



NetOS Rapide[™] is used to provide full visibility and control of multi-technology, multi-vendor networks for a major urban construction site. NetOS Rapide[™] provides:

- **Multi-technology, Multi-vendor network control** – Ability to create multiple network slices across multiple fixed and wireless technologies providing optimised sub-networks for multiple user groups.
- **Pre-configured Network Profiles** – Standard user profiles can be created, defined and stored for repeated usage allowing pre-planning and reducing time on-site.
- **Full Network Visibility** – Network infrastructure and services can be monitored locally or remotely to enable fault finding, diagnosis and resolution through a “single pane of glass”.

CONTROLLING MULTI-TECHNOLOGY, MULTI-VENDOR TEMPORARY NETWORKS FOR THE CONSTRUCTION INDUSTRY, WITH NetOS Rapide[™]



Scenario

Modern construction sites are complex and potentially dangerous places, and require efficient and effective communication systems to support the diverse needs of multiple end-users. Construction sites for office buildings, housing estates, light-industry, retail parks and campuses can be in place for many months. Large infrastructure projects such as transportation hubs, power stations and major urban redevelopment projects are typically multi-year projects. These projects all require connectivity to support logistical systems, personnel tracking and access control, security, sensor systems and public Internet access.

Temporary or “pop-up” networks are deployed in the early stages of the construction project and typically remain in place until the project is completed and handed over. Different systems require different networks which are typically managed as separate entities. The site operators may offer site-wide WiFi for operational and logistical systems. Security staff and vehicles may use push-to-talk (PTT) systems. High value assets such as plant and heavy machinery may use GPS-based security tracking. Sensors for security or environmental monitoring may use Internet-of-Things (IoT) wireless technologies to transmit data. Employees and contractors need connectivity to submit timesheets, book time off and even for social media. Scenarios may change daily.

NetOS Rapide™ enables the site owners to deploy temporary networks rapidly with simplified configuration and control, reducing the OPEX of these networks. The ability to manage networks from multiple equipment suppliers provides flexibility and enables equipment re-use, reducing the CAPEX to deploy them.



Power Station Construction Project example

The government has initiated a new nuclear power station project to replace the ageing coal fired power stations in use today. The project is scheduled to last for 10 years from breaking ground to commissioning of the power station. At its peak this will be the largest construction project in the country utilising thousands of tonnes of concrete.

The temporary site offices house hundreds of staff – engineers, surveyors and administration teams requiring reliable fixed connectivity for the duration of the project to support the IT needs of the workforce.

Because of environmental concerns and potential protests, the project has a large security force who need “walky-talky” radios and personnel tracking systems.

Environmental concerns about air-quality during the peak of construction, and the potential impact on the inhabitants of the nearest village have required a string of air-quality sensors to be deployed.

NetOS Rapide™ supports the fast deployment of temporary networks, but also provides a simple system to configure, control and maintain the networks for months or even years. The ability to manage diverse, multi-technology networks and vendor equipment types through a single platform hugely reduces the operational costs of setting up and running this type of temporary network.

NetOS Rapide™ allows automatic management and control of the network to optimise performance of the networks, ensuring the security network is always prioritised, lone-working staff are tracked in the operations centre and the organisation is able to meet its legal “duty-of-care” obligations.

DESIGNATED USERS (NETWORK SLICES)	PERFORMANCE CRITERIA
Office and Admin	High bandwidth, reliable fixed connectivity with redundant external connectivity (backhaul) to support several hundred office-based workers.
Logistics & Security	High priority voice communications for private security staff and connectivity for logistics systems.
Pollutio Sensors	NB-IoT Air pollution monitors require low-bandwidth, ubiquitous connectivity.

What is NetOS Rapide™?

NetOS Rapide™ is an advanced software-defined network controller (SDN-C) with a suite of tools optimised to support the deployment of temporary or “pop-up” networks.

NetOS Rapide-In-A-Box is a fully configured hardware and software solution for temporary networks. In addition to Zeetta Networks’ market-leading software, NetOS®, the solution includes hardware such as WiFi Access Points and LTE small cells.

The hardware form factor can be varied according to the environment or customer preferences. NetOS Rapide™ is vendor agnostic and easily manages “mixed” vendor environments.



Network Slicing

NetOS Rapide™ enables Network Slicing, the dynamic reallocation of network resources for the creation of virtual sub-networks each with its own sets of rules, parameters and quality-of-service (QoS) definitions. The sub-networks are known as network slices, and each slice is a separate logical entity that runs over a common set of physical multi-technology networks.

Network Splicing®

NetOS Rapide™ also enables Network Splicing®, which is the ability to create a seamless logical connectivity network between different networks, network technologies and vendors. Network Splicing® is the (virtual) combination of different physical connectivity networks to create a service centric composite.

Summary

Software Defined Networking (SDN) used for Construction

NetOS Rapide™ provides rapid, simple configuration and control of the multiple Fixed and Wireless networks as a composite “spliced” network. This can then be sliced to meet the needs of the key designated user groups.

For construction companies NetOS Rapide allows them to rapidly deploy and configure complex networks that can be sliced to meet the diverse

needs of the key designated user groups. At the end of the project the network can be reused allowing the construction company to extend the life-time of their CAPEX. NetOS Rapide™ reduces the overall operational cost of running and maintaining the network while having an effective security and logistics network that saves money through efficient operations.



For further information, please see www.zeetta.com or email us at info@zeetta.com.

Zeetta Networks, 1 Friary, Bristol BS1 6EA, UK | Tel +44 (0)117 344 5304 | Email info@zeetta.com | www.zeetta.com