

BGP OPERATIONS AND SECURITY

Border Gateway Protocol plays a central role in the functioning of the Internet. It is important to have a full understanding of the protocol and the security measures that should be deployed to prevent accidental or intentional routing disturbances.

Goals

- Connect enterprises and operators to the Internet
- Describe how BGP works
- List, describe and configure the main BGP attributes
- Implement and troubleshoot BGP
- Influence traffic paths with BGP
- Implement Best Current Operational Practices (BCOP) for BGP
- Implement filtering using the Internet Routing Registry (IRR) and Resource Certification (RPKI)

Pre-requisites

- For this course you should have:
 - Good knowledge of the TCP/IP and IP routing
 - Basic understanding of the Classless Inter-Domain Routing (CIDR)
 - Basic experience in creating and updating objects in the RIPE Database

Course Content

Day 1

- Introduction to BGP
 - Exercise: Your First BGP Session
- Running BGP
 - Exercise: Connecting BGP Customers
- BGP Attributes
- Traffic Engineering
 - Exercise: Using Attributes
- iBGP Scalability
 - Exercise: Using a Route Reflector
- Multiprotocol BGP
 - Exercise: Multiprotocol BGP

Day 2

- Routing Security
- Internet Routing Registry (IRR)
 - Exercise: Create Route(6) Objects
- Filtering
 - Exercise: Defining Filters
- RPKI
 - Exercise: Creating ROAs
 - Exercise: Adding More Specific ROAs
 - Exercise: Running Validators
 - Exercise: Setting up BGP Origin Validation
 - Exercise: Announcing a ROA-Validated prefix
- What else?
- BGP Tips & Tricks

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