



Collax Networking

Howto

This howto describes the various link types. Moreover, the article addresses the setup of fallback and multi-WAN.

Link Types

Ethernet

An "Ethernet" link is used if an IP address is to be assigned to a network interface. Several IP addresses can be set for one physical interface. To do this, it is sufficient to create several "Ethernet" links for the same physical interface.

The configured IP address must lie in the range of the reachable network.

If no IP address is set in the system, the Collax server will try to obtain an IP address via DHCP. Only the IP address is obtained from the DHCP server; the gateway and other information provided by the DHCP server are ignored.

Route

The "route" link is used to define routes to other networks. This link type must be selected if a network cannot be reached directly, but only via a router.

There must be a link over which the Collax server can reach the router. This is usually a "route" link.

The default route is defined over a route that uses the Internet as reachable network.

Analog Modem

The "analog modem" link can be used to establish an Internet connection over a modem. It is possible to establish a permanent Internet connection or a connection that is automatically disconnected after a certain idle time during which no packets are transported in order to save unnecessary costs.

Any Hayes commands that the modem needs for the initialization can also be entered here.

Synchronous ISDN

The "synchronous ISDN" link can be used to establish an Internet connection over an ISDN modem. This connection, too, can be disconnected after a configurable idle time.

Moreover, this link can be used to set up an ISDN dial-in connection. In this way, system users can dial in with ISDN in order to access the Collax server and connected networks. The dial-in user(s) must belong to a group for which the "RAS -> ISDN dial-in" is set.

DSL with PPPoE

The "DSL with PPPoE" link can be used to establish an Internet connection. The Ethernet interface that is used for the DSL connection is occupied and cannot be used for other links.

This connection, too, can be disconnected after a configurable idle time.

DSL with PPTP

The "DSL with PPTP" link can be used to establish an Internet connection. This connection, too, can be disconnected after a configurable idle time. DSL with PPTP is very common in the Netherlands, for example.

VPN (IPsec/L2TP)

The "VPN (IPsec/L2TP)" link enables the establishment of a VPN connection over L2TP or IPsec. If L2TP is used, a connection can be established to the Collax server. Please make sure that the "RAS -> L2TP" permission is set for the group that contains the network from which the connection is established and that the user that is to dial in is a member of this group.

With VPN over IPsec, it is possible to connect to a VPN gateway or to wait for a VPN gateway or road warrior to dial in. Please refer to the howtos on our Web site for instructions on setting up a VPN connection with IPsec or L2TP.

VPN (IPsec Transport Mode)

The "VPN (IPsec transport mode)" link can be used to establish a VPN connection. Unlike the VPN link described above, this link type is not used to connect two networks, but only two individual hosts. Please note that the remote IP address can no longer be reached over the normal Internet connection, but only through this tunnel.

IP Tunnel

The "IP tunnel" link can be used to establish an IP tunnel. The tunnel can be established either with or without encryption. The GRE protocol is used for the encryption.

For example, it is possible to forward unmasked packets to another router in the destination network, which then forwards the packets to the actual destination network.

VPN (PPTP)

The "VPN (PPTP)" link can be used to establish a PPTP VPN tunnel. Many operating systems can establish a PPTP tunnel without any additional software. However, the protocol is no longer considered secure; therefore, L2TP should be used if possible.

Please refer to the howto on our Web site for instructions on setting up the PPTP link.

DHCP (Cable Modem)

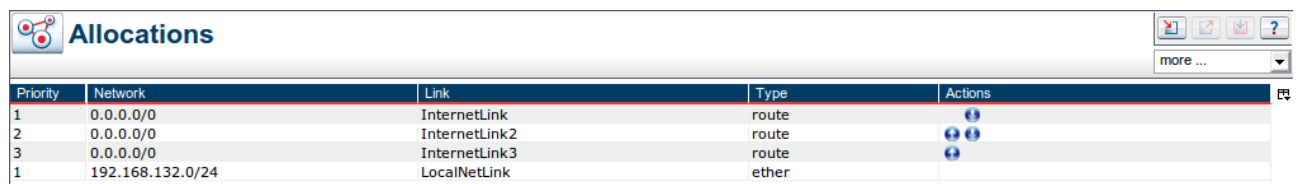
The "DHCP (cable modem)" link can be used to establish an Internet connection. If the Collax server obtains its IP address via DHCP in order to access the Internet, this link type must be selected.

Multi-WAN and Fallback

The Collax server enables the setup of several links with the same reachable network; normally, this would be the Internet.

If you have the Collax Security Gateway or the Net Security module, you can use multi-WAN. Multi-WAN enables the use of several Internet lines for the Internet access. Each time a new connection is established to the Internet, the round robin method is used to determine the Internet line over which the connection is to be routed.

Fallback is supported by all Collax products. If there are several ways to a particular network, several links can be set up to define the various ways to the destination network. Under "*Settings -> Networking -> Links -> Allocation*", the priorities can be adjusted, and the order of the links to be used can be determined.



Priority	Network	Link	Type	Actions
1	0.0.0.0/0	InternetLink	route	⬆️
2	0.0.0.0/0	InternetLink2	route	⬆️ ⬆️
3	0.0.0.0/0	InternetLink3	route	⬆️ ⬆️
1	192.168.132.0/24	LocalNetLink	ether	⬆️

In this example, there are three links for which the Internet is set as reachable network. If several links are set up with the same reachable network, the Collax server will automatically configure fallback. Priorities are used to determine the first link to be used and the next one in the case of a failure of the first link. In this example, the InternetLink is the first link; in the event of a failure of this link, the system will automatically switch to InternetLink2 and then to InternetLink3 if this link should fail as well.

The priority can be adjusted by means of the arrows under "*Actions*".

In the case of a system that supports multi-WAN, the priorities can be set to the same value. If two links have the same priority, connections to the destination network will be distributed over both links via round robin.

It is also possible to combine multi-WAN and fallback. For example, if you have three DSL lines (two with unlimited traffic, one with volume-based billing), the two DSL lines with unlimited traffic can be set to priority 1, and the volume-based DSL line to priority 2.

In the event of failure of both DSL lines with unlimited traffic, the volume-based DSL line will be used. In the case of a failure of one line in multi-WAN, the entire traffic will automatically be routed over the remaining line(s).

For almost all link types, the link availability check takes place passively. For links of the "route" type, you can specify whether the remote party is to be checked actively. The check takes place by means of an arping on the gateway. If the gateway can be reached, the link will be considered as available. If the gateway cannot be reached or does not respond to an arping, the link will be considered as unavailable.