Ultra M Component Event Severity and Fault Code Mappings

Events are assigned to one of the following severities (refer to CFaultSeverity in Ultra M MIB):

- emergency(1), -- System level FAULT impacting multiple VNFs/Services

- critical(2), -- Critical Fault specific to VNF/Service

- major(3), -- component level failure within VNF/service.

- alert(4), -- warning condition for a service/VNF, may eventually impact service.

- informational(5) -- informational only, does not impact service

Events are also mapped to one of the following fault codes (refer to cFaultCode in the Ultra M MIB):

- other(1), -- Other events

- networkConnectivity(2), -- Network Connectivity -- Failure Events.

- resourceUsage(3), -- Resource Usage Exhausted -- Event.

- resourceThreshold(4), -- Resource Threshold -- crossing alarms

- hardwareFailure(5), -- Hardware Failure Events

- securityViolation(6), -- Security Alerts

- configuration(7), -- Config Error Events serviceFailure(8) -- Process/Service failures

The Ultra M Manager Node serves as an aggregator for events received from the different Ultra M components. These severities and fault codes are mapped to those defined for the specific components. The information in this section provides severity mapping information for the following:

OpenStack Events

Component: Ceph

Table 1: Component: Ceph

Failure Type	Ultra M Severity	Fault Code
CEPH Status is not healthy	Emergency	serviceFailure
One or more CEPH monitors are down	Emergency	serviceFailure
Disk usage exceeds threshold	Critical	resourceThreshold
One or more OSD nodes are down	Critical	serviceFailure
One or more OSD disks are failed	Critical	resourceThreshold
One of the CEPH monitor is not healthy.	Major	serviceFailure
One or more CEPH monitor restarted.	Major	serviceFailure
OSD disk weights not even across the board.		resourceThreshold

Component: Cinder

Table 2: Component: Cinder

Failure Type	Ultra M Severity	Fault Code
Cinder Service is down	Emergency	serviceFailure

Component: Neutron

Table 3: Component: Neutron

Failure Type	Ultra M Severity	Fault Code
One of Neutron Agent Down	Critical	serviceFailure

Component: Nova

Table 4: Component: Nova

Failure Type	Ultra M Severity	Fault Code
Compute service down	Critical	serviceFailure

Component: NTP

Table 5: Component: NTP

Failure Type	Ultra M Severity	Fault Code
NTP skew limit exceeds configured threshold.	Critical	serviceFailure

Component: PCS

Table 6: Component: PCS

Failure Type	Ultra M Severity	Fault Code
One or more controller nodes are down	Critical	serviceFailure
Ha-proxy is down on one of the node	Major	serviceFailure
Galera service is down on one of the node.	Critical	serviceFailure

Failure Type	Ultra M Severity	Fault Code
Rabbitmq is down.	Critical	serviceFailure
Radis Master is down.	Emergency	serviceFailure
One or more Radis Slaves are down.	Critical	serviceFailure
corosync/pacemaker/pcsd - not all daemons active	Critical	serviceFailure
Cluster status changed.	Major	serviceFailure
Current DC not found.	Emergency	serviceFailure
Not all PCDs are online.	Critical	serviceFailure

Component: Rabbitmqctl

Table 7: Component: Rabbitmqctl

Failure Type	Ultra M Severity	Fault Code
Cluster Status is not healthy	Emergency	serviceFailure

Component: Services

Table 8: Component: Services

Failure Type	Ultra M Severity	Fault Code
Service is disabled.	Critical	serviceFailure
Service is down.	Emergency	serviceFailure
Service Restarted.	Major	serviceFailure

The following OpenStack services are monitored:

- Controller Nodes
  - httpd.service
  - memcached

- ◦ mongod.service
- ◦ neutron-dhcp-agent.service
- ◦ neutron-l3-agent.service
- ◦ neutron-metadata-agent.service
- ◦ neutron-openvswitch-agent.service
- ◦ neutron-server.service
- ◦ ntpd.service
- ◦ openstack-aodh-evaluator.service
- ◦ openstack-aodh-listener.service
- ◦ openstack-aodh-notifier.service
- ◦ openstack-ceilometer-central.service
- ◦ openstack-ceilometer-collector.service
- ◦ openstack-ceilometer-notification.service
- ◦ openstack-cinder-api.service
- ◦ openstack-cinder-scheduler.service
- ◦ penstack-glance-api.service
- ◦ openstack-glance-registry.service
- ◦ openstack-gnocchi-metricd.service
- ◦ openstack-gnocchi-statsd.service
- ◦ openstack-heat-api-cfn.service
- ◦ openstack-heat-api-cloudwatch.service
- ◦ openstack-heat-api.service
- ◦ openstack-heat-engine.service
- ◦ openstack-nova-api.service
- ◦ openstack-nova-conductor.service
- ◦ openstack-nova-consoleauth.service
- ◦ openstack-nova-novncproxy.service
- ◦ openstack-nova-scheduler.service
- ◦ openstack-swift-account-auditor.service
- ◦ openstack-swift-account-reaper.service
- ◦ openstack-swift-account-replicator.service
- ◦ openstack-swift-account.service
- ◦ openstack-swift-container-auditor.service

- openstack-swift-container-replicator.service

- openstack-swift-container-updater.service

- openstack-swift-container.service

- openstack-swift-object-auditor.service

- openstack-swift-object-replicator.service

- openstack-swift-object-updater.service

- openstack-swift-object.service

- openstack-swift-proxy.service

- Compute Nodes:

    - ceph-mon.target

    - ceph-radosgw.target

    - ceph.target

    - libvirtd.service

    - neutron-sriov-nic-agent.service

    - neutron-openvswitch-agent.service

    - ntpd.service

    - openstack-nova-compute.service

    - openvswitch.service

- OSD Compute Nodes

    - ceph-mon.target

    - ceph-radosgw.target

    - ceph.target

    - libvirtd.service

    - neutron-sriov-nic-agent.service

    - neutron-openvswitch-agent.service

    - ntpd.service

    - openstack-nova-compute.service

    - openvswitch.service

UCS Server Events

UCS Server events are described here:https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/ts/faults/reference/ErrMess/FaultsIntroduction.html

The following table maps the UCS severities to those within the Ultra M MIB.

Table 9: UCS Server Severities

UCS Server Severity	Ultra M Severity	Fault Code
Critical	Critical	hardwareFailure
Info	Informational	hardwareFailure
Major	Major	hardwareFailure
Warning	Alert	hardwareFailure
Alert	Alert	hardwareFailure
Cleared	Informational	Not applicable

UAS Events

Table 10: UAS Events

Failure Type	Ultra M Severity	Fault Code
UAS Service Failure	Critical	serviceFailure*
UAS Service Recovered	Informational	serviceFailure*
* *serviceFailure* is used except where the Ultra M Health Monitor is unable to connect to any of the modules. In this case, the fault code is set to *networkConnectivity*.		