Cisco IMC REST API Examples for Supported C-Series Servers in Release 4.2

This chapter includes the following sections:

Creating a Redfish Session

Creating a Redfish Session

Request to create a Redfish session:

```
curl -v -k https://10.10.10.10/redfish/v1/SessionService/Sessions -XPOST -d '{
"UserName" : "admin",
"Password":"password"
}'
```

Response

```
< HTTP/1.1 201
< Server: webserver
< Date: Sun, 31 May 2020 16:29:03 GMT
< Content-Type: application/json
< Content-Length: 212
< Connection: keep-alive
< Location: /redfish/v1/SessionService/Sessions/1
< X-Auth-Token: b14b5dbe5fbb3bb14e5bbee54df51b84
< Cache-Control: no-cache
< OData-Version: 4.0
<
{
 "@odata.id": "/redfish/v1/SessionService/Sessions/1",
 "Id": "1",
 "Name": "User Session #1",
 "Description": "Redfish session for user admin",
 "UserName": "admin",
```

```
 "@odata.type": "#Session.v1_1_1.Session"
}
```

Using a Session Cookie

Request using the session cookie:

```
curl -k https://10.10.10.10/redfish/v1/SessionService/Sessions/1 -H
"X-Auth-Token:b14b5dbe5fbb3bb14e5bbee54df51b84"
```

Response

```
{
 "@odata.id": "/redfish/v1/SessionService/Sessions/1",
 "@odata.type": "#Session.v1_1_1.Session",
 "@odata.context": "/redfish/v1/$metadata#Session.Session",
 "Oem": {
  "Cisco": {
   "SessionType": "redfish",
   "RemoteIP": "10.10.10.11"
  }
 },
 "Id": "1",
 "Description": "redfish session for user admin",
 "Name": "User Session #1",
 "UserName": "admin"
}
```

Retrieving Cisco IMC User Sessions

Request to Retrieve All Active Sessions

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/SessionService/Sessions
```

Response

```
{
 "@odata.id": "/redfish/v1/SessionService/Sessions",
 "@odata.context": "/redfish/v1/$metadata#SessionService/Sessions",
 "@odata.type": "#SessionCollection.SessionCollection",
 "Description": "Collection of Sessions",
 "Name": "Session Collection",
 "Members": [{
   "@odata.id": "/redfish/v1/SessionService/Sessions/1"
  }],
 "Members@odata.count": 1
}
```

Request to Retrieve Particular Sessions Details

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/SessionService/Sessions/1
```

Response

```
{
 "@odata.id": "/redfish/v1/SessionService/Sessions/1",
 "@odata.context": "/redfish/v1/$metadata#SessionService/Sessions/Members/$entity",
 "@odata.type": "#Session.v1_1_1.Session",
 "Oem": {
  "Cisco": {
   "SessionType": "webgui",
   "RemoteIP": "10.65.50.218"
```

```
 }
},
"Id": "1",
"Description": "webgui session for user admin",
"Name": "User Session #1",
"UserName": "admin"
}
```

Retrieving Server Summary Information and Host Power State

Request to retrieve details on the server:

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/WZP21330G5B
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity",
 "@odata.type": "#ComputerSystem.v1_7_0.ComputerSystem",
 "Processors": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Processors"
 },
 "SimpleStorage": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/SimpleStorage"
 },
 "Storage": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Storage"
 },
 "Memory": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Memory"
 },
 "MemoryDomains": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/MemoryDomains"
 },
 "NetworkInterfaces": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/NetworkInterfaces"
 },
 "Bios": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Bios"
 },
 "SecureBoot": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/SecureBoot"
 },
 "EthernetInterfaces": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces"
 },
 "LogServices": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/LogServices"
 },
 "Links": {
  "Chassis": [{
    "@odata.id": "/redfish/v1/Chassis/1"
   }],
  "CooledBy": [{
    "@odata.id": "/redfish/v1/Chassis/1/Thermal"
   }],
  "ManagedBy": [{
    "@odata.id": "/redfish/v1/Managers/CIMC"
   }],
  "PoweredBy": [{
```

