

ITRAINONLINE MMTK

Trainers' notes: Advanced Networking

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Introduction	A review of the OSI/Internet protocol stack with focus on the issues that are critical in wireless network implementation. The unit outlines the effect of every layer in the overall performance of a wireless network.
Timing/duration	Approx. 2.5h
Content outline and main topics covered	The training follows the OSI model and describes concepts and technologies that are of importance for wireless networks. <ol style="list-style-type: none">1) Link layer: addressing, access control, encryption (30 min)2) Network layer: addressing, routing, NAT, security (40 min)3) Transport layer: TCP/UDP, firewall (40 min)4) Application layer: VPN, load balancing, application firewalls (30 min)5) Conclusions and questions (20 min)
Target audience	Technical staff with practical knowledge in TCP/IP that have not attended training in network architecture and design.
Prerequisite skills/knowledge	Trainers should have theoretical and practical knowledge in network architecture and design. Trainers should have experience in building wide networks. Trainers should ideally have real experience operating an ISP.
Unit objectives/expected outcomes	By the end of the session trainees should <ul style="list-style-type: none">• Understand the implications that each layer in the OSI/Internet protocol stack has for wireless implementations and understand how the different layers affect each other.• Be able to identify the key elements that need to be considered when performing network planning. The unit does not provide training for each of the elements but tries to outline each of them.

Pre-workshop activities	-
Notes on using exercises	-
Resources included with unit	<ul style="list-style-type: none"> • Handout • Trainers' notes • Slides • List of additional resources • Materials evaluation form • Workshop evaluation form • Copyright statement
Additional trainer resources	
Equipment needed	Optional: Two networked PCs running GNU/Linux to visualize concepts through the session.
Comments	Newly created unit based on the experience of teaching wireless technologies to students that want to specialize in computer networks.