notes below); expect an email from Eric
5. Paul to contact Jerry Sobieski regarding discussion of Layer 2 working group (see notes on this) and to include those that raised hand as being interested in being part of group (Paul, Rick, Linda, Bill, Dan, John Moore, Leo Donnelly.)
6. NTAC to continue with calls on first and third Tuesday (Dec. 19) Calls will be kept going. Ana will send reminder.

Next call: December 19 at 4 p.m. ET

NOTE: call will focus/be about the commodity and peering working group and its first phone call. Next full NTAC call will be Jan 2, 2007 unless group consensus is to reschedule.

Dec 7 - Agenda for the face to face meeting

8:00 Welcome (Paul Schopis and Internet2 facilitator Ana Preston, also by Cheryl Fremon and Rick Summerhill/Steve Cotter)

8:05 Internet2 and network considerations for NTAC – Questions about network deployment or things heard at the meeting (Steve Cotter/Rick Summerhill)

8:45 NTAC Processes and Membership (Paul Schopis/others)

- NTAC membership: group makeup, membership selection, processes moving forward for issues related to NTAC whole group
- Review and implementation of NAG recommended framework
- Refinement of charter and tasks for next six and 12 months (as transitional NTAC)
- NTAC and new structure – for input and discussion:

9:45 Resources for NTAC

- Process document on working groups; current and future (Eric Boyd/Susan Evett)

10:00 BREAK

10:20 Quick review of web pages, mailing lists and other mechanisms – include quick Wiki overview and tutorial (Ana/George Brett)

10:30 Internet2 Network Technical Working Groups: updates and direction of working groups (progress to date) but also, potentially looking at work ahead in terms of new Internet2 network.

11:50 Wrap up and next steps

12:00 Adjourn

Notes from the meeting

Welcome by chair and Internet2 staff. Kicked off agenda with two items: questions about network Deployment or things heard at the meeting, followed by NTAC Processes and Membership

Question about the NTAC being an advisory body as other advisory councils within Internet2 or what suggested by Governance and nominations committee (GNC) and recent recommendations – where one may think that the NTAC plays role here. Cheryl said the four councils shown in the governance committee report are the four advisory councils to the board. NTAC is a committee in terms of structure. Suggestion made to send note about NTAC to GNC.

In the NAG report - goal was for current NTAC to have 15 people serving three year terms, replacing 1/3 each year. This group is charged with two missions, to give technical advice in the short term for new net and to help and counsel the Internet2 network leadership on technical matters related to the network and design, planning and implementation/operations of new network.

NTAC make up and membership criteria and processes

Do we want to set selection criteria for ourselves or keep it open? Wrestling with a framework. Want to be inclusive as possible, but recognize it's hard to manage a big troop. Thoughts? Feelings?

Dave Reese: given structure going forward, why put formality to group with no decision making authority and is not even an advisory council? Is it necessary? If it comes down to a vote, have 15 to vote, inclusion and openness is best since we have no authority.

Size issue, there are some organizations with more than one representative at a meeting. Quilt now has one vote per organization. Would folks be comfortable with the notion, going forward, want to build consensus or simple majority vote with each group having one group. Discontent and discussion ensued.

Dave: What about those wearing multiple hats. This group can't reach consensus. Paul agrees. Happened in NAG, sometimes under deadline and must make decision. At the end of the day, it is hard to tell how the majority feel. If it comes to that, having tally indicating majority opinion is valuable.

Jerry: So what is the purpose is being invited to participate? Second point would be about authority to vote, does it mean we commit to a huge expenditure. Agrees with Dave on this.

Dave suggests biggest problem will be getting 15 fair representatives, which would take 6 months.

Dan: expertise is what is important. Don't want to leave people out. Jeff Barton - Wisconsin - Peering and Transit. Need to make sure all groups are there, all the RONS, even if they don't have interest.

Want to have mechanism in place for folks to have the opportunity.

Dave talked about the CENIC advisory council - goes to board and reports to them. They know if no consensus is reached and there is a deadline, then staff goes forward. They just know that. Frustrated with Abilene because so much got decided without the body of the TAC. Small group with advisory council working with subset. Folks represented them and worked with CENIC on those issues. Works well because the group feels they have input. Something we could recommend going forward for when sensitive issues have to be made.

John Moore asked how selections were made? Those with times, those with interest.

Ana showed composition of Abilene TAC vs. transition NTAC - will post on wiki - please send corrections on names and affiliations to her.

