

# Network Security Workshop

## Instructors:

Damien Holloway, Kunjal Trivedi, Merike Kaeo

## Who should attend:

Network Operations and security staff at ISPs and Network Service Providers. People who are trying to learn ropes of establishing a functioning security system in their network core and edges. Any one else with interest in Security topics.

## Pre-requisites:

This is an advanced course. Good familiarity with UNIX command line and system administration jobs. Knowledge of Layer 3 protocols, and command line of popular routers. Basic knowledge of security concepts is an added advantage.

## What you will learn:

The ISP / NSP Security Workshop focuses on following components to provide comprehensive understanding and hands-on experience allowing you to gain valuable experience in network security best common practices, tools and techniques.

- Network infrastructure security
- Security services

For network infrastructure security, best common practice for protecting infrastructure including IP addressing, baseline building, securing IGP and BGP routing protocols and router filtering techniques are covered in detail. Controlling access to the routers, collecting network telemetry information and control plane protection techniques are discussed.

A six step methodology for detecting and mitigating DDoS attacks on the infrastructure provides hands-on understanding on how to deal with such attacks. Anti-spoofing measures to combat IP spoofing attacks and Remotely Triggered Blackhole (RTBH) filtering to protect against infrastructure attacks hands-on practice provides easy to deploy tools on the SP networks.

The security services address designing, deploying and managing L3 Virtual Private Networks. A balanced discussion covering security of 3VPN provides good basis of evaluating the level of security for the business needs. Finally, a discussion of how managed security services such as IP VPN prepares SP networks for provisioning other security services

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### Abstracts

- Network Management and NOC Workshop  
Hervey Allen (NSRC), Phil Regnauld (NSRC), Chris Evans (Delta-Risk)
- VOIP Deployment Workshop  
Jonny Martin (PCH), Vicky Shrestha (PCH), Daniel Griggs (FX Networks)
- Network Security Workshop  
Damien Holloway (Juniper Networks), Kunjal Trivedi (Cisco), Merike Kaeo (Doubleshot Security)
- ISP Routing Workshop using IPv4 and IPv6  
Gaurab Raj Upadhaya(PCH), Amante Alvaran (APNIC), Shankar Vridhagiri
- Advanced Routing - BGP Multihoming with IPv4 and IPv6  
Philip Smith (Cisco), Mark Tinka (Global Transit)
- Toward The Internet 2.0  
Hiroshi Esaki, Ph.D.
- Advancing the Philippines' Internet Infrastructure  
William Torres, Ph.D.
- Integrating IP Wireless Sensor Networks  
PatrickÂ Grossetete, Archrock
- Lessons Learnt from the Beijing Olympic Games Website Measurement

Rocky K. C. Chang, The Hongkong Polytechnic University

- A technical demo and overview of .tel  
Jim Reid (Telnic)
- BGP IN 2008 - what's changed  
Geoff Huston (APNIC)
- IPv6 Traffic levels on Hurricane Electric's backbone  
Martin Levy (Hurricane Electric)
- JANET's 40Gbps backbone  
Rob Evans (JANET)
- From IPv4 only to v4/v6 Dual Stack  
Shin Miyakawa (NTT)
- How to Keep CGNs from Breaking the Internet  
Randy Bush (IJJ)
- IPv6 Deployment at IJJ  
Yoshinobu Matsuzaki (IJJ)
- Session aware NAT  
David Miles (Alcatel-Lucent)
- IANA and DNSSEC at the root  
Richard Lamb (IANA)
- IPv6 at Google: lessons learned, state of the art, and the road to deployment  
Lorenzo Colitti(Google)
- Euro-IX update  
Serge Radovic (Euro-IX)
- IPv6 at Monash University  
John Mann(Monash University)
- What can IXPs do for IPv4/IPv6 route exchange?  
Takabayashi Takejiro (Japan Internet Exchange Co., Ltd.) and Mawatari Masataka (Co-author)
- What can IXPs do about IPv4 exhaustion?  
MAWATARI Masataka (Japan Internet Exchange Co., Ltd.) and TAKABAYASHI Takejiro
- DNS-OARC's Open DNSSEC Validating Resolver  
Duane Wessels(DNS-OARC)
- AMS-IX Update  
Cara Mascini(AMS-IX)
- DNSSEC in 6 minutes  
Joao Damas (ISC)
- NIXI - Internet Exchanges in India  
Amitabh Singhal,NIXI
- IPv6 - IPv4 Co-Existence: IETF Report  
Jari Arkko, Ericsson Research, IETF
- Rogue DNS servers - a case study  
Feike Hacquebord,Trend Micro
- Building a very large scale compute system for organizing the worlds information and making it universally accessible  
Vijay Gill
- Mobile Backhaul Architecture Options  
Rishi Mehta ,Redback Networks
- Membership Development  
Tomas Marsalek, NIX.CZ

- Broadband Forum v6 Home Networks  
David Miles, Alcatel-Lucent
- BGP Routing Scalability Considerations  
Danny McPherson, Arbor Networks, Inc. Co-author: Shane Amante, Lixia Zhang
- 2008 Infrastructure Security Report  
Danny McPherson, Arbor Networks, Inc.
- 32-bit ASNs  
Chris Malayter, Switch&Data, Co-author: Greg Hankins , Force10 Networks
- The Internet Regulatory Environment in Saudi Arabia  
Dr. Ibraheem S. Al-Furaih (CITC)
- Tutorial: Introduction to IPv6  
Kurtis Lindqvist (NetNod)
  
- Tutorial: BGP Multihoming Techniques  
Philip Smith (Cisco)
  
- Tutorial: BGP Techniques for Service Providers  
Philip Smith (Cisco)
  
- Tutorial: Troubleshooting BGP  
Philip Smith (Cisco)
  
- Tutorial: Network Core Infrastructure - Best Practices  
Yusuf Bhaiji (Cisco)
  
- Tutorial: Anatomy of a network attack, network forensics, network attack and defense  
APNIC Training Team and Team Cymru
  
- Tutorial: Internet Routing Registry  
APNIC Training Team
  
- Tutorial: MPLS Service, Applications & Deployment Best Practices  
Santanu Dasgupta (Cisco Systems) and Kasu Venkat Reddy
  
- Tutorial: Layer 2 Attacks and Mitigation Techniques  
Yusuf Bhaiji (Cisco)
  
- Tutorial: Managing Voice Quality in Converged IP Networks  
Faisal Chaudhry (Cisco Systems)
  
- Tutorial: Internet Resource Management Essentials (IRME)  
APNIC Training Team
  
- Tutorial: DNSSEC Deployment  
Phil Regnauld and Hervey Allen (Network Startup Resource Center)
  
- Tutorial: MPLS-based Metro Ethernet Services  
Paresh Khatri (Alcatel-Lucent)
  
- Tutorial: IPv6 Deployment  
Mark Tinka (Global Transit International)
  
- Tutorial: IS-IS Deployment (Dual-Stack)  
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