

Network Management as a Service

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Why do we need Network Management as a Service (NMaaS)?

- Today's networks are complex
 - Heterogeneous network infrastructures
 - Increasing number of value added services and features
 - Services are becoming mission critical
- The **cost and complexity** of developing and integrating in-house network management may be too high for many NRENs and Institutions
- Out-of-the-box solutions might not be suitable and might be costly
- NMaaS aims to support the users by providing an **effective, efficient** network and service management **platform**



What NMaaS offers?

- NMaaS simplifies intra-domain network management by providing the infrastructure and tools via a **cloud-based**, network management system.
- It enables management and monitoring of client networks through **on-demand deployment** of network management tools in the cloud infrastructure.
- Using a **multi-tenant** approach, each NREN or Institution has **private access** to their NMaaS instance in a highly available cloud-based platform.

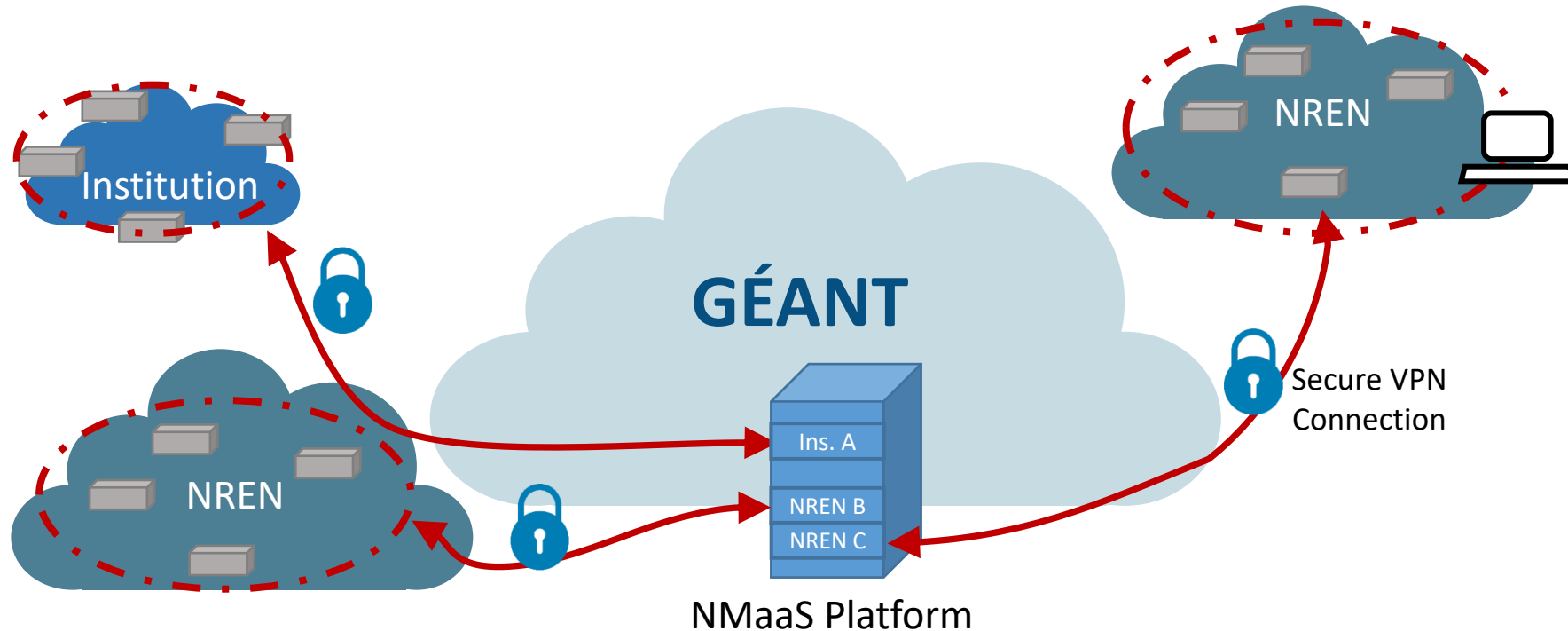


Who is NMaaS for?

- Small and Emerging NRENs
 - Smaller NRENs may have **limited resources** to develop their own network management systems
 - By using a **shared and supported platform**, NRENs can focus on the monitoring and management of their service components
- Campuses
 - Suitable for Campus network management
- Small Organisations
 - NMaaS is ideally suited to support the needs of institutional users
 - Either on an NREN managed NMaaS platform or on a centralised GÉANT platform
- Distributed research projects
 - By using a managed platform, these projects can focus on their core research and development activities.



