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LFN Developer & Testing Forum

Anuket: RA-1 (OpenStack based Reference Architecture)

What's next?

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- 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://wiki.openstack.org/wiki/Edge_Computing_Group
 - <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

Automation: cloud provisioning, LCM

- 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>

A close-up, low-angle shot of a golden wheat field. The wheat stalks are in sharp focus in the foreground, with a soft, warm glow from the sun in the background, creating a bokeh effect. The overall color palette is warm, dominated by yellows, oranges, and browns.

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