Radio Edge Cloud Release 3

Summary

Release 3 is a snapshot point in the ongoing development of the Radio Edge Cloud blueprint. As in Release 2, most of the code for REC is actually shared with its Telco Appliance (TA) family. The changes specific to REC itself, excluding changes inherited from TA) are trivial and are listed below. The changes to Telco Appliance are mostly the version increments to the upstream projects listed below plus minor bug fixes and the bullet points listed below. Providing an integrated, automated deployment of an interoperable set of upstream projects is a major goal of REC and TA, so these version updates are the primary focus of the release.

Changes since Release 2 (2019-11-18)

New Features

- ARM64 Support!
  - REC Release 3 supports ARM based CPUs for the first time
  - Validated on Wiwnn EP120 openEDGE server using Hawk motherboard with Ampere eMAG Arm v8 8180 32 core processor
  - Validated on Lenovo HR330A (1U) and Lenovo HR350A (2U) also using Ampere eMAG 8180
- EFI support as needed for ARM based servers
- Improved kubelet healthcheck for restoring nodes to service

Fixes

- CPU Pooler bugfix https://github.com/nokia/CPU-Pooler/issues/36
- PVC handler fix in dynamic local PV provisioner

Upgrade Procedures

Currently REC only supports bare metal installation. In place upgrades are not supported. The upgrade procedure is the same as the initial installation procedure documented in the REC Installation Guide.

Release Data

Radio Edge Cloud Repository

The Radio Edge Cloud repository is quite small and mostly contains simple workflow scripts that allow the Akraino Regional Controller to perform the installation of the Telco Appliance based bare metal installation used by REC.

```
======================= rec =======================
Commit a34d654 on Mon Feb 24 09:58:55 2020 -0500      Added Ampere_Openedge hardware type      (HEAD -> master,
gerrit/master, gerrit/HEAD)
Commit 933df75 on Fri Jan 31 14:35:38 2020 +0200      Remove a non-active committer
Commit 2d095d2 on Thu Jan 16 07:31:01 2020 +0000      Add committers and PTL to new INFO.yaml file
```

