



PORTFOLIO.

The background of the image features a close-up of network cables, including red and purple Ethernet cables, plugged into a server rack. The server rack's front panel has a distinctive hexagonal mesh pattern. The lighting is dim, with a blue and purple color cast, creating a professional and technical atmosphere.

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NET•WORKS•

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01 **ABOUT FUSIX.**

Fusix Networks provides Internet connectivity and IP networking products to the most demanding clients since 2012. We operate an Internet Service infrastructure that has the fastest and most stable routes among Dutch ISPs and was built with redundancy and security by design.

Our network grows **your** **business**

Your product deserves to be a part of our promise: Internet and point to point Virtual Leased Lines that exceed expectations in stability, uptime and speed. Our professionals provide advice, connect and help to manage your network 24/7, while leaving you in control with our unparalleled IP networking tools and traffic insights in the Teamworks client portal.



Our team.

We are dedicated to keeping your network operational and connected to the Internet, so you can focus on growing your primary business products and applications.



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02 DUAL STAR NETWORK.

The Fusix network (AS number 57866) provides non-overbooked, high-performance Internet, point to point Virtual Leased Lines and dedicated access to Amazon, Azure and Google cloud in 28+ data centers in the Netherlands.

We named our network a Dual Star, because it consists of 2 independent physical infrastructures, each of which has the form of a star. The center is a core router, from where fiber lines run to on-net data centers. Clients connect

to both stars at no additional cost and receive network services from the 2 infrastructures in 'active-active' configuration by design.

Redundancy of the 2 stars and the 'active-active' service design result in unparalleled uptime, stability and double capacity of the Fusix connectivity, as well as in our ability to perform any network maintenance work without service impact.

