

# Routing Infrastructure and Security Operations: Detailed Description

## **Workshop Goals**

This five-day workshop teaches the skills required for the configuration of scalable and secure routing, as well as best practice operation of the networks making up today's Internet.

# **Target Audience**

Technical staff who are now building or operating their own autonomous wide area network with international and/or multi-provider connectivity.

## **Pre-requisites**

- It is assumed that the workshop participants are proficient with a router command line interface, have a good understanding of OSPF or IS-IS, as well as experience with using BGP in an operational network.
- This workshop is not an introduction.
- The lab exercises use Cisco IOS configuration syntax.
- Participants are required to bring their own laptops (Windows/Linux/macOS) with wireless

#### Class size

The workshop can accommodate up to 30 participants

#### **Workshop topics**

- IS-IS design and best practices for Service Provider networks
- BGP protocol, attributes and policy
- BGP scalability (including Route Reflectors and Communities)
- BGP Best Practices, including Aggregation
- BGP multihoming techniques (redundancy and load balancing)
- BGP Communities as used by Network Operators

- Peering Best Practices
- BGP Security Operations Best Practices
- Remote Trigger Black Hole Filtering
- Unicast Reverse Path Forwarding
- Route Origin Authorisation and Validation
- Troubleshooting BGP & Related Tools

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