



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, on page 2](#)
- [UCS Server Events, on page 6](#)
- [UAS Events, on page 6](#)
- [ESC VM Events, on page 7](#)

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 |
| Rabbitmq is down. | Critical | serviceFailure |
| Redis Master is down. | Emergency | serviceFailure |
| One or more Redis 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-cinder-api.service
 - openstack-cinder-scheduler.service
 - openstack-glance-api.service
 - openstack-glance-registry.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*.

ESC VM Events

By default, the Ultra M Manager continuously monitors and processes VNF VM event notifications from ESC as reported through NETCONF.



Important

In release 6.0, the feature that enables monitoring of UGP VNFs using ESC was not fully qualified and made available only for testing purposes. In 6.2 and later releases, this feature has been fully qualified for use in the appropriate deployment scenarios. For more information, contact your Cisco Accounts representative.

Table 11: ESC VM Event Severities

| ESC Event | Ultra M Severity | Fault Code | VNFR State |
|------------------------|------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------|
| VM_DEPLOYED | Major | Service Failure | deployed |
| VM_ALIVE | Info | Other | alive |
| VM_UNDEPLOYED | Critical | Service Failure | offline |
| VM_REBOOTED | Major | Service Failure | rebooting |
| VM_RECOVERY_REBOOT | Major | Service Failure | If the event completion status is successful, then it is rebooting. If the event completion status is failure, then it is an error. |
| VM_RECOVERY_UNDEPLOYED | Critical | Service Failure | If the event completion status is successful, then it is offline. If the event completion status is failure, then it is an error. |
| VM_RECOVERY_DEPLOYED | Major | Service Failure | If the event completion status is successful, then it is rebooting. If the event completion status is failure, then it is an error. |

| ESC Event | Ultra M Severity | Fault Code | VNFR State |
|----------------------|------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------|
| VM_RECOVERY_COMPLETE | Info | Other | If the event completion status is successful, then it is alive. If the event completion status is failure, then it is an error. |
| VM_STOPPED | Alert | Service Failure | stop_requested |