

Radio Edge Cloud Release 2

- [Summary](#)
- [Changes since Release 1 \(2019-05-28\)](#)
 - [New Features](#)
 - [New Upstream Components](#)
 - [Fixes](#)
 - [Significant Upstream Version Updates](#)
- [Upgrade Procedures](#)
- [Release Data](#)
 - [Radio Edge Cloud Repository](#)
 - [Telco Appliance Repositories](#)
- [Known Limitations, Issues and Workarounds](#)
- [References](#)

Summary

Release 2 is an snapshot point in the ongoing development of the Radio Edge Cloud blueprint. As in Release 1, 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 1 (2019-05-28)

New Features

- SSH authorized keys for admin user can be specified in user_config under [users.admin_user_authorized_keys](#).
- Default container network can be customized:
 - The underlay network can be configured with [networking.caas_oam](#). Containers using default networking can access this network.
 - The overlay network be set with [caas.oam_cidr](#).
- DANM version 4.0 introduced 2 new network types TenantNetwork and ClusterNetwork, so DanmNet is no longer available. [More info](#). There is also possibility to configure tenant networks:
 - Provider networks with type "caas" can be added in either [network_profiles.provider_network_interfaces](#) or [network_profiles.sriov_provider_networks](#).
 - Based on "caas" type provider networks listed in [caas.tenant_networks](#) will be available as TenantNetworks.
- Set performance tuning options for hosts. Currently low_latency available, which disables C6 C-state: [performance_profiles.tuning](#)
- CPU manager is production ready, CPU pools can be defined here: [performance_profiles.caas_cpu_pools](#)
- Ability to set IPMI privilege level per host bases: [hosts.hwmgmt.priv_level](#)
- Kubernetes upgraded to 1.16. Please check [deprecations and removals](#).
- All of the components have AArch64 support. The status of porting is available here: [Porting REC on aarch64](#)
- Application logs can be forwarded to log collectors. At this point elasticsearch and remote_syslog supported. Forwarding rules can be added with the following command:

```
hostcli caas applications log add
```

- SCTP support enabled in Kubernetes.

New Upstream Components

- The static local provisioner is included as a beta/preview feature <https://github.com/kubernetes-sigs/sig-storage-local-static-provisioner>
- The dynamic local provisioner is included as a beta/preview feature <https://github.com/nokia/dynamic-local-pv-provisioner>

Fixes

- Resilience of some critical system services (e.g. ntpd, kubelet, etc.) improved. In case of failure services recovers by themselves.
- Elasticsearch cluster made to more robust. Also rotation set for java heap dump files.
- Security corrections (problems discovered by OpenScap Security Scan, and corrections for CVEs in upstream components).
- Pod eviction improved by defining memory thresholds.

Significant Upstream Version Updates

- CPU Pooler 0.3.0
- DANM 4.1.0
- Elasticsearch 7.4.2
- Etcd 3.4.3

- Fluentd 1.7.4
- Helm 2.15.2
- KubeDNS 1.15.7
- Kubernetes 1.16.2
- Prometheus 2.13.0
- Swift 2.23.1

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 Akraio Regional Controller to perform the installation of the Telco Appliance based bare metal installation used by REC.

```
===== rec =====
Commit e9585ab on Thu Oct 10 16:02:00 2019 -0400    Create podevents as the installer reports them.
Commit 60a3d0b on Tue Oct 1 13:54:33 2019 -0400    Fixed yamllint problems in two YAML files
Commit c86985c on Wed Sep 4 16:21:01 2019 -0400    Fix 2 problems with create workflow
Commit e5301e9 on Tue Aug 27 16:37:05 2019 -0400    Add set -xe to ric_automation.sh
Commit 349b8a2 on Thu Jul 11 15:45:57 2019 -0400    Update blueprint, workflows and instructions
Commit 2428f8f on Thu May 30 17:03:15 2019 +0300    make all the files executable
Commit b9b9fff on Thu May 30 16:31:25 2019 +0300    adding a loop and delay time
Commit 9bc4b7e on Thu May 30 00:25:31 2019 +0300    update pkill helm to each script
Commit bf43e35 on Wed May 29 23:59:21 2019 +0300    delete the eol
Commit a434c35 on Wed May 29 23:28:20 2019 +0300    update scripts to be executable
```

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 Akraio Release 1 at the end of May.

```
===== access-management =====
No changes since Release 1
===== ansible-role-ntp =====
No changes since Release 1
===== build-tools =====
Commit dcef345 on Wed Oct 30 19:10:47 2019 +0100    buildconfig: py3 compatible configparser import      (HEAD
-> master, origin/master, origin/HEAD)
Commit 7ff0f5c on Wed Sep 25 16:10:07 2019 +0200    Disable robots.txt parsing for wget download
Commit 5cb76c5 on Fri Sep 13 17:00:24 2019 +0200    Fix an issue related to searching anaconda repo
Commit eb6df41 on Fri Sep 13 11:28:11 2019 +0200    AArch64 (arm64) support for image building, mock
Commit 075a6c6 on Tue Sep 10 10:35:07 2019 +0300    Replace hanging virt-copy-out commands
Commit 8265fa1 on Tue Jul 16 14:53:13 2019 +0200    Add DANM CRD path to mock macros
Commit 807ba2f on Wed Jul 10 08:54:41 2019 +0200    New build time variable for caas_lcm path
===== caas-cpupooler =====
Commit fba8297 on Wed Oct 16 01:25:22 2019 +0200    AArch64 support      (HEAD -> master, origin/master, origin
/HEAD)
Commit 0c35181 on Thu Oct 10 10:00:53 2019 +0200    CVE-2019-16276 Vulnerability fix.
Commit 787a100 on Wed Oct 2 14:03:59 2019 +0200    CPU Pooler version update
Commit 1c00762 on Tue Sep 3 22:02:10 2019 +0200    Go version update to 1.12.9
Commit b9ac39f on Tue Sep 3 13:33:39 2019 +0200    Quick correction for fact cache issue
Commit 24e0f90 on Fri Aug 30 12:53:09 2019 +0200    CPU pooler update
Commit d2abe03 on Mon Jun 24 08:40:13 2019 +0200    Update CPU Pooler to version v0.3.0
Commit 3291fd9 on Fri Jun 21 11:08:19 2019 +0200    Compress image using xz
Commit 491cc92 on Fri Jun 14 10:22:54 2019 +0200    Update CPU-Pooler version
===== caas-danm =====
Commit 4b2ffa5 on Wed Nov 13 17:09:02 2019 +0100    DANM update      (HEAD -> master, origin/master, origin
/HEAD)
Commit d6e2ccb on Fri Oct 18 09:46:21 2019 +0200    Configure `caas_oam` as flannel interface
Commit 531bfda on Thu Oct 17 13:21:58 2019 +0200    AArch64 support
```

