**Introduction**

The unit presents a goal-centric methodology to network management. It focuses first on defining clear goals for a service provider and later describes technical principles and possible tools to achieve the selected goals.

The unit covers three concrete examples to illustrate the methodology.

**Timing/duration**

Duration of unit is approx. 1.5h + 0.5h discussions

**Content outline and main topics covered**

Three goals for a network manager

1. Save costs by reducing the use of international bandwidth
2. Provide better Quality of Service for VoIP
3. Manage Service and Network Growth (T: 30 min)

Technical principles:

- SNMP
- Traffic Accounting
- Traffic Shaping
- Bayesian Filters
- Viruses Fingerprints (T: 45 min)

Tools

- MRTG
- Monitoring Wireless parameters using MRTG
- Spam-Assassin
- Clam Antivirus (Clam AV) T: 15 min

Discussion of one goal (30 min)

**Target audience**

Technical staff with practical knowledge in TCP/IP. Network managers. Decision makers in service providers.

**Prerequisite skills/knowledge**

Trainees should have theoretical and practical knowledge in network architecture and design.
<table>
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<tr>
<th><strong>Unit objectives/expected outcomes</strong></th>
<th>By the end of the unit participants should</th>
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<tr>
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<td>• Understand the need of having clear goals before starting to monitor raw data.</td>
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<td>• Be able to identify the key elements that need to be considered when doing network monitoring.</td>
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<td>The unit does not provide the training for each of the elements but tries to focus on the methodology aspects.</td>
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| **Pre-workshop activities** | It is recommended that the trainers install Ntop [http://www.ntop.org](http://www.ntop.org) before coming to the workshop. |

| **Notes on using exercises** | No existing exercises. A possible discussion using the methodology outline in the unit. |

| **Resources included with unit** | • Handout  
• Trainers’ notes  
• Slides  
• List of additional resources  
• Materials evaluation form  
• Workshop evaluation form  
• Copyright statement |

| **Additional trainer resources** | Tools websites and documentation. |

| **Equipment needed** | Two networked PCs running GNU/Linux and Windows. to visualize the tools through the session. An Orinoco Access Point to present one of the sections. LCD projector. |

| **Comments** | Trainers should have experience using some of the tools presented in the unit. Trainers should at least be familiar with SNMP and MRTG. |