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IBM Cloud Pak for Network Automation Use CaseDemo

Zero-touch network operations with AI-powered automation

Deliver a 5G vRAN service

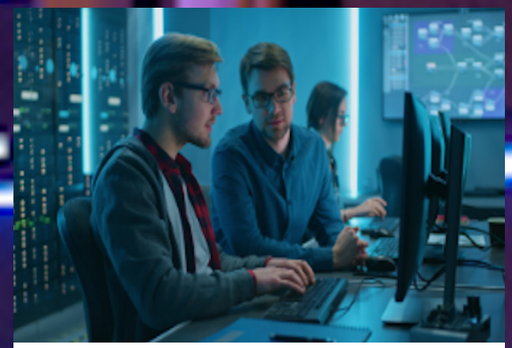
Explore the provision of a 5G vRAN network streaming HD video capabilities across mobile devices.

Explore page 2

Provision a 5G network slice

Learn to provision a 5G network slice to deliver a remote video surveillance service across ATMs.

Explore page 7



Deploy a 5G network slice

View the deployment of a 5G network slice to monitor ATMs with a surveillance camera across different locations.

Explore page 13

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How can I deliver a 5G vRAN service?

Carol works as a Network Engineer as part of a fictional 5G company. She received an urgent request to provision a new 5G vRAN (virtual radio access network) to stream HD videos across mobile devices. Carol sees mobile service requests increasing. She feels challenged to deliver them as quickly as possible.

Carol creates a 5G vRAN to deliver this remote video streaming service that requires high bandwidth. Carol knows that **IBM Cloud Pak for Network Automation** can deliver a one touch deployment capability supported by zero-touch automation for the creation of the new vRAN network and service.

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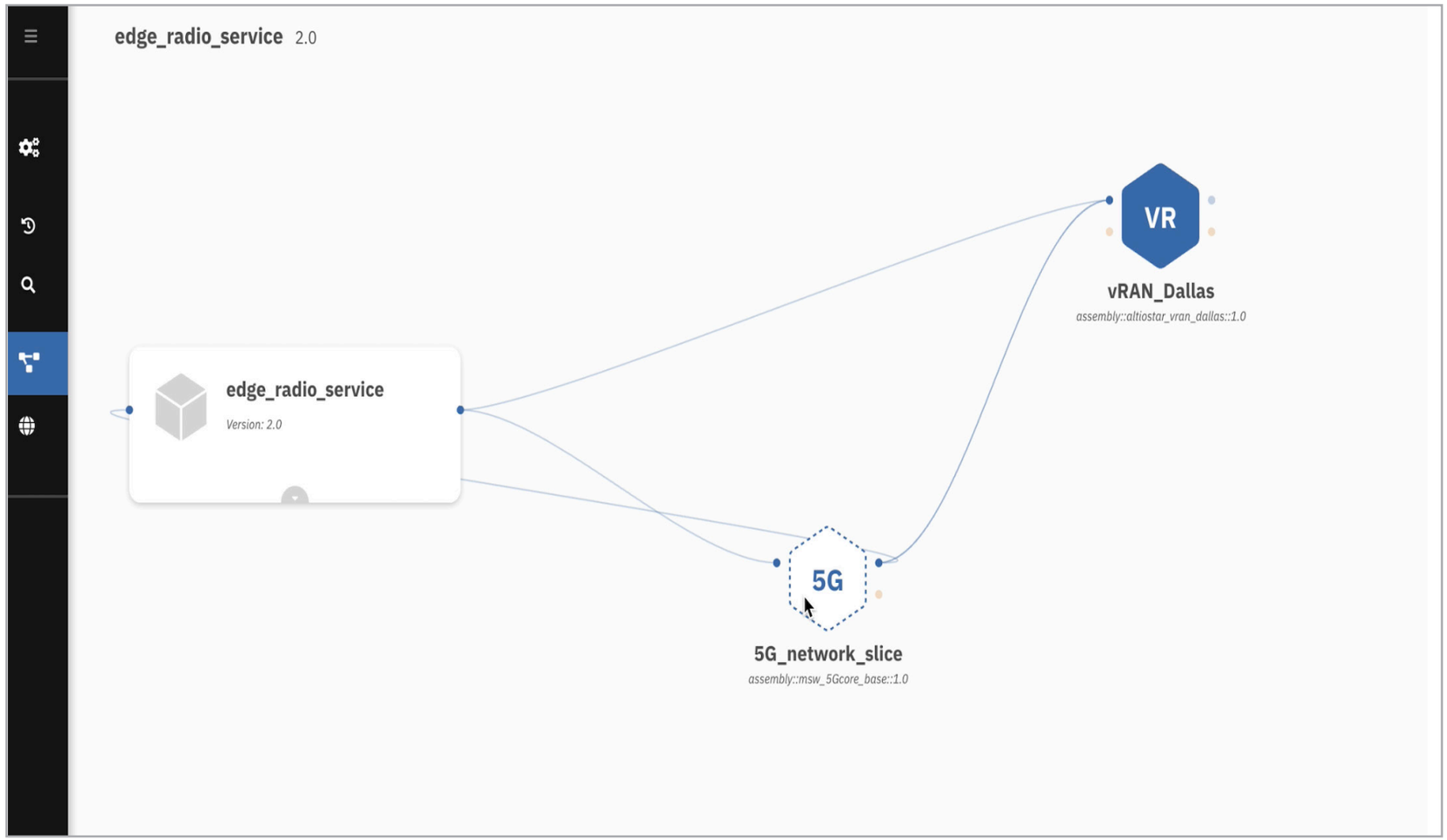
Designing the 5G vRAN service

Carol takes the request and provides the software functions and configuration settings for the network and the service.

Carol creates the design quickly. She selects the dependencies between the software functions and any external requirements. Carol stores the design in the catalogue.



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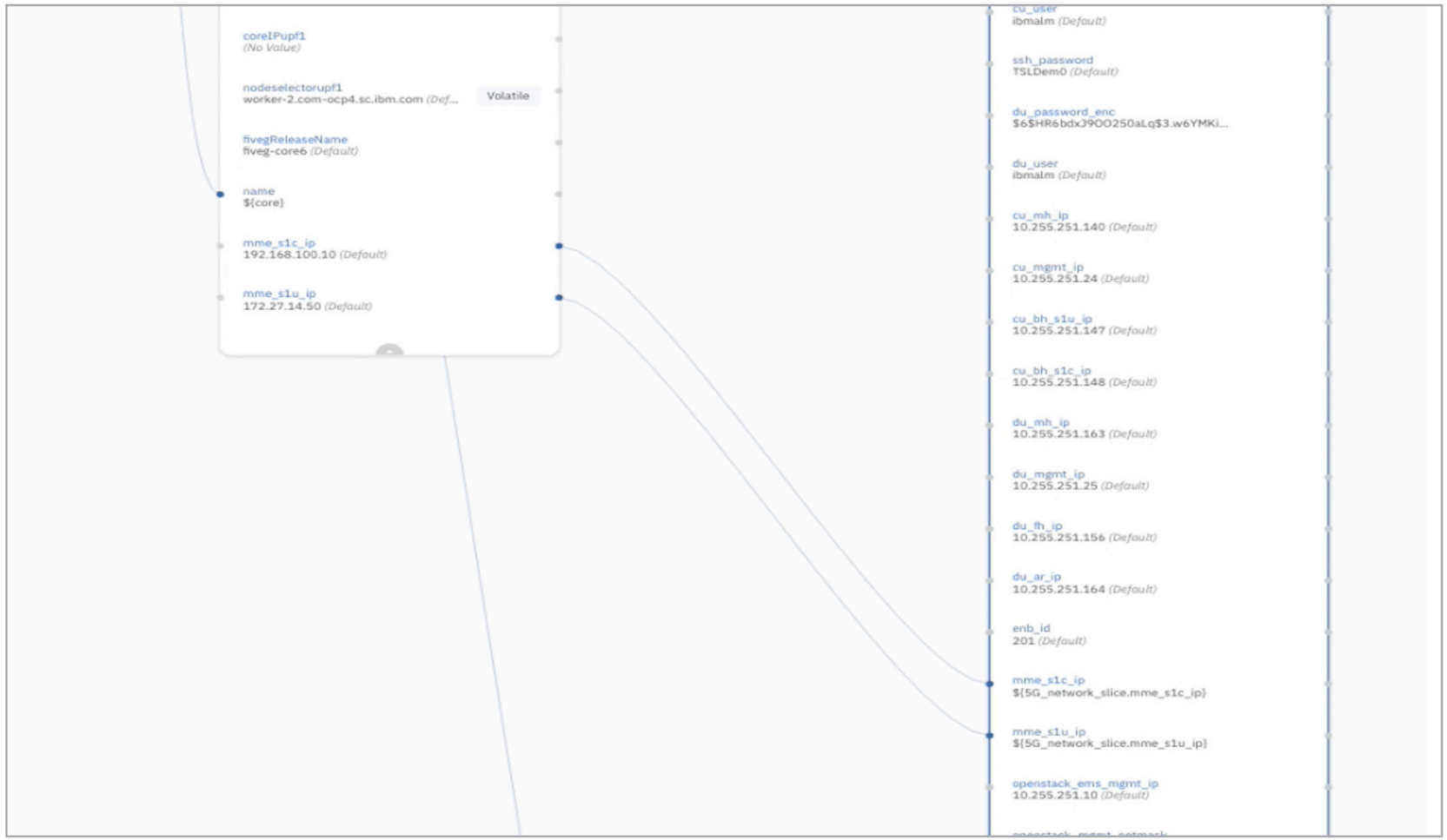
Building the 5G vRAN network and service

