

Nephio Rx Scope Planning

Background

This is a working document to capture the framework and community goals Nephio releases.

Nephio Rx Work Items

For any new work items, please follow the [☰ Nephio Rx Scope Process](#) .

- SIG2 & SIG3 (Maintenance and Technical Dept) **R4 Tagged**
 - Porch evolution
 - Make Nephio work outside of a VM
- Others
 - Approved User Stories / Work Items
 - [☰ User Story : Cluster Registration](#) **R4 Tagged**
 - Candidate User Stories
 - [📄 User Story - Nephio Transport Network.docx](#)
- SIG14 (Security)
 - Approved User Stories / Work Items
 - Increase OpenSSF score to 8 ([GitHub Issue](#)) **R4 Tagged**
 - Candidate User Stories
 - [☰ Nephio Service Mesh Requirements](#)
 - [☰ Secrets Management User Story](#)
 - [☰ User Story - Package Validation](#)
 - [📄 Identity and Access Management PA2](#)
 - [📄 Nephio Workload Identity](#)
- WG2 (O-RAN)
 - Approved User Stories
 - [☰ User Story - Deploy xApp without SMO](#) **R4 Tagged**
 - [☰ User Story - Reconfigure O-RAN NF](#)
 - [☰ User Story - Deploy Near-RT RIC without SMO](#)
 - [📄 User Story - NF Orchestration Using SMO](#) **R4 Tagged**
 - [📄 User Story - Create O-Cloud K8s Cluster](#) **R4 Tagged**
 - Candidate User Stories
 - [📄 User Story - Delete O-Cloud K8s Cluster.docx](#)
 - [☰ User Story - O-Cloud Registration](#)
- WG5 (Service Assurance & Policy)
 - Approved User Stories

- ☰ Service Assurance Framework for ODU bandwidth assurance - II R4
 - Tagged
 - Candidate User Stories
 - ☰ User Story 1 - Impact Analysis
 - ☰ User Story-SA loop
- WG3 (UX & Modeling)
 - Candidate User Stories
 - W Feature (User Story) WG4- Nephio SDK for Helm based NF onboard...
 - W Feature (User Story) WG4- Nephio SDK for Helm to operator code ...
 - W Feature (User Story) WG4- Nephio UI based Package creation Wiz...
 - W Feature (User Story) WG4- Nephio UI NF Status and Life Cycle Ma...

Nephio Rx Backlog

- GenAI
 -
- North-South-East-West integration
 -
- Provisioning
 - Transport
 - [SDC \(Schema Driven Configuration\)](#)
- LCM
 - ☐ Orange CNF upgrade experience
 - Tools to avoid pain points in production
 - Custom values generation/checks
 - *Class / kind of parameters ?*
 - Status to be aligned with the “reality”
 - Need to automate the delta between 2 versions
 - Full stack: K8S version + CNF version
 - Automate the full stack using K8S
 - Optimize the full stack upgrade
 - NF LCM
- Service Assurance
 - Data flow
 - Where does the data come from? Where is it going? How is it used?
 - Should we do SA ?
 - What exists out there we could get “out-of-the-box”?
 - Document east west integration
 - Various level of close-loop (from e2e service orchestrator, to local to cloud, to NF)
 - Nephio needs to be specific and focused on what SA it achieves

Nephio R4 Priorities/ Planned Deliverables

Theme:

Release (Code)

Platform evolution and Readiness (Maintenance and Technical Dept)

- Porch Evolution/Comparison Doc/ TKO MVP
- Support deletion of kpt package
- Repeatable LCM of clusters and workloads

Use-Cases/ Service

Non-Code/Architecture/White Papers/Vision

- Nephio and GenAI White Paper (SIG Architecture: WG6)
- Nephio and CAMARA white Paper

Nephio R3 Priorities

Thoughts

- How to grow the community?
- Deliverables might/will not be tied to **a** specific release

Theme / Mission statement

Need to have a clear mission statement to explain what Nephio R3 will be about and value it will bring

Strengthen the platform; Get ready for O-RAN.

[Github R3 Board](#)

Proposal (in-progress)

1. Nephio core platform
 - Enhance / Stabilize Porch
 - Evolution
 - 2.0 design
 - <https://github.com/nephio-project/nephio/issues/572>
 - Reduce E2E deployment (baseline is more than one hour)

- Make Nephio work on “real k8s cluster” (Bala/Sana’s P1)
- Security improvements
- Increase LFN scorecard
- 2. Support 3rd party Git and GitOps systems
- 3. Standardize infrastructure management
 - Register, Create and Delete Cluster
- 4. O-RAN Use cases
 - Deploy and Reconfigure Applications (NFs, xApp, Near-RT RIC)
- 5. User Experience
 - UI & SDK enhancements
- 6. Service Assurance
 - Initial observability framework

SIG1 deliverables

1. Target Component Architecture
2. Schema Catalog
3. Roadmap
4. User Stories and Sequence Diagrams
 - a. Include into official Nephio docs
5. High Level Process Description (User Journey)
6. Initial positioning paper regarding GenAI