Cheryl said from her perspective, she would like to have the widest range of views as possible and welcomes that board range of experiences, skills, etc. If you can manage, then don't worry about size.

Bill Owens - In NYSERNET -- Working Group -- recognizes folks who are willing to work. Total potential size of that group ends up being self selecting if you are willing to put the time in. We don't write papers or grants. Comes down to whoever is willing to connect. More participate when face to face, but narrows down for weekly calls.

Dave Farmer - suggests looking at defining the commitments and expectations. Let self-selection. Define -- please only at most two from and organization, define reasonable parameters.

Dave Reese - is group represented by the regionals or by the members.

Paul - personal experience is that attrition and loss of interest takes care of it.

Dave Reese said the "work" also does this. He also suggests a rotating chair (and pick vice chair) and let the group pick. Vice chair helps set agenda, and then chair becomes task chair. Three people; almost make an executive NTAC council.

Mike Lambert - are we here to represent our organizations or to get what we want

Dave Farmer - that's what he was trying to get. If it's not relevant, he won't be here. Part of the job in forming the group is to make it relevant.

John Moore - how is this group going to determine work. Coming from Internet2 staff?

Ana clarified her role within NAG and with NTAC as facilitator (and note taker, help group in facilitating interaction at different levels within Internet2) Staff of Internet2 to facilitate and support and report where needed on specific areas of work. Ana projected NAG report and NTAC framework and rationale. Paul said the other thing, to scope what we are talking about today -- this group has one year to get done what's needed -- electing chairs, structure, etc. Need to figure out how to make that happen and give immediate technical advice to staff for things coming up with new network. To be clear, today we are talking about a one year group.

Bill Owens - like it. NAG feedback, can't process how that changes with GNC report. Big concern from CDW was the idea of representation and feedback to the Internet2 professional organization. There will be much more feedback coming in. In terms of community involvement from decision makers, what GNC recommends will take care of that and maybe this group can focus on work.

Ana -- are we resolving then, for her notes...

Dave -- resolved not to resolve.

Paul -- at this time, we don't see reason to scope membership in transitional NTAC open to any member or connector who wants to participate.

Bill -- and can revisit once year is up

Ana -- logistics - in terms of convening, if open group, how do we convene on the phone. How do we determine space needs? Logistics in moving forward?

Dave Farmer -- agree but need definition to help people decide if they are part of this group. What are expectations 5-6 meetings a year or willy-nilly.

Joe St Sauver -- if technical issues are put to this body, then folks will participate.

Dave Reese -- real problem to determine how big of room, how much wine, how big. Call if folks don't RSVP. Sees group responsibility to help organize. Open group has responsibilities, too. Maybe one meeting is separate from MM or JT meetings.

Paul Schopis mentioned being a tourist on the HOPI design team. Agrees with what Dave is saying. Need to ask ourselves if we have time to participate. WIKIs in place to make it easy to get info or to provide input and opinion. There are ways to participate without being part of the central group.

Bill -- there is also participation by those with true interest. Don't say you can't participate if you don't attend meetings, but understands group size will filter out. There will be a large number of individual participants.

Dave Reese -- mentioned conflicts and need to drop out for a bit and return.

Paul -- what he is hearing, in reality, representation and group size isn't as important as opportunity to participate, transparency.

Dave Reese -- and this group can create a small group to work with Internet2 when needed.

Ana - that said, in terms alluding to expectations of the members. General to say -- if you are involved in tech capacity to your university, regional, connector? How do we determine skill set?

Cas D'Angelo - What about by invitation by a current member?

Bill -- one fear, if this is the only open group, then all will gravitate here -- and we will get non-techs here. Other groups need to have interaction with staff and engagement within other interests of expertise. These are the people are the technical people for their organizations.

Dave R -- or wait and solve problem when we know we have problem.

Ana said -- technical skill set from any organization?

Dave R -- suggest asking a couple people to write down what we are looking for. Each will represent their home organization, but also the goals of this home organization. Describe what being a participate means.

Half page, simple paragraph. Avoid senior, technical, terms like that.

ACTION ITEM: Dave Farmer, Paul Schopis, Dave Reese offered to write an initial recommendation/write up on membership within this group, roles and expectations.

George Loftus - representation?

Dave and Dave think main focus is to advise Internet2 on Internet2.

Discussed and reviewed regular meeting schedule -- Abilene TAC met three times per year and monthly conference calls. Ana suggests monthly phone call plus three meetings. At member meetings or at occasion at other meetings.