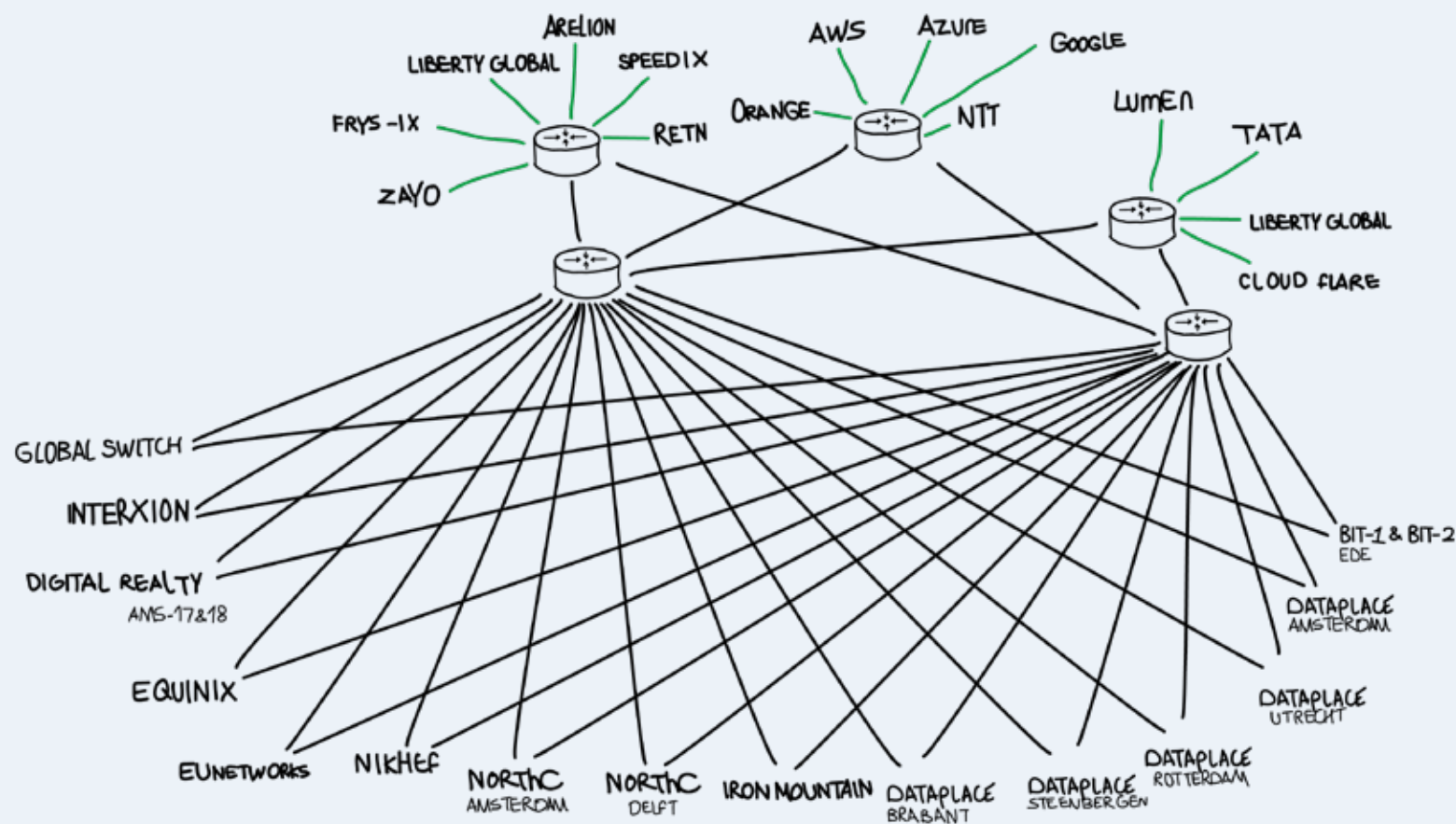


On-net data centers in The Netherlands.

- **NIKHEF** – Amsterdam, Noord-Holland
- **euNetworks** – Amsterdam, Noord-Holland
- **Dataplace Amsterdam** – Hoofddorp, Noord-Holland
- **Dataplace Rotterdam** – Alblaserdam, Zuid-Holland
- **Dataplace Brabant** – Waalwijk, Noord-Brabant
- **Dataplace Utrecht** – Groenekan, Utrecht
- **Dataplace Nedzone** – Steenbergen, Noord-Brabant
- **Equinix AM1 & AM2** – Amsterdam, Noord-Holland
- **Equinix AM3 & AM4** – Amsterdam, Noord-Holland
- **Equinix AM5** – Amsterdam, Noord-Holland
- **Equinix AM6** – Amsterdam, Noord-Holland
- **Equinix AM7** – Amsterdam, Noord-Holland
- **Equinix AM11** – Amsterdam, Noord-Holland
- **BIT-1 & BIT-2** – Ede, Gelderland
- **Global Switch** – Amsterdam, Noord-Holland
- **Digital Realty AMS17** – Amsterdam, Noord-Holland
- **Digital Realty AMS18** – Amsterdam, Noord-Holland
- **InterXion AMS3** – Schiphol-Rijk, Noord-Holland
- **InterXion AMS5** – Schiphol-Rijk, Noord-Holland
- **InterXion AMS7** – Schiphol-Rijk, Noord-Holland
- **InterXion AMS8** – Schiphol-Rijk, Noord-Holland
- **InterXion AMS9** – Amsterdam, Noord-Holland
- **InterXion AMS10** – Schiphol-Rijk, Noord-Holland
- **Iron Mountain** – Haarlem, Noord-Holland
- **NorthC Amsterdam** – Amsterdam, Noord-Holland
- **NorthC Delft** – Delft, Zuid-Holland

ASN 57866

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The data centers

To check the up-to-date, full list of data centers, where we provide network services to clients, scan the QR-code or visit fusix.nl/network



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Our customers.

In 2024 Fusix serves IP Transit to 70+ networks that have their own Internet resources and Internet Access to hundreds of clients who use our IP addresses. Clients find working with us a great experience, because we go beyond the line where other Internet Providers stop: we help with BGP configuration of your hardware, provide double capacity, uptime guarantee of 99,999% and DDoS mitigation by service design at no additional cost.

