Empowering Networks

SOLUTION BRIEF

Ekinops' ONE-5G Enables Service Providers to Rapidly Deploy 5G Fixed Wireless Access Managed Services

FWA adoption challenges

Adopting wireless access as a primary link

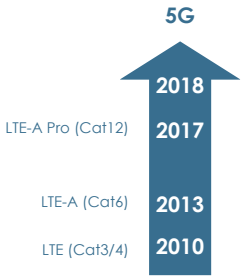
Increased numbers of connected hosts, new applications, high definition content, shared workspace, cloud backup and unified communications have made optical fibre communication the key technology for delivering business services in the future.

However, while eventually this will accelerate the replacement of traditional copper networks it will be some considerable time before access to a full optical fibre infrastructure is available particularly in remote, low population areas.

This means that there will be a long term need for a complementary technology to enable the delivery of new high speed business services in those areas that optical fibre access has yet to reach or where a temporary connection might be needed that does not justify a permanent fibre deployment.

Getting more bandwidth

Advances in wireless radio technology including Upper LTE category 12 to 18 (up to 1 Gb/s) and 5G now provides a genuine alternative to optical fibre communications capable of supporting high bandwidth and low latency performance. This makes 5G the real enabler of Fixed Wireless Access for the delivery of high speed business services.



ONE-5G the EKINOPS FWA solution

The EKINOPS' range of business access solutions have had an integrated 3G and 4G interface as a standard feature for several generations.

The ONE-5G now includes the latest LTE high category and 5G connectivity to provide a high performance FWA platform for service providers.

The ONE-5G uses a 4G connection in non 5G covered areas that can switch to the 5G network once one becomes available. Initially deployed in non-stand-alone (NSA) mode the ONE-5G can migrate seamlessly to stand-alone (SA) mode in line with 5G core migration roll-out or it can be connected directly to a 5G core in SA mode where 5G access is already available.

- Carrier-grade hardware reliability
- Combines dual fiber and 5G for hybrid access and service continuity
- Lowest power consumption
- Compact and fanless design
- Industry-standard CLI and NETCONF
- Flexible licensing options designed for VPN Business and SD-WAN services

Combined with the OneOS6 rich feature set the ONE-5G enables service providers to rapidly roll-out high performances managed services whether deployed as a fixed wireless access point or in a hybrid WAN configuration.

A solution dedicated for delivery of enterprise services

The ONE-5G has been purpose designed for the delivery of high-performance business services to enterprises.

The richness of functionality included in OneOS6 makes it possible to deliver a diverse and complex range of customized managed services.

ONE-5G for Managed Business Services

ONE-5G and OneOS6 enables easy commissioning and monitoring to guarantee SLAs to the end customer.

Zero touch provisioning

Remotely managed, the ONE-5G is easy to set up and configure without the need for on-site engineer visits.

The OneOS6 operating system guarantees a zero-touch installation procedure, which allows an efficient method of deployment to meet the customers' contractually-defined installation times.

Carrier class monitoring and trouble shooting

The ONE-5G supports SNMP, CWMP and NETCONF standard network management protocols together with a comprehensive set of de-bug functions to enable easy reomote monitoring and troubleshooting after installation.

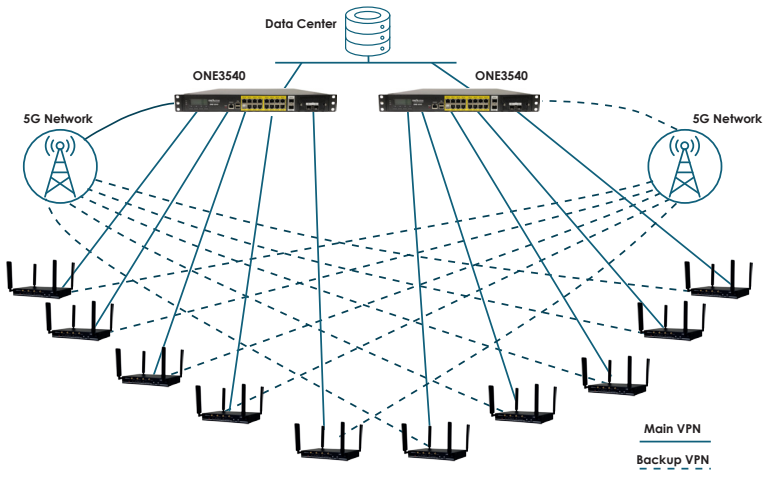
ONE-5G for enterprise VPN networks

The ONE-5G is part of the EKINOPS VPN solution.

ONE-5G can be used as a remote site in redundant hub and spoke topology

Each remote site has 2 static IPsec tunnels:

The primary tunnel utilizes optical fiber connectivity with a 5G secondary backup tunnel in case of local loop failure to the central router.



ONE-5G as part of SD-WAN deployment

SD-WAN

The ONE-5G is part of the Ekinops SD-WAN Home Office Connect solution which provides highly performant and secured connectivity for remote workers at home or anywhere with broadband access. It guarantees key enterprise employees secure access through LTE networks to corporate data/applications, without any impact from other home users who may be sharing the connection.