```
    "@odata.id": "/redfish/v1/Chassis/1/Power"
   }]
 },
 "SerialNumber": "WZP21330G5B",
 "Boot": {
  "BootSourceOverrideTarget": "None",
  "BootSourceOverrideTarget@Redfish.AllowableValues": ["None", "Pxe",
"Floppy", "Cd", "Hdd", "BiosSetup", "Diags"],
  "BootSourceOverrideEnabled@Redfish.AllowableValues": ["Once", "Continuous",
"Disabled"],
  "BootSourceOverrideEnabled": "Disabled"
 },
 "Id": "WZP21330G5B",
 "AssetTag": "Test assetTagRedfish",
 "PowerState": "On",
 "SystemType": "Physical",
 "ProcessorSummary": {
  "Model": "Intel(R) Xeon(R) Silver 4114 CPU @ 2.20GHz",
  "Count": 2
 },
 "HostName": "test-hostname-kr-webcimc",
 "MemorySummary": {
  "TotalSystemMemoryGiB": 64,
  "Status": {
   "HealthRollup": "OK",
   "Health": "OK"
  }
 },
 "PCIeDevices@odata.count": 6,
 "PCIeFunctions@odata.count": 6,
 "Description": "PatchName",
 "UUID": "1C61EBC6-8E10-4A9B-90CE-A4C03913EA56",
 "Status": {
  "State": "Enabled",
  "Health": "OK"
 },
 "PCIeDevices": [{
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/1"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/2"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/FRONT-NVME-2"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/MLOM"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/MRAID"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/L"
  }],
 "Name": "UCS C220 M5L",
 "HostWatchdogTimer": {
  "Status": {
   "State": "Enabled"
  },
  "WarningAction": "None",
  "FunctionEnabled": true,
  "TimeoutAction": "ResetSystem"
 },
 "PCIeFunctions": [{
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/1"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/2"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/FRONT-NVME-2"
```

```
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/MLOM"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/MRAID"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/L"
  }],
 "Oem": {
  "Cisco": {
   "PostCompletionStatus": true,
   "SystemEffectiveMemory": 64,
   "SystemEffectiveSpeed": 2400
  }
 },
 "TrustedModules": [{
   "InterfaceType": "TPM2_0",
   "InterfaceTypeSelection": "BiosSetting",
   "FirmwareVersion": "2.0",
   "Status": {
    "Health": "OK"
   }
  }],
 "PowerRestorePolicy": "LastState",
 "Manufacturer": "Cisco Systems Inc",
 "IndicatorLED": "Off",
 "Model": "UCSC-C220-M5L",
 "BiosVersion": "C220M5.4.1.1.61.0504202214",
 "Actions": {
  "#ComputerSystem.Reset": {
   "target": "/redfish/v1/Systems/WZP21330G5B/Actions/ComputerSystem.Reset",
   "ResetType@Redfish.AllowableValues": ["On", "ForceOff", "GracefulShutdown",
"GracefulRestart", "ForceRestart", "Nmi", "PowerCycle"]
  }
 }
}
```

Activating Firmware Backup Image on Cisco IMC

Request to activate the backup image

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/Actions/Oem/
CiscoUCSExtensions.BmcFwActivate -XPOST -d '{}'
```

Response

No response in case of success. Error message is displayed in case of failure.

Retrieving Power Supply Unit Details on Server

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/Power
```

Response

```
{
 "@odata.id": "/redfish/v1/Chassis/1/Power",
```

```
"@odata.context": "/redfish/v1/$metadata#Chassis/Members/$entity/Power",
"@odata.type": "#Power.v1_5_1.Power",
"PowerControl": [{
  "PhysicalContext": "PowerSupply",
  "PowerMetrics": {
   "MinConsumedWatts": 223,
   "AverageConsumedWatts": 289,
   "MaxConsumedWatts": 302
  },
  "MemberId": "1",
  "PowerLimit": {
   "LimitException": "NoAction"
  },
  "PowerConsumedWatts": 270,
  "@odata.id": "/redfish/v1/Chassis/1/Power#/PowerControl/1"
 }],
"Voltages": [{
  "PhysicalContext": "PowerSupply",
  "SensorNumber": 45,
  "MemberId": "1",
  "@odata.id": "/redfish/v1/Chassis/1/Power#/Voltages/PSU1_VOUT",
  "Status": {
   "State": "Enabled",
   "Health": "OK"
  },
  "UpperThresholdCritical": 14,
  "Name": "PSU1_VOUT",
  "ReadingVolts": 12.2
 }, {
  "PhysicalContext": "PowerSupply",
  "SensorNumber": 51,
  "MemberId": "2",
  "@odata.id": "/redfish/v1/Chassis/1/Power#/Voltages/PSU2_VOUT",
  "Status": {
   "State": "Enabled",
   "Health": "OK"
  },
  "UpperThresholdCritical": 14,
  "Name": "PSU2_VOUT",
  "ReadingVolts": 12.2
 }, {
  "@odata.id": "/redfish/v1/Chassis/1/Power#/Voltages/P12V",
  "Status": {
   "State": "Enabled",
   "Health": "OK"
  },
  "SensorNumber": 213,
  "Name": "P12V",
  "PhysicalContext": "PowerSupply",
  "MemberId": "3",
  "ReadingVolts": 11.89,
  "UpperThresholdCritical": 13.166,
  "LowerThresholdCritical": 10.788
 }, {
  "@odata.id": "/redfish/v1/Chassis/1/Power#/Voltages/P3V_BAT_SCALED",
  "Status": {
   "State": "Enabled",
   "Health": "OK"
  },
  "SensorNumber": 209,
  "Name": "P3V_BAT_SCALED",
  "PhysicalContext": "PowerSupply",
  "MemberId": "4",
  "ReadingVolts": 3.026,
```