The Fusix service design brings the benefits of using ISP techniques - such as 'active-active' configuration of connections - to every user of our network and meets the highest expectations of hosting, cloud, VoIP, content and digital transformation providers, as well as governmental and not for profit organizations.

You do not need to trust our words about clients. Instead, check the independent information resource asrank.caida.org that presents the real status of every network on the Internet by its AS number. To see, which networks use Fusix IP Transit today, who are our peering partners and uplinks, search our AS 57866 or scan the QR code.



Routing quality assurance.

Layer by layer redundancy of the Fusix infrastructure is our commitment to ensure the best Internet connectivity in all circumstances. In addition to 2 core routers that handle traffic to on-net data centers, there are 3 border routers that handle our external capacity to the Internet. Each of the core routers can see all border routers and therefore make more accurate decisions about the number of hops to other networks on the Internet. This accuracy demands investment in additional routing hardware and interconnects but it gives measurable, perfect quality results in return.

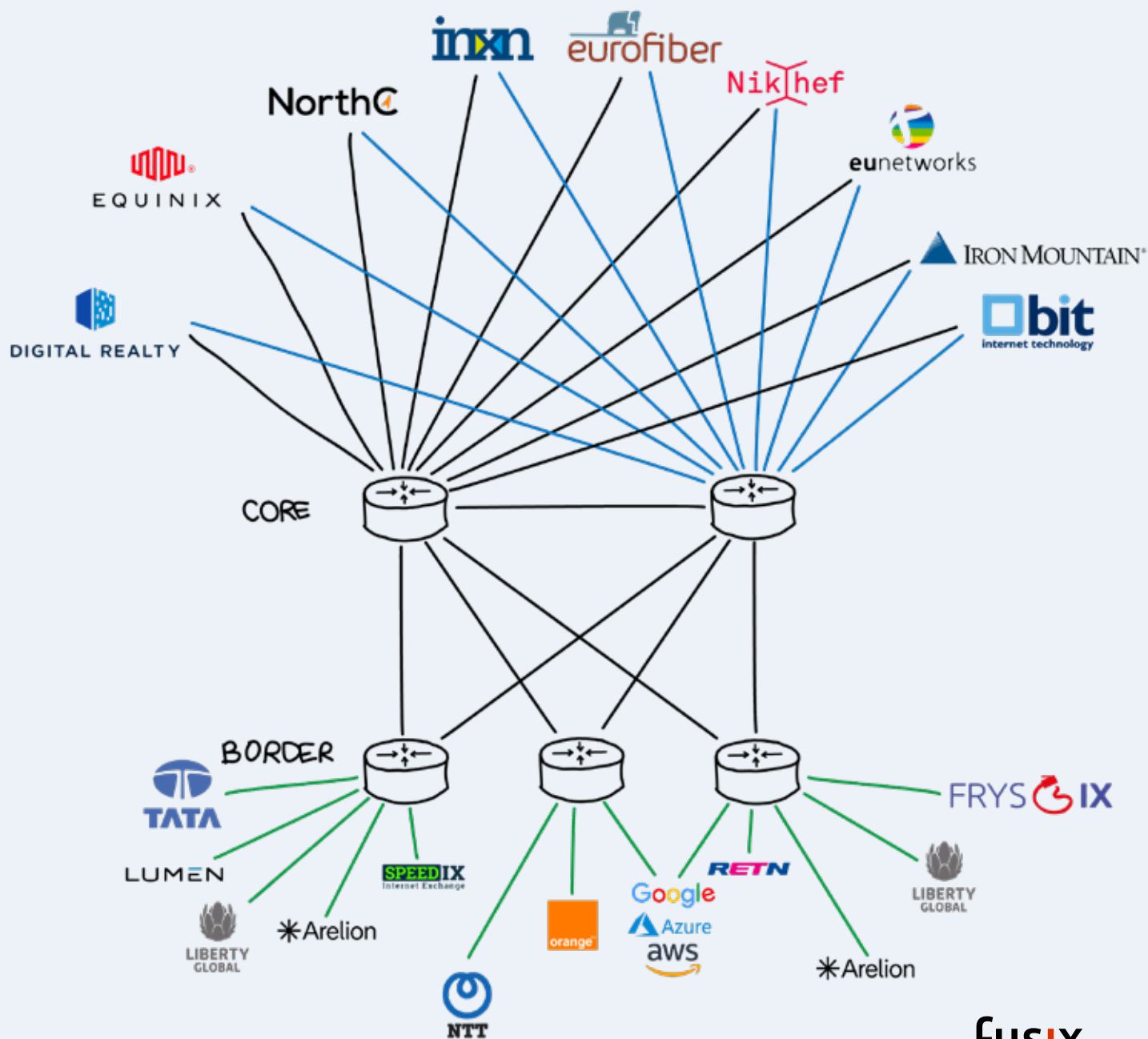
Further, we maintain our infrastructure with more confidence and control. For example, when we upgrade a core router, there is no degradation of external capacity and zero risk of traffic congestion.

