Network Management as a Service (NMaaS)

NMaaS concept, architecture and deployment

Łukasz Łopatowski
GN4-3 WP6T3 – NMaaS Team Leader

GÉANT Network Management as a Service (NMaaS)
Infoshare
November 25th 2020

www.geant.org
How NMaaS works?

Shared **cloud platform** managed by the GÉANT Project

Each user gets an **isolated** tenant environment connected over a **VPN** to his network

Tool deployment and access via a **web portal**
NMaaS solution

Goals

• Easy to install and use
• Easily extendable with more tools
• Federated login edugain
NMaaS solution

Software components
• NMaaS Platform
  • Domain and user management
  • Tool deployment process orchestration
• NMaaS Portal
  • Web-based user front-end

Tools (packaged applications)
• Docker images
• Helm charts

Infrastructure
• Kubernetes
• VPN
• Networking
NMaaS tool deployment process
NMaaS tool deployment process

Custom instance name
Version selection
Domain indication
NMaaS tool deployment process

1. **Login**
   - Username
   - Password
   - Register
   - Login
   - Forgotten login

2. **Deploy new instance of Icinga2**
   - Instance name: icing-demo
   - Select version: 2.11.4
   - Domain: Customer 1

3. **Installation progress**
   - Subscription validation
   - Environment creation

4. **Access methods to the application**
   - **External access options**
     - **Service name**: Icinga
       - **Access the application**
     - **Service name**: api
       - **Access method**: API: 10.2.128.23
   - **Internal access options**

5. **View application access methods**
6. **Add members**
7. **Undeploy**
8. **App container deployment**
9. **App running**
10. **Configuration**
    - Detailed field descriptions are available at NMaaS Tools Page.
    - Default web admin user: lepant@nmaaS.eu
    - Default web admin password: 
    - Allocated configuration directory storage (GB): 10Gi
    - Allocated SQL database storage (GB): 10Gi

www.geant.org
NMaaS tool deployment process

1. Login
   - Username
   - Password
   - Register

2. Deploy new instance of Icinga2
   - Instance name: icing-demo
   - Select version: 2.11.4
   - Domain: Customer 1

3. Installation progress
   - 1: Subscription validation
   - 2: Environment creation

4. Access methods to the application
   - External access options
     - Service name: Icinga
       - Access the application
     - Internal access options
       - Service name: api
         - Access method: API: 10.2.128.23

5. View application access methods
6. Update configuration
7. App container deployment
8. App running

Details of field descriptions are available at NMaaS Tool Page.
NMaaS tool deployment process
NMaaS tool instance access

https:// icing-demo.c1.psnc2.dev.nmaas.eu

Deploy new instance of icinga2

Instance name
icing-demo

Select version
2.11.4

Domain: Customer 1

Close  Deploy

base domain name
NMaaS tool instance configuration process

- Dedicated **git repository** created for tool instance
- Configuration files **populated with custom data** entered by the user
- SSH key based user access to clone, commit and push configuration changes
- **Automated tool configuration reload** triggered by push action (depends on the tool)
Thank you

Any questions?

www.geant.org