Zeetta NETWORKS

NetOS™ Rapide
ENABLING INSTANT NETWORKS

USE CASE

CREATING AND CONTROLLING TAILORED **MULTI-TECHNOLOGY NETWORKS** FOR TEMPORARY EVENTS, WITH **NetOS Rapide™**

NetOS Rapide™ is used to create and control a temporary or "pop-up" network for a major music festival – allowing the organisers to configure, prioritise and monetise their network with tailored connectivity for different users. NetOS Rapide™ provides:

- **Full Network Visibility** – Network infrastructure and services can be monitored locally or remotely to enable fault finding, diagnosis and resolution.
- **Pre-configured Network Profiles** – Standard user profiles can be created, defined and stored for repeated usage, allowing pre-planning and reducing time on-site.
- **Local operation and resiliency** – If external connectivity is lost the network can continue to deliver essential local services for the event such as public safety radio systems and vital operational control systems.

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Scenario

Major planned outdoor events such as music festivals, out-of-stadium sports events and others require communications networks which allow vital services, revenue generating services and public utility services to run effectively.

Today, many of these services are cabled, some are wireless, and event organisers are unable to view, prioritise, control and fault find easily.

NetOS Rapide™ allows events organisers to create high reliability, prioritised network slices for critical operations such as lighting, sound and broadcast systems that underpin the event. This is vital when, for example, an organiser would be liable to fines if a broadcast service were interrupted or failed during deployment.

Separate security communications network slices can be created for security staff to use push-to-talk (PTT) and Voice-Over-WiFi (VoWiFi) services that can still work locally if external backhaul connectivity is lost.

Dedicated retail slices can be created with prioritised access to the internet, to enable card and phone payments to be taken.

Finally, a network slice for the general public can be created to support voice, social media and application connectivity, but at a lower priority to avoid interference with critical operations, security and retail services.

NetOS Rapide™ reduces the deployment time and complexity of these networks, reducing operational costs as well as improving the ability to reliably deliver the event.

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Outdoor Event Example

A major 4-day music festival in a rural setting needs to provide reliable fixed and wireless communications for tens of thousands of people. The temporary nature of the multiple networks deployed today decreases reliability and makes fault-finding and resolution very time consuming. Deploying, testing, managing and repairing the various separate networks is a major cost for the event organisers. Lack of a single "pane-of-glass" in operations means that the various networks sometimes interfere with each other – creating frustrating and difficult-to-resolve intermittent faults.

With NetOS Rapide™ deployed at an outdoor event, the organisers are able to see all of the disparate fixed and wireless networks and a single "spliced" network which can be sliced to address the individual requirements of key designated users.

The management and monitoring of the network can be carried out on-site or remotely, minimising the number of staff on-site. If external access to the internet or cloud is degraded, NetOS Rapide™ allows critical services to be delivered with guaranteed bandwidth.

DESIGNATED USERS (NETWORK SLICES)	PERFORMANCE CRITERIA
Event Operations	Highest priority – supports sound, light, power control and media centre connectivity.
Security	High priority voice communications. Ability to maintain local communications in the event of a loss of external connectivity (backhaul).
Retail	Every retail outlet and concession pays the organisers for access. The network supports prioritised traffic for electronic point-of-sale systems.
General Public	This slice provides best-effort external connectivity to allow VoWiFi, Social Media and Payments. The high volume and nature of traffic (e.g. video uploads to social media etc.) means it has the potential to interfere with the other users if not segregated and de-prioritised by NetOS Rapide™.

Flooding

Flooding on site degrades the fixed MPLS connection provided by the local PTT for the duration of the event.

NetOS Rapide™ is able to provide guaranteed bandwidth using satellite communications to maintain the delivery of the live broadcast. While satellite is an expensive alternative, the fines and loss of revenue for the event going off-air make this a cost-effective option for the most important traffic.

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.

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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 at a Temporary Event

NetOS Rapide™ provides full network visibility, control and management of the multiple Fixed (LAN) and Wireless (WiFi, Bluetooth, LTE and 5G) as a composite "spliced" network. This can then be sliced to meet the needs of the key designated user groups.

This enables event organisers to deploy and control their network within a few hours – rather than days or weeks. They can visualise the composite network as a single entity and understand the limitations and faults as they arise, and this reduces the need for onsite back-ups and redundant systems.

The network can be pre-configured off-site with standard or commonly used location and network service profiles that deliver specific service capabilities, saving hours of configuration and set-up time.

Finally, because the NetOS Rapide™ system is locally deployed on site, in the event of the loss of external connectivity, critical local services such as communications for security staff and stage lighting are unaffected.

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

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