Finally, an integrated anti-DDoS system can detect an attack faster, immediately isolate it from the rest of our interconnects and filter before it arrives to the core routers, which protects both the external capacity to the Internet and the capacity of the links between the core routers and on-net data centers.



More information.

Scan for more information the QR code or visit:
asrank.caida.org/asns?asn=57866&type=search



03 NETWORK SERVICES.

We are proud of our network services and operate them with vision and care, using layer-by-layer redundancy, best Internet Service Provider's techniques, hardware from Juniper Networks, Nokia and Arista; and our network combines the best tier-1 providers and strategically selected peering partners.



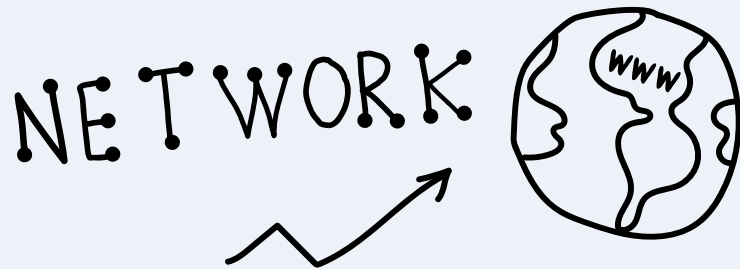
IP Transit and Internet Access

Traditionally, only networks that have their own Internet resources - IP addresses and AS number – can leverage the BGP protocol for having multiple active-active uplinks to the Internet. This configuration is known as IP Transit service. Fusix breaks this rule by enabling BGP for clients, who use Fusix IP addresses and receive Internet Access. They receive 2 redundant active-active connections to the Internet and of course we help with necessary configuration on their end.



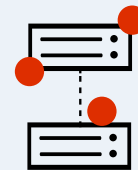
Managed Internet Access Package

If anything goes wrong with your own network, the Fusix Network Operations Centre (NOC) is standing by 24/7 to help with troubleshooting and recovery. In normal operational mode, we will take care of all routine management tasks, such as monitoring your routers and switches, firmware updates, backup of network configurations and take the responsibility for all your BGP and routing security matters.



Virtual Leased Lines

Unique feature of point to point Ethernet lines delivered by Fusix is that we do not rate limit your VLANs and allow to use up to the full capacity of your VLL ports based on 95% measurement. Clients pay a fixed monthly fee for an agreed VLAN bandwidth (commitment) and can use additional bandwidth when required without the risk of traffic congestion and lower traffic speed.



Dedicated access to public cloud

The Fusix infrastructure has dedicated physical access to the cloud networks, such as Azure, Google, AWS, Oracle, IBM etc. If you host some of your services in a public cloud and others in a data center or on-premise in your office, we can connect all these locations securely - bypassing the public Internet – with dedicated point to point bandwidth.