Commit 28cd26b on Tue Oct 15 14:14:56 2019 +0200	CaaS DANM update to 4.1.0
Commit a7fdbdf on Fri Oct 4 09:57:03 2019 +0200	Update SRIOVDP to 3.0.0+ version
Commit 0ce0983 on Wed Oct 2 14:29:47 2019 +0200	Kubernetes 1.16.0 api reference change
Commit 2aca0ab on Tue Oct 1 15:27:29 2019 +0000	Merge "Remove DANM TenantConfig creation"
Commit 719feda on Tue Oct 1 10:10:42 2019 +0200	Configurable flannel cidr introduction
Commit d93171d on Mon Sep 30 17:26:29 2019 +0200	Kubernetes 1.16.0 node label fix
Commit b542f88 on Fri Sep 27 10:20:10 2019 +0200	Remove DANM TenantConfig creation
Commit 152845c on Fri Sep 6 15:29:01 2019 +0200	RPM info update
Commit 5b3a618 on Thu Sep 5 14:39:08 2019 -0400	Update DANM version hash
Commit 1c40ef5 on Wed Sep 4 14:04:25 2019 -0400	Change default network to ClusterNetwork
Commit fad294c on Fri Aug 30 16:06:00 2019 +0200	Go version update to 1.12.9
Commit 9993b55 on Mon Aug 26 16:23:03 2019 +0200	Update DANM
Commit 3134943 on Thu Aug 8 17:40:46 2019 +0200	Fix handling of missing tenant_networks
Commit b2946a8 on Wed Aug 7 08:43:42 2019 +0200	Join DANM components into hyperdanm
Commit d45b411 on Thu Jul 25 15:10:08 2019 +0200	Upgrade DANM to version 4.0
Commit d24b652 on Thu Jun 27 13:54:46 2019 +0200	Manifest update
Commit 30d0f11 on Fri Jun 21 11:00:22 2019 +0200	Compress image using xz
Commit 35c548f on Fri Jun 14 14:42:23 2019 +0200	Add jq to sriovdp image
Commit 8f14235 on Fri Jun 14 12:02:03 2019 +0200	Update SRIOV CNI version
Commit 85f2106 on Wed Jun 12 13:25:02 2019 +0000	Merge "Set time zone"
Commit c39dd7c on Thu Jun 6 10:27:10 2019 +0200	Bump RPM_MINOR_VERSION
Commit 91ea601 on Wed Jun 5 13:39:04 2019 +0000	Merge "DANM version update"
===== caas-etcd =====	
Commit 48c97ac on Wed Nov 6 09:30:46 2019 +0100	Etcd version update to 3.4.3 (HEAD -> master, origin
/master, origin/HEAD)	
Commit 8324eb1 on Mon Oct 28 12:46:37 2019 +0100	Etcd version update to 3.4.2
Commit 4583c00 on Thu Oct 17 16:39:57 2019 +0200	spec: Bump minor RPM version to force new build
Commit 0fd37b on Tue Oct 15 12:09:36 2019 +0000	Merge "CVE-2019-16276 Vulnerability fix."
Commit 717e243 on Thu Oct 10 10:24:19 2019 +0200	CVE-2019-16276 Vulnerability fix.
Commit 13a3c49 on Fri Sep 27 22:17:32 2019 +0200	spec: Allow building on any platform
Commit e131842 on Tue Sep 10 19:04:28 2019 +0200	Etcd update
Commit 161b273 on Fri Aug 30 15:28:00 2019 +0200	Go version update to 1.12.9
Commit 26fbfdd on Fri Jul 26 09:12:58 2019 +0200	CN added for all etcd certs
Commit 92925d9 on Tue Jul 16 15:30:51 2019 +0200	Etcd proxy added to caas-etcd
Commit 4598260 on Thu Jun 27 13:53:06 2019 +0200	Manifest update
Commit 3ee41a9 on Fri Jun 21 11:03:24 2019 +0200	Compress image using xz
===== caas-helm =====	
Commit 47241b6 on Wed Nov 6 09:43:36 2019 +0100	Helm update to 2.15.2 (HEAD -> master, origin/master,
origin/HEAD)	
Commit 3a4ce45 on Fri Oct 25 15:57:17 2019 +0200	Update Helm to version 2.15.0
Commit aa795c0 on Mon Oct 21 16:50:42 2019 +0200	Schedule pods by nodetype
Commit 14c3d7f on Tue Oct 15 12:09:59 2019 +0000	Merge "CVE-2019-16276 Vulnerability fix."
Commit 24f9122 on Tue Oct 15 08:38:26 2019 +0000	Merge "AArch64 support"
Commit 1bf60aa on Thu Oct 10 09:39:52 2019 +0200	CVE-2019-16276 Vulnerability fix.
Commit bce256c on Wed Oct 2 16:31:03 2019 +0200	AArch64 support
Commit 241b421 on Wed Oct 2 14:27:54 2019 +0200	Kubernetes 1.16.0 api reference change
Commit 5c8e0ac on Fri Aug 30 15:31:52 2019 +0200	Go version update to 1.12.9
Commit 9cda0ef on Fri Aug 2 09:01:34 2019 +0200	Chart-repo CN added
Commit 2df58f2 on Thu Aug 1 14:44:17 2019 +0200	Helm update
Commit c190ad2 on Fri Jul 26 10:09:13 2019 +0200	Use default tenant network on infra components
Commit 0c5ba00 on Tue Jul 23 11:20:29 2019 +0200	Helm update
Commit a5c6bc9 on Fri Jul 5 14:46:50 2019 +0200	Move swift authentication data to cm
Commit 863d4e2 on Thu Jun 27 13:50:51 2019 +0200	Manifest update
Commit 7948b96 on Mon Jun 24 13:57:12 2019 +0200	Helm update
Commit 774362c on Fri Jun 21 11:41:37 2019 +0200	Compress image using xz
Commit 8dc6e1f on Fri Jun 21 09:41:59 2019 +0200	Minor version bump.
Commit d76dcc9 on Wed Jun 12 13:28:06 2019 +0000	Merge "Set time zone"
Commit 077167b on Tue Jun 4 10:13:45 2019 +0200	Bump helm rpm version
Commit ba9daf0 on Tue Jun 4 07:24:15 2019 +0200	Chart repo handler rpm version bump
Commit c28b125 on Mon Jun 3 14:16:04 2019 +0200	Chartrepo handler TLS fix
===== caas-install =====	
Commit ecba42b on Mon Nov 11 10:27:04 2019 +0100	update infra chart (HEAD -> master, origin/master,
origin/HEAD)	
Commit 69e4dec on Thu Nov 7 13:16:19 2019 +0100	Infra chart changes.
Commit bb269a7 on Sun Oct 27 12:59:47 2019 +0100	Bump RPM versions
Commit cfd23ff on Sun Oct 27 12:38:13 2019 +0100	Include localstorage container in case non Ceph
Commit 8de47a1 on Fri Oct 25 13:58:04 2019 +0200	version bump
Commit d6ae03c on Fri Oct 25 11:54:31 2019 +0000	Merge "Added charts."
Commit 365f275 on Wed Oct 23 13:32:45 2019 +0300	Release caas.yaml change introduced in review 1783
Commit caf816c on Mon Oct 21 13:51:36 2019 +0200	Added charts.
Commit 675ef74 on Mon Oct 21 13:32:29 2019 +0200	Java heap dump rotation

