

Coordination & Collaboration for Internal NOC issues

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TF NOC

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- Great to see so many people interested in TF-NOC
 - Very interesting presentations today
 - ...but now that we're together, what do we do?
- A TERENA tasks force must
 - Have a purpose, work items, deliverables
 - A group such as this must have *focus points*
 - So, what should they be?

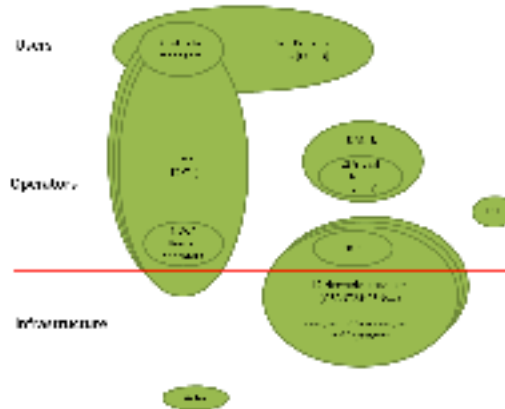
- How do we do all the things we have to do in a NOC?
 - NOC's often "are just there"
- Many similarities
 - A NOC must fit into the local organization, but many tasks are similar across NOC's and can be analyzed and described "on their own"
 - Standards (ITIL etc), but scope is often much broader than just the NOC
- TF NOC could
 - Contribute to an understanding of what NOC's do
 - Help us share learning on best practice – and raise the bar

- First step is to do what we do today
 - Share! Learn!
- But we should capture what we learn:
 - Documentation of best practice
 - Analysis of the requirements of NOC's
 - Analysis of different approaches to meeting those requirements
- Best practice descriptions
 - Canonical list of NOC tasks, with best practice guidelines
 - Publish white papers, howto guides
- Inspiration from UNINETT Giga Campus, GN3 Campus Best Practice activity.

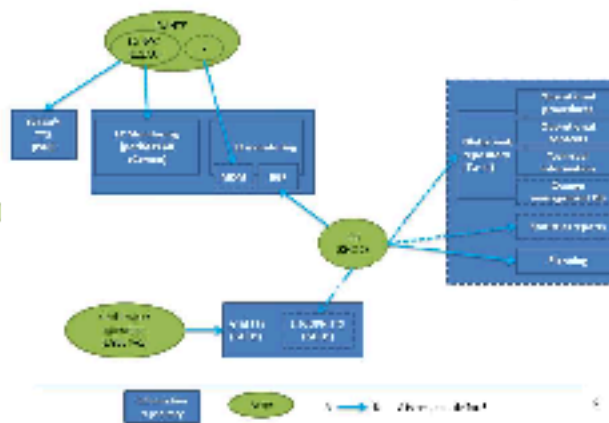
- It's all about the process
 - ... but in my experience few (NREN) NOC's use workflow management, or detailed process documentation
 - "Major breakdown? What do we do?"
- Process and workflow is crucial to most NOC tasks
 - ...and will be more so the more complicated tasks we handle
 - Interaction with partners, users, projects
 - Inter-NOC workflow management
 - Outsourcing, integration of vendor resources

- Documenting workflows in easy-to-understand ways
 - Increases understanding of responsibilities
 - Helps set the right expectations
 - Increases chance that things go right when responsibility is split across multiple partners
 - Helps us think about, analyze, and improve workflows
- Examples
 - LHCOPN workflow description methodology
 - What Vera presented two presentations back

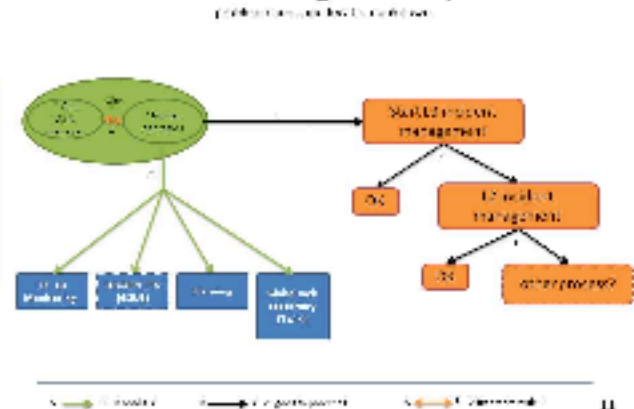
LHCOPN Actors



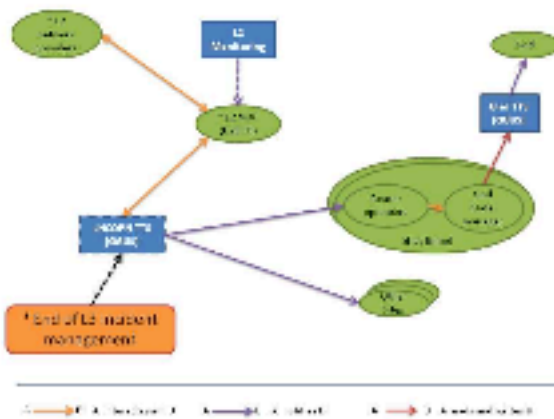
Actors and information repositories management



