

# SPA platform - OAV-based service management

## Update

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# Service Provider Architecture and Platform



**SPA** is a modular blueprint guide for designers and developers that want to build a next generation service management platform by integrating functionalities in a flexible and uniform way.

**SPA platform** is the implementation of the SPA to manage network services in the GÉANT and NREN network infrastructures.

# Service Provider Architecture (SPA)



Design a LEGO type of service architecture



Support the service lifecycle of all network services within the service provider



Use automation wherever possible



Orchestration for complex workflows



Common information model



TMF Framework compliant

# SPA Platform Principles



Loose coupling - microservices

Modular components



Well-defined REST API for each component

[TMF Open APIs](#)

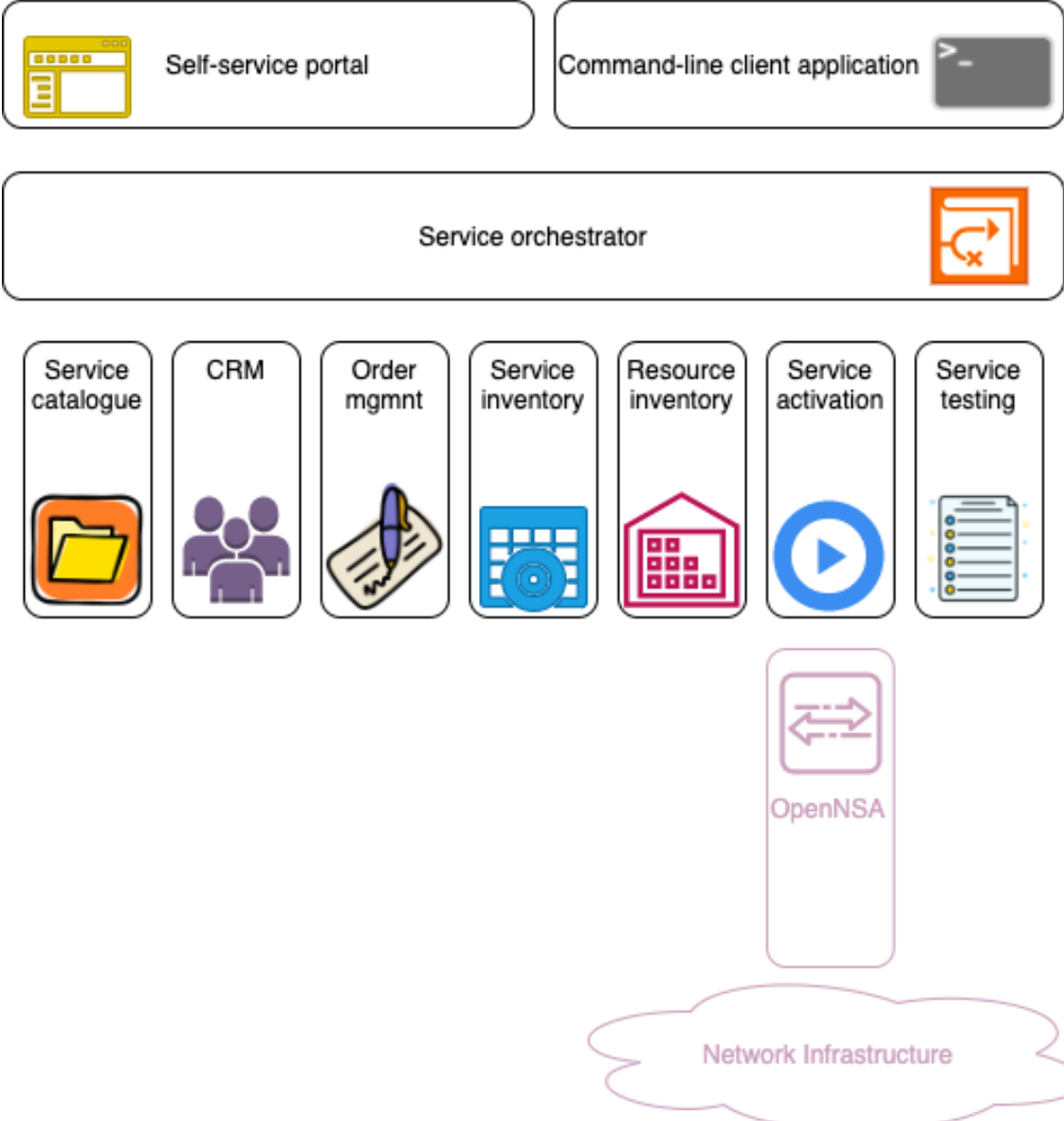


Free open-source components



Service agnostic design

# SPA platform



# NETDEV/SPA Wiki



## Information source about SPA and its implementation

<https://wiki.geant.org/display/NETDEV/SPA>

### Who can use the SPA platform

The SPA platform can be used by any service provider that would like to implement a flexible new generation digital platform to manage its services. The main SPA components are currently being used to support the production use of the **GEANT Connection Service** - GCS developed and maintained by the GCS group in WP7. The SPA SPP is the main GUI used by the GEANT NOC to manage GCS, and the SPA components interface with the OpenNSA agents that implement the service in the GEANT network.