```
      "UpperThresholdCritical": 3.588,
      "LowerThresholdCritical": 2.543
  }],
  "Id": "Power",
  "PowerSupplies": [{
    "SerialNumber": "LIT21302259",
    "InputRanges": [{
      "InputType": "AC",
      "OutputWattage": 1050,
      "MaximumFrequencyHz": 63,
      "MaximumVoltage": 264,
      "MinimumVoltage": 90,
      "MinimumFrequencyHz": 47
     }],
    "FirmwareVersion": "10062016",
    "@odata.id": "/redfish/v1/Chassis/1/Power#/PowerSupplies/PSU1",
    "PowerOutputWatts": 116,
    "LineInputVoltage": 233,
    "Name": "PSU1",
    "Status": {
     "State": "Enabled"
    },
    "PowerInputWatts": 139,
    "Manufacturer": "Cisco Systems Inc",
    "LastPowerOutputWatts": 116,
    "MemberId": "1",
    "PartNumber": "341-0638-02",
    "PowerSupplyType": "AC",
    "Model": "PS-2112-9S-LF",
    "SparePartNumber": "341-0638-02"
   }, {
    "SerialNumber": "LIT213347UK",
    "InputRanges": [{
      "InputType": "AC",
      "OutputWattage": 1050,
      "MaximumFrequencyHz": 63,
      "MaximumVoltage": 264,
      "MinimumVoltage": 90,
      "MinimumFrequencyHz": 47
     }],
    "FirmwareVersion": "10062016",
    "@odata.id": "/redfish/v1/Chassis/1/Power#/PowerSupplies/PSU2",
    "PowerOutputWatts": 134,
    "LineInputVoltage": 234,
    "Name": "PSU2",
    "Status": {
     "State": "Enabled"
    },
    "PowerInputWatts": 150,
    "Manufacturer": "Cisco Systems Inc",
    "LastPowerOutputWatts": 134,
    "MemberId": "2",
    "PartNumber": "341-0638-02",
    "PowerSupplyType": "AC",
    "Model": "PS-2112-9S-LF",
    "SparePartNumber": "341-0638-02"
  }],
  "Name": "Power",
  "Description": "Power"
}
```

Retrieving SNMP Configuration Details

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/NetworkProtocol
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/NetworkProtocol",
 "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity
/NetworkProtocol",
 "@odata.type": "#ManagerNetworkProtocol.v1_4_1.ManagerNetworkProtocol",
 "KVMIP": {
  "ProtocolEnabled": true,
  "Port": 2068
 },
 "SNMP": {
  "ProtocolEnabled": true,
  "Port": 161
 },
 "Id": "ManagerNetworkProtocol",
 "Oem": {
  "Cisco": {
   "KVMConfiguration": {
    "VideoEncryption": "Enabled",
    "LocalServerVideo": "Enabled",
    "MaxConcurrentSessions": 4
   }
  }
 },
 "NTP": {
  "ProtocolEnabled": true,
  "Port": 123,
  "NTPServers": ["ab", "GH", "fgf", "vfv"]
 },
 "Name": "Manager Network Protocol",
 "DHCPv6": {
  "ProtocolEnabled": false,
  "Port": null
 },
 "HTTPS": {
  "ProtocolEnabled": true,
  "Port": 443,
  "Certificates": {
   "@odata.id": "/redfish/v1/Managers/CIMC/NetworkProtocol/HTTPS
/Certificates/1"
  }
 },
 "HostName": "test-hostname-kr-webcimc",
 "DHCP": {
  "ProtocolEnabled": false,
  "Port": null
 },
 "SSH": {
  "ProtocolEnabled": true,
  "Port": 22
 },
 "IPMI": {
  "ProtocolEnabled": true,
```

```
 "Port": 623
},
"HTTP": {
 "ProtocolEnabled": true,
 "Port": 80
},
"VirtualMedia": {
 "ProtocolEnabled": true,
 "Port": 2068
},
"Description": "Manager Network Service"
}
```