Problem management process



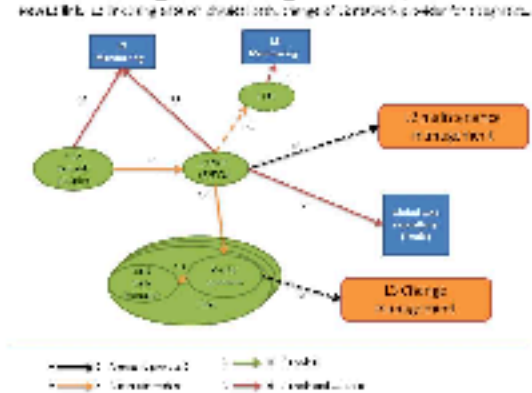
L2 Incident management process



L3 Maintenance management process



L2 Change management process



- We all depend on a wide range of tools
- We use tools to support...
 - Workflows and processes
 - The way we are organized
 - Often small, simple tools are essential to success (e.g., jabber)
- How do I
 - Understand the best tool for a task – what is there?
 - Fit a tool to my organization?
 - Fit a tool to my workflows?
- Knowing what others do is a first step
 - Which tools are other people using? Why?



- Describing the tools the trade
- Typologies / Taxonomies
 - Can we classify the tools used by type, function, goal, environment
 - Can we classify the tools by approach, technology, in-house/distributed/external
- Comparing
 - How to evaluate tools and approaches to a task
 - What are the best tools for a task
- How it all fits together
 - A white paper?
 - A HOW-TO guide for NREN's

- We all have at least one network monitoring platform
- Many breeds
 - In-house
 - Off-the-shelf (Nagios)
 - Big projects (PerfSONAR)
- Many uses
 - Information transparency
 - Fault finding
 - Alarming
 - Statistics
- How did *you* pick the tools you use?

- What do we do with all the information we gather on network performance
 - Performance management process?
 - Handling large users
 - Handling incidents
 - Handling growth
 - Handling management types
- SLA's?
 - Do you reconcile your network measurements with the SLA's you promise and/or have been promised? How?
- NOC's are busy & event driven
 - So how do we ensure follow-up on all the important information we gather?

- There's a lot of academic research on how to do measurement
 - ... but far less on how these tools are deployed and used
 - Monitoring, alarming, and reporting is far more ad-hoc
- Can we do a useful typology
 - ...based on the daily work of a NOC?
- White papers, HOW-TO, overview on tools and the tasks they are good for (a low-ambition taxonomy)

- Tickets are crucial to the life of a NOC
- Tickets must be
 - Opened, managed, followed up, closed
 - Support workflows and processes
 - Distributed for information
 - Distributed for external action
 - Reconciled with tickets from other systems and organizations
- Being distributed, working in virtual organizations only makes tickets harder to manage

- What are the ticket systems people use
 - Do we *all* have home-grown systems?
- How do we make ticket systems work together
 - Support federated networks and organization
 - Support a world of multi-domain networks
- Can we at all classify ticket systems?
 - By functions
 - By technology
 - By process or environment
- Is a white paper or guide or how-to for ticketing and ticket systems possible?

- Where do people source their tools?
 - Commercial vendors
 - Community tools
 - Home-grown – small tools to really large development initiatives
- Sharing
 - Can we share tools?
 - Can we do shared specifications of tools?
- What are good decision criteria for where to source a NOC tools
- Joint open source development projects
 - TF-Storage has a couple of spin-off projects

- How do NOC's manage knowledge about
 - Users
 - Networks
 - Contacts
 - Partners
 - Tools
 - Procedures
- Knowledge management systems?
- Wiki's?

- Can we share parts of knowledge management?
 - Much knowledge is part of the organization
 - ... but there's a large fraction that is technology, tool, or process dependant
- Is there basis for community knowledge management
 - Is that not what wiki's are for?
 - It needs someone to hold the banner on whatever subject, and it needs community momentum to get it going.

- Most NOC's do regular reports
 - Statistics, incidents, ...
 - For management, boards, stakeholders,...
- What is reported?
 - Are there reports that have helped make *your* life easier?
 - Are there easy ways to compile reports that impress stakeholders?
 - How are reports distributed? What about privacy? Security?
- Very little shared learning in this area
 - ... mostly by people changing jobs...
 - Can we document how we do reporting?
 - Take a step back and think about how we keep stakeholders informed
 - Again – is there a whitepaper or howto hiding here?



- Oh no....
 - ... but we have to do it
- If you guys could document all the boring bits and share it, I could do something fun
 - ...and quick, please

- How to we asses how well we are doing our job?
- What are good key performance indicators (KPI's) for NOC's
- Are *you* being asked KPI questions by your management? What would you do if you were?
- Do we understand how well our NOC's perform? Can we asses if we're getting better?

- Presentations and discussion is useful inspiration
 - Good ideas to take home
 - Learn about approaches used by others
 - Readjust priorities
 - Coffee-break conversation
- ... if you were there
 - ... being there is part of being a member of the community
 - Can we capture some of this for posterity? Should we? Can we be systematic about the things we learn?

- Best practice documents
- How-to guides for tools and processes
- Taxonomy of NOC tools (by function area, technology, etc)
- Survey of tools used by European NRENs
- Overview of NOC functions and their supporting tools and workflows
- (Proposals for) joint development of (open source) tools.