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Nordic Infrastructure for Research & Education

# Baltic Ring – Requirements for the Operational Model

Matti Laipio, Data Communications Specialist
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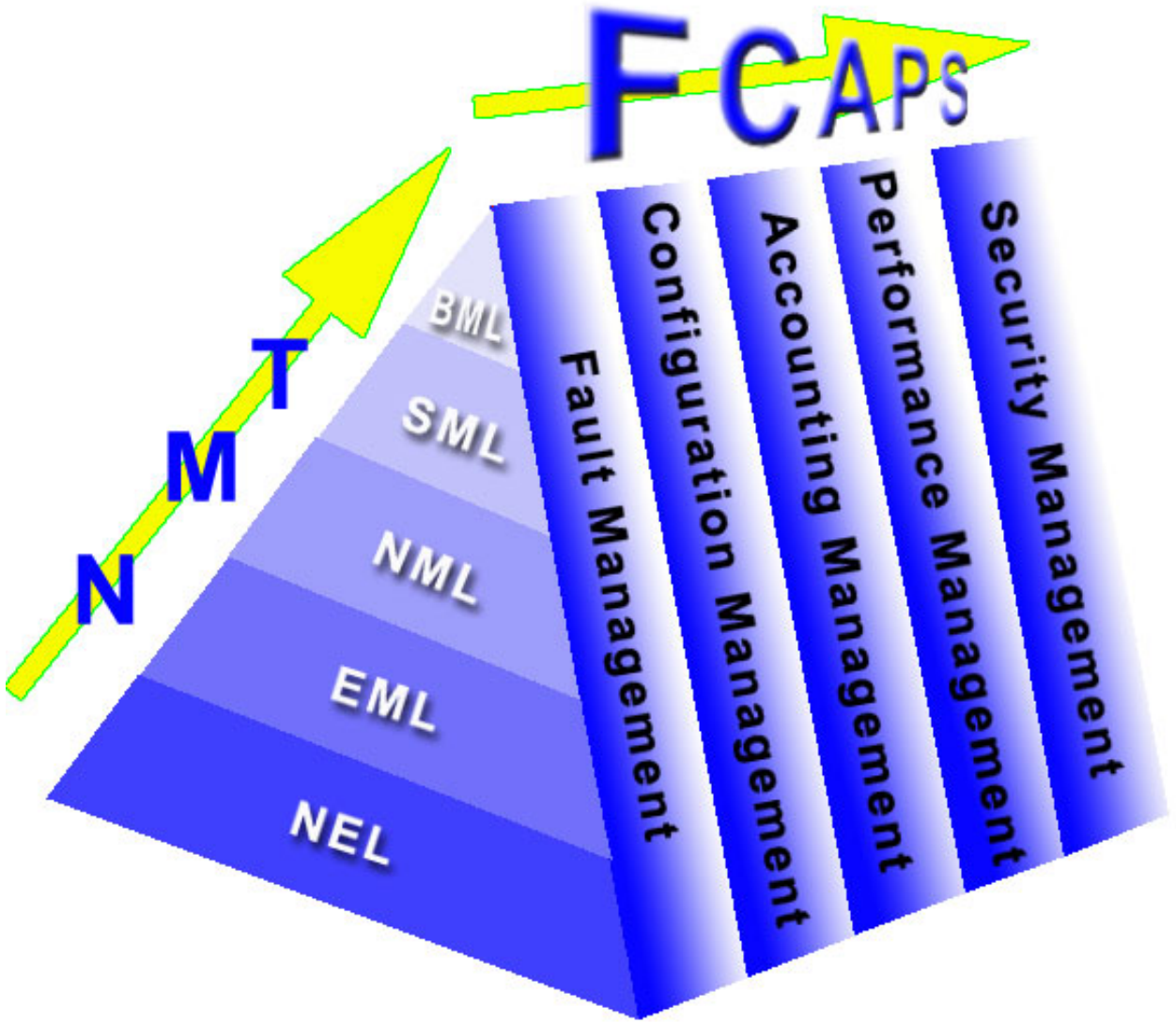
# Introduction