Power Cycling the Server

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/WZP21330G5B/Actions
/ComputerSystem.Reset -XPOST -d '{"ResetType":"PowerCycle"}'
```

Response

No response in case of success. Error message is displayed in case of failure.

Retrieve SNMP Configuration of Trap Receivers

Request to Retrieve the Configured SNMP Traps

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/EventService/Subscriptions
```

Response

```
{
        "@odata.id":    "/redfish/v1/EventService/Subscriptions",
        "@odata.type":  "#EventDestinationCollection.EventDestinationCollection",
        "@odata.context":
"/redfish/v1/$metadata#EventDestinationCollection.EventDestinationCollection",
        "Description":  "List of Event subscriptions",
        "Name": "Event Subscriptions Collection",
        "Members":[{
                        "@odata.id":    "/redfish/v1/EventService/Subscriptions/SNMP_1"
                }, {
                        "@odata.id":    "/redfish/v1/EventService/Subscriptions/SNMP_2"
                }, {
                        "@odata.id":    "/redfish/v1/EventService/Subscriptions/SNMP_3"
                }],
        "Members@odata.count":  3
}
```

Request to Retrieve Individual Configured SNMP Traps

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/EventService/Subscriptions/SNMP_1
```

Response

```
{
        "@odata.id":    "/redfish/v1/EventService/Subscriptions/SNMP_1",
```