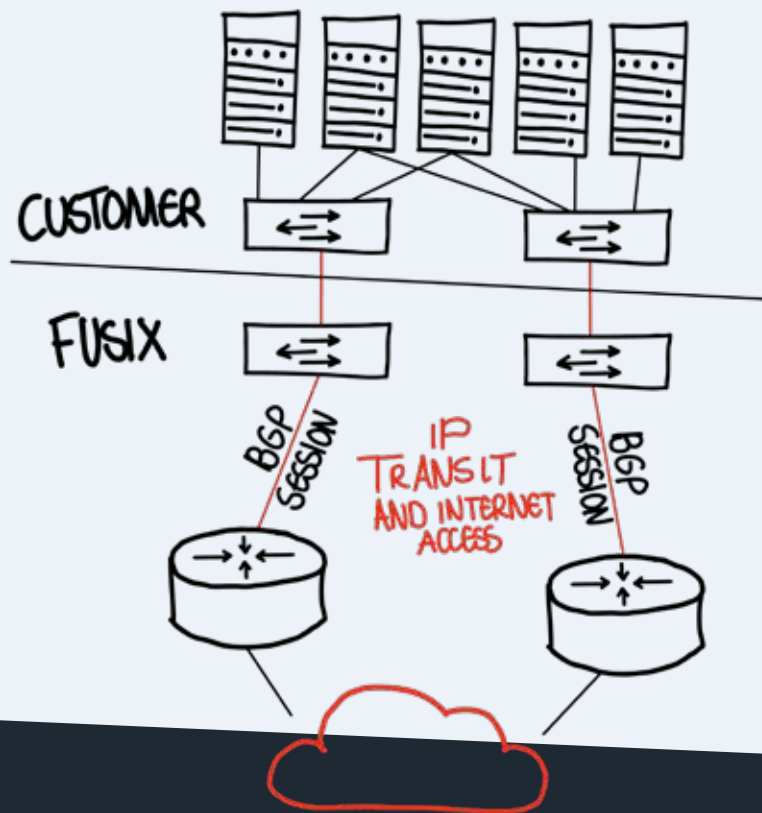
More information.

Would you like to learn more about the services? Scan the QR code or visit:

fusix.nl/network-services



IP Transit and Internet Access



Service features.

- Both IP Transit and Internet Access are delivered on 2 active-active redundant ports with BGP configuration between client and Fusix;
- Uptime SLA 99,999 by service design;
- Flexible packages based on Mbps or TB volume;
- DDoS mitigation and routing security RPKI (Resource Public Key Infrastructure) are provided to all clients by default;
- Assistance with configuration of the client's side;
- On-line networking tools, including IP prefix management, BGP status alerts, bandwidth consumption, traffic flows and reports about detected and mitigated DDoS incidents.



More information.

Would you like to learn more about this service? Scan the QR code or visit: fusix.nl/network-services/ip-transit



Managed Internet Access Package



Managed Access includes:

- 24/7 stand-by professional assistance with troubleshooting of your routers and switches;
- Network recovery assistance;
- Monitoring of hardware performance;
- Backup of network configurations;
- Routine network management, such performing relevant firmware upgrades, answering quick questions and making network changes;
- Consulting by a networking professional who is familiar with your network.



More information.

Would you like to learn more about
this service? Scan the QR code or visit:

fusix.nl/network-services/managed-internet-access

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Virtual Leased Lines

Consolidate your locations into one secure private network.

