

Faster connectivity between Asia and Europe for research and education

New sustainable 100 Gbps link is set to boost research and education collaboration between Asia Pacific region and Europe with shorter, faster, cheaper connectivity.

Tallinn, Estonia, 18 June 2019 – An international consortium of six research and education (R&E) networks, including AARNet (Australia), GÉANT (Europe), NORDUnet (European Nordics), SingAREN (Singapore), SURF (The Netherlands) and TEIN*CC (Asia-Pacific), today announced the launch of Collaboration Asia Europe-1 (CAE-1), a new high performing 100 gigabit per second (Gbps) link between Singapore and London for research and education.

This new link will provide additional capacity to meet the rapidly growing bandwidth needs of trans-national education and data-intensive science collaborations between Europe and the Asia Pacific region.

By working together, the consortium of six R&E networks, operating across 11 time zones, was able to procure far beyond what a single R&E network could procure across such a vast 13,000 kilometre distance.

Shorter, faster, cheaper

CAE-1 is a significant step forward to closing the high-speed connectivity gap between Asia and Europe, providing shorter, faster and cheaper connectivity for research and education.

The new CAE-1 100 Gbps link is routed via the Red Sea and Indian Ocean. This path between the two continents is more direct than the links routed via the North Atlantic Ocean, across North America and across the Pacific Ocean that have carried much of the R&E traffic to date.

A more direct and shorter route between Asia and Europe secures lower latency and reduced costs, two important factors in the race to meet customer demands due to increasing R&E traffic between the two continents.

Official launch at TNC19 – Europe’s largest R&E networking conference

During today’s official CAE-1 launch, the signing of the Consortium Agreement took place at the TNC19 Conference in Tallinn, Estonia.

After initial testing that began on 15 April, the link went into production in May 2019.

The Global Network Architecture

CAE-1 is closely connected to other intercontinental R&E network collaborations established recently, such as the ANA (Advanced North Atlantic Collaboration, a collaboration across the North Atlantic Ocean) and the APR (AsiaPacific Ring, a collaboration between Asia and the USA).

These initiatives are all implementations of the GNA (Global Network Architecture), an international effort to develop a set of global collaboration principles, on a technical level as well as in regards to sharing costs and aligning investments. The GNA has defined a reference architecture and created a roadmap for both national and regional R&E networks to seamlessly support bandwidth for research and education. These collaborative implementations are referred to as the GREN, the Global R&E Network.

QUOTES

Chris Hancock (CEO, AARNet) said:

“AARNet is excited to be leading the CAE-1 collaboration and working with our NREN colleagues to provide essential infrastructure for researchers and educators in our increasing globalised and data-intensive world. When CAE-1 is combined with AARNet’s new high-speed Indigo link from Sydney to Singapore via Perth, the extended path will provide powerful enabling connectivity between the Northern and Southern Hemispheres for advancing scientific research and world-leading bandwidth-intensive projects like the SKA Telescope.”

Erik Huizer (CEO, GÉANT) said:

“This is a novel collaboration between leading national and regional networking organisations in Europe and Asia which will give economies of scale for high capacity direct connectivity between our regions and improve the experience of researchers worldwide. GÉANT is proud to share in this initiative, and we know from our many years of partnerships in the Asia Pacific region that it will have a significant impact.”

René Buch (CEO, NORDUnet) said:

“The Collaboration Asia Europe-1 (CAE-1) Consortium achieved what no single NREN could accomplish. For NORDUnet, CAE-1 is a ground breaking step forward in building the Global Research & Education Network (GREN) Infrastructure, as it demonstrates the advantages of collaboration and the power of procuring together in consortia. The CAE-1 Project has paved the way for future collaborations by providing significant connectivity for our constituency at far less cost.”

Lawrence Wong (President, SingAREN) said:

“The CAE1 infrastructure represents a common vision and shared goal of national and regional R&E networks from the Asia-Pacific and Europe in collaborating to meet the connectivity needs of their R&E communities, facilitating collaboration across these countries and economies in a mutually beneficial and cost-effective manner.”

Erwin Bleumink (Member Executive Board SURF) said:

“SURF gladly joins forces with R&E networks around the world, to improve network connectivity to Asia. Collaborations such as CAE-1 show the power and impact that we can have as a community. We are looking forward to technological accomplishments and scientific discoveries that will be possible through this dedicated connection for research and education”.

Yong Hwan Chung (President, TEIN*CC) said:

“On behalf of TEIN community, TEIN*CC is pleased to join CAE-1 collaborating with global NRENs. CAE-1 is expected to strengthen the digital connectivity between Asia-Pacific and Europe, and to provide extensive collaboration opportunities, especially for the developing countries and economies. We also believe that the advanced technologies and researches through CAE-1 will contribute to the prosperity of Asia-Pacific and Europe, and benefit all society.”

THE CAE-1 CONSORTIUM

AARNet (Australia's Academic and Research Network) provides high capacity national and international telecommunications infrastructure and collaboration services for the nation's research and education sector, including universities, health and other research organisations, schools, vocational training providers and cultural institutions. AARNet serves over two million end users who access the network for teaching, learning and research. For more information, visit www.aarnet.edu.au.

GÉANT is Europe's leading collaboration on network and related infrastructure and services for the benefit of research and education, contributing to Europe's economic growth and competitiveness. The organisation develops, delivers and promotes advanced network and associated e-infrastructure services, and supports innovation and knowledge-sharing amongst its members, partners and the wider research and education networking community. For more information, visit www.geant.org

NORDUnet operates a world-class network and e-infrastructure service for the Nordic R&E community. NORDUnet is a collaboration between the National Research and Education Networks of the five Nordic countries; Denmark (DeIC), Iceland (RHnet), Norway (Uninett), Sweden (SUNET), and Finland (Funet). While the five NRENs develop and operate the national research network infrastructures, connecting more than 400 research & education institutions with more than 1.2 million users, NORDUnet provides global network connectivity, and is a key contributor to international partnerships such as GÉANT, GLIF, and GLORIAD. For more information, visit www.nordu.net

SingAREN (Singapore Advanced Research and Education Network) is Singapore's national research and education network. It is the sole provider of local and international networks and services dedicated for serving the Research and Education community in Singapore. SingAREN's members consist of the Institutions of Higher Learning, Research Organizations, Government and network industry players. SingAREN facilitates high-speed transfers of large datasets across international boundaries for scientific research, and enables advanced network technology demonstrations through its resilient international links and high-speed fiber network. SingAREN Open Exchange (SOE) interconnects Singapore's research and education community to the Research and Education Networks (RENs) in other countries in Asia, Australia, Europe and the U.S.A. For more information, visit www.singaren.net.sg

SURF is a cooperative association of Dutch educational and research institutions in which its members join forces. Together with the institutions, SURF ensures that the education and

research community has access to the finest and newest ICT facilities for top research and talent development. SURF does that by offering fast network connections and easy and secure access to ICT facilities. This allows users in the fields of education and research to work (inter)nationally and collaborate easily and reliably. For more information, visit www.surf.nl/en

TEIN*CC is a non-profit foundation for managing the Asi@Connect project, the EU's and 24 Asia-Pacific Partners' co-funded project. Asi@Connect provides a dedicated regional high capacity and high quality internet network, Trans-Eurasia Information Network (TEIN), for research and education (R&E) communities across Asia-Pacific and Europe, and leverages e-infrastructures developed for public service project. TEIN*CC actively collaborate with other regional R&E network organisations around the world to provide better opportunities for research and education to the TEIN community. For more information, visit www.tein.asia