

Elisa Ethernet Hub and Spoke Service

Elisa Ethernet Hub and Spoke is a modern and cost effective service for implementing multiple point-to-point transmission channels using Ethernet technology. The hub and spokes model means that several spoke sites are connected to a single hub site in a star like topology. Each spoke connection is associated with a separate virtual connection at the hub site.

The Ethernet virtual private connections generated for the customer between spokes and the hub are isolated from each other, so traffic within each virtual private connection is secured. Elisa Ethernet Hub and Spoke service is available with multiple connection speeds nationwide in Finland and in selected International destinations.

Content of the service

Ethernet Hub and Spokes solution is composed of one Hub and multiple Spokes which both are referred as subscriptions. The subscriptions are delivered to Customer sites, and one logical channel (EVC, Ethernet Virtual Connection) is created from each Spoke site to the Hub site. Each EVC has a point-to-point topology, meaning that Spokes can not send traffic directly to each other.

The content of a Ethernet Hub Subscription is the following:

- Port on Elisa’s Provider Edge Router, with 1 Gbit/s or 10 Gbit/s speed, depending on the service which has been subscribed.
- SLA Basic Service Level
- Termination of the EVC which originate from the separately ordered Spoke subscriptions. Each Spoke subscription is associated with an individual EVC at the Hub subscription.

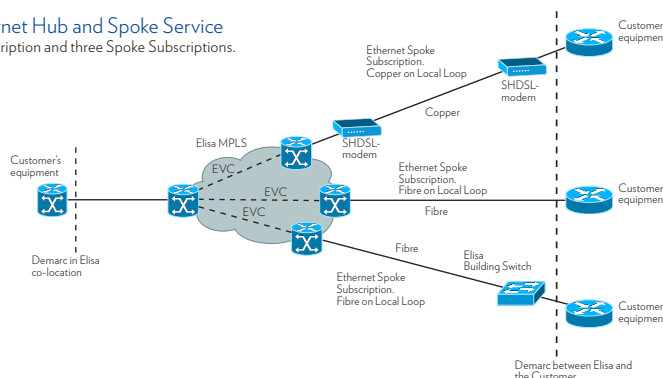
The content of a Ethernet Spoke Subscription is the following:

- Connection through available technology (selected by Elisa) from Elisa’s backbone network to customer location.
 - In a fibre connection, the handover interface in the building distribution centre is single mode fibre 1000Base-BX10-D. Therefore Customer equipment needs 1000Base-BX10-U interface. When the fibre connection length exceeds 10 km, the handover interface is 1000Base-LX. Similarly, the handover interface for connections of more than 1G is 10GBaseLR (LAN PHY) or 10GBASE-ER (LAN PHY) depending on the length of the fibre.
 - In a copper connection, the handover interface is the terminal device port RJ-45 placed on end user premises.
 - In a connection implemented from the building switch, the handover interface in the building distribution centre is either RJ-45 (copper cabling) or 1000Base-10BX-D (single mode fibre) according to the indoor cabling.
- Port on Elisa’s Provider Edge Router, with agreed port speed.
- One EVC towards the Hub subscription which the Customer has earlier separately ordered.
- SLA Basic Service Level

Additional services

- Class of Service (CoS) for Ethernet traffic
- International Services
- SLA Special Service Levels
- Access Backup Service
- Dual-fibre Handover
- NNI Protection Service
- Customer Premises Equipment

Reference model for Elisa Ethernet Hub and Spoke Service
Example which consists of one Hub subscription and three Spoke Subscriptions.



The handover interface is confirmed in the delivery confirmation/notification of completion



Elisa Ethernet Spoke

One-time charge Spoke	
Delivery charge	€690
Modification to connection, no installation by an engineer	€210
Additional engineer visit (Minimum pricing is 2h)	€98/h
Monthly charge Spoke	
Capacity 2M	€75
Capacity 5M	€120
Capacity 10M	€165
Capacity 20M	€178
Capacity 50M	€203
Capacity 100M	€245
Capacity 200M	€256
Capacity 500M	€289
Capacity 1G	€345

Spokes will be terminated to the hub that is situated in the same Elisa's SMP region. If customer's hub is situated in different Elisa's SMP region than the spoke, connection will be priced case-by-case. Prices apply to the connections to Elisa's existing network. Ethernet Hub prices are available at the Elisa NNI Services price list.