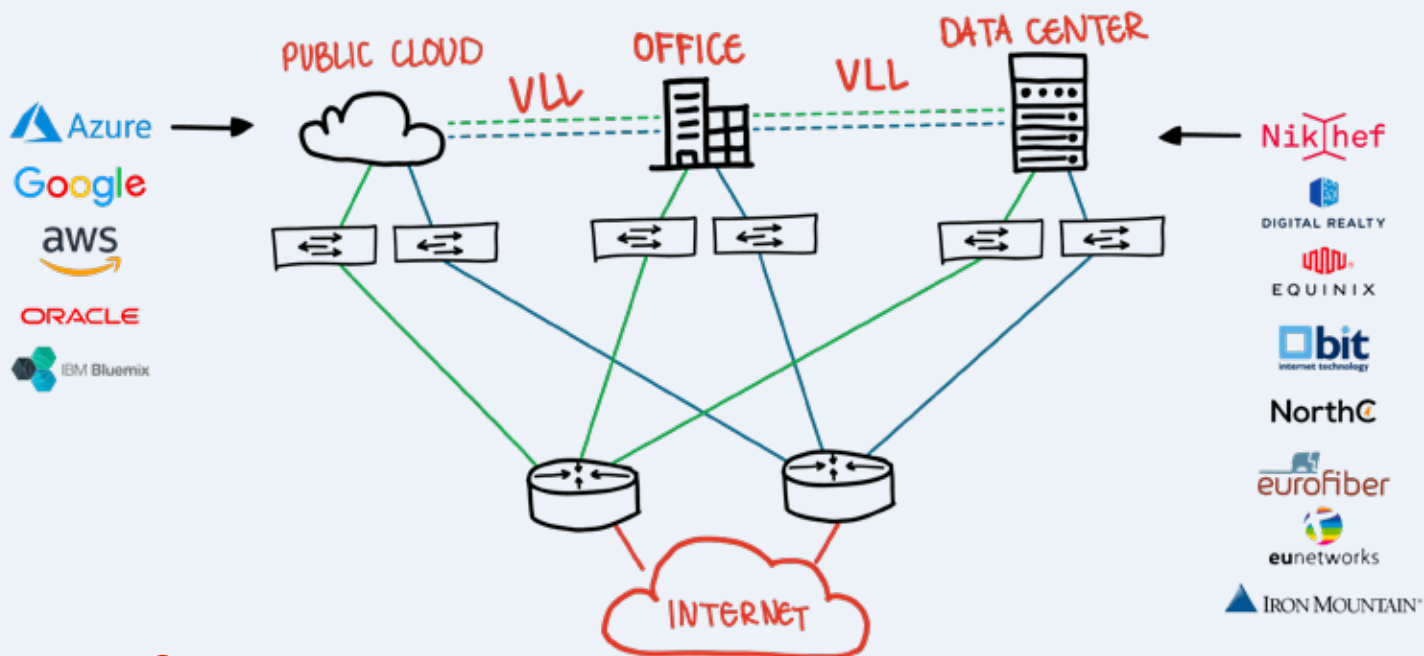
Our offer.

- Flexible solution for data backups and synchronization, as well as transfer of big data during short-term projects;
- Consolidate your office, data center and public cloud (AWS, Google, Azure, Oracle) into one private network;
- Additional security assurance, because your data does not travel across the public Internet. It stays within the physical infrastructure of Fusix;
- Your network is under your sole control, but if you require input from an expert who is familiar with your setup, note that VLLs are covered by our Managed Access Package.

Unique features.

Unique features of our Ethernet Virtual Leased Lines meet the daily need for data backups and synchronization in multi-site and dual data center networks, as well as transfer of big amount of data during a short-term project:

1. Redundancy: VLL service is delivered as 2 active-active VLANs, each of which is deployed on a separate physical infrastructure.
2. Burstable bandwidth: you choose bandwidth subscription that is applied to both VLANs and can use even more bandwidth up to the full capacity of your physical ports.
3. Burst 95%: use of additional bandwidth up to the port capacity is free of charge 5% of time, which is ~36 hours per month.
4. Bandwidth measurement based on Mbps or TB.
5. Short -term agreements possible: our service term starts from just 1 week.



Dedicated public cloud access

Your connections between private and public cloud will be more stable and secure, if you connect them by using point to point private links with reserved capacity, starting from just 50 Mbps per link. Links can be set up redundantly and will be active-active with no need of fail over. An additional layer of security can be added by using MACSec encryption. Fusix provides switches with MACSec support that are approved by your cloud provider and professional assistance with configuration.



