

# TELIA YHTEYS KOTIIN SERVICE DESCRIPTION



This service description tells you what your service contains. The service description is part of your Telia Yhteys kotiin agreement.

The Telia Yhteys kotiin subscription (hereafter "subscription") is a broadband connection from your apartment to Telia's network, implemented either with fixed-line or with fixed-line and mobile technology (hereafter "hybrid"), designed mainly for surfing and targeted at Telia Finland Oyj's (hereafter "Telia") customers. The subscription always includes an Internet connection with the agreed data transmission rate.

## General description

The subscription includes connecting the fixed-line connection of the apartment through the internal network of the building to Telia's backbone network, and a connection to the Internet, and in the case of a hybrid, also a mobile surf package according to the transmission rate class.

The transmission rate class of the connection consists of the selected transmission rate class of the fixed-line subscription or, in the case of a hybrid, a combination of the transmission rate classes of the fixed-line and mobile connection.

## General description of a hybrid

Communication between the subscription and Telia's network takes place by the use of the Multipath TCP protocol. Multipath TCP makes it possible to flexibly increase the TCP capacity of the access connection. The Multipath TCP protocol is used only between the subscription and the access point of Telia's network. Over 90% of Internet traffic is TCP traffic. Other traffic than TCP traffic (e.g. UDP) is carried over the network as

such, over the fixed-line connection only. The Telia TV multicast implementation uses only a fixed DSL connection. The customer communicates with the Internet using the fixed network IP address.

All the transmission rate classes of the subscription contain five (5) email addresses, i.e. mailboxes of 500 MB each, which the customer can freely bring into use. In addition, the customer will be provided with user IDs for an administrator and four users (1+4).

The availability of the subscription is affected, for example, by an exceptionally high number of simultaneous network users. Due to network load, the Internet connection may essentially slow down briefly, become unstable or be cut. If the Internet connection is unstable or interrupted, files or parts of them may be lost, remain undelivered or arrive defective or faulty. This is characteristic of web services and does not entitle the customer to compensations or damages.

## Surf package transmission rates and ranges of variation by network technology

The tables indicate the maximum, minimum and standard rates of the subscription. Where the range is concerned, the first figure indicates the minimum transmission rate and the second one the maximum transmission rate of the subscription. The advertised transmission rate of the subscription is no higher than the maximum rate of the subscription. The transmission rate tables include separate tables for fixed-line and hybrid subscriptions.

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## Fixed-line

### S package<sup>1</sup>

Technology	Internal network technology	Range of variation in incoming traffic	Standard rate of incoming traffic <sup>2</sup>	Range of variation in outgoing traffic	Standard rate of outgoing traffic <sup>2</sup>
Fibre – ADSL	Telephone (CAT3)	7-10 Mbit/s	9 Mbit/s	1,4-2 Mbit/s	1,8 Mbit/s
Fibre – VDSL2 Fibre – FTTB Fibre – FTTH Fibre – GPON	Telephone (CAT3) Ethernet Fibre Fibre	7-10 Mbit/s	9 Mbit/s	7-10 Mbit/s	9 Mbit/s
ADSL	Telephone (CAT3)	5,6-8 Mbit/s	7 Mbit/s	0,7-1 Mbit/s	0,9 Mbit/s
VDSL2	Telephone (CAT3)	7-10 Mbit/s	9 Mbit/s	7-10 Mbit/s	9 Mbit/s
Cable Fiber - cable	Coaxial	5-10 Mbit/s	9 Mbit/s	5-10 Mbit/s	9 Mbit/s