### Main Benefits provided by SPA

- Flexible service management
- Fast design of composite services
- Implement different levels of functional granularity
- Straightforward customisation and wide extensibility
- Supports component based scalability
- Uses Open widely adopted APIs that promote interoperability

### SPA

Utworzone przez: Susanne Haegle-Jackson, ostatnia modyfikacja: 27. 2021

#### Service Provider Architecture (SPA)

Transformation from traditional OSS/BSS environments towards the digital business platform

Networks and their associated services have become commodities to users, who now demand self-service environments where they can make changes at any time. The challenge is to transform management solutions to quickly adapt to the new network needs, while keeping the quality, high capacity and resiliency their users demand. Digital platforms, integrating business and operations can help in offering these services in an agile, automated and flexible way.

#### What is SPA?

The Service Provider Architecture (SPA) is a **service management platform** that is based on the TMForum Open Digital Framework.

SPA follows all main aspects of Orchestration, Automation and Virtualisation design principles:

- building blocks based architecture
- abstract, technology-agnostic, modelling of all resources and services;
- support for composite services and resources;
- distinction between products, customer-facing and resource-facing services;
- support for both physical and virtual networks, and
- ability for east-west integration with systems from other domains.

### SPA components and APIs

SPA is fully compliant with the TMForum's Open Digital Architecture. The implementation of SPA is done using a micro-services based design where each component provides well-defined functions and is accessible via an exposed API. Where ever possible the TMForum's Open API specification is used to expose the components capabilities.

To learn more about the components and APIs implemented in the SPA platform follow the links that describe SPA's functionalities in each of the ODA's functional blocks:

- Engagement Management
- Party Management
- Core Commerce Management
- Production Management
  - Technical domain
- Intelligence Management

### SPA in Action

- 1. see the available SPA features as it is used by the GEANT NOC to manage GCS using the Self-Service Portal Admin View
- 2. get acquainted with the SPA extended features and integration with additional systems available in the Self-Service Portal User View

### Related Documents

- GN4-3 Deliverable D6.6 Transforming Services with Orchestration and Automation
- GN4-3 Deliverable D6.2 Automation and Orchestration of Services in the GEANT Community
- GN4-3 Milestone M6.7 Initial Self-Service Portal Implementation Review
- GN4-2 Deliverable D8.5 Service Provider Architecture Pilot v1.0
- GN4-2 Deliverable D8.11 Service Provider Architecture Pilot Follow-up





# SPA platform in 2021



## Enhancements in the GÉANT Connection Service (GCS)

- Topology import, management and presentation

## Service testing improved

- Regular and on-demand tests and reports

## A new command-line client application

- Automation on user's side
- Simple troubleshooting

## GÉANT IP service management via the SPA platform

- Service and resource data model compatible with the SPA Inventory – analysis completed
- Inventory management extension for SPA Self-Service Portal – ongoing development

# SPA platform in 2021



## Containerization of the SPA platform

- Installation and configuration from scratch is not a straightforward task
- Automation with Docker
- Use of default settings
- Simple distribution
- Testing and deployment simplified
- NMaaS as an option for deployment



SPA Inventory already available in NMaaS to be used as a standalone service and resource management application



# SPA platform – Next Steps



Offer the SPA platform as docker containers for NRENs and projects

- SPA team will support all users
- For the E-Line service based on OpenNSA

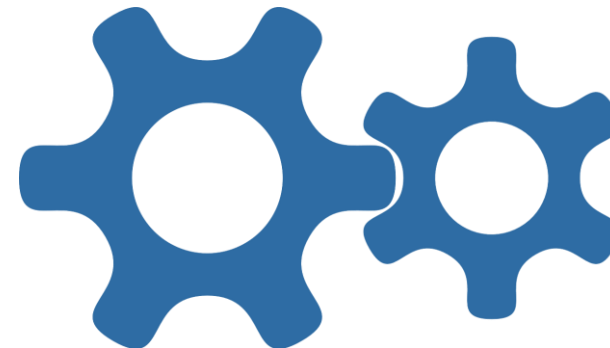
Add the complete SPA Platform to the portfolio of NMaaS

- E-Line service with default settings

Support users who are interested only in a single SPA component

Provide full GÉANT IP service lifecycle management in the SPA platform

- Process management
- Customer relationship management
- Policy management
- Order management
- Catalogue management



# SPA platform – Next Steps

## Knowledge Sharing

- Experience gained during the work on this kind of system
- Components
- TMF Open API integration
- Orchestration and process management

## Continuous software improvements

- Performance
- TMF Open API compliance
- Upgrades/replacements of software components
  - Ex. migration from Activiti to Camunda
- Testing in testbeds



# Thank you

Any questions?

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