

Training title: **BGP from the perspective of the Autonomous System's Owner.**

A course provides a practical knowledge essential to the network management and configuration of Border Gateway Protocol.

The seminar is aimed at network engineers who would like to understand the practical aspects of BGP and manage their AS more consciously. It will present the expectations of the operator concerning a service recipient's ability to configure BGP routers and show what are the risks connected to the BGP routers configuration.

An outline:

A. Basic information about BGP.

What is BGP and what are its features? Why is it used for propagation of network addressing information on a large scale?

In the introductory part of the course, the main features and parameters of Border Gateway Protocol will be presented.

B. Parameters of BGP.

Which parameters of BGP are the most crucial and what do they relate to?

This section of the seminar focuses on a typical situation of maintaining non-transit Autonomous System and parameters configuration demanded by such a use of BGP.

C. Scenarios of the eBGP and iBGP protocols application.

The protocol of the information exchange by exterior BGP and internal BGP routers.

In active networks, it is often demanded to use more than one BGP router on client's side. That means information flow about paths within one AS is demanded. In such a scenario, iBGP type of transmission is used. This section of the seminar will present typical configurations and parameters in that network environment management.

C1. eBGP and iBGP network configuration - a practice class.

D. Cooperation with IGP routing protocol.

Rules and parameters of the cooperation between BGP and internal routing protocol.

While propagating the information about the addressing, a dynamic routing protocol within LAN network is used most often.

This part of the course will discuss rules and parameters of information flow about paths between various types of routing protocol and BGP.

D1. BGP and IGP network configuration - a practice class.

E. Protection of BGP.

The configuration of routing BGP for the protection purposes.

A routing protocol is a critical stock of information sent between network devices. Wrong configuration of the network using BGP composes the risk of attack. That is a reason to set up parameters of the protocol properly, so it could be safe.

E1. BGP and IGP network configuration - a practice class.

F. BGP with IPv6 addressing.

IPv6 addressing in BGP networks.

As IPv4 addressing is running low, the use of IPv6 addressing will be soon unavoidable also within BGP. This section of the seminar will present the possibilities of information flow about IPv6 addressing along with the proper configuration needed.

G. Practical usage - clients's position.

Practical usage of knowledge gained in the previous sections.

In this part of the training, the possibilities of BGP use concerning following issues will be discussed:

- the choice of the connection for traffic sending

- the enforcement of the connection for traffic receiving
- the use of Community parameter offered by operators

G1. BGP network configuration from the client's position - a practice class.

H. Practical usage - deliverer's position.

Practical usage of knowledge gained in the previous sections.

In this part of the training, the possibilities of BGP use concerning following issues will be discussed:

- the filtration of the information received from a client
- the selective sending of the information from a client
- the possibility of traffic control via Community parameter

H1. BGP network configuration from the deliverer's position - a practice class.

I. Troubleshooting.

The tools and procedures in emergency situations.

Every network in the world, regardless of the producers, are vulnerable to failures. It can be either an equipment breakdown or a problem caused by a human mistake. This part of the training will show what tools and procedures should be used to find a problem and a solution to it as quickly as possible. In particular, it will be focused on:

- problems about the connection affrontement
- problems about the availability of prefix send in the Internet

I1. Troubleshooting in BGP network configuration - a practice class.

J. Connected issues.

While planning and configuring of BGP, the knowledge of the issues concerning the operation of the biggest BGP implementation. This section of the seminar will discuss:

- the addressing designation in RIPE
- the traffic filtration based on RIPE data

The training **does not cover**^:

- the use of BGP for purposes other than unicast IP routing (MPLS L2VPN, L3VPN, multicast)
- the graduation of BGP (route reflectors, confederations)
- the parameter setting of BGP for convergence acceleration

* If you are interested in the mentioned issues, we encourage you to contact us. We will prepare an adequate training.



course id: BGP01
 course title: BGP from the Autonomous System's owner perspective



duration: 4 days



price: 2500 EUR net

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