Dave - at the member meetings. Not at Joint Techs since it is broader than Internet2.

Bill -- asked if monthly is often enough.

Dave Farmer sees spin-offs and smaller groups will meet more.

Ana said since August - calls have been every other week. Today is first face to face. Paul added between SC and thanksgiving, attendance has declined.

Bill said you can view every other week as a burden or an opportunity. Easier to cancel what is not needed, *get agenda/issues out sooner.*

Dave Reese *would like expectations of what it means to be a member. Internet2 has responsibility to make the group feel value.* Without that, this group will wither and die. What you can expect as a member. If what we suggests gets ignored...

Steve Wallace -- good point. *Would it make sense for Internet2 to have a report it back function, we heard this, took this action. Ignored, Attempted to Implement, Success. Having semi structured way of insuring communications took place. What we thought were actions and what we did to respond to that. Dave Reese would like that included in this document.*

Ana asked if there were other things to discuss in terms of NTAC membership and processes.

Dan Magorian - How does this get written up or announced so folks can find there way. Ana said there is web page, wiki, announced thru different mailing lists,

Ana - FYI - Eric here to talk about working groups.

Bill -- asked Abilene Update needed new name. Maybe NTAC chair provides that update to the community.

Ana have chair or proxy provide whenever Network Update to provide update for work NTAC has been doing.

Paul proposes, looking at the agenda, one question for the group. Came up in a call. Because we are transitional group. Does this group want to tackle governance role or treat some of that work as a sub or WG and have them come back and report and recommendations.

Bill thinks it is important to keep up front. Dave Farmer said it is important to let it cook.

Paul asked if folks have seen the charter for this group.

Dave thinks charter should be in same place on web.

Paul said Rick offered to give brief history of Abilene TAC. Rick was chair for the first four years of the Abilene TAC and started when it first began, announced at a Spring MM. Terry Rogers chair, they did search for NOC services (at IU now). Tech Advisory committee not involved. Terry formed group he felt were tech involved and knowledgeable. Two fold goal - wanted reaction and advice for decisions, and be proactive in looking at new technologies and ideas. Linda Winkler and Allison Mankin, Jeff Schiller, variety of others. Small group. When it grew, talked to group and staff and asked folks to join. When we first started, there were three mailing lists. Abilene TAC had a membership from the community (no staff), then Members and staff, and then Members, Staff, and vendor/commercial. Full list became Abilene TAC, with two side lists for private use. Never used the member only list. All communications were done with the staff. Informal, operated by consensus. Linda didn't have anything else to add.

Dave Reese -- suggested that vendors don't be members of NTAC.

Bill Owen asked if Internet2 has technical contact with folks.

Steve Cotter said that we have Ellen Vaughan in corporate side, and good working relationships with vendors. Steve suggested contact Network Services Staff for names and said getting to the right person hasn't been a problem.

Started going into next agenda item: **resources for NTAC**

Eric Boyd - a couple of slides as a way for him to remember what he wants to talk about.

High level idea is that the NTAC would suggest, populate and review working groups in this area, make sure they serve purpose and last as long as necessary. Wanted to focus on the NTAC perspective.

Bill Owens -- asked about meaning of Working Groups. And talked about spin-off groups vs. in HOPI were spin-offs were named to do work. But there is a thing, so maybe it needs to be supported.

Eric -- two types of groups -- SIG or Support Groups. Or groups tasked with what they are going to set out to do.

Jerry - WGs are supposed to be developing advice. We are not doing the build out or engineering. Or designing address schemes. They will be identifying the issues, considerations, common practices, etc.

Eric said NTAC would be the group to recognize the need to convene group from community to do task.

John Streck -- off of the Internet2 page -- WG, SIG, Advisory Groups. Blur of lines. How will you institute to have an extension clause. Eric said we have an NTAC specific one. Also a bit about dormancy. Need to look at worthiness of group. If it goes on for a year...

John Moore - this is too formal. Good example is the group Leo and John were on. Larger group solicited volunteers, wrote papers, agreement, then group went away. Prefers that kind of structure.

Paul hears pragmatic problem. If WG is expecting support, there is only so many Internet2 staff. SIG and AG is low maintenance, wiki, mailing group. WG has in its charter a timeline or objective. We are trying to avoid grinding on forever.

Tim Lance -- could have idle group.

Cheryl explained why WG is formal. Internet2 is committed to provide staff resources to WG who work. Scribe, flywheel, support. Secondly, we do have dormant category -- suspended until later. There is a financial (resource) commitment.