Craig the Network Service Engineer builds the vRAN network and service. Craig combines catalogue items to deliver the network, such as the 5G vRAN network and the connection to the EPC core.

He builds the 5G network slice.
He can deploy this service that he builds across other customer sites also.



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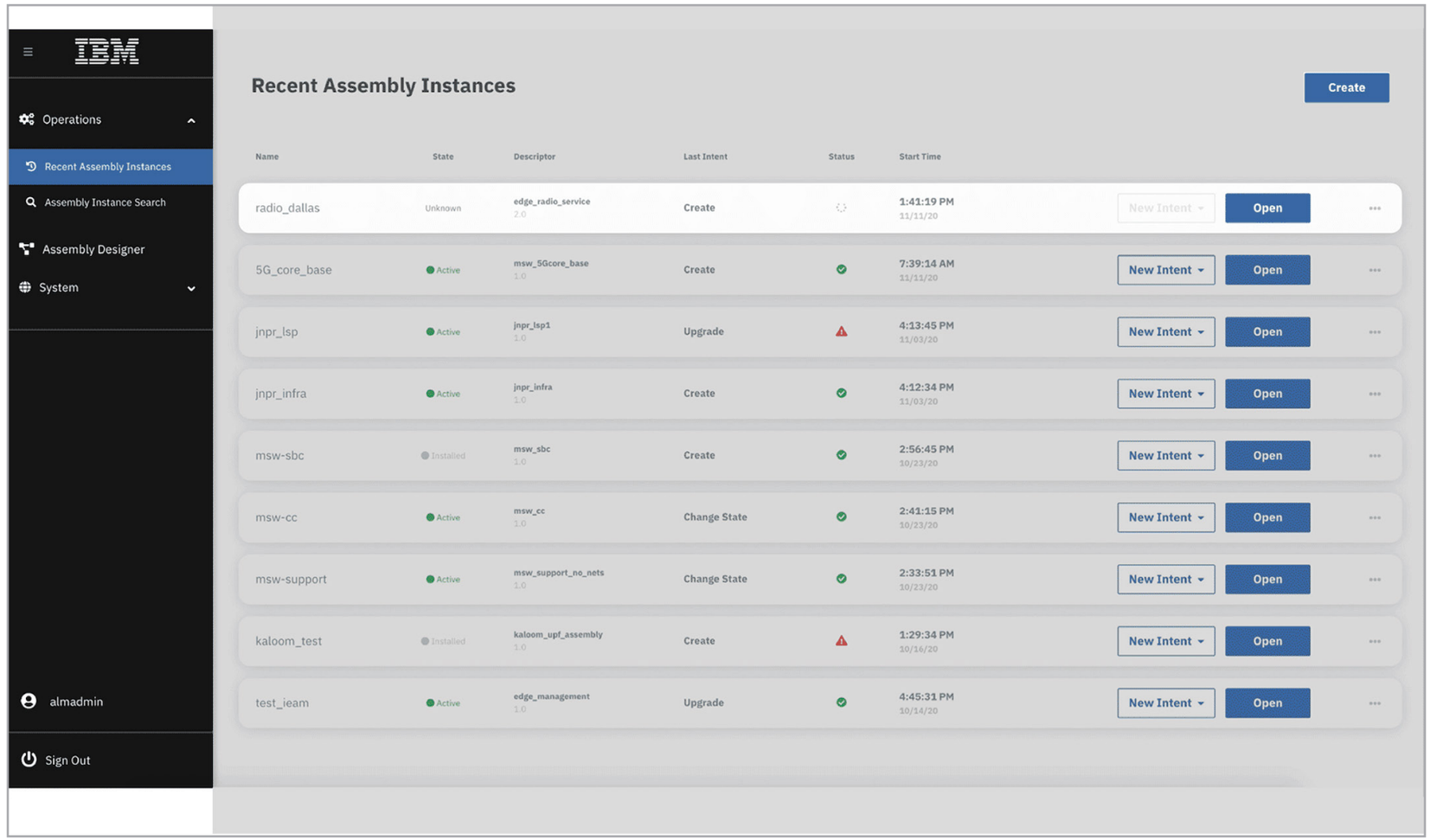
Deploying the 5G vRAN network

Craig runs a compiled assembly to automatically deploy the 5G vRAN network. The assembly might contain a few cell sites for a network upgrade that he can extend to more sites.

By clicking Create, he deploys the network across ten sites in Dallas. Each site is tested before it carries traffic.



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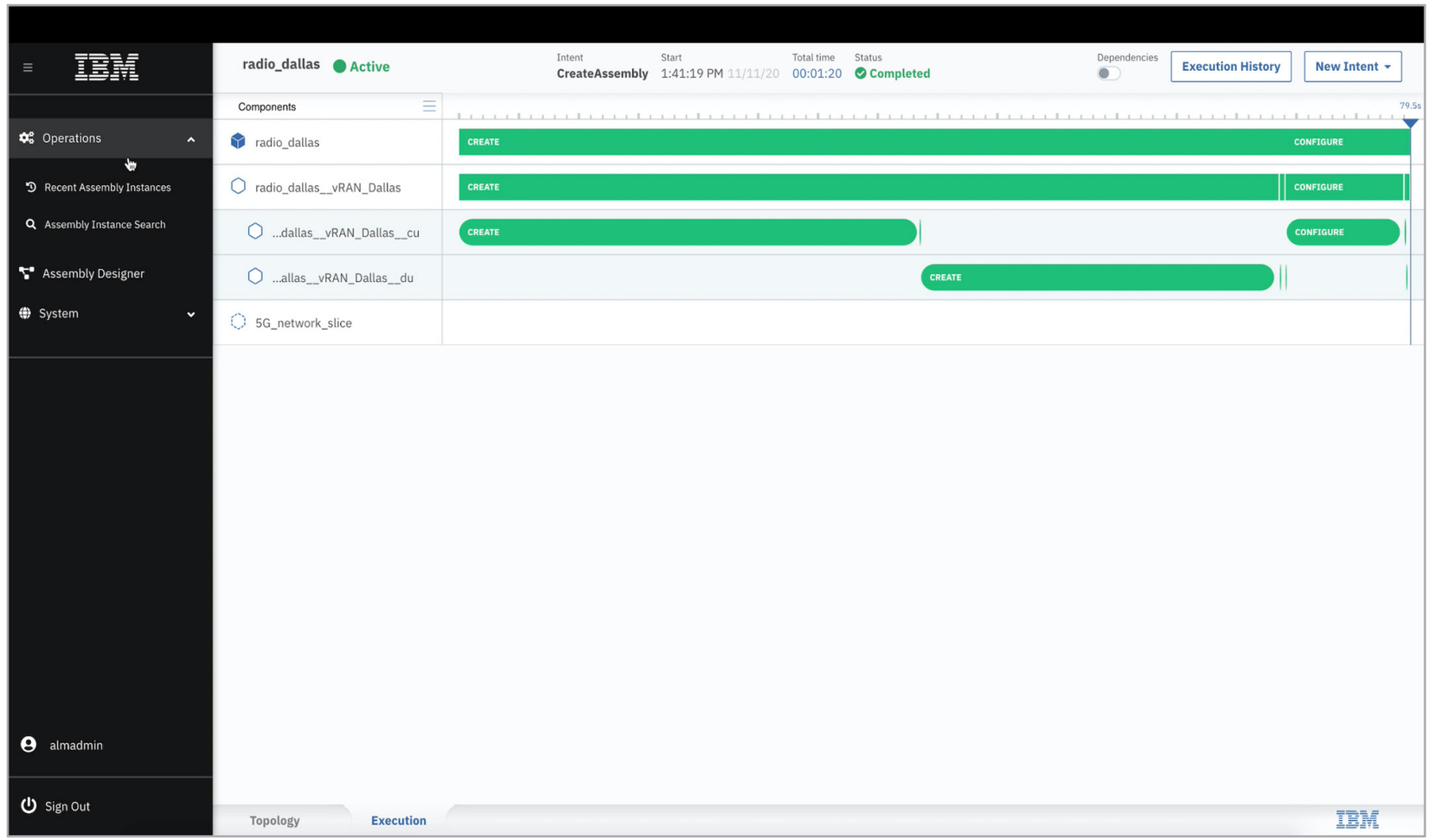
Deploying the 5G vRAN service