```
            "@odata.type":  "#EventDestination.v1_7_0.EventDestination",
            "@odata.context":          "/redfish/v1/$metadata#EventDestination.EventDestination",
            "Description":  "Event Subscription Details",
            "Destination":  "snmp://admin@10.0.0.0:162",
            "Protocol":        "SNMPv3",
            "SubscriptionType":        "SNMPTrap",
            "Context":        null,
            "Id":    "SNMP_1",
            "Name": "EventSubscription SNMP_1",
}
```

Retrieving BIOS Tokens

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/WZP21330G5B/Bios
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Bios",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Bios",
 "@odata.type": "#Bios.v1_0_4.Bios",
 "Id": "BiosToken",
 "AttributeRegistry": "CiscoBiosAttributeRegistry.v1_0_0",
 "Attributes": {
  "ProcessorCMCI": "Enabled",
  "IMCInterleave": "1-way Interleave",
  "OSBootWatchdogTimerTimeout": "10 minutes",
  "MemorySizeLimit": "00000",
  "pSATA": "LSI SW RAID",
  "NUMAOptimize": "Enabled",
  "cdnEnable": "Enabled",
  "UsbPortFront": "Enabled",
  "PartialMirrorValue2": "0000",
  "PcieSlotMLOMLinkSpeed": "Auto",
  "CPUPerformance": "Custom",
  "PCIeRASSupport": "Enabled",
  "UsbPortRear": "Enabled",
  "IntelHyperThread": "Enabled",
  "SataModeSelect": "AHCI",
  "PcieSlot1LinkSpeed": "Auto",
  "SelectMemoryRAS": "ADDDC Sparing",
  "CoherencySupport": "Disabled",
  "CoreMultiProcessing": "All",
  "PartialMirrorModeConfig": "Disabled",
  "FRB_2": "Enabled",
  "FlowCtrl": "None",
  "PcieSlotN1OptionROM": "Enabled",
  "PwrPerfTuning": "OS",
  "VMDEnable": "Disabled",
  "PatrolScrub": "Enabled",
  "BootPerformanceMode": "Max Performance",
  "WorkLdConfig": "Balanced",
  "PcieSlot1OptionROM": "Enabled",
  "DcuIpPrefetch": "Enabled",
  "PsdCoordType": "HW ALL",
  "ProcessorC6Report": "Disabled",
  "IPV4PXE": "Enabled",
  "PcieSlot2LinkSpeed": "Auto",
```

```
                                 "NetworkStack": "Enabled",
                                 "PartialMirrorValue4": "0000",
                                 "PcieSlotMRAIDLinkSpeed": "Auto",
                                 "PartialMirrorValue1": "0000",
                                 "PcieSlotN2OptionROM": "Enabled",
                                 "ATS": "Enabled",
                                 "OSBootWatchdogTimerPolicy": "Reset",
                                 "PartialMirrorPercent": "00.00",
                                 "UsbPortSdCard": "Enabled",
                                 "UsbPortInt": "Enabled",
                                 "DCPMMFirmwareDowngrade": "Disabled",
                                 "UsbPortKVM": "Enabled",
                                 "KTIPrefetch": "Enabled",
                                 "BmeDmaMitigation": "Disabled",
                                 "PcieSlot2OptionROM": "Enabled",
                                 "IntelTurboBoostTech": "Enabled",
                                 "EPPProfile": "Balanced Performance",
                                 "AutoCCState": "Disabled",
                                 "EnergyEfficientTurbo": "Disabled",
                                 "ProcessorC1E": "Disabled",
                                 "SNC": "Enabled",
                                 "AdjacentCacheLinePrefetch": "Enabled",
                                 "CpuHWPM": "HWPM Native Mode",
                                 "BaudRate": "19.2k",
                                 "MemoryMappedIOAbove4GB": "Enabled",
                                 "CpuEngPerfBias": "Balanced Performance",
                                 "TPMControl": "Enabled",
                                 "LomOpromControlPort0": "Enabled",
                                 "IPV6PXE": "Disabled",
                                 "LLCPrefetch": "Disabled",
                                 "CiscoAdaptiveMemTraining": "Disabled",
                                 "PackageCstateLimit": "C0 C1 State",
                                 "PcieSlotMLOMOptionROM": "Enabled",
                                 "LomOpromControlPort1": "Enabled",
                                 "XPTPrefetch": "Disabled",
                                 "DcuStreamerPrefetch": "Disabled",
                                 "IntelVT": "Enabled",
                                 "PartialMirrorValue3": "0000",
                                 "TXTSupport": "Disabled",
                                 "TerminalType": "VT100",
                                 "ConsoleRedir": "COM 0",
                                 "CiscoDebugLevel": "Maximum",
                                 "PcieSlotFrontNvme1LinkSpeed": "Auto",
                                 "ExecuteDisable": "Enabled",
                                 "CiscoOpromLaunchOptimization": "Enabled",
                                 "IntelVTD": "Enabled",
                                 "AllLomPortControl": "Enabled",
                                 "PcieSlotMRAIDOptionROM": "Enabled",
                                 "IntelSpeedSelect": "Base",
                                 "VgaPriority": "Onboard",
                                 "UsbLegacySupport": "Enabled",
                                 "PowerOnPassword": "Disabled",
                                 "SelectPprType": "Hard PPR",
                                 "PcieSlotFrontNvme2LinkSpeed": "Auto",
                                 "LocalX2Apic": "Disabled",
                                 "HardwarePrefetch": "Enabled",
                                 "OSBootWatchdogTimer": "Enabled",
                                 "EnhancedIntelSpeedStep": "Enabled"
                              },
                              "Name": "BiosToken",
                              "Description": "BIOS Configuration Current Settings",
                              "Actions": {
                                "#Bios.ResetBios": {
                                  "target": "/redfish/v1/Systems/WZP21330G5B/Bios/Actions/
```

```
Bios.ResetBios"
  }
 }
}
```

Configuring Select Memory RAS BIOS Token for Mirroring Mode

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/<SerialNumber>/
Bios -XPATCH -d '{"SelectMemoryRAS":"Mirror Mode 1LM"}'
```

Response