More information.

Would you like to learn more about this service? Scan the QR code or visit:
fusix.nl/network-services/virtual-leased-lines/



04

24/7 NOC & NETWORK SECURITY.

Continuity and integrity of the Fusix backbone are ensured in the first place by the best ISP practice of building redundancy from bottom up separately into each layer of the network.

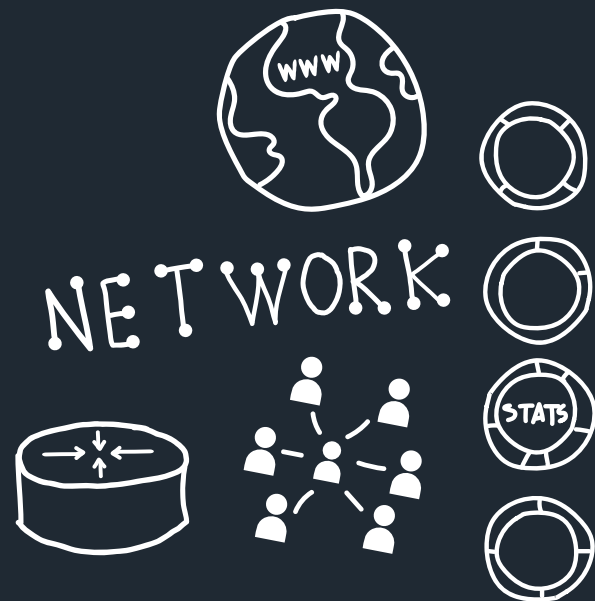
Practices for service management are selected in line with the ISO guidelines for Information Security Management Systems and Information Technology Service Management, tuned to the unique features of our network services and automated in the Teamworks software.

The Fusix Network Operations Center (NOC) is located in the Netherlands. It has full control of the 3 layers of our infrastructure as defined by the OSI model: physical links, Ethernet switching and IP routing. This means that we can immediately see where a problem is and do not rely on any 3rd party for solving it.



Routing security RPKI.

Fusix is one of the pioneers in deployment of Resource Public Key Infrastructure (RPKI) that connects Internet resources (IP addresses) to a trust anchor and provides additional assurance that Internet Providers do not route traffic of their clients to a hijacked network.



05

TEAM!WORKS CLIENT PORTAL.

Our network management software platform and client portal have the same name: Teamworks. The customer visible part of the platform is your account in the client portal, which provides a dashboard into the services that we deliver to your account.

In addition to showing the status and performance of your Internet and Virtual Leased Lines, you can use the portal any time in order to change routing parameters, set up anti-DDOS measures, or change reverse DNS settings. Of course we remain available by phone 24/7 in case you need assistance.

**You can perform
many IP networking
tasks on-line**



Security.

- DDoS incidents mitigation history;
- Meta-data about traffic that is going to your network;
- Self-service filters for dropping UDP and/or ICMP traffic to one or more IP addresses,
- Blackholing and blackholing outside Netherlands.



Routing.

- Manage your IP prefixes automatically, if you regularly make changes in a public Internet registry;
- Extensive choice of BGP communities;
- BGP session stats, including uptime and configuration;
- Real-time SMS and/or e-mail about your BGP session up/down.

Network automation with TEAM!WORKS software.

We are dedicated to development of our Teamworks software for Internet Service Provider Management. It enables our NOC to complete daily tasks free of human errors and maintain the integrity of Fusix backbone and services. We configure and manage all Internet and Virtual Leased Lines by using the Teamworks software. Therefore, it is the single point of truth and can enable our client portal and the opportunity for you to manage your existing connections to our infrastructure.

Also, it allows us to add on-net data centers and grow the footprint of Fusix services without adding operational complexity and cost.




IP bandwidth.

- Bandwidth utilization per port
- Utilization of bandwidth commitment and burst
- Configuration of your Internet connections
- Configuration of reverse DNS.

We can make network changes exclusively via **Teamworks**, which rules out the potential for human errors

06

NETWORK CONSULTANCY.