When the 5G vRAN network is available, Craig deploys the service the same way. He selects the correct assembly and then clicks Create.

Craig tracks the deployment progress in the GUI in real-time for the service components. When the components are green, the service is available to the customer.



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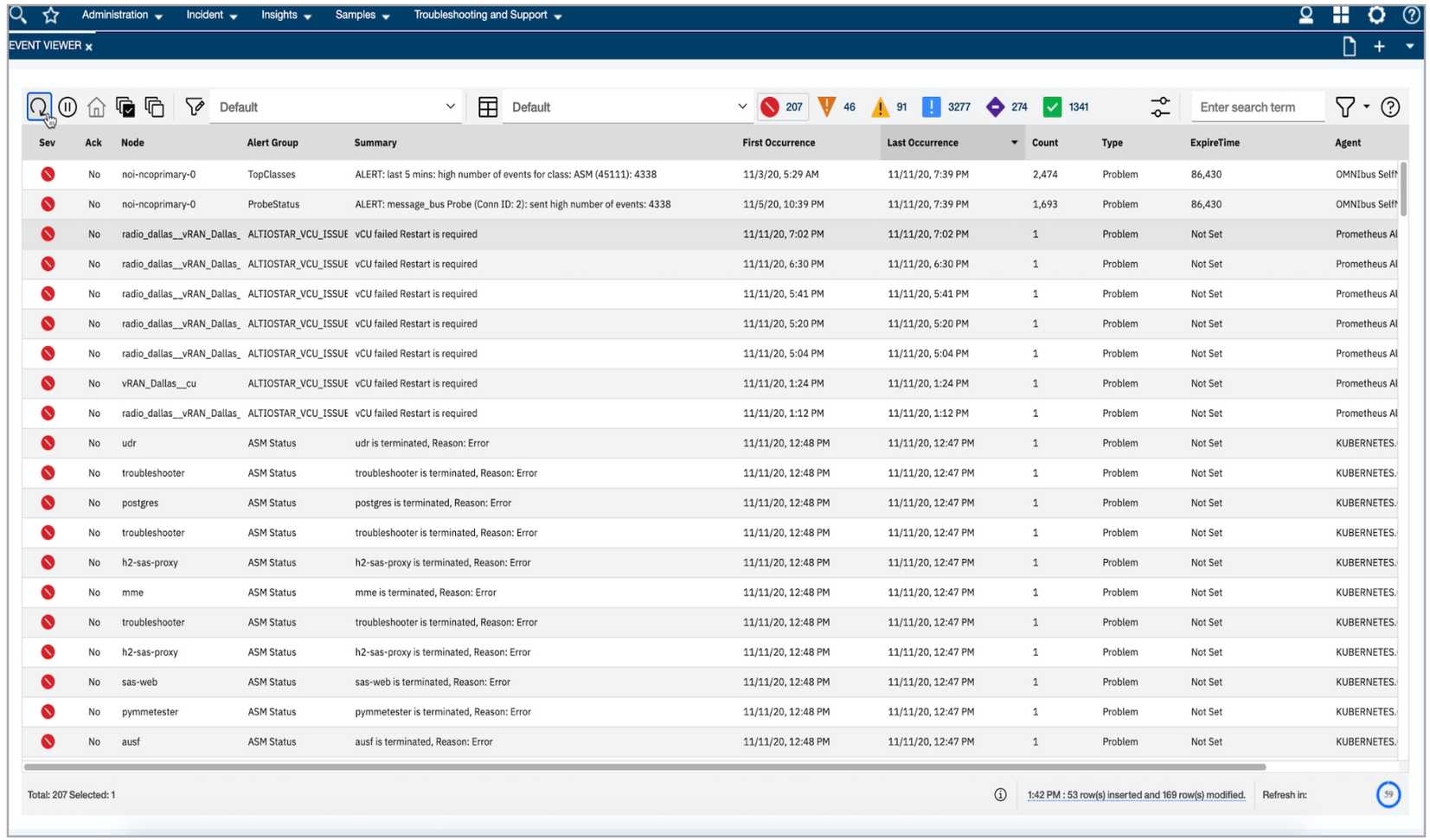
Zero-touch Operations

During the service design and deployment stage, Carol and Craig define self-heal capabilities to ensure that autonomous fixes are in place to solve issues.

For example, if the maximum speed is not available for the video service, then an automated fix occurs to increase the service bandwidth.



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How can I provision a new 5G network slice?

Lucy is a Network Engineer at a fictional 5G service provider. A financial services customer requested a remote video surveillance service to monitor their automated teller machines (ATM). The customer has security concerns and wants to monitor the ATM usage remotely.

Previously, the provisioning of a new 5G network slice with a shared service was a tedious task, using several tools and interfaces. Thanks to **IBM Cloud Pak for Network Automation**, she uses templates to create a new service quickly.

The IBM ecosystem provides ready- certified VNFs, saving Lucy days in getting them to market.