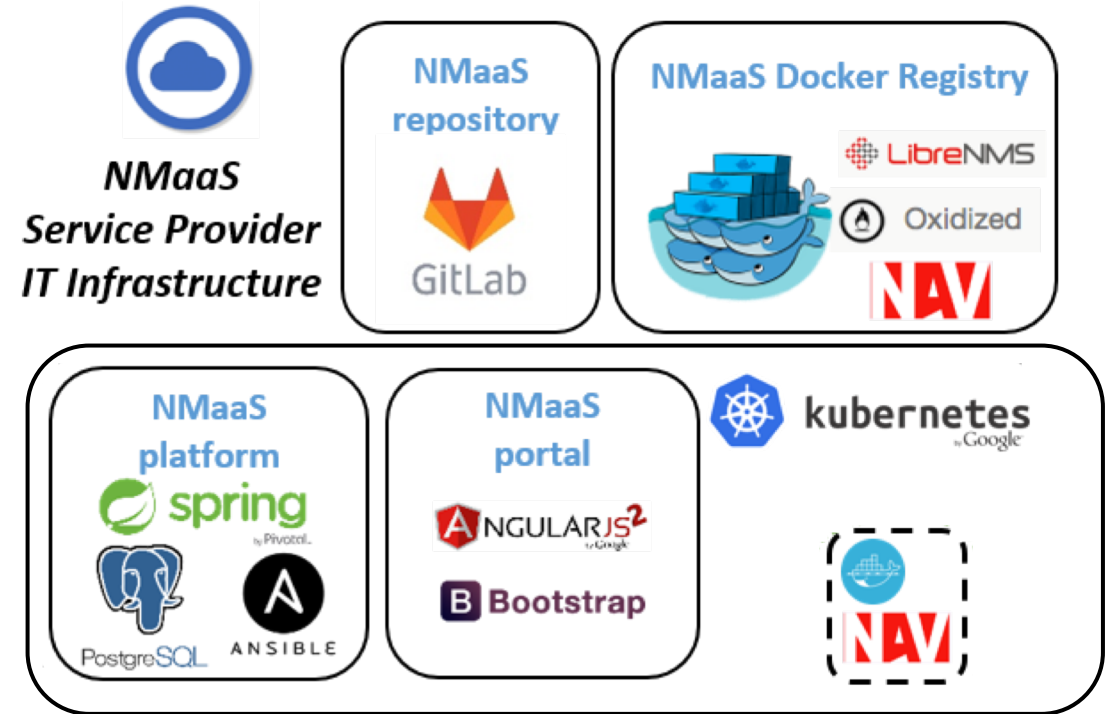
NMaaS – How it works



- NMaaS uses a secure shared cloud platform
- Each user is a part of NMaaS domain (corresponding to NREN or Institution)
- Separate cloud environment is set up for each user and reachable over dedicated VPN
- Users have a web portal view of their own service instance

NMaaS Architecture

- Consists of
 - NMaaS Platform
 - NMaaS Web-based user front-end
 - NMaaS application market place
- Leverages third-party software
- Goals:
 - Easy to install and use
 - Easy extendable with more tools



NMaaS Tools

- Tools portfolio available via NMaaS application market place
- NMaaS provides a range of **containerized tools** to support network management needs
- Users can select the tools required for their purposes and created a **customised toolset** tailored for their network

Current NMaaS Tools Portfolio



Oxidized

- **Oxidized** - Oxidized is a simple open-source device configuration backup tool exposing a web-based GUI



LibreNMS

- **LibreNMS** - LibreNMS is an auto-discovering PHP/MySQL/SNMP based network monitoring system which includes support for a wide range of network hardware and operating systems



- **NAV** - Network Administration Visualized (NAV) is an advanced software suite to monitor large computer networks. It automatically discovers network topology, monitors network load and outages, and can send alerts on network events by e-mail and SMS.

- **OpenNTI** - Open Network Telemetry Collector (OpenNTI) is an open-source container packaged with all tools needed to collect and visualise time series data from network devices.

NMaaS – Key Benefits



**PLUG AND
PLAY**

- Cloud based platform reduces start-up costs and management overhead



PRIVATE

- Each management instance is separated within the platform by design to maintain isolation
- Allows institutions and projects to manage separate infrastructure



SECURE

- Uses VPN technology to incorporate management platform instance into network instance

How will NMaaS be implemented?

Option 1 Per NREN implementation

Each participating NREN offers a platform for their participating institutions

GÉANT Project co-ordinates development and standards



Option 2 GÉANT implementation

GÉANT offers a centralised platform for participating NRENs and/or their institutions (“white labelled”)

GÉANT Project co-ordinates development and standards

Find out more

- Contact us

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Thank you

Any questions?

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