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Edge computing for verticals applications

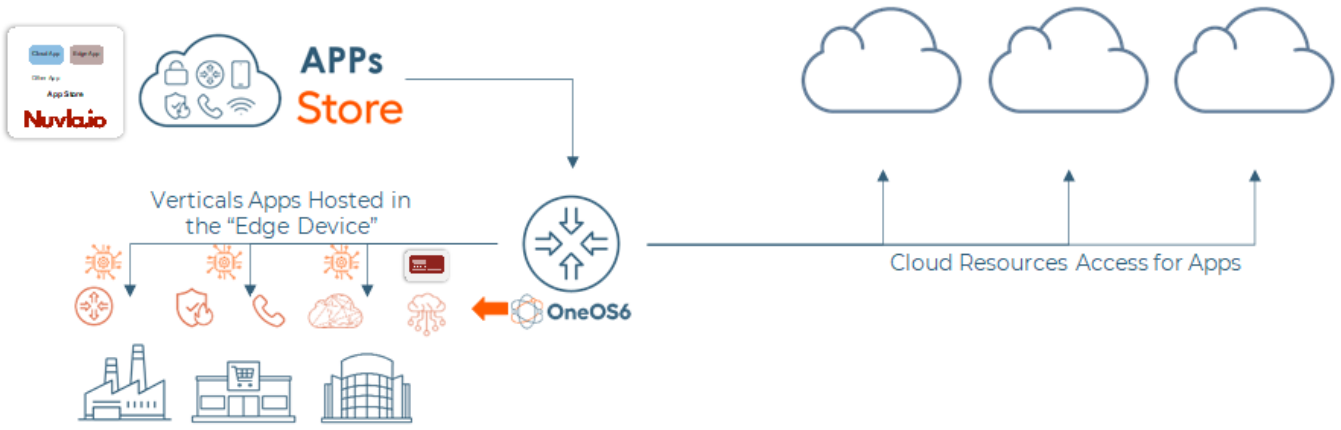
Cloud Adoption as a result of enterprise digitalization is morphing the "Edge" profile.

Far Edge Computing enter the game in complement of Cloud Computing.

This is bringing three benefits:

- Some applications require ultra low latency that cannot be achieved with cloud processing,
- Some end users want to keep confidentiality by having their application running on site,
- And last but not least cloud connectivity and storage have OPEX that may become huge. Edge computing brings significant savings.

EKINOPS 5G solution brings value to the branch edge by offering a container support in 5G FWA CPE associated to the NuvlaIO market place.



Future proof for Slicing and Network Exposure

The ONE-5G offers a future proof investment for operators and an opportunity to leverage their 5G networks to provide customers with an end-to-end infrastructure capable of addressing a wide variety of business use cases. By making high performance network capability easily available the ONE-5G provides a platform for the development of innovative business services for customers and partners.

Agile deployment with ONE-5G

FWA is a low cost and complementary alternative to optical fibre connectivity enabling operators to expand their broadband offering without costly truck roll as well as addressing multiple use cases beyond a pure FWA installation.

High speed connection for temporary location

Special events or exhibitions often need to have access to a high-speed network to ensure reliable delivery of multimedia content or perhaps to provide the latest AR or VR experience but may be located in areas lacking optical fibre access. The Ekinops' ONE-5G provides unrivalled FWA connectivity capable of delivering the essential high speed and low latency service that is required.

Immediate service waiting fibre deployment

Setting up a fibre connection can in some cases take weeks or even months to install. ONE-5G offers service providers an easy and rapidly deployable interim solution that can give customers immediate fibre-like performance, starting from day one, to deliver high speed managed services until a fibre connection can be commissioned. In addition the radio link also provides a future new revenue opportunity for service providers through acting as an additional backup link or enabling deployment of a hybrid WAN service.

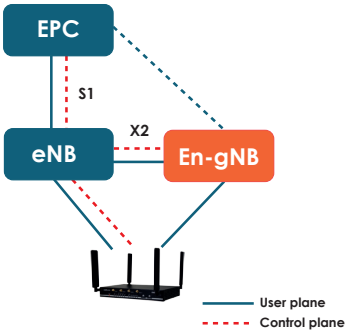
For NSA and SA networks

The ONE-5G supports a range of 5G network deployments.

Non Stand Alone (NSA) mode

NSA uses the dual connection (EN-DC) to LTE and 5G radio access networks to deliver the service and data rates in a predominantly 4G network.

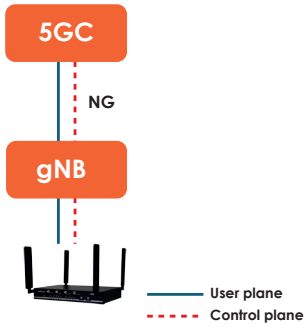
Connection through eNB can be using one or more frequencies (LTE carrier aggregation) or En-gNB where only one frequency band is used. This enables the operator to progressively introduce 5G technologies, known as architecture option 3 by the technical standards specification group 3GPP (The 3rd Generation Partnership Project).