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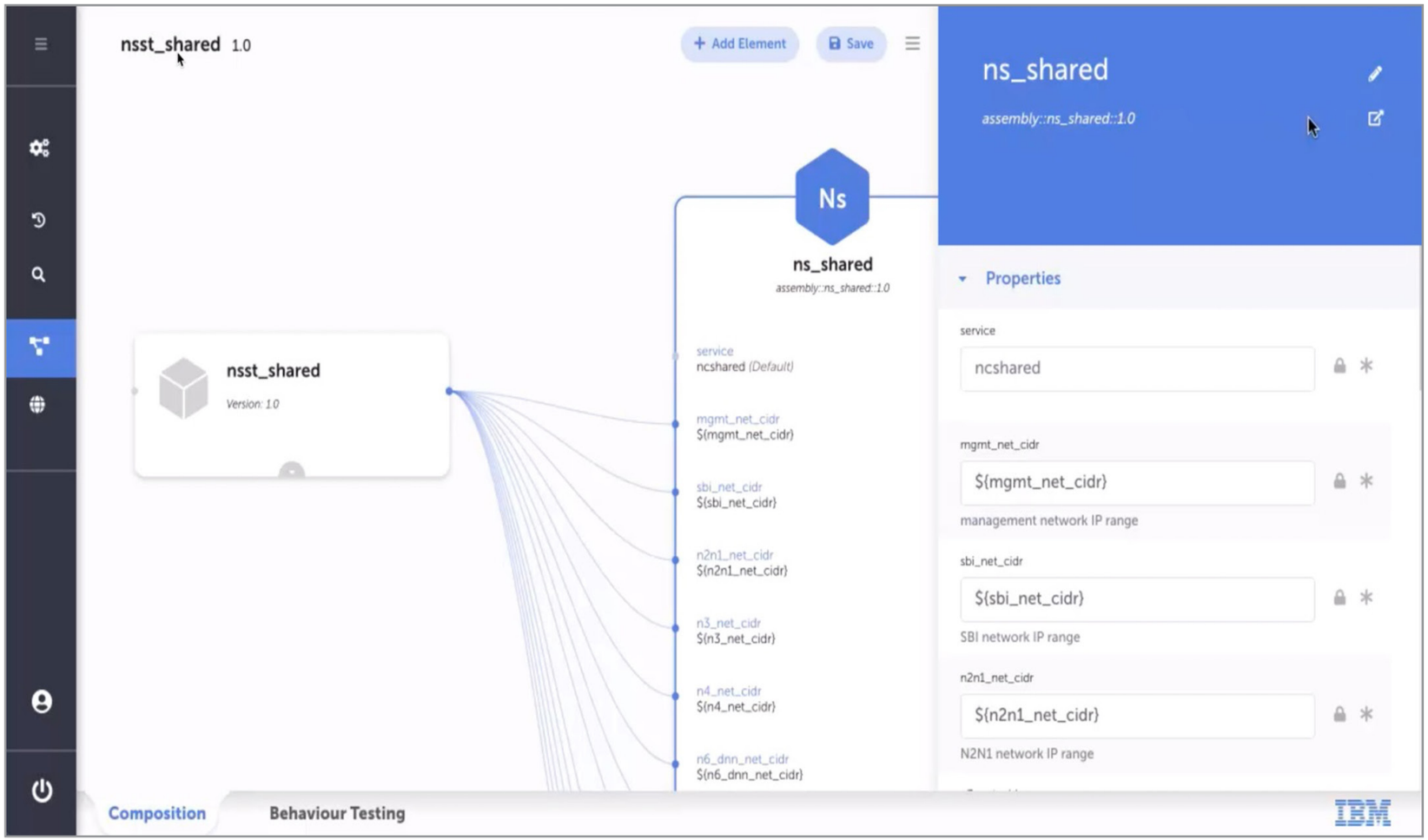
Composing a service template

Lucy opens the service catalog. Lucy uses an assembly template to provision the core network slice with shared services for video surveillance across the ATMs.

Lucy finds the Network Subnet Slice (nsst_shared) template and checks if the parameter propagation in the template is suitable to use.



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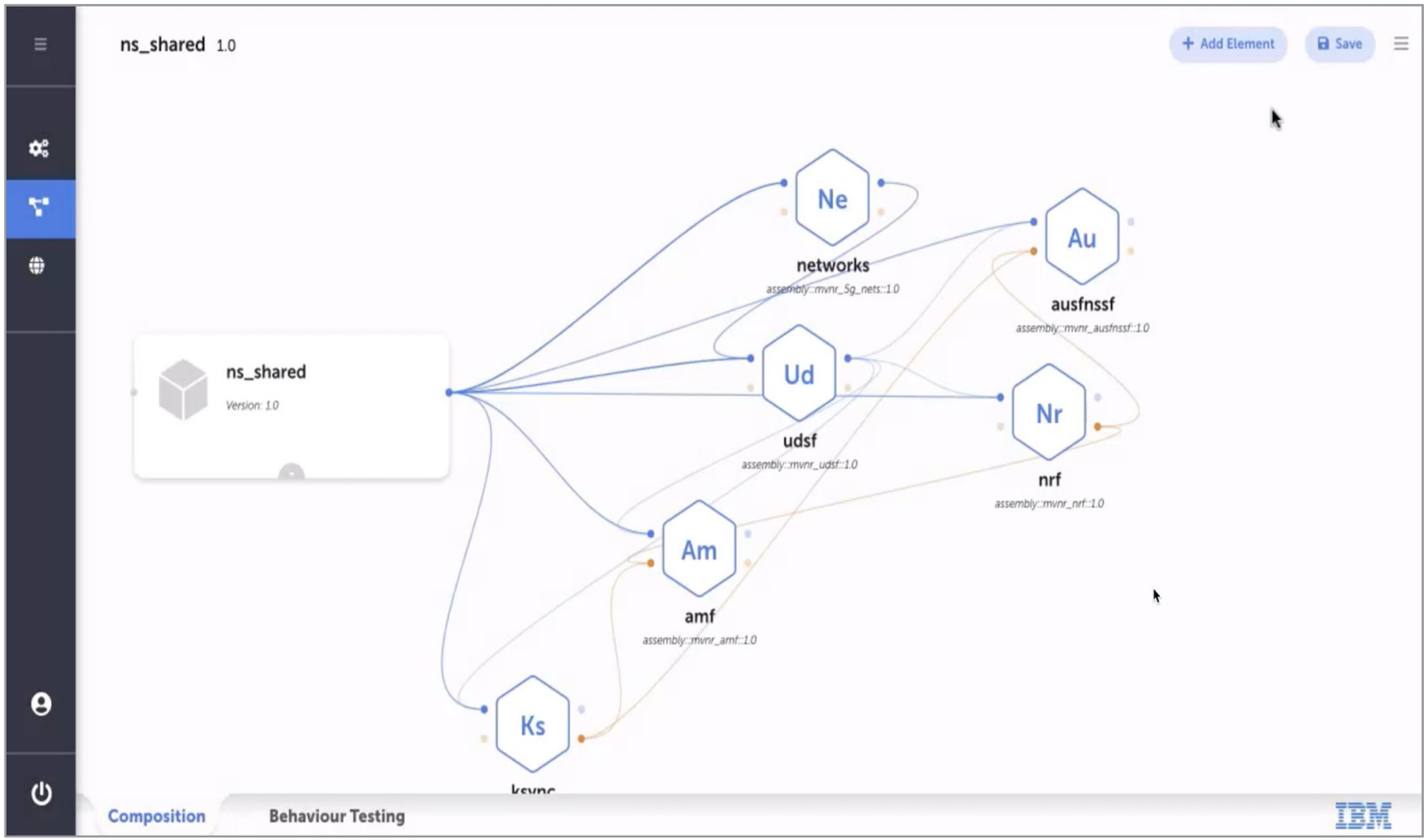
Verifying the service design

Lucy explores the service design to ensure that she has the right template. Lucy verifies that the correct parameters are propagated to the nested components.

She looks at the component dependencies, shown on the diagram with the orange lines. Lucy is now confident that the service design is correct.



