Nephio TSC Meeting

July 20, 2023

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Meeting Information

Zoom Meeting Information

https://zoom-lfx.platform.linuxfoundation.org/meeting/91267803435

Note: Anyone that accesses the link will be prompted to register for the meeting at which point they also add themselves to the invite list.

Etherpad - Meeting Minutes

- https://etherpad.lfnetworking.org/p/Nephio-TSC-2023-07-20

- Join the etherpad and set up your name and text color
  - Meeting attendance - no longer needed, tracked by LFX tools

- Please help: The more that participate, the better the minutes

Using the Mail Lists

All groups.io email lists are <list name>+subscribe to subscribe, just email it (content does not matter)

- TSC
  - Post: nephio-tsc@lists.nephio.org
  - Subscribe: nephio-tsc+subscribe@lists.nephio.org
- Development
  - Post: nephio-dev@lists.nephio.org
  - Subscribe: nephio-dev+subscribe@lists.nephio.org
- SIG Automation
  - Post: sig-automation@lists.nephio.org
  - Subscribe: sig-automation+subscribe@lists.nephio.org
- SIG NetArch
  - Post: sig-netarch@lists.nephio.org
  - Subscribe: sig-netarch+subscribe@lists.nephio.org
- SIG Release
  - Post: sig-release@lists.nephio.org
  - Subscribe: sig-release+subscribe@lists.nephio.org

Once you have subscribed, login to lists.nephio.org (ask for a link to be sent), then edit account details

TSC Members

Organization	Name	Organization	Name
Sandeep Sharma	Aarna Networks	Sebastian Scheele	Kubermatic
Erhan Lokman / Erol Ozcan	Argela	Jane Shen	Mavenir
Daniel Bernier / Marc-Alexandre Choquette	Bell Canada	Timo Perala	Nokia
Sandip Sarkar / Chandra Thakare	Capgemini	Eric Debeau	Orange
Eric Gaudet	Casa Systems	Sana Tariq (Vice-Chair)	TELUS
Bernard Tsai	Deutsche Telekom	Fabrizio Moggio	TIM
Oleg Berzin	Equinix	Gene Bagwell	Verizon
Ciaran Johnston	Ericsson	Hunor Demeter / Padma Sudarsan	VMware
Sanju Abraham / Ravi Ravindran	F5	Iain Wilkinson / Riccardo Gasparetto Stori	Vodafone
Kandan Kathirvel (Chair)	Google	Seshu Kumar Mudiganti	Wind River
Cathy Zhang / Sundar Nadathur	Intel		

Agenda

- [Lucy] Antitrust Policy, Minutes, and Action Items
- [Ciaran] Helm Support
- SIG Status
  - [Sana & Kaushik] NetArch
  - [John & Wim] Automation
  - [Stephen & Tina] Release
- Q&A

SIG Updates

1. SIG NetArch
2. SIG Automation
3. SIG Release

Helm Support in Nephio

Document …

- https://docs.google.com/document/d/1WIKgOnA3fxnnSPLyZgpKUM-YVjWLDZGozfWunSpUVGQ/edit
-

Why Helm Support

- Use of Helm charts for deploying Kubernetes workloads is ubiquitous in the industry, with investment and use over several years

- Supporting Helm in Nephio is critical to get early adoption with real workloads as the transition to CRDs will happen gradually

- Nephio must have the flexibility to support current and future LCM tools providing they adhere to the core principles - helm is one of those tools and there will be others

- The goal is to produce a framework how to enable Helm in Nephio and have it documented/considered for R2.

Principles for Helm support (proposals)

Helm 3 or higher should only be supported

Helm chart should only expose a small number of parameters for the purposes of:
- integrating to cluster environments
- functional configuration
- performance configuration

Helm charts should provide a JSON schema to constrain and validate the structure and values of helm parameters

Any defined function within the helm chart shall be prefixed by a unique identifier such as the chart name, so that the NF instances can co-exist in the same cluster / namespace

Helm charts should include a meta-data YAML file to allow for integration with the nephio kpt catalog

Do not include namespace templates or specify the resource destination namespace inside the helm chart

Default image pull policy shall be "IfNotPresent"

The image registry path should be parameterized not hard-coded

Helm charts should include test(s) that validate the chart works as expected during a dry-run when it is installed

Helm charts can use Helm test, Helm jobs, Helm hooks (upgrade / post-upgrade)

Helm Hooks related objects, when required, should be annotated with delete policy before-hook-creation and hook-succeeded

Secrets should only be stored in secure manner and never be represented with their clear-text value in a chart or its values
Helm charts should not require root privileges to deploy