Stand Alone (SA)mode

SA, known as architecture option 2 by 3GPP.

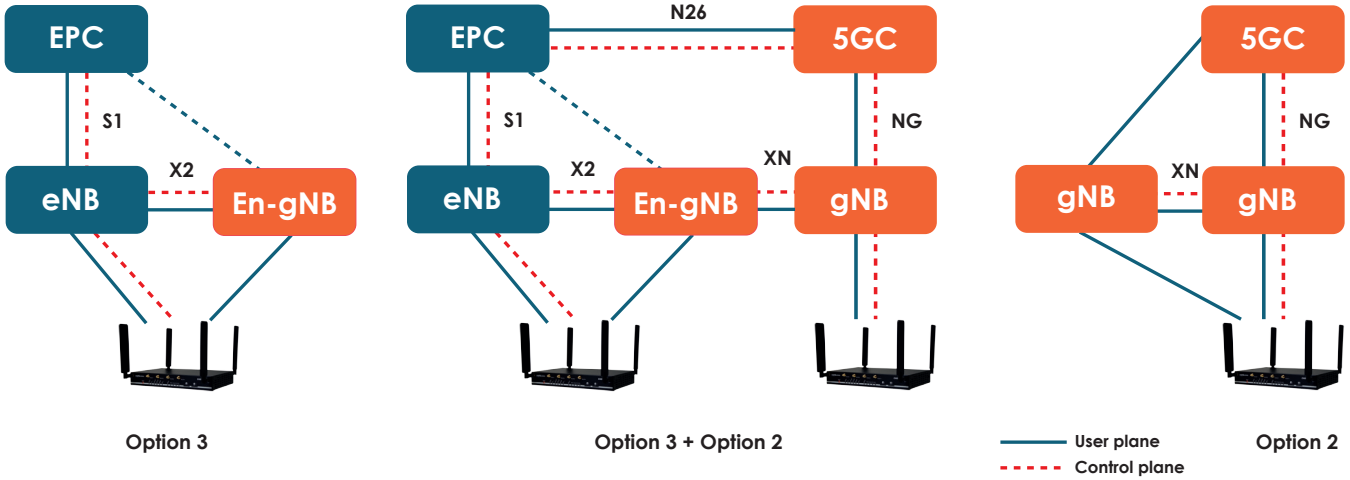
Some operators (Green field Mobile operators or private networks) will start by deploying an end-to-end 5G network (Radio access network + 5G core).



From NSA to SA

For operators starting in NSA mode the natural evolution is to switch to a complete 5G network over time. That will be enable network slicing and network exposure to provide an innovative solution for a variety of use cases.

This migration will take some time to reach full 5G core nationwide and so it is likely there will be co-existence of both NSA and SA during the evolution period.



ONE-5G for easy installation

The ONE-5G comes with 4 in1 Penta band antennas allowing connection across the entire LTE/5G radio spectrum.

In cases where the wireless router is located in an area in which the signal strength is too low a set of remote antennas can be used with the ONE-5G.

These can be mounted outside of the rack or outdoor, connected through low loss coaxial cables.

High performance in a compact form factor

Low power consumption is a tangible business benefit that service providers can leverage with their enterprise end-customers.

The ONE-5G comes in a small and compact form factor with an excellent performance/consumption ratio.

The ONE-5G is fan-less for a longer lifetime and has a typical power consumption less than 20 Watts for a 1 Gb/s bandwidth when operating intensive business services.

The EKINOPS solution

- Designed for enterprise FWA over High cat LTE or 5G

- Boosting wireless Backup with High cat LTE or 5G on mid-range router

Related documentation

- ONE-5G datasheet
- ONE2560 datasheet
- ONE2561 datasheet
- Remote antennas datasheet

About Ekinops

Ekinops is a leading provider of open and fully interoperable Layer 1, 2 and 3 solutions to service providers around the world. Our programmable and highly scalable solutions enable the fast, flexible and cost-effective deployment of new services for both high-speed, high-capacity optical transport networks and virtualization-enabled managed enterprise services

Our product portfolio consists of three highly complementary product and service sets: Ekinops360, OneAccess and Compose.

- Ekinops360 provides optical transport solutions for metro, regional and long-distance networks with WDM for high-capacity point-to-point, ring and optical mesh architectures, and OTN for improved bandwidth utilization and efficient multi-service aggregation.
- OneAccess offers a wide choice of physical and virtualized deployment options for Layer 2 and Layer 3 access network functions.
- Compose supports service providers in making their networks software-defined with a variety of software management tools and services, including the scalable SD-WAN Xpress.

As service providers embrace SDN and NFV deployment models, Ekinops enables future-proofed deployment today, enabling operators to seamlessly migrate to an open, virtualized delivery model at a time of their choosing.

A global organization, with operations in 4 continents; Ekinops (EKI) - a public company traded on the Euronext Paris exchange - is headquartered in Lannion, France, and Ekinops Corp., a wholly-owned subsidiary, is incorporated in the USA.

EKINOPS360 Dynamic Optical Transport

COMPOSE

ONEACCESS Fast Network Virtualization

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