



Maat as a Source of Truth for orchestrated network services

Deployment in PIONIER

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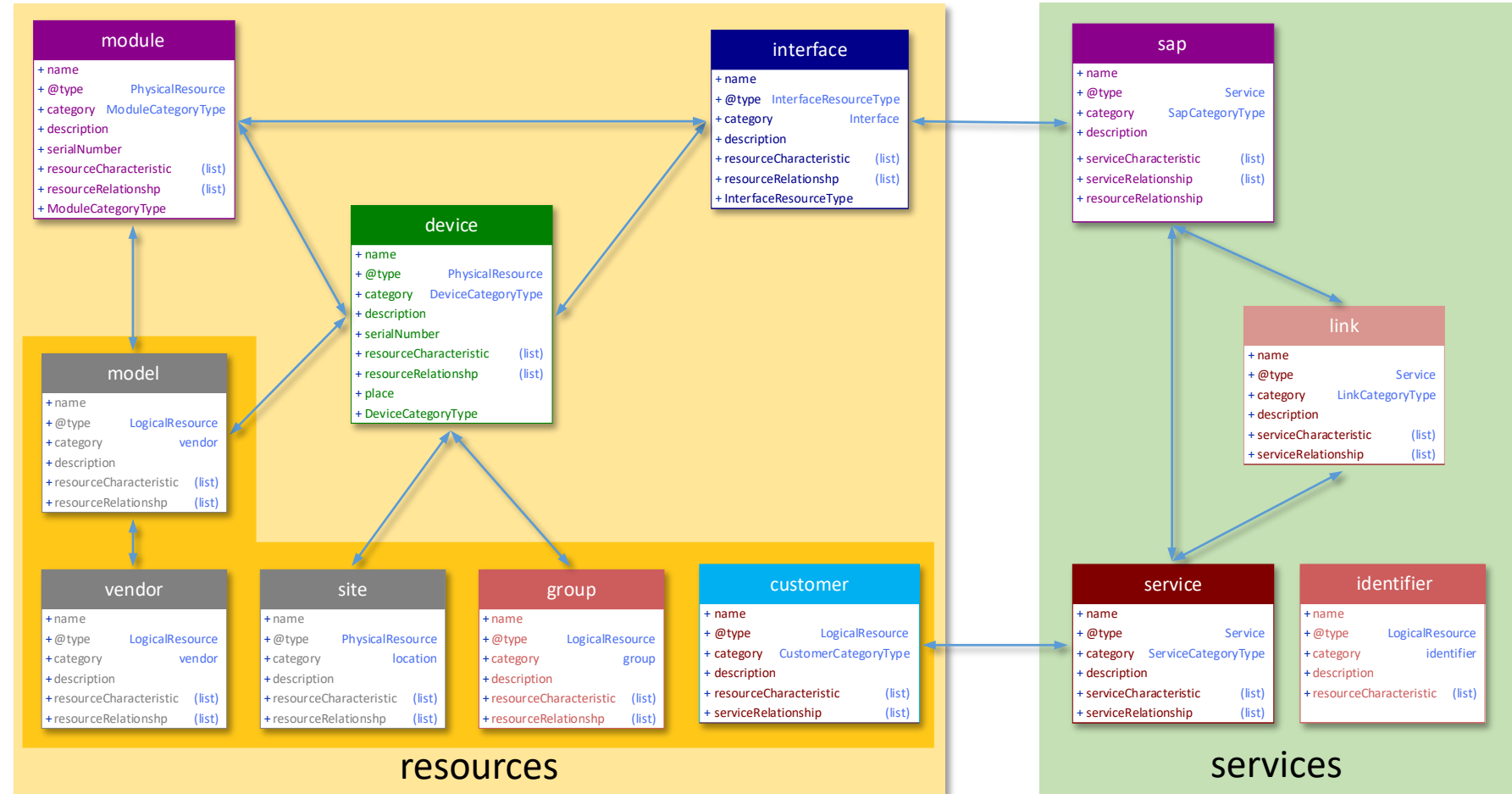
WP6-T2 GN5-2