**Require ments** → **Spec. + Implem.** → **Service in prod.**

# Operational Use Cases



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# Fault management

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# Configuration management

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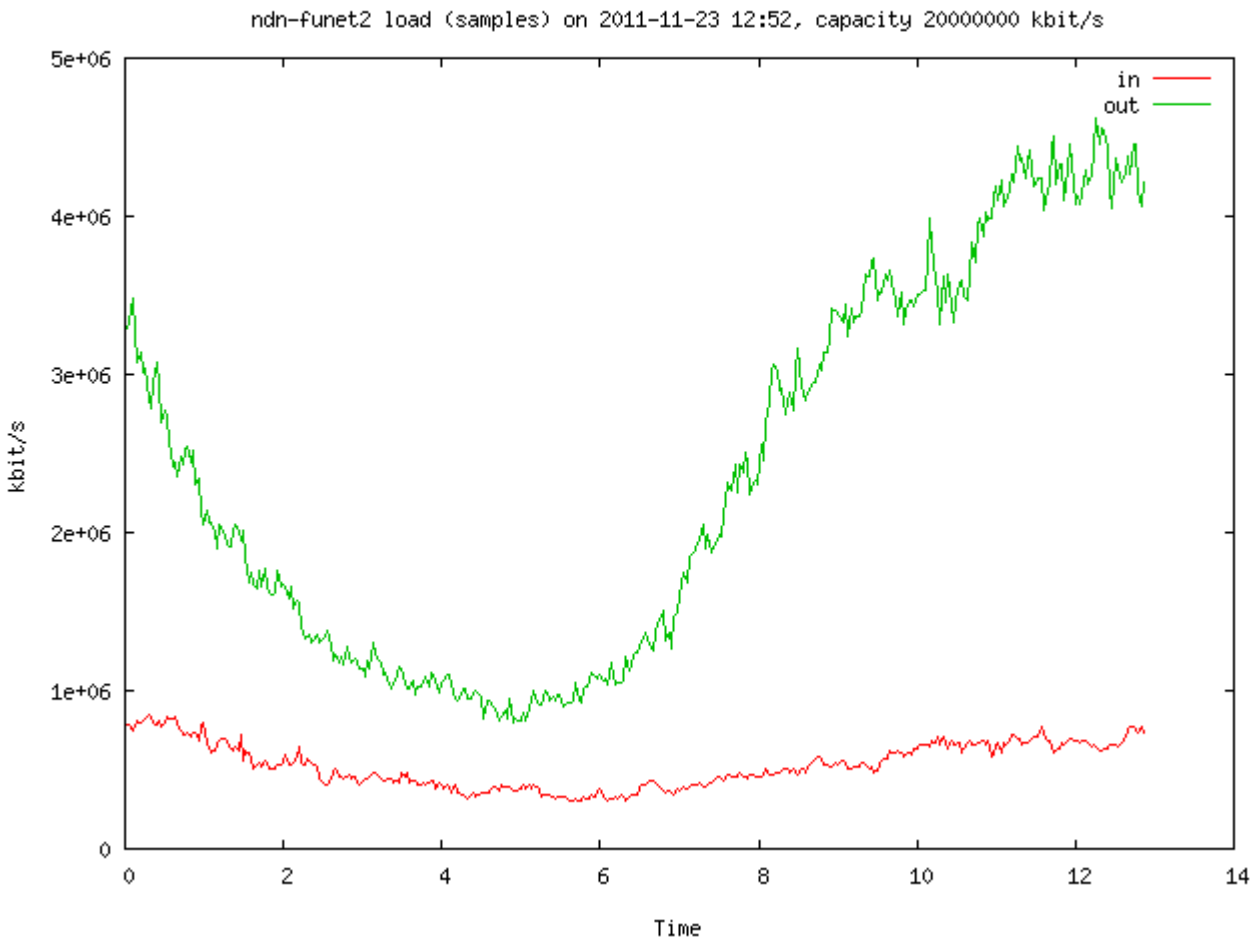
# Administration management

# Performance management



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# Security management

# Operations 1

- Multi-lingual issues
  - English for operations between partners
  - Native language for end-user support

- Responsibility and duty sharing
  - Joint NOC
  - Federated structure
  - Responsibility for reacting
  - Inability to fulfil the responsibilities will be reported and escalated to the collaboration bodies.