Commit bec9881 on Fri Oct 18 11:41:22 2019 +0200	Simplify Elasticsearch to make it more robust
Commit b4f6418 on Fri Oct 4 08:12:35 2019 +0200	Kubernetes 1.16.0 parser changes
Commit 07ca76d on Thu Oct 3 15:14:31 2019 +0200	Add missing tag to TenantConfig
Commit c17f835 on Thu Oct 3 12:08:34 2019 +0200	Fix DANM TenantConfig template name
Commit cca12d1 on Wed Oct 2 14:23:54 2019 +0200	Kubernetes 1.16.0 apireference changes
Commit 5f7ad92 on Tue Oct 1 18:57:10 2019 +0200	Bump RPM versions
Commit 46fea36 on Tue Oct 1 15:25:12 2019 +0000	Merge "Add DANM TenantConfig creation"
Commit 62182c6 on Tue Oct 1 14:25:12 2019 +0200	Minor version bump for instantiate and utils rpm
Commit 235e4cf on Mon Sep 30 17:25:09 2019 +0200	Add DANM TenantConfig creation
Commit 1d86141 on Fri Sep 27 15:30:30 2019 +0200	Add kubelet root dir as a parameter
Commit c5bbbaa on Fri Sep 27 13:01:25 2019 +0000	Merge "Prepare SRIOV DP Pod spec for v3.0.0+"
Commit 364618b on Fri Sep 27 11:13:21 2019 +0200	Rpm no longer create backup file.
Commit d928967 on Fri Sep 27 11:04:43 2019 +0200	Prepare SRIOV DP Pod spec for v3.0.0+
Commit b2e0fce on Wed Sep 25 16:33:59 2019 +0200	Make Prometheus data storage configurable
Commit df13eb2 on Tue Sep 24 13:02:04 2019 +0200	Minor version bump in custom metrics
Commit d8a78c1 on Tue Sep 24 08:45:58 2019 +0200	Fix custom metrics apiservice caBundle
Commit d70c458 on Mon Sep 16 13:21:36 2019 -0400	Correct TLS settings for custom metrics
Commit 2d4271c on Mon Sep 16 14:59:54 2019 +0000	Merge "Add support of ES intra-day data rotation"
Commit 454cbff on Sun Sep 15 22:05:00 2019 +0200	Add support of ES intra-day data rotation
Commit 69d5b07 on Wed Sep 11 16:05:48 2019 +0200	Turns out those are not spaces
Commit 1e3c2d8 on Fri Aug 30 15:43:06 2019 +0200	Remove unused `danmnet_default_namespace` config
Commit 3fb82c5 on Thu Aug 29 21:38:25 2019 +0200	Bump rpm version
Commit 286586d on Thu Aug 29 14:22:43 2019 +0000	Merge "Audit log bugfix"
Commit 82fd829 on Tue Aug 27 16:14:27 2019 +0200	Update DANM webhook config
Commit db15604 on Mon Aug 26 13:34:27 2019 +0200	Audit log bugfix
Commit 75bece7 on Mon Aug 26 08:55:55 2019 +0000	Revert "Audit log bugfix"
Commit 46a3987 on Fri Aug 23 10:49:43 2019 +0200	Audit log bugfix
Commit ef58865 on Thu Aug 22 16:24:58 2019 +0200	Fix Elasticsearch data rotation script
Commit 1cc31ac on Fri Aug 16 04:09:31 2019 +0200	Remove fluentd buffering
Commit 3db56b6 on Thu Aug 15 14:58:37 2019 +0200	Add `command` to {net,svc}watcher manifests
Commit bdc87ae on Mon Aug 12 14:25:54 2019 +0000	Merge "Fix fluentd config generator"
Commit 3bbf245 on Sat Aug 10 10:04:03 2019 +0200	Bump RPM_MINOR_VERSIONS
Commit e4b9920 on Fri Aug 9 22:00:23 2019 +0200	Fix fluentd config generator
Commit 6cd6923 on Thu Aug 8 12:48:47 2019 +0200	cpu-setter-daemonset correction
Commit 77a4097 on Mon Aug 5 14:27:35 2019 +0200	Use hyperdanm container image for DANM components
Commit e5b3d7d on Thu Aug 1 10:06:30 2019 +0200	Bump RPM_MINOR_VERSION
Commit c0a8363 on Wed Jul 31 18:13:31 2019 +0000	Merge "CN added for all certs"
Commit 576b647 on Fri Jul 26 10:12:19 2019 +0200	Upgrade DANM to version 4.0
Commit 9e55382 on Fri Jul 26 09:43:21 2019 +0200	CN added for all certs
Commit a4eb14c on Fri Jul 26 08:57:23 2019 +0200	Removal of helm chart deletion
Commit 0a47fc8 on Thu Jul 25 16:22:17 2019 +0000	Merge "remove fluentd-secrets (not needed anymore)"
Commit 1ec9b87 on Thu Jul 25 10:36:49 2019 +0200	Elasticsearch got healthcheck
Commit aebed79 on Tue Jul 23 09:34:24 2019 +0200	remove fluentd-secrets (not needed anymore)
Commit 5a6d09d on Mon Jul 22 09:28:45 2019 +0200	version fix for hybrid logging correction
Commit 326f3a5 on Fri Jul 19 16:48:44 2019 +0200	removing/replacing host w url
Commit 47cfc1c on Thu Jul 18 02:27:38 2019 +0200	Add infra_chart_reconfig_fluentd playbook
Commit f77efc5 on Tue Jul 16 15:24:22 2019 +0200	Etc proxy added in caas-etcd
Commit 069a66d on Tue Jul 9 08:01:59 2019 +0200	Infra chart update
Commit 441d68b on Mon Jul 8 10:39:06 2019 +0000	Merge "Elastic manifest update"
Commit fbf6b88 on Fri Jul 5 15:23:46 2019 +0200	cpu-setter-daemonset correction
Commit 8d60fd9 on Thu Jul 4 13:05:55 2019 +0200	Elastic manifest update
Commit 60a0c02 on Wed Jul 3 16:06:32 2019 +0200	Creating passwordless swift_credential dictionary
Commit a76baf5 on Wed Jul 3 13:49:39 2019 +0000	Merge "Move swift authentication data to cm"
Commit b1a4122 on Wed Jul 3 09:22:10 2019 +0200	Move swift authentication data to cm
Commit d9143f8 on Mon Jul 1 09:42:17 2019 +0200	set refresh_interval
Commit b481438 on Fri Jun 28 10:28:31 2019 +0200	Hybrid logging correction
Commit 712d966 on Thu Jun 27 14:01:45 2019 +0200	Manifest update
Commit 1d21c6e on Wed Jun 26 15:30:23 2019 +0200	Use date instead of ansible_date_time module
Commit 3160ed6 on Wed Jun 26 13:49:48 2019 +0200	Hybrid logging
Commit 1a7f348 on Mon Jun 17 12:22:10 2019 +0200	Infra chart update
Commit 6065f4e on Fri Jun 14 17:37:14 2019 +0200	Add initContainer to SR-IOV Device Plugin Pod
Commit d6b2d7a on Fri Jun 14 14:35:00 2019 +0200	Update CPU-Pooler version
Commit 33cc824 on Tue Jun 11 15:02:02 2019 +0200	Remove app_install playbook & related roles
Commit e2fe59e on Thu Jun 6 10:24:32 2019 +0200	Bump RPM_MINOR_VERSION
Commit 1cda6f6 on Thu May 30 08:40:21 2019 +0200	Set time zone
===== caas-kubedns =====	
Commit c8bab75 on Mon Oct 28 12:47:25 2019 +0100	Kubedns version update to 1.15.7 (HEAD -> master,
origin/master, origin/HEAD)	
Commit 3e1acc4 on Thu Oct 10 10:29:00 2019 +0200	CVE-2019-16276 Vulnerability fix.
Commit 9067b21 on Wed Oct 2 14:32:28 2019 +0200	Kuberenetes 1.16.0 api reference change
Commit b6b22d7 on Sat Sep 28 00:48:37 2019 +0200	AArch64 support