Telco Appliance Repositories

Radio Edge Cloud is primarily composed of code from the following Telco Appliance repositories. The list below shows the changes to each repository since the time of Akraino Release 1 at the end of May.

```
======================= access-management =======================
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No changes since Release 2
======================= ansible-role-ntp =======================
No changes since Release 2
======================= build-tools =======================
Commit d159b27 on Wed May 13 16:45:01 2020 -0400     Add --network=host to "docker run" commands     (HEAD ->
master)
Commit 3b20321 on Tue Mar 17 12:12:45 2020 +0200     Add --network=host flag for more stable network
(origin/master, origin/HEAD)
Commit 2dbc906 on Thu Dec 12 01:14:07 2019 +0100     dib_elements: Fix grub console for UEFI too
Commit fddfaa0 on Thu Nov 28 17:08:15 2019 +0100     Minor fixes & improvements for ISO builds
Commit 9c64774 on Thu Nov 28 14:02:37 2019 +0000     DIB: Add custom block-device-efi element
Commit 70d3938 on Tue Nov 26 10:23:09 2019 +0000     install cd: Use same kernel/initrd for UEFI boot
======================= caas-cpupooler =======================
Commit 2ec34f5 on Fri Jan 17 14:13:37 2020 +0200     Add maintenance toleration for cpu_pooler_config
(HEAD -> master, origin/master, origin/HEAD)
Commit 52a19fb on Wed Nov 20 09:32:51 2019 +0100     CPU Pooler version update
======================= caas-danm =======================
Commit 9a8cb16 on Fri Mar 6 15:40:12 2020 +0200     sriovdp is in PodInitializing state     (HEAD -> master,
origin/master, origin/HEAD)
Commit 77284be on Fri Jan 17 14:05:52 2020 +0200     Add maintenance toleration for flannel
Commit e8fc0ec on Mon Nov 25 11:47:35 2019 +0100     Fix SR-IOV VF counting in sriovdp init script
======================= caas-etcd =======================
Commit 5b7a185 on Mon Dec 16 13:21:51 2019 +0100     Allow arm64 using ETCD_UNSUPPORTED_ARCH env var     (HEAD
-> master, origin/master, origin/HEAD)
======================= caas-helm =======================
Commit fcf42dd on Fri Jan 17 14:08:47 2020 +0200     Add maintenance toleration for chart and tiller     (HEAD
-> master, origin/master, origin/HEAD)
======================= caas-install =======================
Commit 497aa86 on Wed Jan 22 15:30:41 2020 +0100     Include VFIO SRIOV interfaces into TenantConfig     (HEAD
-> master, origin/master, origin/HEAD)
Commit bbef614 on Mon Jan 20 12:13:16 2020 +0200     Add maintenance toleration to caas-install
Commit eb692bb on Fri Jan 17 15:41:17 2020 +0000     Merge "Add maintenance tolerations to caas-install"
Commit 0edb616 on Fri Jan 17 14:10:49 2020 +0200     Add maintenance tolerations to caas-install
Commit 250edf0 on Tue Jan 14 11:13:18 2020 +0100     Docker service now depends on containerd service
Commit a41f65d on Mon Nov 25 12:01:58 2019 +0100     Move init.sh from configmap to docker image
======================= caas-kubedns =======================
Commit 573182a on Fri Jan 17 13:59:18 2020 +0200     Add maintenance toleration for kubedns     (HEAD ->
master, origin/master, origin/HEAD)
======================= caas-kubernetes =======================
Commit 4fa2d52 on Fri Nov 29 10:55:28 2019 +0100     Kubelet healthcheck reimagined.     (HEAD -> master,
origin/master, origin/HEAD)
======================= caas-lcm =======================
No changes since Release 2
======================= caas-logging =======================
No changes since Release 2
======================= caas-metrics =======================
No changes since Release 2
======================= caas-registry =======================
Commit 85d0024 on Fri Jan 17 14:03:30 2020 +0200     Add maintenance toleration for caas-registry     (HEAD ->
master, origin/master, origin/HEAD)
======================= caas-security =======================
Commit 88263c3 on Mon Dec 16 14:42:40 2019 +0100     add rights to svcwatcher clusterrole events     (HEAD ->
master, origin/master, origin/HEAD)
Commit 5cdce15 on Wed Dec 11 19:44:20 2019 +0100     Add EFI support for grub.cfg generation
======================= caas-storage =======================
Commit b5b8be8 on Wed Feb 5 10:48:37 2020 +0100     Pv_prov update for fix:     (HEAD -> master, origin
/master, origin/HEAD)
======================= cloudtaf =======================
Commit af5eb3f on Wed Jan 8 17:09:19 2020 +0100     robot tcs, test charts, robot container added     (HEAD -
> master, origin/master, origin/HEAD)
Commit 025a455 on Mon Nov 25 18:12:03 2019 +0000     Merge "Fix error in REC-13"
Commit 7fc237c on Mon Nov 25 13:27:37 2019 +0200     docker version update
======================= cm-plugins =======================
Commit c8427f2 on Mon Feb 24 13:25:58 2020 +0100     validators: Allow uppercase iface names     (HEAD ->
master, origin/master, origin/HEAD)
Commit 3deea1d on Tue Dec 10 19:15:26 2019 +0100     zbaremetalnodeinventory: Add aarch64 support
Commit 5c3f9f3 on Thu Nov 21 14:31:12 2019 +0200     storageinventory: Refactor ceph key generation
======================= config-manager =======================
Commit 8a3f88d on Thu Jan 16 11:42:08 2020 +0100     Add explicit CM dependencies     (HEAD -> master, origin
/master, origin/HEAD)
Commit 87d5aa1 on Tue Dec 3 16:58:02 2019 +0100     add localstorage label handling
