

SPA

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 existing service 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 operational supporting systems, 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.



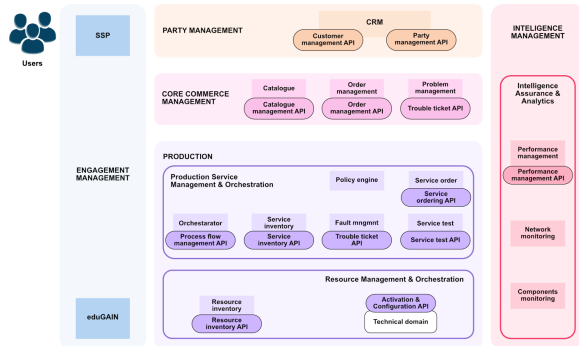
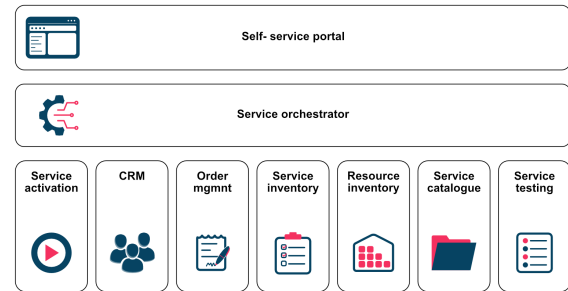
Who can use the SPA platform

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 GÉANT Connection Service** - GCS developed and maintained by the GCS group in WP7. The SPA SSP 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 GÉANT 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 components and APIs

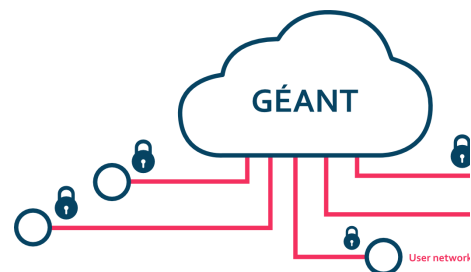
SPA is fully compliant with the TMForum's Open Digital Architecture. The implementation of SPA is done using a micro-services based design where each component provides well-defined functions and is accessible via an exposed API. Where ever possible the TMForum's Open API specification is used to expose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

SPA is available in the [Network Management as a Service \(NMaaS\)](#) platform. Now anyone can create a test instance of SPA (E-Line service based on OpenNSA) with default settings without the need of installation and configuration processes. Just few clicks and it works! The best option to learn how to use SPA.



SPA in Action

Video Introduction to the Service Provider Architecture



see the available SPA features as it is used by the GEANT NOC to manage GCS using the Self-Service Portal Admin View



get acquainted with the SPA extended features and integration with additional systems available in the Self-Service Portal User View

Related Documents

- [Presentation](#) at RIPE NCC, April 2023
- GN5-1 Whitepaper promotion document [Orchestrating Network Services Using SPA](#)
- GN4-3 Deliverable D6.9 [Network Services Evolution and Development](#)
- TNC22 Poster [On the journey of automation](#)
- 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](#)
- GN4-3 Milestone M6.8 [Self-Service Portal Development: Next Steps](#)
- GN4-3 Whitepaper [OAV Architectures](#)
- GN4-2 Deliverable D8.5 [Service Provider Architecture Pilot v1.0](#)
- GN4-2 Deliverable D8.11 [Service Provider Architecture Pilot Follow-up](#)

ORCHESTRATING NETWORK SERVICES USING SPA

Automating and orchestrating your services can help you manage your network in a flexible way and respond to on-demand user requests efficiently. Moving away from manual device configuration brings more insight and standardisation in your network.

Designed specifically for R&E network service providers, SPA paves the way of transforming your manual processes into a fully orchestrated system. It provides a unified way of managing all of your services thus eliminating duplicate solutions and complex and messy integrations.

SPA is a network management platform based on the principles of automation and orchestration. It provides a unified approach to managing all network services by standardising service management with consolidated single source of truth.

And because it's designed specifically for you, SPA can help get you started on your orchestration journey. Scalable and containerised it can grow together with your skills. Start off with a single components to learn the ropes, then add on as needed!

Lightweight

The SPA open-source implementation is based on a lightweight data model that enables flexible modeling of resources and services with a varying level of detail.

Composable

SPA is implemented as a loosely coupled system. Each SPA component can be used stand alone or they can be orchestrated together to realise more complex workflows.

Interoperable

SPA components expose standardised OPEN APIs compatible with the TM Forum specification thus making your system interoperable with others.

SPA Service Provider Architecture

The SPA is built on a cloud-native architecture, designed to be scalable and resilient, and to support a wide range of use cases.

Interested in SPA?

- Would you like to learn more about the developers team experience while working on SPA?
- Do you want to exchange ideas, concepts, implementations, etc ?
- Have a use-case service that you would like to implement using SPA?
- Would you like to see SPA platform extended with other services and/or features?

Contact the SPA development team at spa@lists.geant.org