

# Telia Estonia Wholesale services

# **Internet services**

### **DIA (Dedicated Internet Access)**

Telia Estonia's DIA offers guaranteed bandwidth and a separate connection from other customers. It can be ordered as a single connection or as a main and backup solution with BGP routing protocol. The service is useable only with Telia Estonia public IP addresses with both IPv4 and IPv6 supported. Speed offerings start at 1Mbps and, depending on the location, can reach speeds of 10Gbps or even greater. The choice of customer premises equipment and its management is flexible: without additional CPE, Telia managed CPE, rented CPE with your management.

### **IP Transit**

Internet transit service offering for customer autonomous system (BGP AS) and its members. BGP routing protocol is mandatory for this service. Available speeds are dependent of connection location. IPv4 and IPv6 are both supported. Internet routing table advertised by Telia can be customized if needed: full internet table, only default route, default route and Telia with its transit customer prefixes.

### **L2VPN** services

### **Ethernet Nordic**

Ethernet based L2VPN service offering over Telia Estonia MPLS core network. This service enables you to extend your network to new locations without incurring network building costs. Product technical design is in accordance with MEF service "E-Access EPL (Port-Based)". Available speeds range from 2Mbps up to 1Gbps. Distinctive features are bigger MTU and ability to transport multiple VLAN-s.

## **L3VPN services**

### KVL (Kohtvõrkude Lahendus)

KVL is Telia Estonia's IP-VPN offering over MPLS core network. The service helps you connect different locations in an easy and scalable way into one network. This product has excellent coverage based on our extensive network reach, covering 98% of Estonia. All Telia Estonia's access network technologies are supported.

Distinctive features are:

- complete separation from the Internet
- traffic prioritization (QoS)

Available topology options are full-mesh and hub&spoke. The choice of customer premises equipment and its management is flexible: without additional CPE, Telia managed CPE, customer managed rented CPE. IPv4 and IPv6 are both supported. Speed offerings start at



1Mbps and, depending on the location, can reach speeds of up to 10Gbps. The product has the option of several value-added services: internet access via Telia managed cloud-firewall, Telia managed remote-access VPN, NNI with other service providers, Telia server hosting.

# Wavelength DWDM

Telia offers wavelength services for transporting large volumes of data, which requires high capacity and flexibility. The service is based on DWDM technology. Our service is reliable and allows you to easily provide high performance and high bandwidth services to your users.

Available speeds are - 10 Gbit/s and 100 Gbit/s.

The network is monitored 24/7 by Telia Estonia's NOC.

# **Additional Services**

Additional Telia services are only offered in combination with the basic service.

### Service Level Agreement (SLA)

The Service Level Agreement is an additional service offered to Wholesale Services, which is an additional guarantee in case of unexpected failures and allows to minimize potential damage. Troubleshooting includes failures of the Telia network part and Telia service equipment failure. Failures in third party network (usually the building's internal network) are not considered to be a breach of SLA by Telia.

### **Equipment rental**

Telia CPE hardware management service includes the rental of physical equipment, including maintenance and on-site installation, and the installation of software licenses requested by the customer. Telia has not any monitoring or management access to the CPE.

## Television services for operators and broadcasters

#### **TV channel Playout:**

Automated playout services for broadcasters. Broadcaster will upload content and playlists into Telia's playout infrastructure, where Telia makes the complete SD, HD or UHD format linear TV channel with multiple audios, subtitles, advanced graphical elements, and live input options. Finalized channel stream can be delivered back to the broadcaster or to selected operators at the broadcasters request.

### Ad-insertion services for TV channels:

We insert local ads into global TV channel streams.

#### Delivery of TV channel streams from broadcasters to opertaors:

Telia Estonia has advanced TV channel delivery network in Baltics and Scandinavia. We have existing TV channel stream delivery links with all major Baltic and with some Scandinavian



operators. To ensure service quality, channels are automatically monitored, and immediate action will be taken in case of quality degradation.

### **Headend services:**

Reception of TV channel streams from different sources, optional transcoding of TV channel elements, like video, audio, subtitles, and delivery of IP streams to the operators in suitable format.

### Event based TV program delivery to the broadcasters:

TV signal delivery from the sport, concert and show venues to the broadcasters studios.

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