Commit ef04fc9 on Tue Sep 3 19:41:10 2019 +0200	Go version update to 1.12.9	
Commit b829734 on Thu Jul 25 10:32:55 2019 +0200	Kubedns healthcheck update	
Commit 5b34a09 on Thu Jun 27 13:58:00 2019 +0200	Manifest update	
Commit 8650769 on Mon Jun 24 13:46:38 2019 +0200	Kubedns update	
Commit 006abaa on Fri Jun 21 11:07:08 2019 +0200	Compress image using xz	
Commit 83169e6 on Mon Jun 17 12:25:47 2019 +0200	Kubedns upadte	
===== caas-kubernetes =====		
Commit d5d007c on Tue Oct 29 16:11:38 2019 +0100	Kubernetes ceph role moved to caas-storage	(HEAD ->
master, origin/master, origin/HEAD)		
Commit e50ea67 on Fri Oct 18 14:19:53 2019 +0200	hypercube: Fix autoremove breakage on aarch64	
Commit d4675a6 on Thu Oct 17 16:16:53 2019 +0200	AArch64 support	
Commit 4559798 on Thu Oct 17 12:35:31 2019 +0200	Kubernetes update to 1.16.2	
Commit 5404616 on Thu Oct 10 10:31:37 2019 +0200	CVE-2019-16276 Vulnerability fix.	
Commit 8e96bec on Tue Oct 8 14:20:23 2019 +0200	Kubernetes refactored node role.	
Commit 600b8a1 on Tue Oct 8 09:53:55 2019 +0200	Set node role for kubernetes cluster members	
Commit 55ac844 on Thu Oct 3 08:28:32 2019 +0200	bind_adress -> bind_address	
Commit e79c146 on Wed Oct 2 14:06:04 2019 +0200	Kube proxy can not resolve host ip	
Commit 1bdc05b on Wed Oct 2 08:57:01 2019 +0200	HugePages are GA from 1.16.0	
Commit afc69b1 on Mon Sep 30 16:52:55 2019 +0200	Configurable flannel cidr introduction	
Commit 950b212 on Fri Sep 27 15:18:31 2019 +0200	Kubernetes minor version update	
Commit bf00bac on Fri Sep 27 13:01:48 2019 +0000	Merge "Added kubelet root dir as parameter"	
Commit 7157e3e on Fri Sep 27 13:01:39 2019 +0200	Kubernetes update to 1.16.0	
Commit c40d638 on Fri Sep 27 12:56:45 2019 +0200	Added kubelet root dir as parameter	
Commit ealade6 on Thu Sep 19 15:33:16 2019 -0400	Bump RPM version	
Commit 676b50b on Wed Sep 18 11:20:09 2019 -0400	Add missing SNIs for custom-metrics certificate	
Commit 541d83d on Tue Sep 17 10:37:03 2019 -0400	Remove binding from kubelet health check	
Commit b71b415 on Wed Sep 11 23:26:13 2019 +0200	Missed the secure part	
Commit 62c1554 on Tue Sep 10 19:14:43 2019 +0200	Etc server instead of proxy	
Commit c106ff9 on Fri Aug 30 16:34:33 2019 +0200	Go version updated to 1.12.9	
Commit e18fd30 on Thu Aug 29 15:32:17 2019 +0200	Audit log bugfix	
Commit 5780ced on Mon Aug 26 15:22:22 2019 +0200	Update Kubernetes to version 1.15.3	
Commit fcc3c0d on Mon Aug 26 08:56:15 2019 +0000	Revert "Audit log bugfix"	
Commit 0141a51 on Fri Aug 23 10:55:57 2019 +0200	Audit log bugfix	
Commit fd5f1b3 on Fri Aug 9 07:30:19 2019 +0300	Add SCTP support to kube-api server	
Commit 6f2d990 on Thu Aug 8 09:44:49 2019 +0200	Kubernetes update to 1.15.2	
Commit 077d9be on Fri Jul 26 09:37:58 2019 +0200	Kubelet env.list updated for ansible variable	
Commit 8eb26af on Tue Jul 23 11:15:16 2019 +0200	Kubernetes update	
Commit 59efd48 on Tue Jul 16 15:25:14 2019 +0200	Etc proxy added caas-etcd	
Commit b0975a5 on Fri Jun 28 14:33:48 2019 +0200	do not set ceph if ceph not configured	
Commit 7217b21 on Thu Jun 27 13:56:16 2019 +0200	Manifest update	
Commit 6ed00f3 on Wed Jun 26 13:33:01 2019 +0200	Compress image using xz	
Commit a0beb18 on Mon Jun 24 13:43:33 2019 +0200	Kubernetes version update	
Commit df3fea7 on Fri Jun 14 07:53:03 2019 +0200	Make CPU reservations based on CPU allocation	
===== caas-lcm =====		
Commit 9597c8d on Fri Sep 27 22:14:36 2019 +0200	spec: Allow building on any platform	(HEAD -> master,
origin/master, origin/HEAD)		
Commit f99db47 on Wed Jul 24 16:15:17 2019 +0200	swift volume device path on Openstack added	
Commit 391e532 on Mon Jul 22 09:30:06 2019 +0200	version fix	
Commit 8b3b488 on Fri Jul 19 13:54:33 2019 +0200	Move swift authentication data to cm	
Commit 8c28c91 on Wed Jul 10 10:01:39 2019 +0200	LCM path	
Commit d57f917 on Fri Jul 5 15:18:56 2019 +0200	manifests_directory variable corrected	
Commit 6dbd13e on Fri Jun 21 11:12:25 2019 +0200	bm onboard fix part2	
Commit 3cc87ab on Thu Jun 13 15:53:24 2019 +0200	bm onboard fix	
Commit 1c68cb9 on Wed Jun 12 13:35:25 2019 +0200	Change cmcli usage	
===== caas-logging =====		
Commit 6b5969e on Wed Nov 6 09:40:30 2019 +0100	New versions released	(HEAD -> master, origin/master,
origin/HEAD)		
Commit 063bf94 on Tue Nov 5 10:04:43 2019 +0100	Fluentd to 1.7.3, Elasticsearch to 7.4.0	
Commit e4c698f on Fri Oct 18 12:11:07 2019 +0200	Simplify Elasticsearch to make it more robust	
Commit f0e0ff7 on Wed Oct 16 01:15:43 2019 +0200	AArch64 support	
Commit dbb5262 on Sun Sep 15 22:51:11 2019 +0200	Add ES data rotate & cleanup	
Commit e44199d on Thu Aug 22 09:07:14 2019 +0000	Merge "Add CaaS Logging REST API and CLI plugins"	
Commit 90e74b6 on Tue Aug 13 22:46:52 2019 +0200	Add CaaS Logging REST API and CLI plugins	
Commit 18a4bea on Thu Aug 8 09:46:50 2019 +0200	Elasticsearch update to 7.3.0	
Commit 3410504 on Thu Aug 1 14:42:06 2019 +0200	3rd party component update	
Commit 322854b on Tue Jul 16 14:55:47 2019 +0200	Elasticsearch and Fluentd update	
Commit a34794c on Mon Jul 8 08:13:25 2019 +0200	Elastic rpm spec update	
Commit 0314fa2 on Wed Jul 3 11:20:04 2019 +0200	Elasticsearch oss package	
Commit 640bfd5 on Wed Jun 26 14:15:57 2019 +0200	Hybrid logging	
Commit 63dde83 on Wed Jun 26 13:25:49 2019 +0200	Compress image using xz	
Commit 2bd006e on Wed Jun 26 10:39:14 2019 +0200	Elastic slimming	