Bill would like simplicity. Eric said wanted NTAC to be able to say we want this to happen and for a way for NTAC end it.

Dan - WG, SIG, BoFs -- what Bill said.

Paul added that Internet2 staff wanting mechanism for review from the community.

Bill said the need for a formal review process comes up when there is conflict.

Paul said NAG wanted transparency. Maybe plan in place incase of contention, peer review.

Dave Farmer -- to be clear, are we saying NTAC is responsible for all of these technical working Groups.

Bill appreciated Internet2's effort to have group that can provide input.

George -- The WIKI Review

Confluence WIKI map. News articles can't be revised. Recommends using the comment field. Attachments are also versions. George did walk-thru. George's Sandbox page. Confluence is a fairly powerful tool. Web 2.0 GLIFFY that allows for drawing and sharing diagrams. Plug in to allow for license. Go to wiki.internet2.edu.

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Matt asked if they create account first - yes. You create account and create password with primary email address.

ACTION ITEM: Ana will compile latest roster (including those attending today's meeting) and send it to full NTAC list. Will add those that attended in person meeting to list

Working Groups

1. **IPv6** -Michael Lambert - sent into to the group.

To date, the IPv6 working group has had three areas of what could reasonably be termed "primary focus":

- 1) Shepherding the deployment of IPv6 on the Abilene backbone,
- 2) Facilitating IPv6 education within the Internet2 community and
- 3) Being an advocate for IPv6, particularly with regards to encouraging IPv6 deployment by connectors and their participants.

Dale Finkelson -- some problems we can't solve, but can make recommendations. Dan said there is new realm in DC seeing mandate for IPv6. Folks are stumbling same as others did a couple of years ago. Bill Owens, said Internet2 supplied equipment and pool of support. OARnet are now involved, and some instructors. Production offering - contact internet2.

Joe St Sauver said three ongoing issues are not resolved

1. "IPv6 traffic is not currently visible, which means that IPv6 traffic levels on Abilene cannot currently be easily ascertained"
It was discussed that after this meeting this will be looked into
2. "Because multihoming in IPv6 is still an unsolved technical issue, most I2 connectors are NOT currently IPv6 multihomed to Abilene and to another IPv6 commodity transit provider, and thus rely on Internet2 for IPv6 commodity transit. Currently I2 purchases just a small number of Mbps. As long as IPv6 is experimental, that may be fine, but folks should be aware that because MS Vista ships with IPv6 enabled, the demand for IPv6 commodity transit may grow substantially and we should be carefully tracking the sufficiency of the currently purchased IPv6 commodity transit."
3. "Some IPv6 routes are still quite geographically bizarre, often due to providers voluntarily offering default routes when they shouldn't be, or poor tunnelled topologies. Those routes should be filtered to prevent weird IPv6 traffic paths. (see, for example <http://www.merit.edu/mail.archives/nanog/2005-10/msg00486.html>)

Dave Farmer - if we are declaring victory, ok. And if we really claim victory, we should write it up. And say what are the pieces that are not done.

Dale disagreed. If you believe this is a path the internet needs to take in order to survive. While it does not work very well, more discussion -- multicast beacon server tool. Does v6 have something similar. Is there true connectivity or not, can't demonstrate.

Bill -- no one has seen need for unicast monitoring tool. Beacon exists because of multicast. In terms of what Joe said, this is a philosophical change -- IPv6 was new, experimental, and an advanced service. It may be what Joe said are important topics for this group since Internet2 now supports this.

Dale -- if consensus reached, he suggests dissolving previous IPv6 group, and treat these three as new issues on a different plane.

Dan -- anyone who was at last NANOG v6 heated discussion -- large number said declare it a failure and start over. Point is that if you want to get involved, maybe the right place.

Rick asked where Multicast fits. IPv6 didn't attempt to address those issues.

Bill suggests what IETF did. Maybe consideration that any group chartered considers IPv6. All the work M/W does, considers IPv6. Not all aware of all issues.

Michael -- do we keep v6 alive. Bill said yes, by mailing group, and archive. Or IPv6 oversight group?

2. Multicast Group - Rick Summerhill

Alan Crosswell chair -- Bill put it accurately, primarily a support group of HOPI, vehicle for asking and learning. Most active mailing list among the engineering mailing lists. Rick does not know the status. Bill has been most active -- demo at MM, at MAGPI, still running at NYSERNET. Not tested because no one used it. Enabled at peering locations with GEANT. Can't be enabled at other peering locations because of annoying technical issues.