A man and a woman are standing and looking at a laptop screen. The woman, on the left, is wearing a red hoodie with a white patterned interior. The man, on the right, is wearing a blue hoodie with orange cuffs. They are both focused on the screen. The background is a simple, light-colored wall.

Our expertise covers a wide range of projects, starting from a small network in one data center and a pair of switches, up to deployments that require data center redundancy, full BGP and integration of public and private cloud.

We help to **design,** **deploy and operate** IP networks

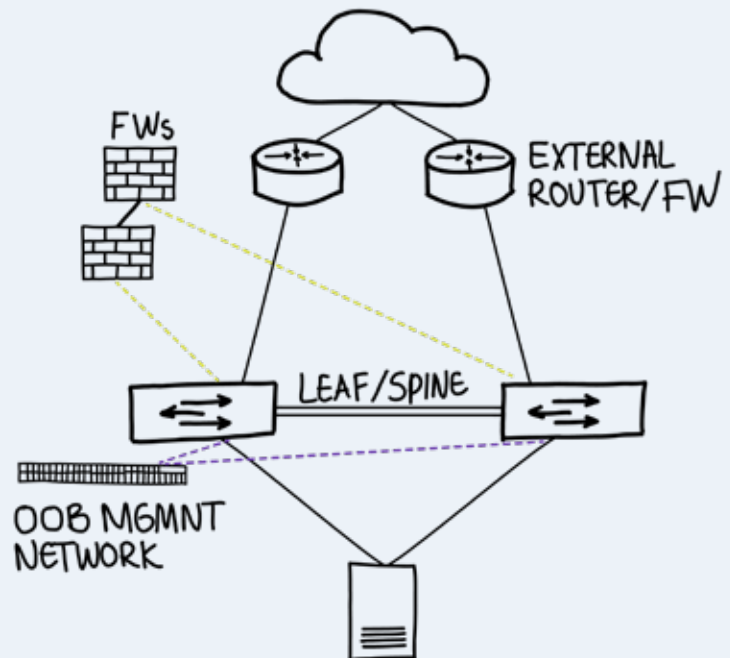
Migration services.

Next to building new networks, we provide second opinion and network upgrade support. A Fusix consultant will carefully study your requirements, understand the challenges of the existing situation, and propose a solution that will support your business applications in the next years. Then we will help to migrate your network to the new setup, including temporary Ethernet and Internet links that are required only during the migration.

Your new network is ready to use – what is next.

Your network infrastructure is under your sole control, but if you need to hear from an expert who is familiar with the setup or need assistance with a planned firmware upgrade or with troubleshooting of an unexpected issue, Fusix is always there to help. Our 24/7 stand-by Network Management is available from just 150 euro per month and can be combined with any size of Fusix Internet or Virtual Leased Line starting from 100 Mbps.

COLLAPSED SPINE



STARTING WITH A MINIMUM OF 2 DEVICES



More information.

For more information and fixed-fee deployments, scan the QR code or visit:
fusix.nl/networking-consultancy

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07 **HARDWARE PARTNERSHIPS.**

Fusix is a certified reseller of the two leading vendors of networking products: Juniper Networks and Nokia. We proudly offer their products at competitive prices in combination with professional advice and turnkey deployment.



NOKIA

Fusix is Nokia reseller since 2021.

Nokia has a broad portfolio of networking and optical hardware. Fusix focuses on helping our clients choose and use Nokia's IP network hardware, including the 7750 SR routers with Nokia's own FP chip set, the IXR routers for smaller BGP projects, as well as the 7220 series for spine/leaf solutions.




**Hewlett Packard
Enterprise**

JUNIPER
NETWORKS

**Fusix is long time Juniper partner,
with Select status since 2021.**

Fusix offers Juniper MX and ACX routers, EX and QFX switches, SRX firewalls and APSTRA intent-based data center fabric management solution. We help to choose relevant products and sell them at a competitive price that covers assistance with configuration and deployment in your production network.

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