Commit 780da3e on Mon Jun 24 13:50:34 2019 +0200	Logging container update
Commit 2df5333 on Mon Jun 17 12:16:28 2019 +0200	Logging containers updated
===== caas-metrics =====	
Commit 6320370 on Wed Nov 6 09:18:28 2019 +0100	Update versions (HEAD -> master, origin/master, origin/HEAD)
Commit aedccac on Mon Oct 21 11:02:33 2019 +0200	Metrics server to 0.3.5, Prometheus to 2.13.0
Commit 641c2c7 on Thu Oct 10 10:22:40 2019 +0200	CVE-2019-16276 Vulnerability fix.
Commit 41e97b6 on Sat Sep 28 01:40:35 2019 +0200	AArch64 support
Commit 78833ed on Fri Aug 30 15:34:15 2019 +0200	Go updated to 1.12.9
Commit a65d286 on Tue Jul 16 14:59:46 2019 +0200	Prometheus update
Commit 2f36bf0 on Mon Jun 24 13:58:41 2019 +0200	Prometheus update
Commit d254ec4 on Fri Jun 21 11:05:28 2019 +0200	Compress image using xz
Commit a85fbfe on Mon Jun 17 12:18:48 2019 +0200	Metrics containers update
===== caas-registry =====	
Commit b56f7b9 on Wed Nov 6 10:25:17 2019 +0100	Swift version update to 2.23.1 (HEAD -> master, origin/master, origin/HEAD)
Commit 6d2abc0 on Mon Oct 28 10:14:29 2019 +0100	Reduce Swift logging amount
Commit 86890ef on Mon Oct 21 16:53:03 2019 +0200	Schedule pods by nodetype
Commit f85f589 on Thu Oct 17 16:32:37 2019 +0200	AArch64 support
Commit 64dcf23 on Thu Oct 10 10:34:03 2019 +0200	CVE-2019-16276 Vulnerability fix.
Commit 0825e1b on Wed Oct 2 14:37:26 2019 +0200	Kubernetes 1.16.0 api reference update
Commit 3a07e29 on Fri Sep 6 11:04:55 2019 +0000	Merge "Go version updated to 1.12.9"
Commit df5313a on Thu Sep 5 21:28:35 2019 +0200	Rsync capability issue
Commit 4813836 on Wed Sep 4 19:42:55 2019 +0200	Go version updated to 1.12.9
Commit 0b89aad on Fri Aug 2 09:32:22 2019 +0200	Swift update
Commit aad3888 on Thu Aug 1 09:58:43 2019 +0200	Bump RPM_MINOR_VERSION
Commit 8fa3988 on Wed Jul 31 18:10:50 2019 +0000	Merge "Use default tenant network on infra components"
Commit 2ec1b9c on Fri Jul 26 10:06:45 2019 +0200	Use default tenant network on infra components
Commit 217acb6 on Fri Jul 26 09:41:23 2019 +0200	registry + swift CN added
Commit 83fe528 on Fri Jul 19 13:19:11 2019 +0200	remove swift_admin_pass from dockerreg
Commit e7699d4 on Wed Jul 17 10:46:00 2019 +0200	Unused variable removed
Commit 5d6a4fd on Wed Jul 3 16:00:24 2019 +0200	Move swift authentication data to cm
Commit 9513f90 on Mon Jul 1 10:35:56 2019 +0200	trim_blocks:false added
Commit d6ef29f on Thu Jun 27 13:59:55 2019 +0200	Manifest update
Commit cc76c89 on Fri Jun 21 11:31:56 2019 +0200	Compress image using xz
===== caas-security =====	
Commit ed3cc46 on Wed Oct 30 12:46:35 2019 +0000	Merge "Dynamic provisioner rbac update." (HEAD -> master, origin/master, origin/HEAD)
Commit 7233bbf on Tue Oct 29 16:10:17 2019 +0000	Merge "Update cert role to enable to load them to secrets"
Commit fbba116 on Tue Oct 29 16:07:44 2019 +0100	Dynamic provisioner rbac update.
Commit cfdcf37 on Fri Oct 25 16:30:54 2019 +0200	Update cert role to enable to load them to secrets
Commit c3fdf94 on Tue Oct 22 10:58:18 2019 +0200	Added new rbac rules.
Commit 4f7ba6a on Wed Oct 2 14:26:33 2019 +0200	Kubernetes 1.16.0 api reference change
Commit 35d878a on Fri Sep 27 22:26:09 2019 +0200	spec: Allow building on any platform
Commit 429f53c on Thu Sep 5 21:39:13 2019 +0200	Capability update
Commit b1e8e22 on Mon Aug 26 16:20:32 2019 +0200	Update DANM RBAC
Commit def8b8c on Thu Aug 1 09:54:00 2019 +0200	Bump RPM_MINOR_VERSION
Commit a71dc45 on Wed Jul 31 18:14:33 2019 +0000	Merge "ACL mask added for cert_path"
Commit cb52d56 on Fri Jul 26 09:26:55 2019 +0200	ACL mask added for cert_path
Commit 1c85889 on Wed Jul 17 14:41:34 2019 +0200	Update DANM RBAC roles for version 4.0
Commit ab06369 on Fri Jun 14 07:48:23 2019 +0200	Add RBAC config for CPU webhookcfg-controller
Commit 9fbb49e on Wed Jun 12 13:28:53 2019 +0000	Merge "Added node read rule."
===== caas-storage =====	
Commit a793d16 on Mon Nov 18 10:50:35 2019 +0100	Minor version bump. (HEAD -> master, origin/master, origin/HEAD)
Commit 5a89cec on Tue Nov 12 13:18:15 2019 +0100	Update dynamic provisioner
Commit 3341329 on Mon Nov 11 10:55:53 2019 +0100	Dynamic provisioner update
Commit 0e3b9cf on Tue Nov 5 16:26:11 2019 +0100	CaaS storage seed code
Commit c6ba9ad on Tue Jul 30 00:17:08 2019 +0000	Initial empty repository
===== cloudfaf =====	
Commit 820803b on Fri Sep 27 13:20:22 2019 +0000	Merge "REC-13 Creating and testing Services" (HEAD -> master, origin/master, origin/HEAD)
Commit 05abef2 on Thu Sep 26 17:12:56 2019 +0000	REC-13 Creating and testing Services
Commit 0b540ea on Wed Sep 25 13:51:23 2019 +0000	Merge "REC-11 Creating and testing Namespaces"
Commit df19858 on Wed Sep 25 05:17:45 2019 +0000	REC-11 Creating and testing Namespaces
Commit 48946b8 on Fri Sep 13 13:35:53 2019 +0000	correct build iso test case to use awk
Commit ab8eb90 on Thu Sep 12 15:19:44 2019 +0000	Merge "typo in grep command"
Commit b95183a on Thu Sep 12 18:10:31 2019 +0300	typo in grep command
Commit a2f710b on Thu Sep 12 17:22:56 2019 +0300	typo in one of the test cases
Commit 7419233 on Thu Sep 12 13:29:43 2019 +0000	add test case to look for iso build number
Commit 921451c on Mon Sep 9 17:12:31 2019 +0300	update docker version