Additional services

Access Backup Service

One-time charge Access Backup Service	
Availability inquiry/ request for quotation	€336
Delivery charge	€690
Delivery coordinator	€252
Monthly charge Access Backup Service	
Redundancy models	
Pro	€10
Premium	€13
Premium +	€15
Ultra	€20



Dual-fibre Handover

Monthly charge Dual-fibre Handover	
Dual-fibre Handover (1000Base-LX)	€100

NNI Protection Service

One-time charge NNI Protection Service	
Provisioning of Spoke for NNI Protection Service	€37 /pcs

Monthly charge NNI Protection Service	
Redundancy charge per Spoke (two pseudowires)	
Capacity 2M-10M	€12
Capacity 20M	€13
Capacity 50M	€14
Capacity 100M	€16
Capacity 200M	€17
Capacity 500M	€18
Capacity 1G	€20

Customer premises equipment

One-time charge of Customer premises equipment	
CPE installation is made concurrently with delivery of Ethernet connection	€98
CPE installation is made separately	€294

Monthly charge of Customer premises equipment			
Capacity of connection	Access technology	Elisa CPE	Monthly charge
2M-10M	Copper + SHDSL modem	Cisco C892FSP Integrated Services Router	€30
10M-200M	Fibre	Cisco C892FSP Integrated Services Router	€30
2M-200M	Building switch	Cisco C892FSP Integrated Services Router	€30
500M-1G	Fibre	Cisco ME 3400 Series Ethernet Access Switch	€139
500M-1G	Building switch	Cisco ME 3400 Series Ethernet Access Switch	€139

One-time charges and monthly charges of the additional services are charged in addition to Spoke's one-time charge and monthly charge. All prices in this price list are exclusive of tax. VAT and any other taxes and other payments stipulated by the authorities will be added to the prices shown here. Elisa's General Terms for Operator products will be applied to the agreement.



Market areas according to FICORA's regulation

Elisa SMP areas market 4

Area 4							
Alavieska	Haapavesi	Halsua	Kalajoki	Kannus	Kokkola	Kruunupyy	Lestijärvi
Merijärvi	Nivala	Oulainen	Pyhäjoki	Raahe	Reisjärvi	Sievi	Siikajoki
Toholampi	Ylivieska						
Area 12							
Espoo	Hausjärvi	Helsinki	Inkoo	Järvenpää	Karkkila	Kerava	Kirkkonummi
Loppi	Nurmijärvi	Riihimäki	Sipoo	Siuntio	Tuusula	Vantaa	Vihti
Area 18							
Haapajärvi	Hankasalmi	Joutsa	Kannonkoski	Karstula	Keuruu	Kinnula	Kivijärvi
Konnevesi	Kyyjärvi	Kärsämäki	Laukaa	Multia	Pihtipudas	Pyhäjärvi	Pyhäntä
Saarijärvi	Siikalatva	Soini	Toivakka	Uurainen	Äänekoski		
Area 32							
Ilmajoki	Isojoki	Karjajoki	Kauhajoki	Kurikka	Laihia	Mustasaari	Teuva
Vaasa	Vöyri						
Area 33							
Ilomantsi	Joensuu	Kontiolahti	Liperi	Outokumpu	Polvijärvi	Rääkkylä	
Area 34							
Isokyrö	Kauhava	Kuortane	Lapua	Seinäjoki			
Area 37							
Juuka	Lieksa	Nurmes	Valtimo				
Area 56							
Kotka							
Area 61							
Lempäälä	Nokia	Orivesi	Pirkkala	Tampere	Vesilahti	Ylöjärvi	
Area 65							
Luumäki							
Area 70							
Muurame							
Area 74							
Oripää	Pöytyä						
Area 75							
Paimio	Sauvo						
Area 81							
Raisio							
Area 86							
Suonenjoki							