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======================= distributed-state-server =======================
No changes since Release 2
======================= hostcli =======================
No changes since Release 2
======================= hw-detector =======================
Commit d3defb5 on Wed Jan 22 17:32:23 2020 +0200      Add hardware type for Ampere Hawk server      (HEAD ->
master, origin/master, origin/HEAD)
Commit acac896 on Mon Dec 9 11:50:49 2019 +0200      Add hw_type for Ampere Falcon server
======================= image-provision =======================
Commit 9ae9036 on Mon Dec 9 15:08:15 2019 +0100      EFI support for installmedia dracut module      (HEAD ->
master, origin/master, origin/HEAD)
======================= infra-ansible =======================
Commit d8894a8 on Thu Feb 13 14:52:42 2020 +0100      sriovdp_config: Improvements and fixes      (HEAD ->
master, origin/master, origin/HEAD)
Commit 7385fe7 on Mon Jan 13 18:05:28 2020 +0100      Fix ansible disk wipeoff skip
Commit e577680 on Tue Dec 17 16:05:10 2019 +0200      Ensure authconfig is properly configured
Commit 070e5c7 on Tue Dec 17 11:38:17 2019 +0200      audit: Filter-out unavailable AArch64 syscalls
Commit b2e1386 on Fri Dec 13 16:13:40 2019 +0100      disk wipeoff: Fix shell syntax for missing disk
Commit 3a7fca6 on Fri Dec 13 16:13:35 2019 +0100      Add EFI support for grub.cfg generation
Commit 25478b9 on Tue Dec 10 14:13:05 2019 +0200      EFI: Take into consideration the new GPT layout.
Commit b1aa7ee on Thu Nov 21 09:52:47 2019 +0100      postinstall: Copy ceph ansible modules if present
======================= ipa-deployer =======================
Commit d881d27 on Thu Nov 21 15:54:31 2019 +0100      Arch-specific builds, aarch64 support      (HEAD ->
master, origin/master, origin/HEAD)
======================= ironic =======================
No changes since Release 2
======================= ironicclient =======================
No changes since Release 2
======================= ironic-virtmedia-driver =======================
Commit f0dbbaf on Thu Feb 13 18:56:32 2020 +0100      ampere: falcon/hawk: Add padding for IPMI raw cmds
(HEAD -> master, origin/master, origin/HEAD)
Commit ec0a80d on Mon Dec 16 16:53:44 2019 +0200      Add support for Ampere Falcon server
======================= lockcli =======================
No changes since Release 2
======================= manifest =======================
Commit c01430c on Wed Mar 4 15:44:35 2020 +0200      leatherman excluded from EPEL repo      (HEAD -> master,
origin/master, origin/HEAD)
Commit c8a0ef2 on Fri Dec 13 15:37:24 2019 +0100      Ensure authconfig is preinstalled
Commit 833397f on Thu Nov 21 14:24:47 2019 +0100      packages: Bump ceph-ansible from 3.0 to 3.1
======================= monitoring =======================
No changes since Release 2
======================= openstack-ansible =======================
No changes since Release 2
======================= openstack-ansible-galera_client =======================
No changes since Release 2
======================= openstack-ansible-galera_server =======================
No changes since Release 2
======================= openstack-ansible-haproxy_server =======================
No changes since Release 2
======================= openstack-ansible-memcached_server =======================
No changes since Release 2
======================= openstack-ansible-openstack_openrc =======================
No changes since Release 2
======================= openstack-ansible-os_ironic =======================
No changes since Release 2
======================= openstack-ansible-os_keystone =======================
No changes since Release 2
======================= openstack-ansible-plugins =======================
No changes since Release 2
======================= openstack-ansible-rabbitmq_server =======================
No changes since Release 2
======================= openstack-ansible-rsyslog_client =======================
No changes since Release 2
======================= os-net-config =======================
No changes since Release 2
======================= python-ilorest-library =======================
No changes since Release 2
======================= python-peewee =======================
No changes since Release 2
======================= remote-installer =======================
Commit c00954e on Fri Mar 6 13:56:36 2020 +0200      Add support for Ampere Falcon HW      (HEAD -> master,
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gerrit/master, gerrit/HEAD)
Commit da2e804 on Thu Jan 30 10:56:42 2020 +0200      Fix jenkins remote-installer docker build
Commit ef60e67 on Wed Jan 29 20:09:05 2020 +0100      Dockerfile: Fix ARG variable representation
Commit b52e6b5 on Thu Jan 16 11:19:07 2020 +0200      Add aarch64 support
======================= rpmbuilder =======================
No changes since Release 2
======================= start-menu =======================
No changes since Release 2
======================= storage =======================
No changes since Release 2
======================= ta =======================
Commit 700fb22 on Wed Dec 11 23:27:53 2019 +0000      Modify access rules      (HEAD -> master)
======================= yarf =======================
No changes since Release 2
```

Known Limitations, Issues and Workarounds

References