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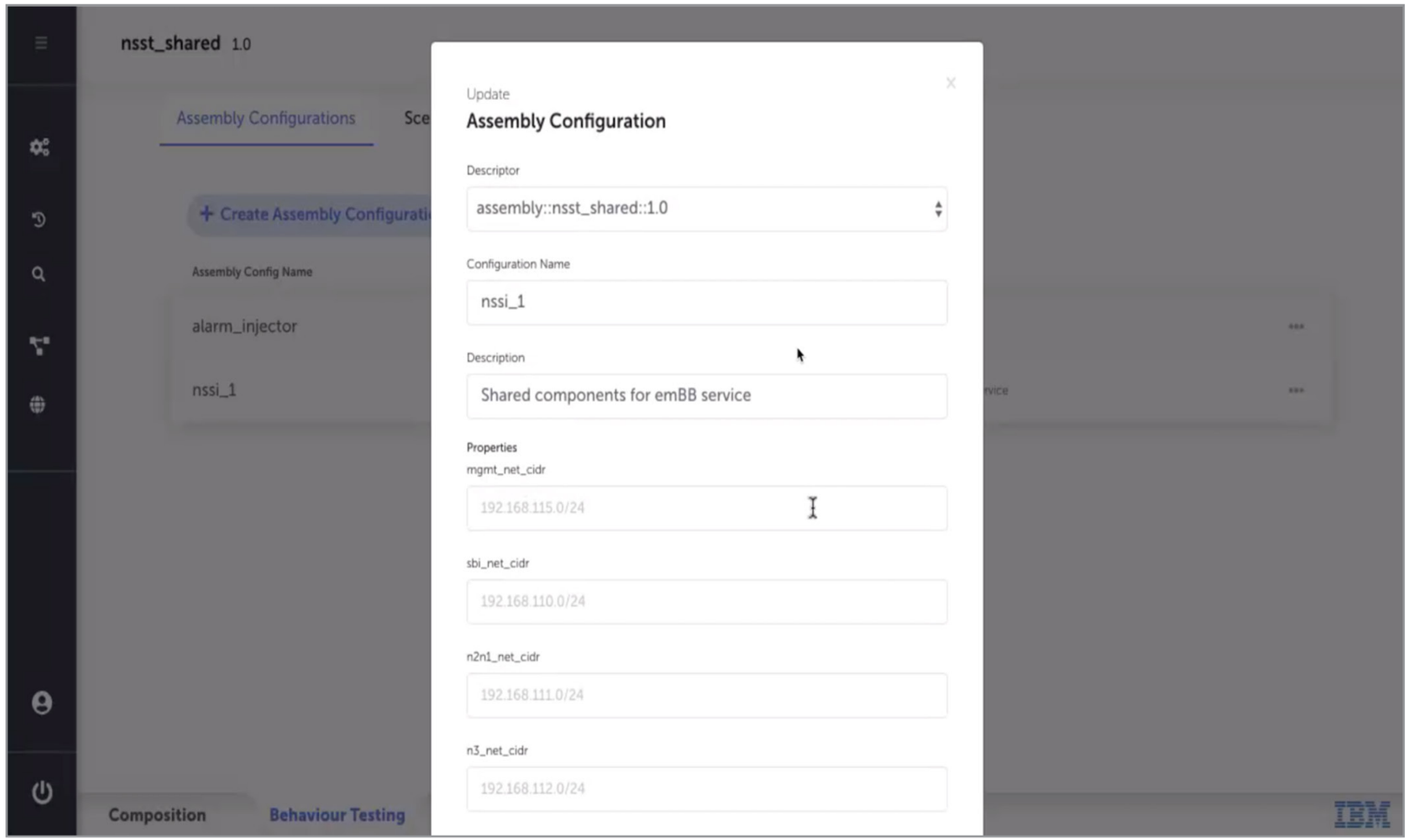
Reviewing the assembly configuration

Lucy opens the Behavior testing tab to start testing and provisioning the new 5G network slice.

Lucy looks at the template instance to verify that the assembly configuration values are correct for the instance of the service.

She is satisfied with the existing default values.



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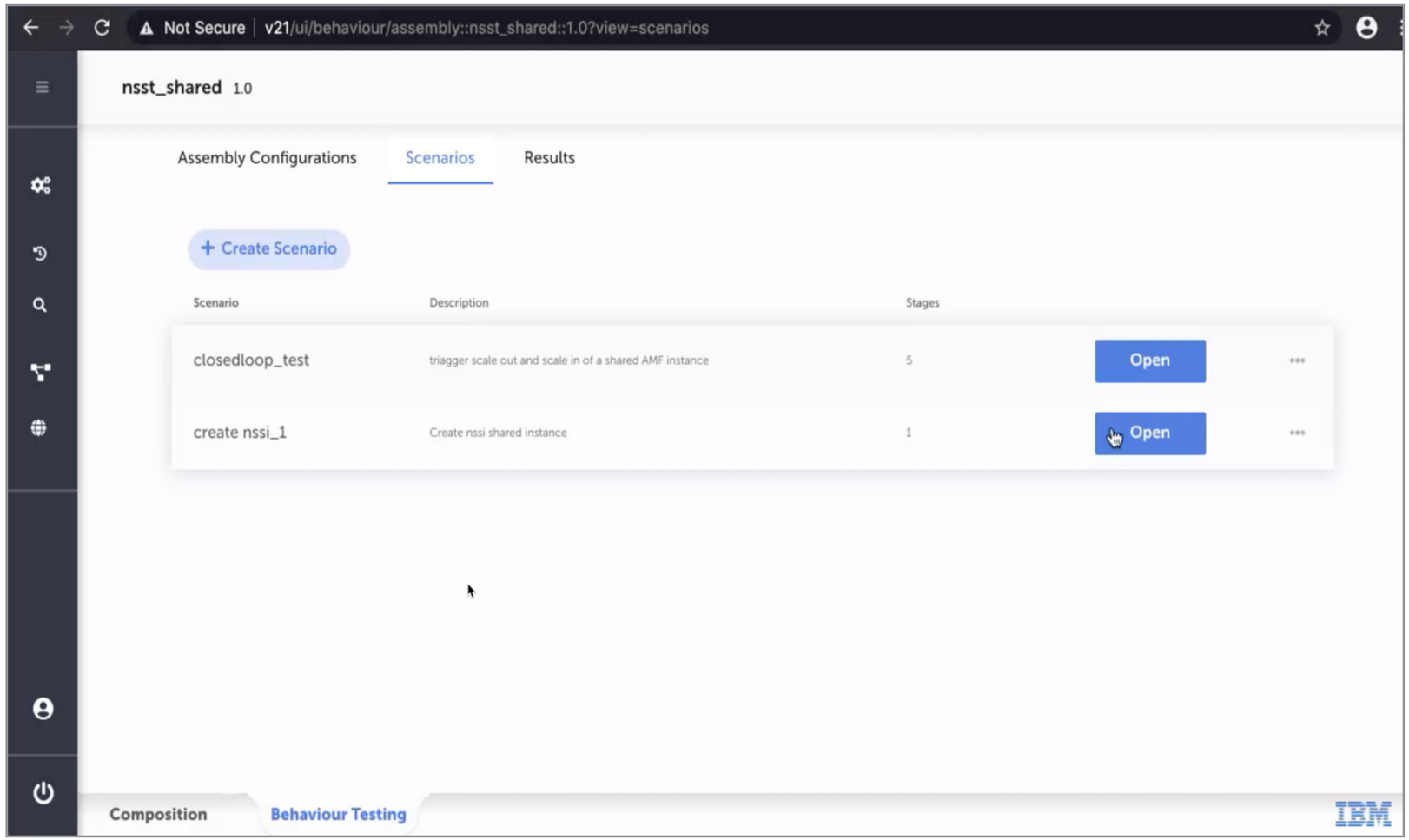
Selecting scenarios

Scenarios represent the provisioning sequences that enable actions on the template. Lucy can work with an existing or a new scenario.

Mostly, the standard scenario works for the new customer 5G network slice. Lucy opens the “create a new instance” (create_nssi_1) scenario.



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Running the scenario

Lucy runs the scenario with just one click.
The scenario uses behavior-driven expression syntax.
The elements and steps to create the nssi slice and shared services are detailed in a human-readable natural language.

Lucy stores the design in the catalog for Colin the Network Service Engineer to use.