### M package

Technology	Internal network technology	Range of variation in incoming traffic	Standard rate of incoming traffic <sup>2</sup>	Range of variation in outgoing traffic	Standard rate of outgoing traffic <sup>2</sup>
Fibre – ADSL2+	Telephone (CAT3)	14-20 Mbit/s	18 Mbit/s	1,4-2 Mbit/s	1,8 Mbit/s
Fibre – VDSL2	Telephone (CAT3)	35-50 Mbit/s	45 Mbit/s	7-10 Mbit/s	9 Mbit/s
Fibre – FTTB Fibre – FTTH Fibre – GPON	Fibre – FTTB Fibre – FTTH Fibre – GPON	35-50 Mbit/s	45 Mbit/s	35-50 Mbit/s	45 Mbit/s
ADSL2+	ADSL2+	11-16 Mbit/s	14 Mbit/s	0,7-1 Mbit/s	0,9 Mbit/s
VDSL2	Telephone	35-50 Mbit/s	45 Mbit/s	7-10 Mbit/s	9 Mbit/s
Cable Fiber - cable	Coaxial	35-50 Mbit/s	45 Mbit/s	5-10 Mbit/s	9 Mbit/s

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## L package

Technology	Internal network technology	Range of variation in incoming traffic	Standard rate of incoming traffic <sup>2</sup>	Range of variation in outgoing traffic	Standard rate of outgoing traffic <sup>2</sup>
Fibre – VDSL2	Telephone (CAT3)	70-100 Mbit/s	90 Mbit/s	7-10 Mbit/s	9 Mbit/s
Fibre – FTTB Fibre – FTTH Fibre – GPON	Ethernet Fibre Fibre	70-100 Mbit/s	90 Mbit/s	70-100 Mbit/s	90 Mbit/s
VDSL2	Telephone (CAT3)	70-100 Mbit/s	90 Mbit/s	7-10 Mbit/s	9 Mbit/s
Cable Fiber - cable	Coaxial	70-100 Mbit/s	90 Mbit/s	35-50 Mbit/s	45 Mbit/s

## XL package

Technology	Internal network technology	Range of variation in incoming traffic	Standard rate of incoming traffic <sup>2</sup>	Range of variation in outgoing traffic	Standard rate of outgoing traffic <sup>2</sup>
Fibre – FTTB Fibre – FTTH Fibre – GPON	Ethernet (CAT6,CAT5e) Fibre Fibre	100-200 Mbit/s	180 Mbit/s	70-100 Mbit/s	90 Mbit/s
Cable Fiber - cable	Coaxial	80-200 Mbit/s	161 Mbit/s	70-100 Mbit/s	90 Mbit/s

## XXL package

Technology	Internal network technology	Range of variation in incoming traffic	Standard rate of incoming traffic <sup>2</sup>	Range of variation in outgoing traffic	Standard rate of outgoing traffic <sup>2</sup>
Fibre – FTTB Fibre – FTTH Fibre – GPON	Ethernet (CAT6,CAT5e) Fibre Fibre	500-1000 Mbit/s	600 Mbit/s	70-100 Mbit/s	90 Mbit/s
Cable Fiber - cable	Coaxial	400-1000 Mbit/s	450 Mbit/s	70-100 Mbit/s	90 Mbit/s

## Hybrid

### M package

Network technologies	Internal network technology	Range of variation in incoming traffic	Standard rate of incoming traffic <sup>2</sup>	Range of variation in outgoing traffic	Standard rate of outgoing traffic <sup>2</sup>
ADSL 8M Mobile 50M	Telephone (CAT3) 4G	15-50 Mbit/s	17 Mbit/s	3,7-50 Mbit/s	3,9 Mbit/s
ADSL 16M Mobile 50M	Telephone (CAT3) 4G	20-50 Mbit/s	24 Mbit/s	3,7-50 Mbit/s	3,9 Mbit/s
VDSL2 50M Mobile 50M	Telephone (CAT3) 4G	45-50 Mbit/s	45 Mbit/s	10-50 Mbit/s	12 Mbit/s