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Commit fab50fe on Fri Sep 6 11:51:12 2019 +0300      upload pm-support
Commit 15c350f on Fri Aug 16 14:26:18 2019 +0000      upload post-install
Commit d448b93 on Thu Jul 18 18:07:16 2019 +0300      Add cloudfu framework
===== cm-plugins =====
Commit e8deeb0 on Fri Oct 18 15:10:48 2019 +0200      Add validation for "caas_oam" networking type      (HEAD -
> master, origin/master, origin/HEAD)
Commit 174629e on Mon Sep 30 09:24:08 2019 +0200      cidr validation corrected
Commit a56cdc3 on Fri Sep 27 13:35:57 2019 +0000      Merge "Validation for new oam_cidr caas parameter"
Commit 673e3c7 on Fri Sep 27 15:11:38 2019 +0200      Validation for new oam_cidr caas parameter
Commit 0af8612 on Wed Sep 25 12:10:06 2019 +0200      Add validation for performance tuning option
Commit 0df986a on Wed Sep 18 16:07:59 2019 -0400      Correct rpm version
Commit ec600c8 on Wed Sep 18 17:50:12 2019 +0000      Merge "Revert "Add validation for performance tuning""
Commit 762bde0 on Wed Sep 18 17:11:43 2019 +0000      Revert "Add validation for performance tuning"
Commit 8ebf04f on Tue Sep 17 13:09:41 2019 +0000      Merge "Add validation for performance tuning option"
Commit 4408a79 on Fri Sep 6 16:41:31 2019 -0400      Add validation for performance tuning option
Commit 24d618b on Wed Sep 4 15:17:25 2019 +0300      Support for authorized keys
Commit b3603a3 on Mon Aug 5 18:42:27 2019 +0000      Merge "FIX: Set default IPMI privilege level"
Commit 388a4ab on Thu Aug 1 08:45:07 2019 +0200      Add tenant network validation for SRIOV
Commit c2a621b on Thu Jul 25 16:14:02 2019 +0000      Merge "Bump version validator for tenant_networks"
Commit fdee52e on Thu Jul 25 14:54:44 2019 +0200      Bump version validator for tenant_networks
Commit 44c2e17 on Wed Jul 24 12:08:38 2019 +0200      admin pw handling modification
Commit 87f9df9 on Thu Jul 18 09:08:01 2019 -0400      FIX: Set default IPMI privilege level
Commit 00b0904 on Tue Jul 16 14:35:53 2019 +0000      Merge "FIX: Allow configuration of IPMI privilege level"
Commit 69a3689 on Mon Jul 15 09:03:37 2019 -0400      FIX: Allow configuration of IPMI privilege level
Commit b22ffce on Thu Jun 27 16:49:55 2019 +0200      corrections for hybrid logging
Commit a58547f on Wed Jun 26 12:38:58 2019 +0200      hybrid logging
Commit 3de8052 on Tue Jun 25 10:37:04 2019 +0200      self. added for static variable
Commit 33053d2 on Fri Jun 21 13:24:54 2019 +0000      Merge "Memory parameter intro"
Commit 386424a on Fri Jun 21 10:37:44 2019 +0200      Memory parameter intro
Commit 68c033b on Thu Jun 20 13:32:32 2019 +0200      Simplify REC network profiles userconfighandler
Commit b4c24eb on Tue Jun 18 14:01:50 2019 +0000      Merge "openstack storage backend check removed"
Commit 03cd2e9 on Mon Jun 17 16:49:08 2019 +0200      Add CaaS networks related validations
Commit f7382e9 on Tue Jun 11 15:51:16 2019 +0200      remove helm options validation
Commit c47fc70 on Tue Jun 11 15:07:39 2019 +0200      openstack storage backend check removed
===== config-manager =====
Commit 4ce1263 on Fri Oct 18 15:40:48 2019 +0200      Add "caas_oam" networking type      (HEAD -> master, origin
/master, origin/HEAD)
Commit d819149 on Tue Oct 8 14:18:19 2019 +0200      Kubernetes node role refactored.
Commit e6ced6a on Tue Oct 8 08:49:38 2019 +0200      Kubernetes node role added to inventory.
Commit 6304ee3 on Mon Sep 30 17:21:27 2019 +0200      Kubernetes 1.16.0 node label fix
Commit fa06747 on Fri Sep 27 08:26:09 2019 +0200      oam_cidr caas parameter introduced
Commit 82b7d75 on Wed Sep 18 13:08:11 2019 -0400      Add tuning option to performance profiles
Commit 7c3295e on Wed Sep 4 15:10:06 2019 +0300      Support for authorized keys
Commit d762429 on Wed Aug 28 12:37:18 2019 +0200      Audit log bugfix
Commit 07e2d27 on Fri Aug 16 23:08:35 2019 +0200      Set Elasticsearch as default infra log store
Commit 50946f8 on Mon Aug 5 18:42:10 2019 +0000      Merge "FIX: Set default IPMI privilege level"
Commit 7a6a437 on Mon Aug 5 08:37:34 2019 -0400      FIX: Set default IPMI privilege level
Commit 3604d2c on Thu Jul 25 16:14:40 2019 +0000      Merge "Add tenant_networks to user_config"
Commit 356eca9 on Thu Jul 25 14:56:11 2019 +0200      Add tenant_networks to user_config
Commit e628547 on Wed Jul 24 12:09:53 2019 +0200      adminpw handling modification
Commit e19e8ce on Wed Jul 17 10:52:19 2019 +0200      Node index refactor
Commit dfc396b on Tue Jul 16 14:20:13 2019 +0000      Merge "FIX: Allow configuration of IPMI privilege level"
Commit 4f7cb7b on Tue Jul 2 14:56:22 2019 +0200      Move swift authentication data to cm
Commit f57d94b on Tue Jul 2 13:34:14 2019 +0200      Trigger RPM build
Commit be4a9b7 on Fri Jun 28 16:18:19 2019 +0200      Error correction, some refactoring
Commit c3bc257 on Fri Jun 28 08:56:52 2019 -0400      FIX: Allow configuration of IPMI privilege level
Commit 50807e6 on Thu Jun 27 16:48:32 2019 +0200      correction due to sync w hybrid logging
Commit bdd5ac8 on Wed Jun 26 12:37:56 2019 +0200      hybrid logging default config set
Commit 80605c6 on Tue Jun 25 15:08:14 2019 +0200      unused hosts variable removed
Commit 1f94877 on Thu Jun 20 14:46:21 2019 +0000      Merge "Kubernetes memory parameter"
Commit 3cb6b54 on Thu Jun 20 14:47:48 2019 +0200      Kubernetes memory parameter
Commit 04fffd0a on Thu Jun 20 13:23:46 2019 +0200      Add CaaS related network type queries
Commit 064fff0e on Fri Jun 14 14:48:11 2019 +0200      Update user_config with CPU manager parameters
Commit 446f0ed on Wed Jun 12 09:23:38 2019 +0200      remove bare_lvm mount_dir & mount_opt-s from UC
===== distributed-state-server =====
No changes since Release 1
===== hostcli =====
No changes since Release 1
===== hw-detector =====
Commit 29b2481 on Wed Aug 21 01:37:51 2019 +0200      spec: BuildArch: noarch (platform independent)      (HEAD -
> master, origin/master, origin/HEAD)