Infoshare

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The data model

- Flexible
- TMF based
- Resources
 - PhysicalResources
 - LogicalResources
- Services



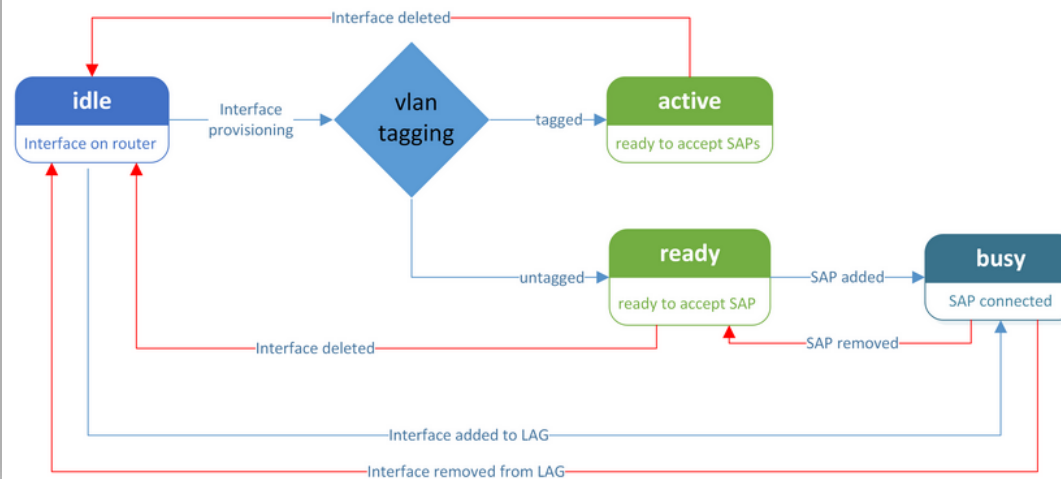
The data model

- Set of parameters describing object properties
- [Work in progress under GN5-2 WP6 task](https://wiki.geant.org/display/gn43wp6/Data+model)
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name	value type	description	example value
encapsulation	string	Interface encapsulation type	"flexible-ethernet-services"
esi	json	ESI interface parameters	{ "identifier": "00:00:11:22:33:44:55:00:02:02", "type": "single-active", "df-election-type": { "name": "preference", "value": 300 } }
mtu	integer	Interface MTU	"1500"
speed	string	Interface speed	"100g"
tagging	string	802.1Q vlan tagging	"vlan-tagging"

Interface `usageState` provides information on current interface status:

- `idle` interface is added to the database and has relation to the device. Interface is ready for provisioning.
- `active` interface is ready to accept services (SAPs) in it. It uses one service delimiter technology (like VLAN IDs)
- `ready` interface is ready to accept single service instance (Ethernet untagged)
- `busy` interface is used for service instance



Maat UI



Resources

Services

Maat service url:

https://10.255.224.129:8082/resourceInventoryManagement/v4.0.0/resource

Create new Resource

- > vendor
- > model
- > customer
- > site
- > device.router
- > interface

Data model

Table

JSON

CREATE NEW DEVICE.ROUTER

Actions	Name	Description	Type	Category	StartOperatingDate	LastUpdateDate	Id
	ptx-war-1	ptx-war-1 pionier	PhysicalResource	device.router	2024-12-20T15:02:53Z	2025-04-01T12:02:49Z	6eeb8d34-94c5-4392-9b59-0a327b0
	ptx-kra-1	ptx-kra-1 pionier	PhysicalResource	device.router	2024-12-20T15:02:59Z	2025-02-18T14:32:48Z	ab9cdfe8-54cc-4fe5-b735-c53acdbd
	ptx-wro-1	ptx-wro-1 pionier	PhysicalResource	device.router	2024-12-20T15:03:08Z	2025-04-02T09:06:22Z	24b13fbf-bac7-4d6c-978d-6bd0426t
	ptx-poz-1	ptx-poz-1 pionier	PhysicalResource	device.router	2024-12-20T15:03:15Z	2025-02-10T22:32:07Z	3dbd472c-6a38-4e36-b98e-a39eecC
	ptx-poz-2	ptx-poz-2 pionier	PhysicalResource	device.router	2024-12-20T15:03:22Z	2025-02-12T07:11:05Z	bcedbd88-210a-4b65-9db1-5f51b37
	ptx-gda-1	ptx-gda-1 pionier	PhysicalResource	device.router	2024-12-20T15:03:30Z	2024-12-20T15:04:27Z	439f801e-a462-45b0-8879-52fda19