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## L package

Network technologies	Internal network technology	Range of variation in incoming traffic	Standard rate of incoming traffic <sup>2</sup>	Range of variation in outgoing traffic	Standard rate of outgoing traffic <sup>2</sup>
ADSL 8M Mobile 100M	Telephone (CAT3) 4G	15-100 Mbit/s	17 Mbit/s	3,7-50 Mbit/s	3,9 Mbit/s
ADSL 16M Mobile 100M	Telephone (CAT3) 4G	20-100 Mbit/s	24 Mbit/s	3,7-50 Mbit/s	3,9 Mbit/s
VDSL2 50M Mobile 100M	Telephone (CAT3) 4G	45-100 Mbit/s	45 Mbit/s	10-50 Mbit/s	12 Mbit/s
VDSL2 100M Mobile 50M	Telephone (CAT3) 4G	85-100 Mbit/s	90 Mbit/s	10-50 Mbit/s	12 Mbit/s
VDSL2 100M Mobile 100M	Telephone (CAT3) 4G	85-100 Mbit/s	90 Mbit/s	10-50 Mbit/s	12 Mbit/s

## XL package

Network technologies	Internal network technology	Range of variation in incoming traffic	Standard rate of incoming traffic <sup>2</sup>	Range of variation in outgoing traffic	Standard rate of outgoing traffic <sup>2</sup>
ADSL 8M Mobile 200M	Telephone (CAT3) 4G	15-200 Mbit/s	17 Mbit/s	3,7-50 Mbit/s	3,9 Mbit/s
ADSL 16M Mobile 200M	Telephone (CAT3) 4G	20-200 Mbit/s	24 Mbit/s	3,7-50 Mbit/s	3,9 Mbit/s
VDSL2 50M Mobile 200M	Telephone (CAT3) 4G	45-200 Mbit/s	55 Mbit/s	10-50 Mbit/s	12 Mbit/s
VDSL2 100M Mobile 200M	Telephone (CAT3) 4G	85-200 Mbit/s	100 Mbit/s	10-50 Mbit/s	12 Mbit/s

## Terminal devices required by different technologies

Technology	Terminal device
Fibre – ADSL	ADSL2+ or VDSL2 modem
Fibre – VDSL2	VDSL2 modem
Fibre – FTTB (internal Ethernet network)	-
Fibre – FTTH	Fibre converter
Fibre – GPON	GPON ONT
Cable	Eurodocis 3.0 modem
Hybrid	Hybrid router

<sup>1)</sup> Available only at specified sites covered by the frame agreement or in specified areas.

<sup>2)</sup> The rate the user can expect to be 90% realized during each four-hour period when using the service.

<sup>3)</sup> The rate the user can expect to be at least 90% realized during each four-hour period when using the service, but because of the nature of the mobile network, the rate may be clearly higher.

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The transmission rate classes of the subscription indicate the maximum rate. The actual transmission rates may be lower, however, as shown by the above table. The transmission rate and other quality of service of the subscription may vary within the range of variation on account of network features.

The transmission rate can also be affected by factors that are beyond Telia's control, such as congestion in the Internet and Internet services, condition of the internal communications network, capacity of the customer's modem and computer, use of a WLAN connection and load in antivirus and firewall services and any other software used.

## Rules of use

The Internet connection provided by the subscription is not encrypted, so the data transmitted through the subscription can be accessed by a third party. More information about information security is available below under [Traffic management and information security](#).

When sending email with the SMTP protocol, only mail.inet.fi can be used as the outgoing email server. Port 25 is closed to outbound traffic. If the customer wants to use port 25 for outbound email, however, the traffic must be routed through the mail.inet.fi server.

Telia has the right to filter email messages and take other necessary action – e.g. restrict the number of outbound email messages – to the extent required by the information security of the service at any given time. Telia does not read or save the messages or message content filtered out by the service.

Spam and virus filtering cannot identify all spam and/or viruses, so it does not provide total protection against viruses, virus attacks or their effects. The filters are designed to identify and filter out

only email messages containing computer viruses and/or spam. However, when spam and virus filtering is performed, other messages may sometimes also be filtered out. Telia is not liable for any damage attributable to messages filtered out by the virus and/or spam filter.

## Traffic management and information security

Network traffic is managed on account of strong and often unforeseeable variations in traffic volumes, which may cause momentary congestion in different parts of the network. Traffic management mechanisms are used to ensure that critical services and applications continue to work reliably in cases of congestion.

As a rule, customer effects are small (for example, a momentarily lower data transmission rate or increased delay) and occur during peak congestion times. These effects are usually attributable to network problems or external disturbances, such as DoS attacks.