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Commit a181302 on Thu Jul 11 12:43:07 2019 +0000    FIX: Allow configuration of IPMI privilege level
Commit 433c492 on Thu Jun 27 10:42:19 2019 +0300    Made the oe19_2u check more generic
===== image-provision =====
Commit 06e73ed on Thu Oct 10 14:46:39 2019 +0200    dracut conf: Add ipmi_ssif to initrd      (HEAD -> master,
origin/master, origin/HEAD)
===== infra-ansible =====
Commit ab187a5 on Tue Nov 12 13:18:33 2019 -0500      REC-443 OpenScap Security Scan fix 2      (HEAD -> master,
origin/master, origin/HEAD)
Commit 546b396 on Wed Nov 6 10:44:07 2019 -0500      REC-443 OpenScap Security Scan fixes
Commit 05483a0 on Thu Oct 17 15:07:07 2019 +0200      Add policy based routing to `caas_oam` network
Commit 95119f5 on Wed Oct 2 14:50:42 2019 +0200      REC-418 Disable NFS services
Commit e046fa8 on Fri Sep 27 13:12:43 2019 +0000      Merge "REC-417 Disable root login by changing root shell"
Commit 9476b9b on Fri Sep 27 14:55:45 2019 +0200      REC-417 Disable root login by changing root shell
Commit d7b7726 on Fri Sep 27 11:30:29 2019 +0200      Prepare config.json for SRIOV DP v3.0.0+
Commit 46035b4 on Wed Sep 25 16:23:12 2019 +0200      Remove extra bracket from kcmdline_default_list
Commit 100e33c on Mon Sep 23 18:41:25 2019 +0300      ntp fix.
Commit a555e0e on Mon Sep 23 17:26:32 2019 +0300      ntp issue fix.
Commit 2e44519 on Thu Sep 19 10:17:52 2019 +0000      Merge "Setup for low_latency performance tuning"
Commit 918801b on Tue Sep 17 10:35:27 2019 -0400      Harden the resilience of main system services
Commit dbb4af6 on Wed Sep 11 12:49:08 2019 -0400      Setup for low_latency performance tuning
Commit 377fdca on Mon Sep 9 18:32:25 2019 +0300       Fixed the missing template file issue.
Commit 17cc324 on Fri Sep 6 07:32:53 2019 +0000       Merge "Support for authorized keys"
Commit 8cf64b3 on Wed Sep 4 15:14:55 2019 +0300       Support for authorized keys
Commit e697efd on Tue Sep 3 16:14:51 2019 +0300       Enabled recovery for ntpd when it fails.
Commit 29deaa8 on Wed Aug 7 16:23:22 2019 +0200       Add permissions and roles needed for CaaS Logging
Commit 0815b53 on Mon Jul 15 09:07:04 2019 -0400      FIX: Allow configuration of IPMI privilege level
Commit 9a1255b on Fri Jun 14 15:05:28 2019 +0200      Remove sriov service restart during deployment
Commit f980155 on Fri Jun 14 08:59:26 2019 +0000      Merge "Configure CaaS SR-IOV and provider networks"
Commit 1aeb852 on Wed Jun 12 16:41:24 2019 +0200      Configure CaaS SR-IOV and provider networks
Commit 261d9fe on Fri Jun 7 10:40:36 2019 +0200      Use 1 shared CPU on storage for virtual deploy
===== ipa-deployer =====
Commit a45f454 on Tue Jun 4 20:23:19 2019 +0300      Delete extra udev rule      (HEAD -> master, origin
/master, origin/HEAD)
===== ironic =====
No changes since Release 1
===== ironicclient =====
No changes since Release 1
===== ironic-virtmedia-driver =====
Commit 9d7df7d on Tue Jul 16 12:25:32 2019 +0300      Fix TypeError in dell.py      (HEAD -> master, origin
/master, origin/HEAD)
Commit 038fbf4 on Wed Jun 12 09:15:57 2019 +0300      Add missing support for HP Gen10
===== lockcli =====
Commit 54aed66 on Tue Jun 11 16:00:06 2019 +0300      A fix for the DB synchronization after a restart
(HEAD -> master, origin/master, origin/HEAD)
===== manifest =====
Commit a132cb7 on Mon Oct 28 08:51:02 2019 +0100      Added CaaS-storage repo rpms. CVE-2019-16884 fix
(HEAD -> master, origin/master, origin/HEAD)
Commit a43398a on Wed Sep 25 14:11:04 2019 +0000      Change CentOS repo urls
Commit 868867a on Thu Sep 19 02:32:33 2019 +0200      aarch64: explicit CentOS version, aarch64 TA repo
Commit 4088bde on Wed Sep 18 14:35:14 2019 -0400      Set explicit CentOS version for repos
Commit 4c55fd2 on Thu Sep 12 10:34:56 2019 +0000      build_config: AArch64 (arm64) basic support
Commit bc7186b on Fri Sep 6 16:24:39 2019 +0200      Docker update
Commit 0fdae28 on Thu Aug 22 09:09:15 2019 +0000      Add caas-logging package
Commit e2b4e23 on Thu Aug 22 09:05:38 2019 +0000      Merge "Revert "Docker update""
Commit 0f9fce8 on Tue Aug 20 14:15:39 2019 +0000      Revert "Docker update"
Commit e205ad7 on Mon Aug 5 14:29:48 2019 +0200      Install caas-hyperdanm to image
Commit e85f3c3 on Thu Jul 25 14:51:11 2019 +0200      Install DANM webhook RPM
Commit 95ca022 on Thu Jul 11 14:47:59 2019 +0200      Docker update
Commit 3ec9f88 on Fri Jun 14 17:05:32 2019 +0200      Install recuserconfighandlers
===== monitoring =====
No changes since Release 1
===== openstack-ansible =====
No changes since Release 1
===== openstack-ansible-galera_client =====
No changes since Release 1
===== openstack-ansible-galera_server =====
Commit 73fb309 on Mon Sep 30 18:45:53 2019 +0200      REC-395 Change mariadb server "Restart=always"      (HEAD -
> master, origin/master, origin/HEAD)
===== openstack-ansible-haproxy_server =====
No changes since Release 1
===== openstack-ansible-memcached_server =====

