



## OSTV Network Management System

OSTV Network Management System (NMS) is an integrated platform designed to deploy large scale *Virtual Radio Access Networks* (VRAN) based on Amarisoft LTE/NR stack. It is based on SlapOS open source edge computing platform that has been deployed successfully since 2009 in companies such as Airbus, Mitsubishi, SANEF, Kyorin, etc.

### VRAN Lifecycle Management

The core function of OSTV NMS is to provision and monitor a complete *Virtual Radio Access Network* across tens of thousands of geographical sites. This includes automated setup of autonomous base station, automated provisioning of eNodeB, automated software upgrade, interfacing to central core network, automated packet routing, network health monitoring, predictive maintenance, subscriber database management, accounting and billing. All NMS functions can be accessed through a central dashboard based on a geographical map with alarms that turn from green (OK) to orange (incident prediction) and red (incident).

### Key Benefits

- Automated provisioning
- 5G/4G VRAN configuration
- Edge acceleration
- IoT data collection
- Resilient backhaul
- Central core network interface
- Local core network
- Base station management
- Network monitoring
- Accounting and billing
- Predictive maintenance
- Subscriber management
- Big Data Analysis
- Open Source

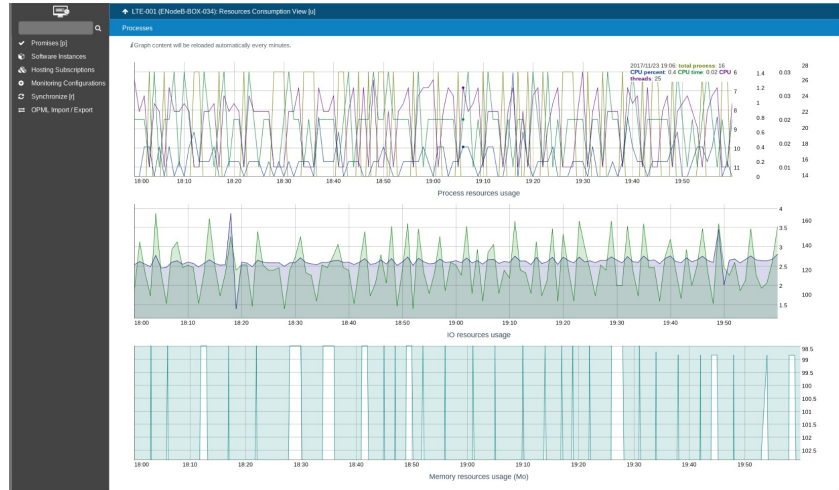
Site	Reference	Region	Status
BORDEAUX-OFFICE1	SITE-11		Computer Partitions
BREST-ANT1	SITE-6		Computer Partitions
LILLE-ANT1	SITE-7		Computer Partitions
NICE-SITE1	SITE-10		Computer Partitions
PARIS-ANT1	SITE-9		Computer Partitions

Site	Reference	Status
Planned Replacement of Power Supply on LTEDOX-001	SR-484	Opened
Network slow on PARIS-ANT1	SR-485	Opened

### Issue Tracking Workflow

Each time an alarm turns orange or red, or whenever a subscriber complains, OSTV NMS generates a ticket and initiates a workflow to track the issue through its different states until it is resolved. Network management staff analyses and identifies the issue through graphical monitoring tools that let them dig into possible causes. Each resolved issue is categorised and feeds machine learning (A.I.) models that provide predictive notification to prevent similar issue to happen again in the future.

5G Low Latency at the Edge



## 5G Low Latency at the Edge

OSTV NMS already supports ultra low latency deployment typical of future 5G networks by deploying an optional local core network on each base station, next to the eNodeB. OSTV NMS nodes can form a completely decentralised hybrid mesh network. IPv6 based latency optimised routing algorithm powered by babel protocol (RFC 6126) ensures fastest possible eNodeB to eNodeB communication without having to route packets through a central office and distances over thousands kilometres.

## CDN and IoT gateway

OSTV NMS can automatically provision each base station with all kinds of value added networking services. A Content Delivery Network (CDN) can be deployed to accelerate https/QUIC protocols and reduce latency. An IoT gateway can be deployed to buffer data sent through MQTT protocol by nearby NB-IoT compatible device. A local subscriber database can be deployed to ensure resilient network operation in case of disaster.

## SDK + REST API

A Software Development Kit (SDK) is provided with OSTV NMS platform to let telecommunication companies develop their own value added services, custom monitoring or custom radio deployment. OSTV NMS also provides a complete REST API to remotely control any of its features and simplify system integration.



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