



KENET Future-Proofs its Carrier Ethernet Network with Telco Systems Solutions

Telco Systems has been Kenya Education Network's (KENET) trusted network solution provider for nearly a decade. Carrying out multiple upgrades to cope with increased demand, Telco Systems and KENET partner to continuously improve the higher education environment in Kenya.

Network Connectivity and Higher Education in Kenya

As the National Research and Education Network (NREN) of Kenya, KENET provides a range of connectivity and managed services for educational and research institutions. Backed up by government funding, KENET must strategically choose its investments in order to achieve sustainable returns on investment.

The Kenya Education Network plays a key role in facilitating the country's higher education environment and presence in the international research scene. It does so by providing member institutions reliable, high-capacity connectivity and managed cloud services.

The challenge KENET has been facing over the past decade relates to the disproportionate increase in student enrollment compared to funding. The number of university students in Kenya increased from 67,500 in 2004 to 215,000 in 2012 and to 600,000 in 2018. This dramatic growth led to a corresponding surge in connectivity demands. KENET's upgraded network infrastructure continues to offer the necessary flexibility. The scalable and high-performance network enabled by Telco Systems' solutions is designed not only to handle peak demand but also to adapt to changing usage patterns—whether that means supporting rapid growth or adapting to temporary reductions in student numbers.



KENET offers the following services to member institutions:

- ✓ Fast and robust broadband.
- ✓ Interconnectivity between university networks.
- ✓ Managed hosting, storage, backup and disaster recovery.





Telco Systems has played a strategic role in the expansion of our network. We have developed trust and confidence in the company and its technologies.

Professor **Meoli Kashorda**, Executive Director of KENET

A Partnership Based on Quality and Trust

In order to consistently deliver their services under such demanding conditions, KENET requires reliable and high-performing infrastructure coupled with powerful management systems. Telco Systems has been KENET's key supplier for almost a decade. The company's have partnered to upgrade Kenet's network infrastructure, increasing the capacity from 1GE to 100GE, across multiple projects. In the initial project in 2013, Telco Systems originally supplied KENET's carrier Ethernet network, which was managed by the EdgeGenie Orchestrator service provisioning management system. Telco Systems carried out a network expansion upgrade in 2016, installing IP/MPLS technologies as part of KENET's 10GE solution.

Telco System's 100GE Solution

To future-proof KENET's network capacity for years to come, Telco Systems deployed their flagship T-Metro 8100 service aggregation platform and cloud gateway. The high-density, standalone Carrier Ethernet platform facilitates a network capacity of 100Gbps. With the T-Metro 8100, new capabilities added by installing different blades. The platform is designed to evolve with carriers' needs and help them expand their services in accordance to their business strategy.

Migration Services

To ensure that the upgrade has minimal impact over the network operations, Telco Systems has provided KENET with professional migration services. The Professional Services team conducted a rigorous analysis of the customer's existing network configuration in order to integrate the new systems without disruptions. Upon completion, the Professional Services Team conducted system acceptance testing to ensure functionality with no performance degradation.

Results

The 100GE core network capacity enables KENET to meet its members' data consumption and interconnectivity to other NRENs across the globe. As new institutions are regularly being established in Kenya, KENET is now ready to expand its network to connect additional facilities. KENET can now also offer additional advanced services to its growing community.



T-Metro 8100 provides carrier Ethernet 2.0, MPLS, IP (Layer 3) and SDN capabilities. The platform offers massive service scalability and carrier class resiliency with features such a QoS, SLA management and OAM. These are all critical aspects for CSPs such as KENET



T-Metro 8104 is an essential part of 100GE MPLS Cloud-Based Service Solutions. The multipurpose, ultra-high capacity 1.2Tb service aggregation platform and cloud gateway provides MPLS, Layer 3, and SDN (Netconf).