ARNET peers at PAC - flat VLAN peering point, and can't segregate traffic. Same for PaX and Nix. Also issues with CUDI connection. Combo of vendor capabilities and other issues.

Rick said many here participate -- do you think there are things to get done or is it a support group. Support. (or Support for v4, but not for v6). Bill talked about v6 Multicast workshop offered next week - but no one signed up. Rick would like to hear from Alan, maybe on the next call, invite Alan to participate.

Bill added, with support, Big Video Group - research channel, list was deactivated, group about high bandwidth video streaming, but also becoming an adhoc multicast group. Maybe those three lists need to be combined and reviewed. WG multicast, WG RC, and WG big video.

Dave Farmer - may not be good idea to name mailing list. If WG can transition, don't want to change the name of the mailing list. Let's not make the same mistake. As a general purpose thing, multicast is a support group, but there are some tools for multicast that need work and updating.

Bill would love more resources poured into operational multicast, but is this a role for Internet2? Original beacon software was created by DAST at NSF. Abandoned. So a grad student in Portugal rewrote it, but moved on to do other work. Things orphaned. Bill can't do it.

Dale said this would involve Internet2 staff. Otherwise, same issues will happen, folks will move, and things get dropped.

Dave Farmer --say that it is critical to the infrastructure and that Internet2 will provide resources. Multicast Beacon is very important, do it or find someone who will take it over.

Dale -- the WG could recommend to NTAC that this is really important and needs development or resources.

Joe -- Many network problems inherently cross the 'layer' of the stack. To the extent that the new governance structure stratifies I2 governance (and divides technical work) by layer, it will be hard to work on problems that inherently span the application layer, the network layer, etc."

Paul - moving forward. Are we asking Internet2 to add resources. Dale vis-a-vis Alan's view, if Alan believes there are significant issues, he needs to bring them to NTAC and determine which gets pursued at Internet2 level or what is WG or SIG.

Eric -- commented about Internet2 staff - we would really need to understand need, scope of work. What are we doing less of? Question? What are you trying to do? What level of support are you expecting?

Paul -- does it make sense to have someone here today to have chat with Alan. To Do: Rick will call Alan, and chat, then ask Alan to participate on next call.

3. Measurement – Eric Boyd

Where we are now and suggestions for moving forward. When Eric was thinking about this, there are groups existing, forums where folks get together. Some things that are in regular practice may not be getting community involvement. Matt provided historical background for Measurement

SIG and more. Rick said the Observatory has two pieces -- the operational nature, what you collect to make sure your network is running well. First is engineering group -- second group are real researchers in data collection (mathematicians!). Rick and Matt had NSF grant to talk to researchers about what they want. Got lots of data. If you try to form group of researchers to do this -- hard time, they would rather work on their research.

Matt said we have opportunity to do the original Measurement stuff right.

Eric's new proposed structure.

Measurement and Performance Area (support) Group.

- Mailing list for general discussion
- Interest in face to face discussions at quarterly gatherings
- Proposes new measurement and perf related WGs to NTAC.

Goal is to help staff organize discussions at quarterly gatherings. Have more giving input and structure to the discussion topics.

Within the other groups, this group serves as discussion forum for when we need more specific discussions. Umbrella structure, as a for instance, what might warrant WG are the Observatory (measurement, Research) and PerfSONAR WG.

Dan liked what Eric presented. Discussions in those groups, was a layer three measurement, now layer one and two. Whole new set of very lively tasks. At the same time, Internet2 has some real things to get accomplished in Observatory. Folks who want to discuss can be in the outer group, and those helping with the task, then can to the work.

Bill asked about E2E WG. There isn't. More of an E2E SIG or TAG.

Folks recognized that we call Matt.

Bill suggests documentation that gets done under Internet2 umbrella.

Dave Farmer - those levels may go beyond the NTAC. It's not just backbone, but gigapops, RONS, and campuses.

Matt said there are things we need to tackle, but we aren't just backbone.

Matt -for full disclosure, he is IETF co-chair.

ACTION ITEM: Eric, hearing no objection, will create new list. Expect an email from Eric. Blog item - to discuss program for winter Joint Techs.

Dan -- outer group is basically a SIG, but one task is to pitch in with idea. If you want to do actual work, join perfsonar or measurement WGs.

Dave F. -- if there is real work to be done, act as a BOF. Hey, I got this crazy idea...