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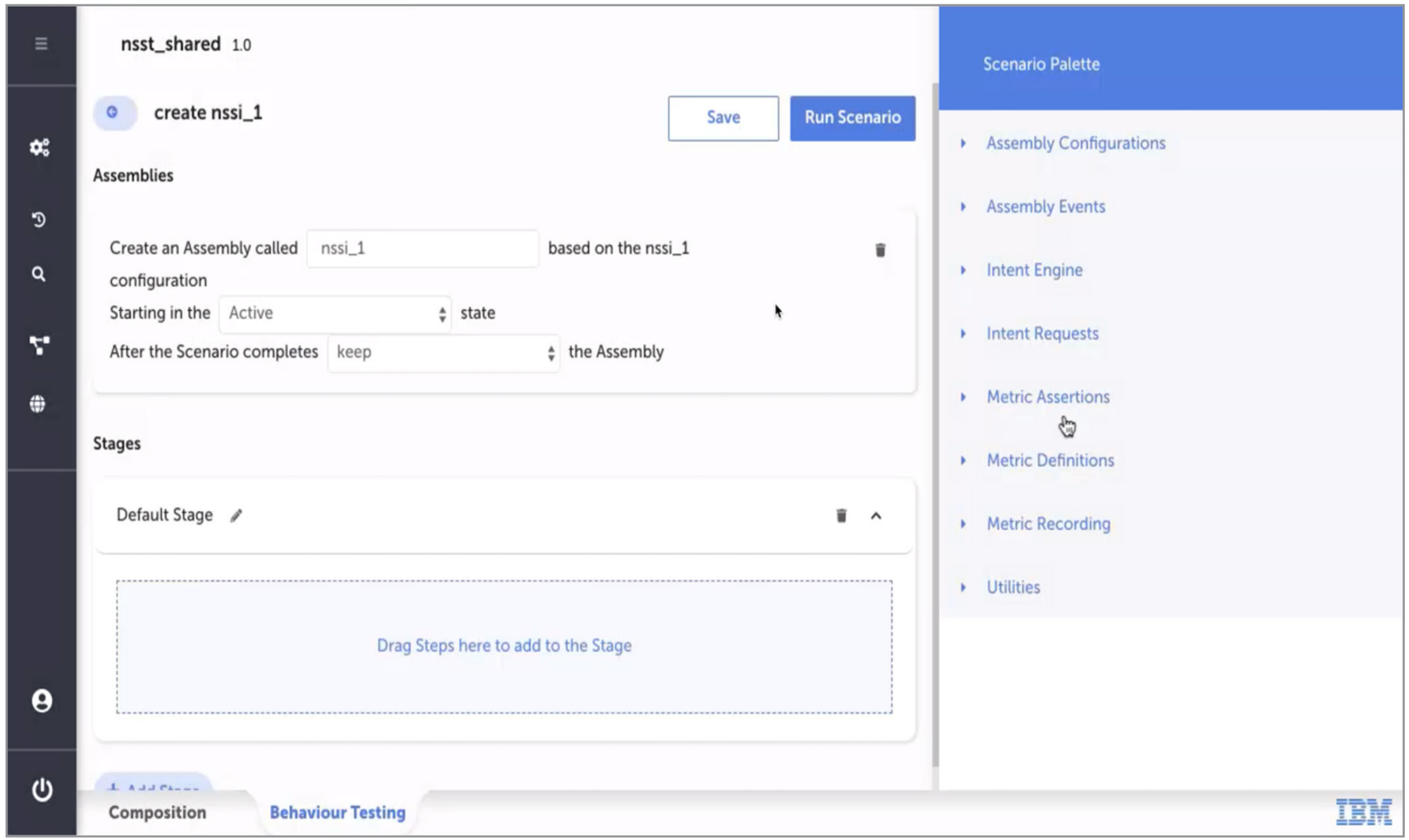

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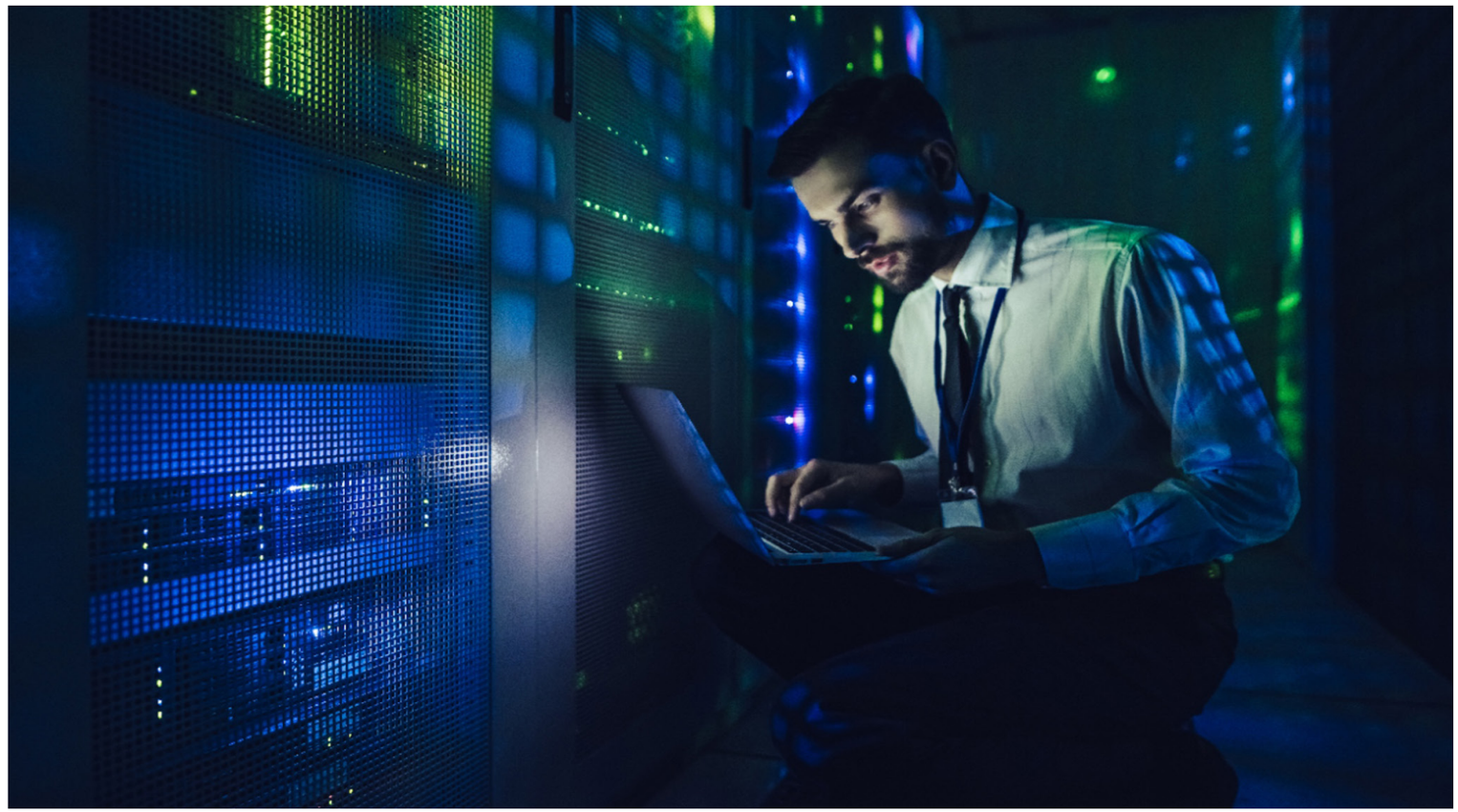
Deploying the 5G network slice



Lucy the Network Engineer completes the design, provision of the 5G network slice and service and stores it in the catalog. Now, Colin the Network Service Engineer runs the specific scenario to deploy the 5G network slice and service.

The orchestrator function of **IBM Cloud Pak for Network Automation** kicks in, starting the provisioning process.

Colin can track the progress on the Behavior Testing tab or switch to view the details in the Orchestrator view.

