

### SURFnet is the National Research and Education Network (NREN) of the Netherlands.

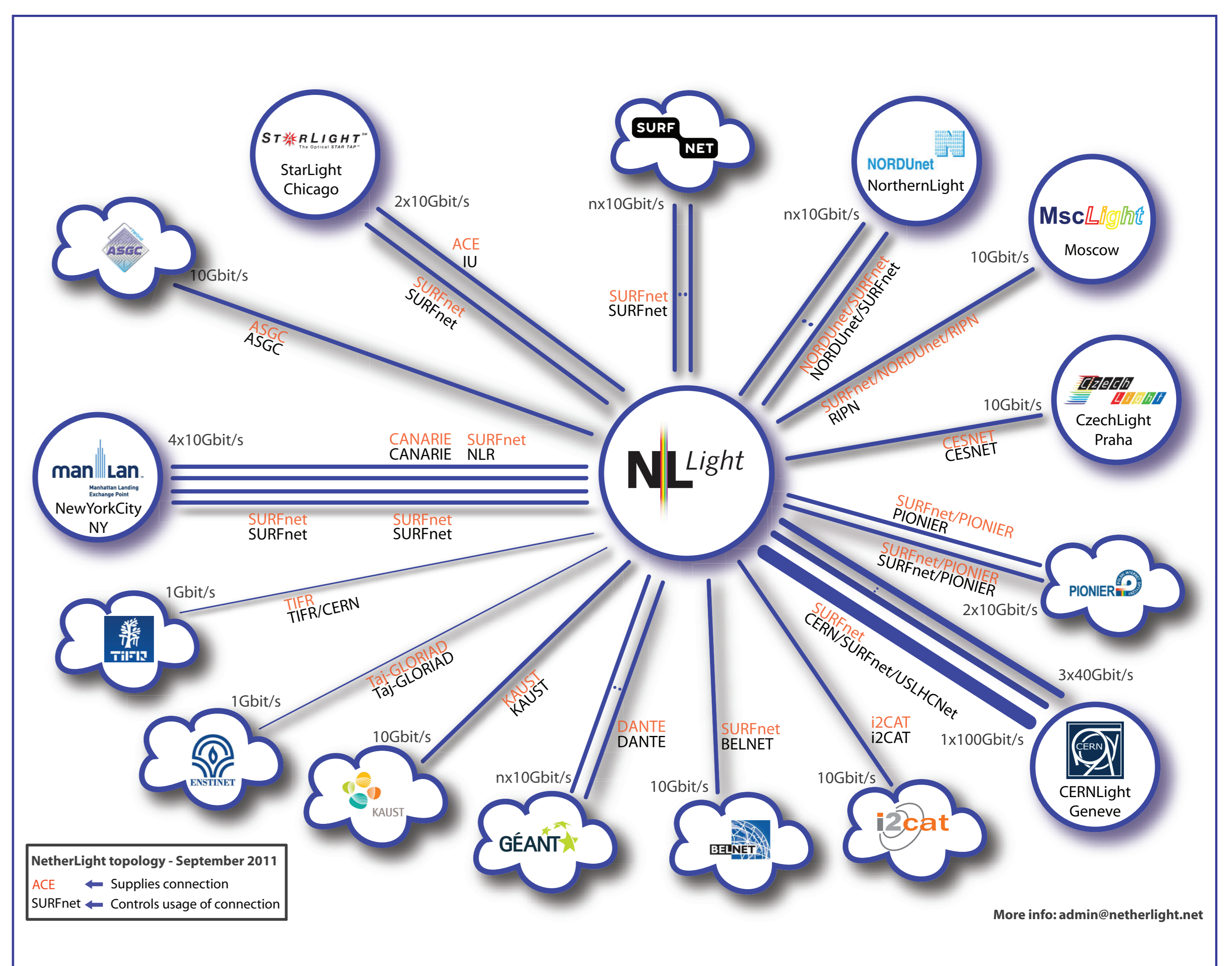
SURFnet has been working since 1988 to ensure that researchers, instructors, and students can work together simply and effectively with the aid of ICT. Therefore SURFnet promotes, develops, and operates a trusted, connecting ICT infrastructure that facilitates optimum use of the possibilities offered by ICT. SURFnet provides basic services and creates temporary state-of-the-art showcases and reliable innovative ICT services. It disseminates knowledge gained with institutions, companies, and international sister organisations. SURFnet is part of SURF, the Dutch higher education and research partnership for information and communication technology.

### SURFnet's two result areas

SURFnet focuses on two results areas: the hybrid end-to-end network that provides efficient, unlimited data transport and a pioneering collaboration environment that seamlessly integrates federated user identities with the services and tools provided by a large number of suppliers and institutions.

### Hybrid end-to-end network

The current network, SURFnet6, was the first hybrid network capable of handling traffic through routing as well as through optical technology. At present all institutions that are connected to SURFnet are linked to SURFnet6 by means of optical fibre. SURFnet6 directs various types of traffic flows via the same optical network without their getting in one another's way.



The GigaPort3 project is creating the new SURFnet7 network by deploying new technology within, and instead of the existing SURFnet6 network. Most importantly, a complete new Ethernet layer will be introduced into the infrastructure, based on Next Generation Ethernet (NGE) technology. New features and high bandwidths towards 100 Gbit/s and probably beyond will be tested and where feasible and needed introduced. At the same time, the project will deploy intelligent middleware solutions to provide flexible, on-demand services, not for network purposes only, but to all parts of the ICT infrastructure.

Back in 2002 SURFnet set up NetherLight, the open lightpath exchange node in Amsterdam, to link researchers worldwide with lightpaths - NetherLight is part of the GLIF (Global Lambda Integrated Facility) global collaboration.

### Pioneering collaboration environment

SURFconext is a next generation collaboration infrastructure that creates new opportunities to collaborate online, based on a combination of open source applications from different providers. SURFnet developed this infrastructure in 2009 and 2010, within the Collaboration Infrastructure innovation project, in participation with higher education and research and various (inter)national partners. SURFconext is a collaboration infrastructure which connects a number of building blocks for online collaboration. These building blocks are federated authentication (SURFfederatie), group management (SURFteams), social networks (e.g. LinkedIn) and cloud applications from various providers (e.g. Alfresco Share en Liferay Social Office). This infrastructure has been developed based on open standards. SURFconext has been developed for and in collaboration with the higher education and research in The Netherlands. For institutions, the launch of SURFconext offers an occasion to join forces and to draw a common strategy for online collaboration. At the same time it facilitates lightweight integration of self-hosted institutional services with (commercial) cloud services.