Traffic management methods include, for example, queuing, prioritisation, restriction and signalling about the congestion to the customer's applications. The methods are automated, and their dynamic effects on each individual application cannot be estimated accurately and specifically. Network performance will be constantly monitored and traffic flows optimized, and network capacity will be increased such that the effects of the traffic management on the customer are as small as possible, whatever the service or application.

A customer device connected to the subscription is assigned a public IP address from the Telia-managed IP space for a fixed period of time. The duration of the fixed period varies depending on the degree of use of the network.

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In addition, in hybrid technology: One public IP address is assigned by default to the hybrid terminal. The devices connected to LAN ports or Wifi are provided with private addresses by the hybrid device. The private addresses are translated (NAT) into the public address assigned to the router. It is possible to bridge LAN port 4, in which case the maximum number of public IP addresses assigned to the devices connected to it is four. This bridged port uses only the fixed-line connection. However, by default, network address translation (NAT) is used in a Telia-provided terminal device using the subscription. The customer may change the settings in the terminal device.

The customer must not use the user ID in more than one subscription at a time. The user IDs of the subscription must be kept safe. The subscription supports the IPv4 protocol but not the IPv6 protocol.

The Internet connection can be used simultaneously with a service requiring a higher quality of service (e.g. the Telia TV service), but the simultaneous use of services may, in practice, restrict the use of the Internet connection for other purposes (i.e. slow down the connection).

If necessary on account of an exceptional information security threat or to ensure normal operation of the network, Telia may use traffic management methods that can affect the service user's applications, services or content or may be attributable to the recipient, sender or terminal device. This includes, for example, traffic filtering, which is used in DoS attacks, or temporary disconnection of the customer's subscription, for example in cases where a customer device causes major problems or disturbance or where the service is used to transmit spam or malware.

In addition, for reasons of service availability or filtering of malicious traffic or for another information security reason, Telia may temporarily restrict

the use of the service either by preventing the use of certain communications methods (protocols) or ports or by temporarily disconnecting the web service of the subscription. Automated systems may be used to restrict traffic or temporarily disconnect Internet services.

The traffic management methods include, for example, restriction of network usage based on court order in order to block access to network services used for unauthorized distribution of content protected by copyright. Such restrictions may be implemented in such a manner that the user's access to network addresses will be blocked or that addresses of some network servers will not be transmitted to the service user from Telia's domain name service.

The traffic management methods also include port blocks to prevent abuse of vulnerabilities in the service user's terminal devices.

Connecting a terminal device to the public Internet and installing software and/or applications involve threats (for example, viruses and other malware) that may impair communications or jeopardise the availability and/or confidentiality of the data on the terminal device. The customer is responsible, under all circumstances, for the protection, information security and functionality of the devices (for example, computer or router), systems and Internet connection they use. The information security can be improved by means of information security services.

Telia provides information on any information security issues and changes to the rules of use on Telia's website at [telia.fi/tietosuoja](https://telia.fi/tietosuoja)

New security threats appear continuously, and an up-to-date list of traffic management methods and methods used to ensure information security is available at [telia.fi/tietoturvainfo](https://telia.fi/tietoturvainfo)

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The instructions of the installation and use of the subscription can be found in Telia Avustaja at [telia.fi/avustaja](https://telia.fi/avustaja)

A list of the required devices, the service description, supplementary services available at any given time and the valid price lists are available at [telia.fi/yhteyskotiin](https://telia.fi/yhteyskotiin)

## Requirements for introduction of the subscription, and use

The delivery and use of the subscription require the availability of suitable networks (fixed or fixed and mobile) with sufficient features. A preliminary check on the availability will be performed when the agreement is concluded, but the final availability cannot be confirmed until the delivery. If the availability of the subscription cannot be confirmed at the time of purchase, the agreement will not enter into force until the availability has been finally verified.

If the delivery of the subscription requires network construction, Telia is entitled to charge the customer a case-specific construction charge, as well as the connection charge indicated in the price list. In such cases, the customer is entitled to cancel the order and/or the agreement.