Manual Conversion / Translation

- no software support for helm is required in Nephio
- any helm package can be converted to a kpt package no matter how the helm package is structured
- can take significant effort particularly for helm charts with a lot of optionality or with a significant usage of hooks whose output is not captured in the dry run
- one-time conversion
- loss of the LCM and other helm features for managing NFs
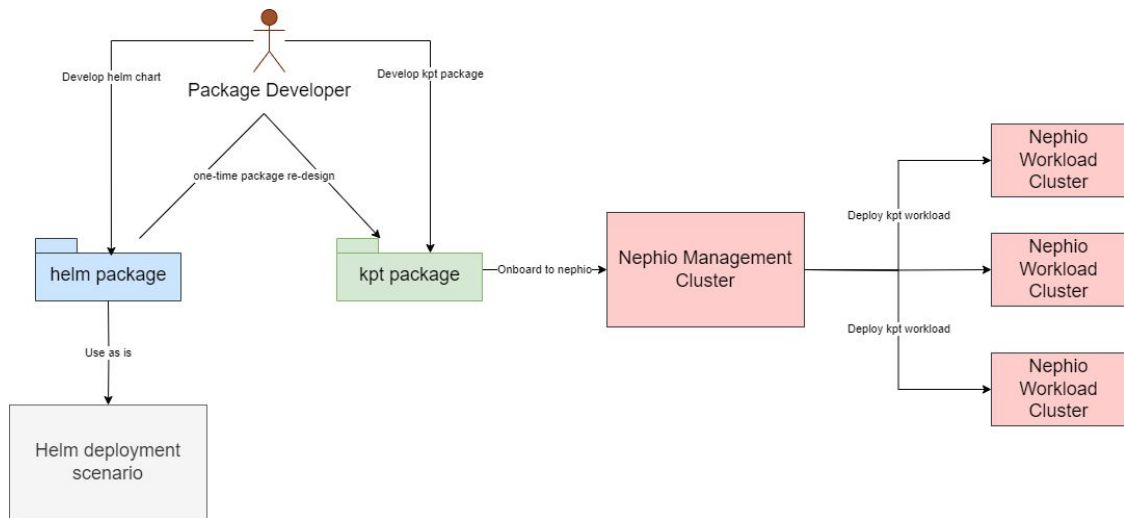
SDK for conversion

- SDK can track changes to helm packages and apply them to kpt packages
- common patterns in helm charts can be iteratively captured in the SDK
- likely to take significant effort to develop an SDK that can satisfactorily convert most helm charts
- likely that helm charts will have to be formatted and linted prior to consumption by the SDK, requiring changes to the helm packages.
- loss of the LCM and other helm features for managing NFs
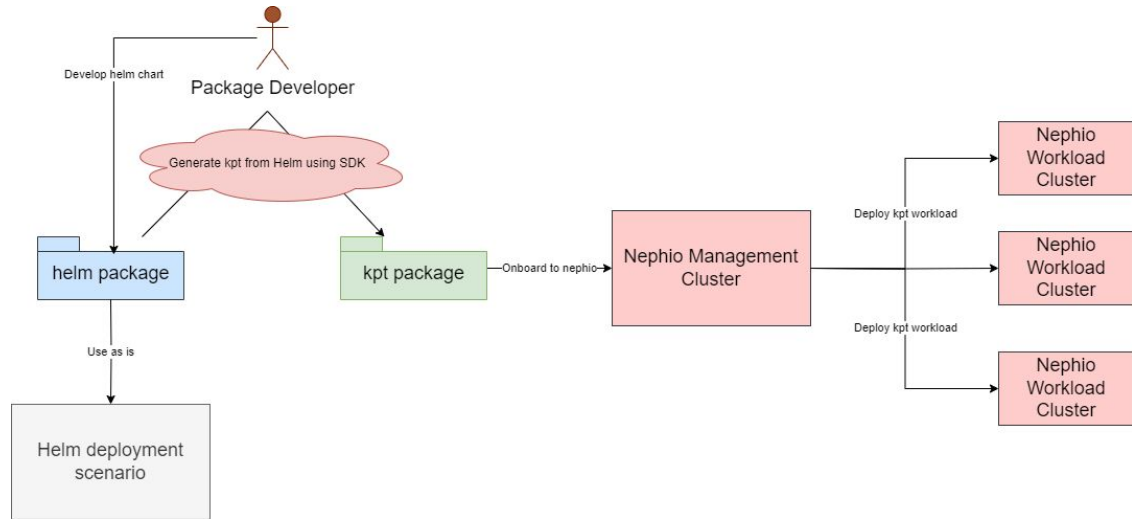
Integration approaches