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No changes since Release 1
===== openstack-ansible-openstack_openrc =====
No changes since Release 1
===== openstack-ansible-os_ironic =====
No changes since Release 1
===== openstack-ansible-os_keystone =====
No changes since Release 1
===== openstack-ansible-plugins =====
No changes since Release 1
===== openstack-ansible-rabbitmq_server =====
No changes since Release 1
===== openstack-ansible-rsyslog_client =====
No changes since Release 1
===== os-net-config =====
Commit edcad71 on Fri Oct 4 09:38:38 2019 +0200      Upgrade os-net-config to version 10.4.1      (HEAD ->
master, origin/master, origin/HEAD)
===== python-ilorest-library =====
No changes since Release 1
===== python-peewee =====
No changes since Release 1
===== remote-installer =====
Commit 7fa7d82 on Fri Sep 6 13:19:37 2019 -0400      Handle missing infra_external      (HEAD -> master, gerrit
/master, gerrit/HEAD)
Commit f38c513 on Wed Aug 7 11:06:26 2019 -0400      FIX: CatFile bmc privilege argument
Commit 3b665c4 on Wed Jul 24 11:32:19 2019 -0400      FIX: Allow configuration of IPMI privilege level
Commit d5e8e4c on Mon Jul 22 22:00:37 2019 -0400      FIX: Pass IPMI priv_level to hardware detector
Commit 46af78e on Tue Jun 25 16:33:10 2019 -0400      Fix incorrect path in script
Commit b276c59 on Mon Jun 17 15:16:57 2019 -0400      Add files needed for docker build
Commit 5529dff on Mon Jun 3 15:05:35 2019 +0300      Fixes to server
===== rpmbuilder =====
Commit 987529d on Fri Oct 4 06:40:48 2019 +0300      fix building of forked upstream packages      (HEAD ->
master, origin/master, origin/HEAD)
===== start-menu =====
No changes since Release 1
===== storage =====
No changes since Release 1
===== yarf =====
No changes since Release 1

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Known Limitations, Issues and Workarounds

- A fix to CPUPooler for allocation from both shared & exclusive CPU pools: <https://gerrit.akraino.org/r/c/ta/caas-cpupooler/+2015> has been been merged in Gerrit after the release candidate build 237 was built and is not part of REC Release 2. This is a minor correction which is not currently required by the RIC.
- An improvement for Kubernetes node HA: <https://gerrit.akraino.org/r/c/ta/caas-kubernetes/+1961> has been pushed to Gerrit but has not been merged. It is not included in release 2. In some cases when a Kubernetes node becomes unschedulable, it may need manual intervention to make node schedulable again. Kubernetes functions as expected and simply requires an admin to uncordon the node when it has recovered.
- The following features are considered beta/preview
 - The static local provisioner <https://github.com/kubernetes-sigs/sig-storage-local-static-provisioner>
 - The dynamic local provisioner <https://github.com/nokia/dynamic-local-pv-provisioner>

References