Anuket: RA-1 (OpenStack based Reference Architecture)

What's next?

Ildiko Vancsa, Karine Sevilla, Pankaj Goyal

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Agenda

- Status of RA-1 Lakelse release and scope of what is covered

- Brainstorm on what needs to be included/modified in RA-1
  - Acceleration: feedbacks required on the use of Cyborg and on the support of accelerators like FPGA, smartNIC or GPU
  - Telco edge cloud: which use cases to be deployed on an OpenStack-based cloud?
  - Multi-cloud/hybrid cloud
  - Storage solutions beyond CEPH
  - Automation: Cloud provisioning, LCM
Lakelse Release Recap

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- Upgrade to OpenStack Wallaby release
- Addition of Cyborg service for acceleration resources management as an optional service
- Alignment of Security with RM, upgrade on Image Security
- Update of mandatory features for conformance tests RC1

During Lakelse cycle, RA-1 Reference Architecture (Kali release) published as a GSMA Permanent Reference Document NG.133 v1, 19th of December 2021
What next to include in RA-1?

• Beyond Lakelse, building Moselle release focusing on:
  • Acceleration
  • Edge
  • Hybrid and multi-cloud
  • Storage
  • Automation
Cyborg: hardware acceleration

- Lakelse release relies on the Wallaby OpenStack release and Cyborg service to manage acceleration resources
- Support of software and hardware-based accelerators required for 5G services, IoT, ML, etc.
- Feedbacks are needed on Cyborg
  - Which hardware devices?
  - Limitations/configurations
OpenStack at the Edge

- Considerations
  - Data Plane at edge; Control Plane centralized
  - Only subset of services
  - OpenStack for Baremetal, containers and VMs
- Configuration
  - Gaps?
  - Preferences?
- Tenant management
  - Dedicated or multi-tenant and does it even matter?
- Workload management?
  - What is in scope?
- OpenInfra Edge Computing Group resources
  - https://superuser.openstack.org/articles/tag/edge-computing/
Multi-cloud/hybrid cloud

• Multi-cloud and hybrid cloud: how to operate cloud-based services?
• A common API will simplify operations
• Is OpenStack solution OMNI a good candidate?
  • For which use cases?
  • For which public clouds: AWS, Microsoft Azure, Google Cloud Platform?
  • Maturity/status of OMNI?
  • Adoption?
  • Configuration?
• Other solutions?
Storage solutions beyond Ceph

• Ceph as the default storage backend for Anuket RA-1
• Other solutions
  • Distributed storage solution
  • Software defined storage on top of hyper-converged infrastructure
  • Which solutions to support high performance storage requirements?
  • Storage at the edge
• Need for more guidance on cloud provisioning and LCM?
  • IaC tools
  • Immutable infrastructure
Contributors are welcome!

Join our meetings and discussions

- **Wiki Anuket RA-1**

- **Weekly RA-1 meetings: Mondays @1530 UTC**
  [RA-1 Meeting Minutes]

- **Documentation**
  [GitHub RA-1]
  [Readthedocs RA-1 Lakelse]

- To subscribe to mailing list: [https://lists.anuket.io/g/ra1](https://lists.anuket.io/g/ra1)