Systems & Network Training

BGP and Peering 101

A 1 day training course

Save on expenses. This course is also available on your premises.

Description

A technical overview course exploring the Internet, BGP and peering for engineers interested in network interconnection. The course introduces Internet structure, Internet Exchange architectures and the core principles of BGP. Participants will learn how networks connect, how routing decisions affect traffic flow and how peering and Internet exchanges support Internet connectivity. The training combines theory with practical demonstrations that delegates can follow along with, giving delegates a clear technical foundation in BGP and peering.

Key outcomes

By the end of the course delegates will be able to:

- ✔ Explain the difference between transit and peering.
- ✔ Describe how BGP works.
- ✔ Explain how BGP policy can influence Internet traffic flows.
- ✔ Use peeringdb, route collectors and looking glasses to investigate Internet routing and peering.
- ✔ Explain how IXs connect networks and the benefits of using IXs.

Training approach

This structured course uses Instructor Led Training to provide the best possible learning experience. Small class sizes ensure students benefit from our engaging and interactive style of teaching with delegates encouraged to ask questions throughout the course. Quizzes follow each major section allowing checking of learning.

Details

Who will benefit?
Engineers.

Prerequisites
Some knowledge of networking.

Duration: 1 day

Customer rating: **New course**

Generic training	Small class sizes	Hands On training	Our courseware	Customise your course
Generic training complements product specific courses covering the complete picture of all relevant devices including the protocols “on the wire”.	We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor.	The majority of our courses use hands on sessions to reinforce the theory.	We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text.	Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way.
“*Friendly environment with expert teaching that teaches the why before the how.*” G.C. Fasthosts	*“Excellent course. The small class size was a great benefit..”* M.B. IBM	*“Not many courses have practice added to it. Normally just the theoretical stuff is covered.”* J.W. Vodafone	*“Comprehensive materials that made the course easy to follow and will be used as a reference point.”* V.B. Rockwell Collins	*“I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on.”* S.R. Qinetiq

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Course content

Internet interconnection

ASs, AS numbers, ISP types, Tier 1 ISPs, eyeball networks, content providers, IXs, peering versus transit, public and private peering. Peering policies and peeringdb.
Hands on: AS information gathering. Using peeringdb.

BGP essentials

Prefixes, groups of IP addresses. What's BGP? How BGP differs from other routing protocols, simple walk through of BGP incremental updates and how routes change when links go down.
Hands on: Analysing Internet routing tables. Showing simple BGP configuration and routing tables in an EVE-NG example.

BGP policy and traffic flow

Routing policy and route filtering. Longest matching rule in routing tables, route selection order, Local preference, AS path prepending and MED.
Hands on: Examining routing policy and traffic flow using public BGP tools and registries.

IX architecture and route servers

IX architecture, Ethernet switching, data centres, redundancy. Route servers, route server policy control and communities, Bi lateral and multi lateral peering. Route collectors and looking glasses.
Hands on: Examining LINX route server details in PeeringDB and using a looking glass.