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PIONIER services in Maat



Resources

Services

Maat service url:

[Create new Service](#)

- > identifier

- > I2.circuit

- > I2.circuit.sap

- > I3.vrf

- > I3.vrf.sap

- > I2.evpn

- > I2.evpn.sap

- > protocol.bgp

- > protocol.bgp.group

- > protocol.bgp.neighbor

Table


JSON

[CREATE NEW IDENTIFIER](#)


Actions	Name ↑↓	Description ↑↓	Type ↑↓	Category ↑↓	LastUpdateDate ↑↓	ServiceDate ↑↓
	service_ids	Service idetntfier for CP	Service	identifier	2025-04-01T06:11:28Z	2024-12-20T15:02:37Z

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PIONIER devices in Maat UI



Resources
Services

Maat service url:


Create new Resource
Submit edited object

- > vendor
- > model
- > customer
- > site
- ▼ device.router
 - ptx-war-1
 - ptx-kra-1
 - ptx-wro-1
 - ptx-poz-1
 - ptx-poz-2
 - ptx-gda-1
 - interface

Table
JSON

category:


device.router

description: 





ptx-war-1 pionier







name:

ptx-war-1

resourceCharacteristic: 

CREATE NEW RESOURCECHARACTERISTIC

Actions	Name 	Value 
	routerID	150.254.253.68
	isoID	49.9112.1502.5425.3068.00
	mgmt	{"default": "10.255.248.206", "inet": {"re0": "10.255.248.202/28"}}
	chassis	{"aggregated_devices": {"ethernet": {"device_count": "5"}}

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PIONIER devices in Maat UI – JSON view

The screenshot displays the Maat UI interface. At the top left is the Maat logo. Below it, the 'Resources' tab is active, and the 'Services' tab is also visible. A text field shows the 'Maat service url' as `https://10.255.224.129:8082/resourceInventoryManagement/v4.0.0/resource`. On the left side, there is a navigation menu with a 'Create new Resource' button. The menu items are: vendor, model, customer, site, device.router (expanded), ptx-war-1 (selected), ptx-kra-1, ptx-wro-1, ptx-poz-1, ptx-poz-2, ptx-gda-1, and interface. On the right side, there is a 'Submit edited object' button. The main content area shows the JSON view of the selected resource. The JSON is expanded to show the following structure:

```

{
  "category": "device.router",
  "description": "ptx-war-1 pionier",
  "name": "ptx-war-1",
  "resourceCharacteristic": [
    {
      "name": "routerID",
      "value": "150.254.253.68"
    },
    {
      "name": "isoID",
      "value": "49.9112.1502.5425.3068.00"
    },
    {
      "name": "mgmt",
      "value": "{\"default\": \"10.255.248.206\", \"inet\": {\"re0\": \"10.255.248.202/28\"}}"
    },
    {
      "name": "chassis",
      "value": "{\"aggregated_devices\": {\"ethernet\": {\"device_count\": \"5\"}}}"
    }
  ]
}

```

At the bottom of the JSON view, the following metadata is displayed:

```

@schemaLocation : "https://bitbucket.software.geant.org/projects/OSSBSS/repos/maat-schema/raw/TMF639-ResourceInventory-v4-pionier.json"
@type : "PhysicalResource"

```

Online demo



Thank You

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