In addition, in hybrid technology: The subscription can be introduced using the mobile connection before the fixed-line connection is delivered. However, some of the services (Telia TV) will not operate until the fixed-line connection is in use. The subscription consists of two different connections, and if one of the connections fails, the subscription continues to operate over the other one. If there is disturbance in the fixed-line connection, communication takes place over the mobile connection and with the mobile network IP address.

The availability may be restricted by features of the internal network in the building, the location of the building, lack of interconnection between house MDFs in different buildings, lack of power supply or similar factors. Telia is not responsible, without separate compensation, for the condition of the internal telephone network of the building, for upgrading it to meet the requirements of the subscription or for any necessary equipment.

At the customer's request, the subscription can be transferred to another place, provided that this is technically possible. The customer should notify Telia of the transfer in writing, after which Telia will check availability in the desired place of use. If the subscription is not available in the new place of use, the agreement can be cancelled in accordance with the delivery terms. In this case, the charges already paid will not be refunded.

Access implemented with ADSL or VDSL2 technology: The Internet connection is provided to a house MDF, from which it is extended through the internal telephone network to the customer's apartment. The customer connects to Telia's network with an ADSL or VDSL2 modem plugged in to the telephone socket of the apartment. The purchase, installation and operation of the modem are at the customer's responsibility.

Access implemented with cable technology: A condition for the delivery and use of the connection is that a two-way Telia Kaapeli-tv subscription has been provided for the customer's real estate company or area of single-family houses. The customer connects to the network with a cable modem and is responsible for its purchase, installation and operation.

Access implemented with fibre: A condition for the delivery and use of the subscription is that the customer's building has a fibre connection, such as Telia Multi-Dwelling Fibre, Telia Home Fibre

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or Open Fibre, for which the Yhteys kotiin service is available. Depending on internal network cabling, the customer connects to the network with an ADSL modem, a VDSL2 modem, a cable connection, a fibre converter or directly with an Ethernet cable. The purchase, installation and operation of these is at the customer's responsibility.

In addition, in the case of hybrid technology: The fixed-line connection is provided to a house MDF, from which it is extended through the internal telephone network of the building to the customer's apartment. The customer connects to Telia's network by means of a hybrid modem, which is connected to the apartment's telephone socket and the mobile network, and which is provided with the subscription. The customer will be charged for the hybrid router according to the price-list.

Simultaneous use of telephone and Internet connections may cause interference in voice traffic, and Telia therefore recommends the use of a noise filter.

## Period of validity

The agreement can be made for a fixed term or it can be valid until further notice. A fixed-term agreement is valid for a term agreed on between the parties. The term of the fixed-term agreement is considered to begin when Telia delivers the service according to the agreement to the customer. Telia communicates the delivery time to the customer in advance by email, by SMS or in some other way separately agreed on.

An agreement valid until further notice can be terminated in accordance with Telia's General Delivery Terms concerning Services. Fixed-term agreements cannot be terminated during the agreement period. This term does not limit a consumer customer's legal right to give notice

of termination on the basis of a social bar to performance.

## Customer communications

Telia sends news related to the subscription to the email address the customer has given to Telia. Customer bulletins about subscription changes, and marketing messages concerning Telia's new services and offers are sent by email if the customer has given permission to electronic direct marketing or has not explicitly forbidden it in cases where forbidding is possible. Every marketing message sent by email includes contact information allowing the customer to announce if they no longer want to receive marketing messages from Telia.

## Invoicing

The invoicing period is one (1) month. Invoicing begins on the day following the delivery of the connection. Charges for the use of any paid services will be invoiced in arrears.

Broadband invoices will be delivered in electronic format. Paper format invoices are available subject to a charge. The charge is determined based on Telia's price list valid at any given time.

## Other terms and conditions

Due to the technical implementation of the data processing, some data may be located on servers of Telia's external subcontractors and processed over a technical connection. Data will not be transferred outside the EU or EEA areas, unless it is necessary for the provision of the service.

Any issues not mentioned in this service description are subject to Telia's General Delivery Terms for Consumer/Business Customers concerning Services, valid at any given time.