- Introduce concept of heterogeneity in technology choice into Nephio
- enables the use of extensively deployed and tested workload deployment capabilities
- Same deployment artefacts used in Nephio and non-nephio scenarios
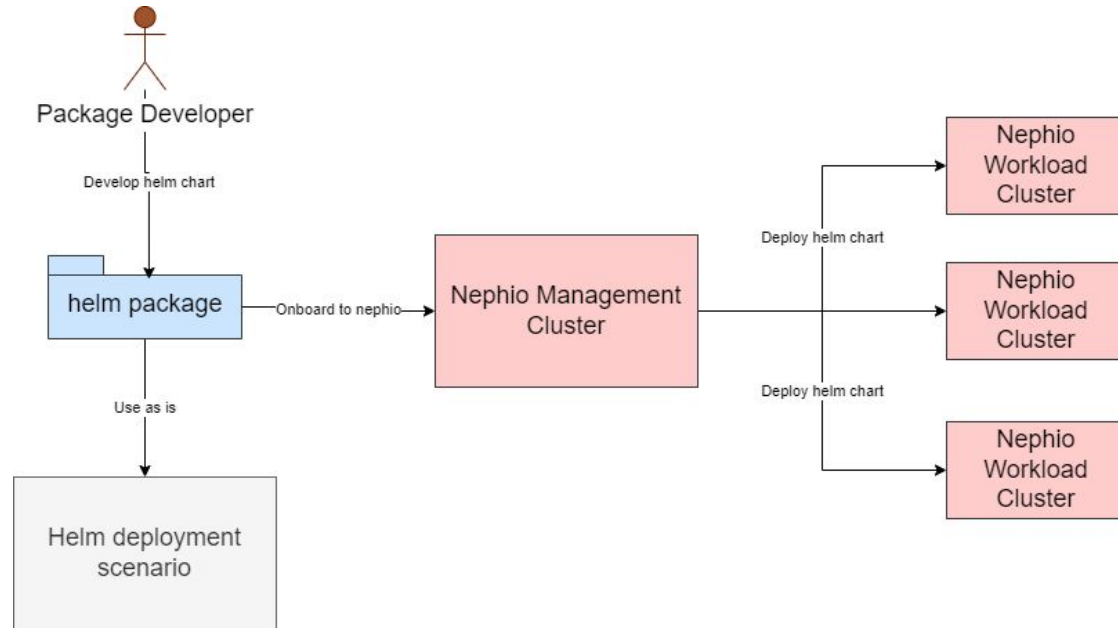
Nephio Helm Package and Operator

- New operator in workload cluster built using Helm SDK
- Helm charts propagated using a helm CRD
- Requires (non-trivial?) development in Nephio
- Tightly integrates helm into the nephio workflow
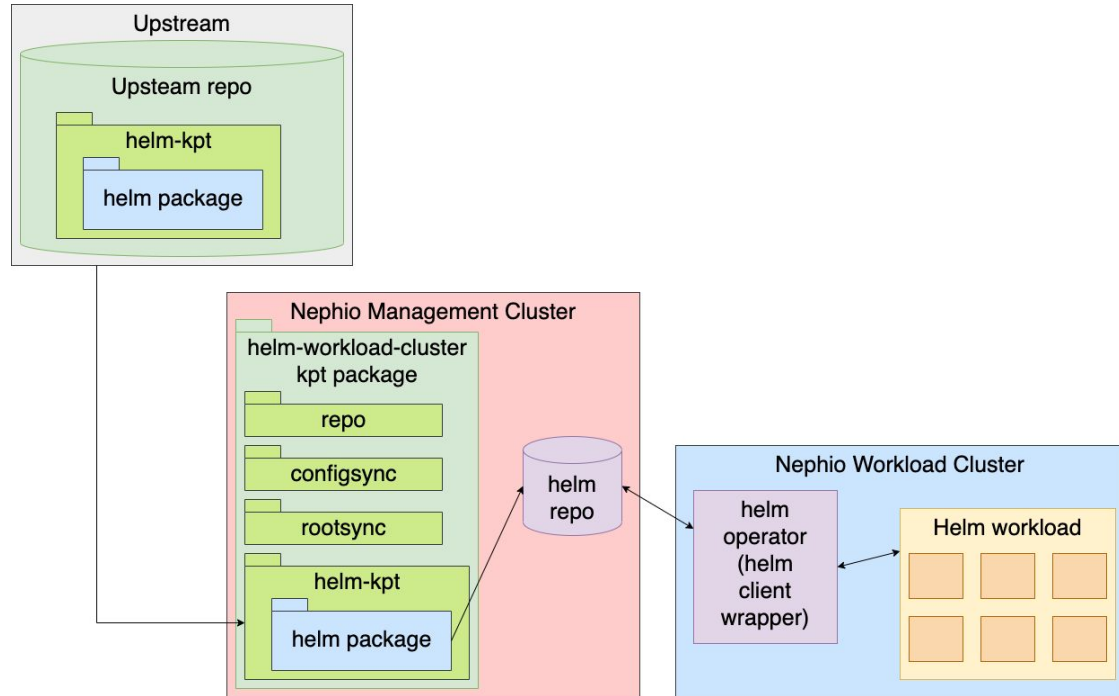
Nephio Helm Package and Operator