```
{
 "Id": "BiosToken",
 "AttributeRegistry": "CiscoBiosAttributeRegistry.v1_0_0",
 "Attributes": {
  "ProcessorCMCI": "Enabled",
  "IMCInterleave": "1-way Interleave",
  "OSBootWatchdogTimerTimeout": "10 minutes",
  "MemorySizeLimit": "00000",
  "pSATA": "LSI SW RAID",
  "NUMAOptimize": "Enabled",
  "cdnEnable": "Enabled",
  "UsbPortFront": "Enabled",
  "PartialMirrorValue2": "0000",
  "PcieSlotMLOMLinkSpeed": "Auto",
  "CPUPerformance": "Custom",
  "PCIeRASSupport": "Enabled",
  "UsbPortRear": "Enabled",
  "IntelHyperThread": "Enabled",
  "SataModeSelect": "AHCI",
  "PcieSlot1LinkSpeed": "Auto",
  "SelectMemoryRAS": " Mirror Mode 1LM ",
  "CoherencySupport": "Disabled",
  "CoreMultiProcessing": "All",
  "PartialMirrorModeConfig": "Disabled",
  "FRB_2": "Enabled",
  "FlowCtrl": "None",
  "PcieSlotN1OptionROM": "Enabled",
  "PwrPerfTuning": "OS",
  "VMDEnable": "Disabled",
  "PatrolScrub": "Enabled",
  "BootPerformanceMode": "Max Performance",
  "WorkLdConfig": "Balanced",
  "PcieSlot1OptionROM": "Enabled",
  "DcuIpPrefetch": "Enabled",
  "PsdCoordType": "HW ALL",
  "ProcessorC6Report": "Disabled",
  "IPV4PXE": "Enabled",
  "PcieSlot2LinkSpeed": "Auto",
  "NetworkStack": "Enabled",
  "PartialMirrorValue4": "0000",
  "PcieSlotMRAIDLinkSpeed": "Auto",
  "PartialMirrorValue1": "0000",
  "PcieSlotN2OptionROM": "Enabled",
  "ATS": "Enabled",
  "OSBootWatchdogTimerPolicy": "Reset",
  "PartialMirrorPercent": "00.00",
```

```
                        "UsbPortSdCard": "Enabled",
                        "UsbPortInt": "Enabled",
                        "DCPMMFirmwareDowngrade": "Disabled",
                        "UsbPortKVM": "Enabled",
                        "KTIPrefetch": "Enabled",
                        "BmeDmaMitigation": "Disabled",
                        "PcieSlot2OptionROM": "Enabled",
                        "IntelTurboBoostTech": "Enabled",
                        "EPPProfile": "Balanced Performance",
                        "AutoCCState": "Disabled",
                        "EnergyEfficientTurbo": "Disabled",
                        "ProcessorC1E": "Disabled",
                        "SNC": "Enabled",
                        "AdjacentCacheLinePrefetch": "Enabled",
                        "CpuHWPM": "HWPM Native Mode",
                        "BaudRate": "19.2k",
                        "MemoryMappedIOAbove4GB": "Enabled",
                        "CpuEngPerfBias": "Balanced Performance",
                        "TPMControl": "Enabled",
                        "LomOpromControlPort0": "Enabled",
                        "IPV6PXE": "Disabled",
                        "LLCPrefetch": "Disabled",
                        "CiscoAdaptiveMemTraining": "Disabled",
                        "PackageCstateLimit": "C0 C1 State",
                        "PcieSlotMLOMOptionROM": "Enabled",
                        "LomOpromControlPort1": "Enabled",
                        "XPTPrefetch": "Disabled",
                        "DcuStreamerPrefetch": "Disabled",
                        "IntelVT": "Enabled",
                        "PartialMirrorValue3": "0000",
                        "TXTSupport": "Disabled",
                        "TerminalType": "VT100",
                        "ConsoleRedir": "COM 0",
                        "CiscoDebugLevel": "Maximum",
                        "PcieSlotFrontNvme1LinkSpeed": "Auto",
                        "ExecuteDisable": "Enabled",
                        "CiscoOpromLaunchOptimization": "Enabled",
                        "IntelVTD": "Enabled",
                        "AllLomPortControl": "Enabled",
                        "PcieSlotMRAIDOptionROM": "Enabled",
                        "IntelSpeedSelect": "Base",
                        "VgaPriority": "Onboard",
                        "UsbLegacySupport": "Enabled",
                        "PowerOnPassword": "Disabled",
                        "SelectPprType": "Hard PPR",
                        "PcieSlotFrontNvme2LinkSpeed": "Auto",
                        "LocalX2Apic": "Disabled",
                        "HardwarePrefetch": "Enabled",
                        "OSBootWatchdogTimer": "Enabled",
                        "EnhancedIntelSpeedStep": "Enabled"
                },
                "Name": "BiosToken",
                "Description": "BIOS Configuration Current Settings",
                "Actions": {
                 "#Bios.ResetBios": {
                  "target": "/redfish/v1/Systems/WZP21330G5B/Bios/Actions/Bios.ResetBios"
                 }
                }
        }
```

Retrieving Default Values of BIOS Tokens

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Registries/
CiscoBiosAttributeRegistry.v1_0_0/BiosAttributeRegistry.json
```

