

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.



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.



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.



Interoperable

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



SPA Service Provider Architecture

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!



INDIVIDUALLY AVAILABLE; FREE OPEN-SOURCE; OPEN API BASED

SPA COMPONENTS



ORCHESTRATOR



Define your own custom processes that will orchestrate the management components in your network. Leave the process management to the orchestrator.



SELF-SERVICE PORTAL



Use a common, intuitive, web based GUI for the management of all of your services. Provide a one-stop shop and comprehensive dashboard in one.



ORDER MANAGEMENT



Keep track of all internal and external requests, inquiries or incidents. Track their status at any point and obtain a high level overview of active and pending work.



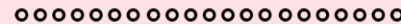
SERVICE INVENTORY



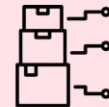
Store all information regarding each service instance in your network following its status in real-time and describing its relationship to other service instances and resources.



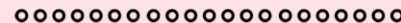
USER MANAGEMENT



Keep current and up to date records regarding your users, customers, partners and suppliers. Understand the links between organisations and define roles used for authorisation.



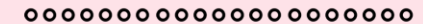
RESOURCE INVENTORY



Use a one common inventory for all of your network resources, physical and virtual, logical and multi-layered. Define each resource characteristics and interdependencies.



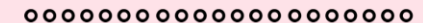
SERVICE CATALOGUE



Describe all of your services in a structured common way. Use hierarchical description so that you can easily combine service blocks and define dependencies.



NETWORK ACTIVATION



Push the defined changes in the network using one common interface and a standardised service and resource activation description. Get notifications regarding the success of the actions.

USING SPA TO MANAGE THE GÉANT CONNECTION SERVICE

Router	Interface Name	STP Name	Physical Interface	Interface Speed	Range	Actions
lab1.nsl.new.lab.topology	mx1-1-7	lab1.nsl.new.lab.topology:mx1-1-7	ge-1/1/7	1000	2-1000	
lab2.nsl.new.lab.topology	mx1-1-7	lab2.nsl.new.lab.topology:mx1-1-7	ge-1/1/7	1000	2-1000	
lab4.nsl.new.lab.topology	mx1-1-7	lab4.nsl.new.lab.topology:mx1-1-7	ge-1/1/7	1000	2-1000	
lab5.nsl.new.lab.topology	mx1-1-7	lab5.nsl.new.lab.topology:mx1-1-7	ge-1/1/7	1000	2-1000	
	piotrTest	lab5.nsl.new.lab.topology:piotrTest	ge-1/1/7	10000	1001-10000	

GÉANT 4.3 WP6T2 SPA
1.3.1 (2021/02/19)

The GÉANT NOC uses the SPA Self-Service Portal to manage all circuits in the production network.

The self-service portal provides a comprehensive view of all orders, service instances and resource inventory related to GCS. Using SSP circuits can be created, modified or terminated in seconds.

SPA implements automation and orchestration of the production GCS service in the GÉANT network in a flexible, standardised fashion. Network configuration changes are pushed to the network via OpenNSA.

User	Time(UTC)	Status	Conn. ID	Name	3rd party ID	SID	Type	Start(UTC)	End(UTC)	Src. STP	Src. VLAN	Dest. STP	Dest. VLAN
Test1 Test1	2022-12-21 12:00:22	active	NS-6422074ff	Test-20221221-12h00m	q40	G05-T1234	Microsoft Express Route	2022-12-21 12:00:14	2022-12-21 13:00:14	lab1.nsl.new.lab.topology:ogymx1-1-7	3	lab4.nsl.new.lab.topology:ogymx1-1-7	2
Sonja Filiposka	2022-12-17 17:29:57	active	NS-19955b0d2c	Test.test	test1	G05-test4	Microsoft Express Route	2022-12-17 17:29:22	None	lab1.nsl.new.lab.topology:ogymx1-1-7	2	lab2.nsl.new.lab.topology:ogymx1-1-7	2
Konstantinos Georgiakis	2022-11-24 09:17:25	reserved	NS-15861e4001	nov24b	selenium1	G05-1234	Microsoft Express Route	2022-11-24 09:16:36	2022-11-24 10:16:36	lab1.nsl.new.lab.topology:ogymx1-1-7	400	lab4.nsl.new.lab.topology:ogymx1-1-7	2
Roman Lapacz	2022-11-07 08:13:36	inactive	NS-de4bc50d2d	testbed1-rr-20221107-33	testbed1-rr-20221107-33	G05-T123	Microsoft Express Route	2022-11-07 08:12:52	2022-11-07 08:28:52	lab1.nsl.new.lab.topology:ogymx1-1-7	269	lab4.nsl.new.lab.topology:ogymx1-1-7	269
Roman Lapacz	2022-10-13 08:03:06	active	NS-8b885d4c1	testbed1-rr-20221013-55	testbed1-rr-20221013-55	G05-T123	GÉANT Infrastructure	2022-10-13 08:02:38	2022-10-13 09:02:38	lab1.nsl.new.lab.topology:ogymx1-1-7	158	lab2.nsl.new.lab.topology:ogymx1-1-7	158
Konstantinos Georgiakis	2022-10-13 06:44:09	active	NS-ca0b64c5a	test13102	1234	G05-1234	Microsoft Express Route	2022-10-13 06:43:39	2022-10-13 07:43:39	lab1.nsl.new.lab.topology:ogymx1-1-7	400	lab4.nsl.new.lab.topology:ogymx1-1-7	2
Konstantinos Georgiakis	2022-10-11 09:41:07	inactive	NS-f5f8e948b1	order1new4	1234	G05-1234	Microsoft Express Route	2022-10-11 09:41:32	2022-10-11 09:57:32	lab1.nsl.new.lab.topology:ogymx1-1-7	400	lab4.nsl.new.lab.topology:ogymx1-1-7	2
Konstantinos Georgiakis	2022-10-11 07:10:21	active	NS-4e0bc237c6	oct11a2	1234	G05-1234	Microsoft Express Route	2022-10-11 07:10:41	2022-10-11 07:26:41	lab1.nsl.new.lab.topology:ogymx1-1-7	400	lab4.nsl.new.lab.topology:ogymx1-1-7	2
Konstantinos Georgiakis	2022-10-11 06:34:17	active	NS-1ac288545d	oct11	1234	G05-1234	Microsoft Express Route	2022-10-11 06:34:34	2022-10-11 06:50:34	lab1.nsl.new.lab.topology:ogymx1-1-7	400	lab4.nsl.new.lab.topology:ogymx1-1-7	2
Test1 Test1	2022-09-30 13:37:33	reserved	NS-ed2ee4969	test2	1234	G05-1234	Microsoft Express Route	2022-09-30 13:36:51	2022-09-30 14:36:51	lab1.nsl.new.lab.topology:ogymx1-1-7	400	lab4.nsl.new.lab.topology:ogymx1-1-7	2

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

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