John Moore -- Rick mentioned two aspects. Should we split. Might be useful to have input from the research community. Matt suggests old NRLC to get ideas.

4. Dynamic Services – Linda Wrinkler

as result of HOPI meeting, created a dynamic services group. At this point she and Linda are working on soliciting initial member suggestion list. First task is to review HOPI list for right membership. Rick added that this isn't the union of all groups, should keep it to 10 -15, but he

really likes Bill's suggestion to take all and let it be start of support group. Needs to be a WG that really does things. Bill agreed!

Other comments?

5. Commodity and Peering WG - (Magorian and Vietzke)

Dan said this group is brand new. Discussion at Ron/Coordinator meeting Tuesday night. Concept, not even a fixed name, but technically accurate. Specific set of tasks with definite timeliness. Closely structured group created to advice and help. May end up being a sub, sub group. Talked about taxonomy, formal documents (by Spring 07), SSW leading the technical aspects, closely coupled. At the same time, need to have something that is viable and workable.

Rob - added that two things, because services have business implications, there are stuff ending up here that have to understand . Leading with it because it is important. Also two - the technical decisions needed sooner rather than later.

SSW added the potential, subset of this group may be asked to help set peering strategy/policy,

Dave Farmer - asked about the business drivers, he doesn't understand the real reasons. Incumbent on someone to explain what the real business drivers are.

SSW - we have a number of members and connectors coming to us that are deciding what kid of connectors they get. Pressure there to provide them with good info for decision. Also need to roll out network, also need to roll out for best way for the community to not be destructive. Beta out there now, but nothing that can't be modified or undone.

Rob said we have lots of interest. Dave F. is interested. Internet2 the networking portion has been mission critical, but now moving into operational critical to the university. Now moving into "fall apart" if it is not done right. SSW understands. For those who choose this it means a change in their relationship. Shares Dave's understands. Also said there is not a big difference in our expectations for the NOC running the backbone. Connectors may not.

Dave F. is not sure the community has a whole hasn't treated backbone, and you are asking whole community to change.

Rob, asking community how it does business is beyond scope of NTAC, but talking about the backbone issues of what we all need to do to make changes does need discussion. Beta has driven some changes already.

Dave F. asked for drivers. Rob said if connection won't go beyond 1 gig, does it need 10 G? No. But then Dave Jent heard more and decided 10 G... Dave Farmer agrees, but hasn't heard it said in a public forward. In order to justify going to 10 gig...

Rob said we are hearing...and we need to keep talking about this. Dan talked to eight RONS for strategy for how they will connect and how that all fixes into the mix. Each has own.

Leo mentioned that the Quilt was going to be investigating business models and overlap. Jen Leisure and Dan have talked about joint effort. Ana also spoke with Jen about this.

Service definitions coming out of the HOPI group. Does NTAC feel there is a need or proceed with HOPI dynamic services group. Discussion.

Discussion about group possibly to focus on Layer 2 (and other things)

Rick said better example of Infinera thru Ethernet. Europeans Alcatel on one side and glue in the middle. Dan said there's a bunch who'd like to hear. More than a SIG. A WG that gets assigned to recommend how testing is done and what is tested.

Dave -- once you assign tasks and those get completed, discussion doesn't end. Not just technology, but also operational issues. May seem trivial to butt two Infineras together, but it is not.

ACTION ITEM: Paul, more pragmatic - who willing to be on this. Paul will contact Jerry Sobieski. Who in group - Paul, Rick, Linda, Bill, Dan, John Moore, Leo Donnelly.

Dan - interop trial.

Rob - IPTV session. There are three or four different members of community looking at community wide services, Good opportunity to have standards and discussion of services early. John Streck.

Is this application issues? Or network issues. Or does solution muck with network. Need to defend our space.

Dave Farmer looking at IPTV issues, interest in doing stuff, but no one can say what.

Joe if it relies on network resources, applicable. If not, beyond scope. Joe will to act as a liaison and will try to figure out or determine if there is a fit.

Ana - moving forward. Will try to get notes out, will use the wiki as mechanism to maximize tool and to solicit input. There will also be web page for this group, place holder for redirection to the wiki. Now that this is broader group, no names will be mentioned.

Logistical questions -- call on first and third Tuesday (Dec. 19) Calls will be kept going. Ana will send reminder.

Paul thanked folks for attending and appreciated active participation.

NOTES taken by Terri Saarinen – quick editing by Ana Preston. Edits and corrections please send to our attention.