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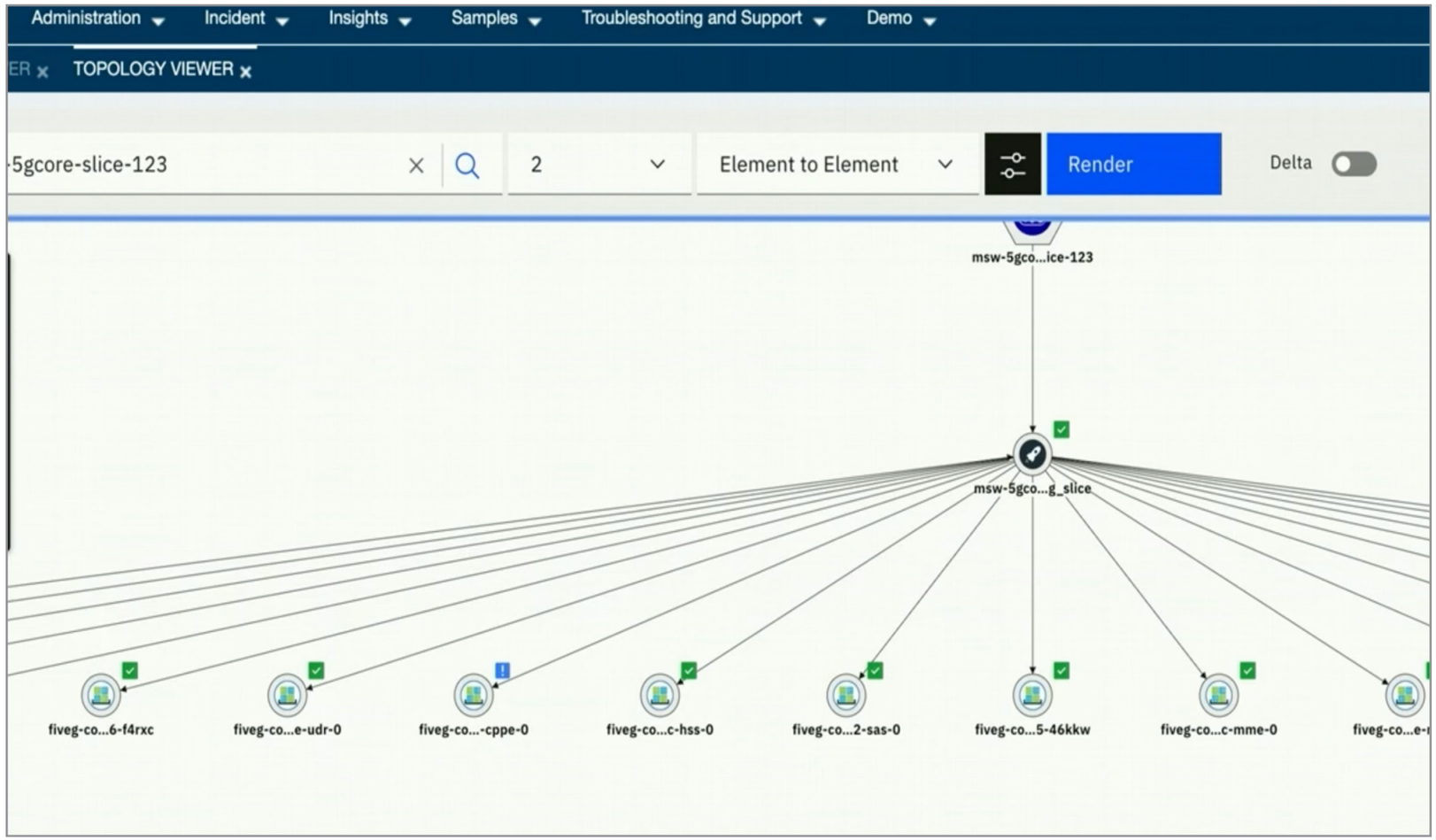
Opening the topology viewer

Colin opens the dynamic topology viewer.
Colin selects the network slice instance and looks at the service topology.

As indicated by the green box containing the check, not all components have initialized fully yet. A refresh of the screen shows that the last network element is available.



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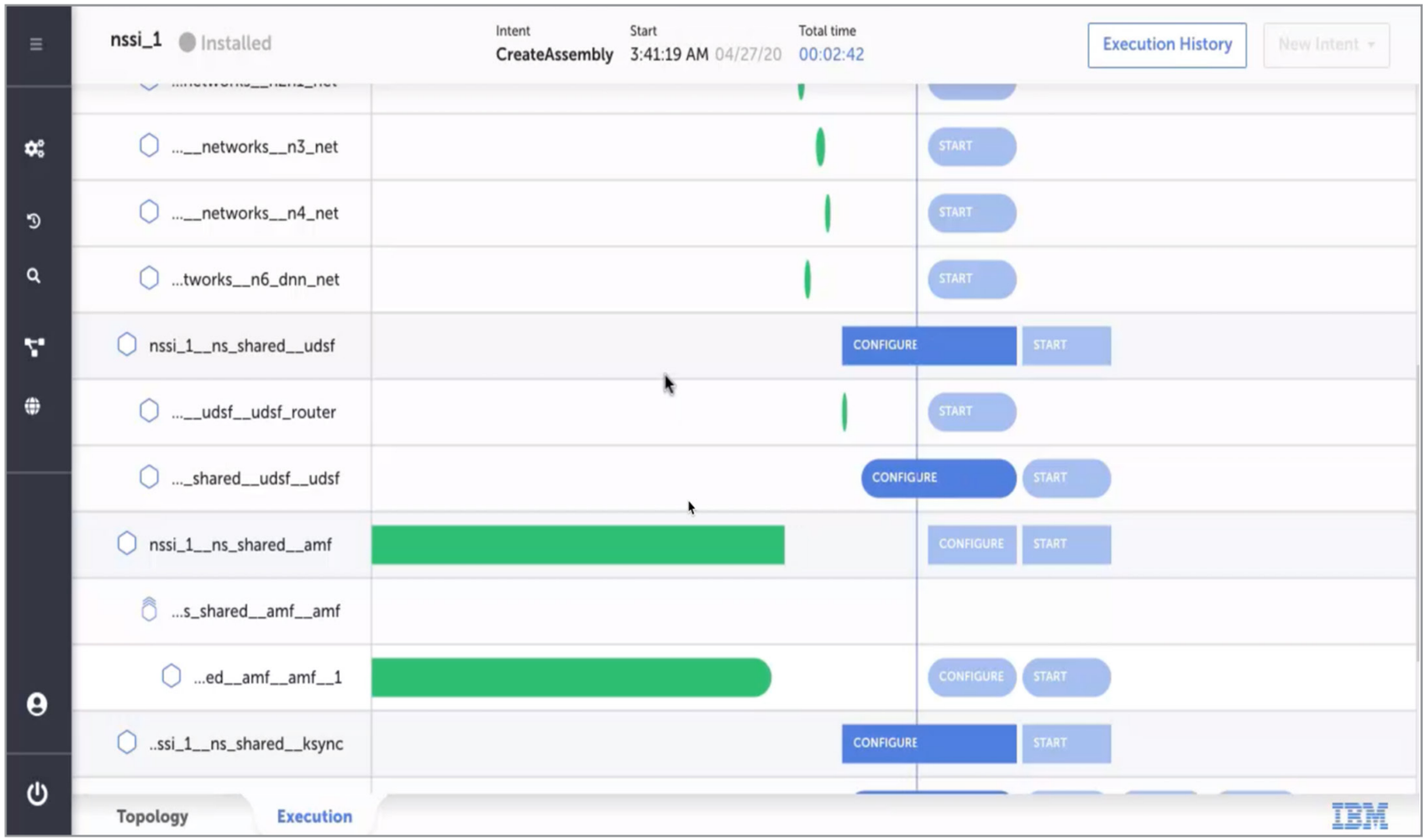
Monitoring the provisioning process

Colin uses the Gantt chart to view the sequence, dependencies, and current status of all tasks. After a few minutes, provisioning is complete.

Colin can use the color-coding capability of the Execution view to identify tasks that complete successfully and any issues that occur.