- Leverage flux helm controller
- Leverage HelmReleases CRD to specify workload definitions
- Leverage and integrate Flux toolchain into the Nephio workflow
- Less Nephio development with the same or similar outcomes
- Work with Flux community on CRD specifications as they evolve?
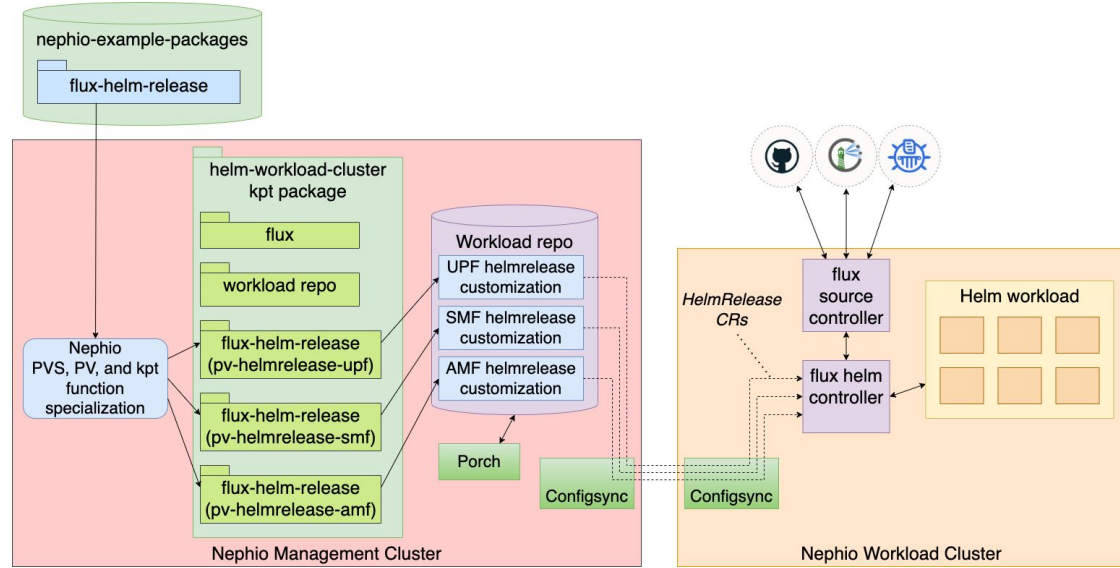
Thank you!

R1 - Marketing Activities

- Press release
  - Timeline: end of July / beginning of August
  - Call for quotes
    - Please add your company's quotes in the doc below by **July 21**
      - https://docs.google.com/document/d/1zrhRwSdBsO3vh8_2qS8AKDldKwefbm21cbAZxKlsAsg/edit?usp=sharing
    - Quotes should highlight any of the following:
      - Excitement about the release and its impact in the industry
      - Key benefits / significance of R1
      - how Nephio R1 aligns with your company's goals / strategy / vision for the future
    - Keep it 2-3 sentences
- Nephio R1 deck
- Blog & social media

Sunnyvale Event

- Upcoming Nephio Event in Sunnyvale, CA (Google Campus)
  - Day 1: Celebration of R1; R2 Topics
  - Day 2: Birds-of-a-Feather Session

- Tentative Dates
  - Week of August 21st
  - Week of August 28th
  - Week of September 4th

- Please expect emails regarding date selection/voting and keynote/presentation topics

- Information will be periodically updated on Nephio's Wiki Page

R1 Contributor Awards

- Nominate via Nephio Wiki
  - [Release 1 (R1) Contributor Awards](#)
  - Please edit the page and add name/email/description to nominate a community member for their contributions to R1
  - Please note that Google employees are precluded from nominations
  - Once the nomination period closes, voting will be conducted via OpaVote

- Nomination and Voting Dates
  - Nomination Period: July 6th, 2023 - July 20th, 2023 at 5pm PT
  - Voting Period: July 21st, 2023 - July 28th, 2023 at 5pm PT
  - Announcement of Top Three Contributors: July 31st, 2023

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