# Operations 2

- Customer ownership and service delivery

# Operations 3

- Service level
  - The NRENs decide together a target service level and communicate it to the user community
  - The service level should reflect the average performance of the associated networks
- Workflow descriptions
  - Special workflow descriptions are designed, which clarify operations activities to all parties.

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# Monitoring and Reporting 1

| | | | | |
|---|---|---|---|---|
| Funet IP backbone | csc6-rtr -- tut6-rtr 10GbE | OK | 2011-11-23 14:11:22 | 117d 12h 5m 13s |
| | csc6-rtr -- utu6-rtr 10GbE | OK | 2011-11-23 14:11:22 | 77d 7h 21m 29s |
| | helsinki6-rtr -- csc3-rtr GbE | OK | 2011-11-23 14:11:22 | 29d 0h 9m 20s |
| | helsinki6-rtr -- csc6-rtr 10GbE | OK | 2011-11-23 14:11:24 | 281d 6h 37m 51s |
| | helsinki6-rtr -- lut3-rtr GbE | OK | 2011-11-23 14:11:22 | 112d 18h 6m 0s |
| | helsinki6-rtr -- uku6-rtr 10GbE | OK | 2011-11-23 14:11:22 | 112d 18h 10m 45s |
| | oulu6-rtr -- uwasa3-rtr GbE | OK | 2011-11-23 14:06:20 | 14d 12h 35m 33s |
| | tut6-rtr -- uku6-rtr 10GbE | OK | 2011-11-23 14:11:22 | 92d 15h 2m 44s |
| | uku6-rtr -- joensuu3-rtr GbE | OK | 2011-11-23 14:11:22 | 361d 2h 43m 16s |
| | uku6-rtr -- oulu6-rtr 10GbE | OK | 2011-11-23 14:11:22 | 156d 2h 16m 39s |
| | utu6-rtr (Pori) -- (Seinajoki) uwasa3-rtr GbE | OK | 2011-11-23 14:11:22 | 217d 14h 18m 1s |
| | utu6-rtr (Seinajoki) -- uwasa3-rtr GbE | OK | 2011-11-23 14:11:22 | 266d 1h 14m 52s |
| | utu6-rtr (Vaasa) -- oulu6-rtr 10GbE | OK | 2011-11-23 14:06:11 | 14d 12h 35m 43s |
| | utu6-rtr -- (Pori) uwasa3-rtr GbE | OK | 2011-11-23 14:11:22 | 77d 7h 24m 16s |
| | utu6-rtr -- (Vaasa) oulu6-rtr 10GbE | OK | 2011-11-23 14:11:22 | 14d 12h 35m 37s |

# Monitoring and Reporting 2

- Resourcing and scoping
- Data availability
- Guidelines for selecting the tools

# Communication

## Defining the information exchange

- the partner NRENs jointly:
  - Define a communication model.
  - Select and agree communication formats and the documentation standards.
  - Decide the level and frequency of communication.
  - Select the tools and support structures that comply with the model above.
  - Take special care to reduce the noise and churn in the communication.
- Policy for announcements

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# Summary 1

| Aspect | FM | CM | AM | PM | SM |
|---|---|---|---|---|---|
| **Amount of infrastructure involved** | Low | Low | Low | Low | Low |
| **Amount of associated data** | Medium | Low | Low | Low | Low |
| **Activity work volume** | Low | Low | Low | Low | Low |
| **Required agility** | High | Medium | Medium | Medium | High |
| **Timetable strictness** | High | High | High | Medium | High |
| **Administrative contribution** | Low | Low | Medium | Low | Medium |

# Summary 2

## We propose:

- To design the network with FCAPS as a reference
- Ensuring that the following items are specified
  - Fault management
  - Configuration management
  - Administration management
  - Performance management
  - Security management

- Thereby delivering best of class networks and services

# Q & C

Thank you!