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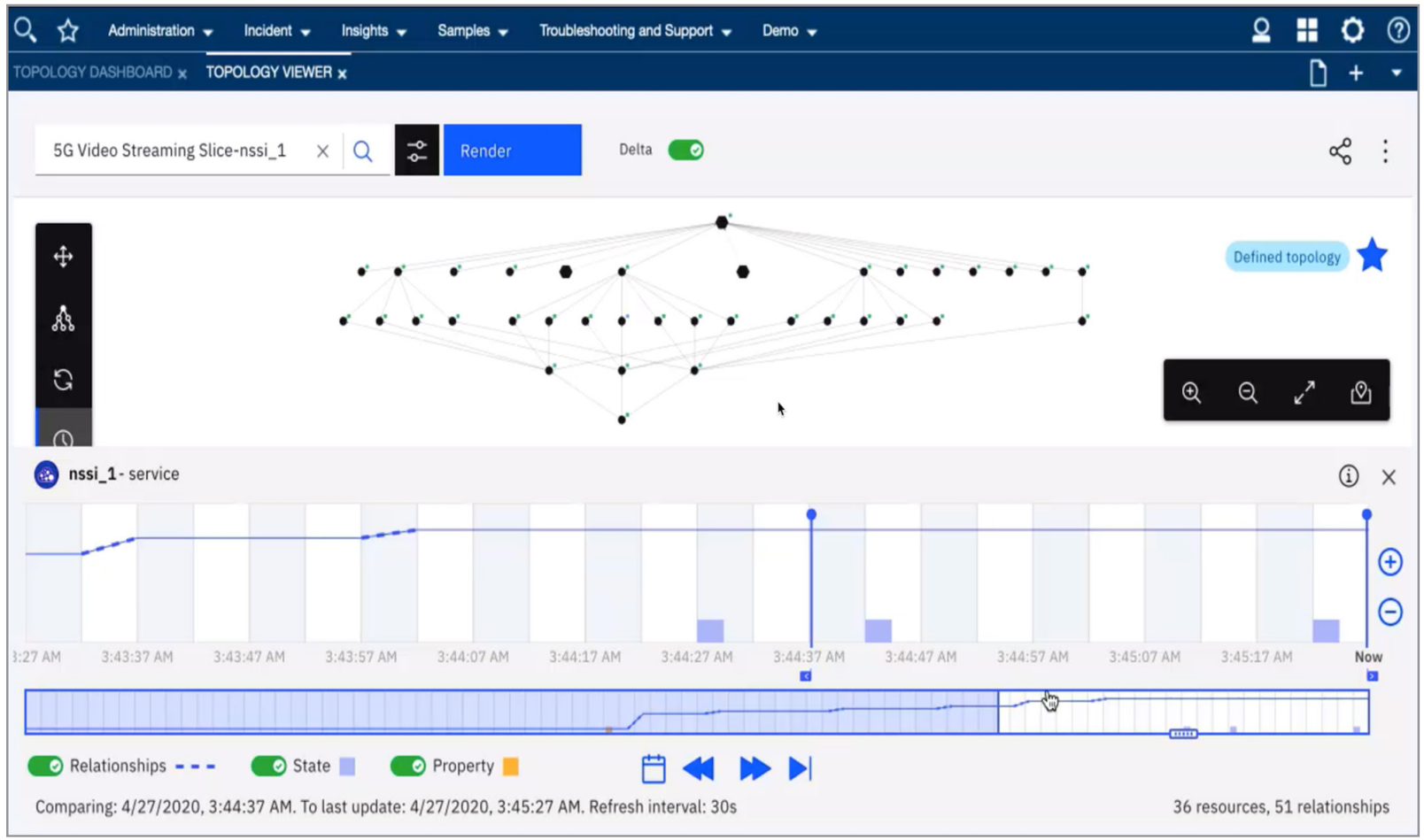
Viewing the topology changes

In the timeline view, Colin sees how the topology changes over time. This ensures that the provisioning process is working as expected, as well as assist in diagnosing any issues.

The view can be filtered and zoomed in or out, so that complex topologies can be visualized over time.



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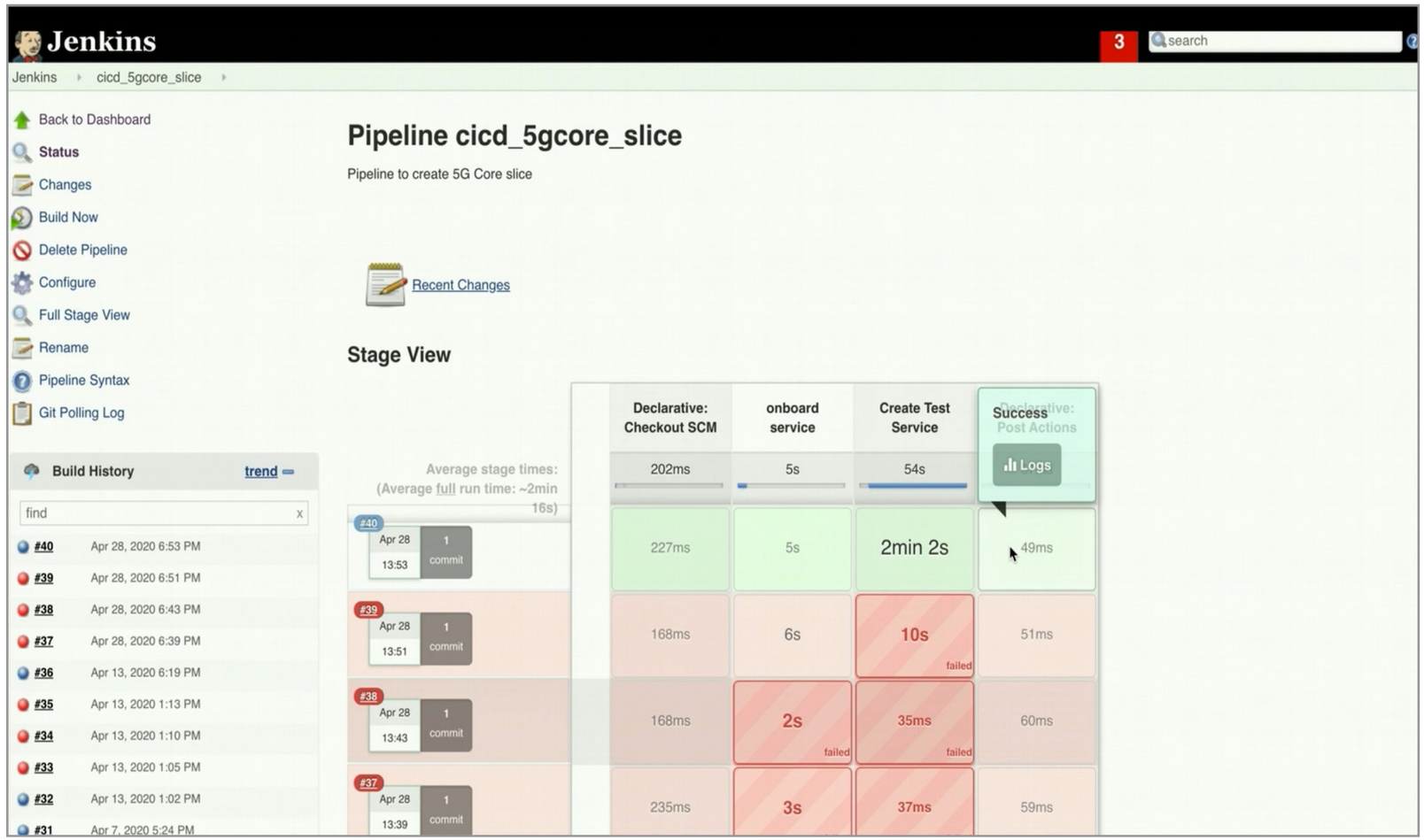
Completing the task

Changes in the 5G network slice are synchronized back to the network topology database.

Colin can now look at the history for all deployments of the same service to check when and how well the deployments completed.



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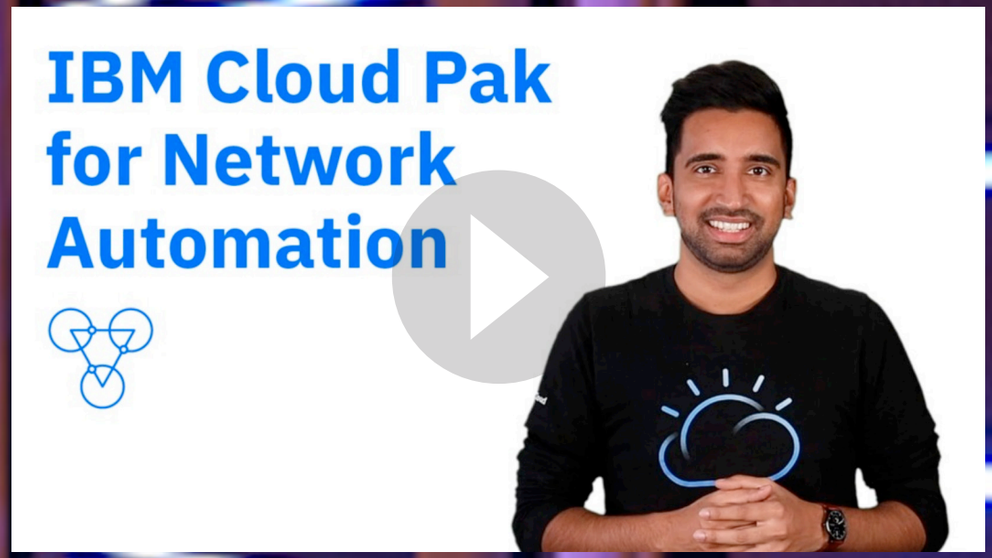

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