Response

Shows all the BIOS Token details including their default values. The following examples shows only two tokens.

```
{
    "SupportedSystems": [
        {
            "FirmwareVersion": "4.1(1fS4)",
            "ProductName": "UCS C220 M5L",
            "SystemId": "WZP21330G5B"
        }
    ],
    "Id": "BiosAttributeRegistry",
    "OwningEntity": "Cisco Systems Inc.",
    "Name": "BIOS Attribute Registry",
    "@odata.context":
"/redfish/v1/$metadata#Registries/Members/$entity/BiosAttributeRegistry",
    "@odata.type": "#AttributeRegistry.v1_2_1.AttributeRegistry",
    "RegistryPrefix": "CiscoBiosAttributeRegistry.v1_0_0",
    "@odata.id":
"/redfish/v1/Registries/CiscoBiosAttributeRegistry.v1_0_0/BiosAttributeRegistry",
    "RegistryEntries": {
        "Attributes": [              {
                "DefaultValue": "Enabled",
                "WriteOnly": false,
                "ResetRequired": true,
                "Hidden": false,
                "DisplayName": "Intel Virtualization Technology",
                "IsSystemUniqueProperty": true,
                "AttributeName": "IntelVT",
                "Immutable": false,
                "Value": [
                    {
                        "ValueName": "Enabled",
                        "ValueDisplayName": "Enabled"
                    },
                    {
                        "ValueName": "Disabled",
                        "ValueDisplayName": "Disabled"
                    }
                ],
                "ReadOnly": false,
                "MinLength": 1,
                "MaxLength": 64,
                "Type": "String"
            },
            {
                "DefaultValue": "Auto",
                "WriteOnly": false,
                "ResetRequired": true,
                "Hidden": false,
                "DisplayName": "IMC Interleaving",
```

```
                    "IsSystemUniqueProperty": true,
                    "AttributeName": "IMCInterleave",
                    "Immutable": false,
                    "Value": [
                        {
                            "ValueName": "Auto",
                            "ValueDisplayName": "Auto"
                        },
                        {
                            "ValueName": "1-way Interleave",
                            "ValueDisplayName": "1-way Interleave"
                        },
                        {
                            "ValueName": "2-way Interleave",
                            "ValueDisplayName": "2-way Interleave"
                        }
                    ],
                    "ReadOnly": false,
                    "MinLength": 1,
                    "MaxLength": 64,
                    "Type": "String"
                },
        <SNIP>
            ]
        },
        "RegistryVersion": "1.0.0",
        "Language": "en"
}
```

Using Platform-Default to Configure BIOS Parameters to Default Values

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/< SerialNumber>/
Bios -XPATCH -d '{"SelectMemoryRAS":"default"}'
```

Response

```
{
 "Id": "BiosToken",
 "AttributeRegistry": "CiscoBiosAttributeRegistry.v1_0_0",
 "Attributes": {
  "ProcessorCMCI": "Enabled",
  "IMCInterleave": "1-way Interleave",
  "OSBootWatchdogTimerTimeout": "10 minutes",
  "MemorySizeLimit": "00000",
  "pSATA": "LSI SW RAID",
  "NUMAOptimize": "Enabled",
  "cdnEnable": "Enabled",
  "UsbPortFront": "Enabled",
  "PartialMirrorValue2": "0000",
  "PcieSlotMLOMLinkSpeed": "Auto",
  "CPUPerformance": "Custom",
  "PCIeRASSupport": "Enabled",
  "UsbPortRear": "Enabled",
  "IntelHyperThread": "Enabled",
  "SataModeSelect": "AHCI",
  "PcieSlot1LinkSpeed": "Auto",
```

```
"SelectMemoryRAS": "Mirror Mode 1LM",
"CoherencySupport": "Disabled",
"CoreMultiProcessing": "All",
"PartialMirrorModeConfig": "Disabled",
"FRB_2": "Enabled",
"FlowCtrl": "None",
"PcieSlotN1OptionROM": "Enabled",
"PwrPerfTuning": "OS",
"VMDEnable": "Disabled",
"PatrolScrub": "Enabled",
"BootPerformanceMode": "Max Performance",
"WorkLdConfig": "Balanced",
"PcieSlot1OptionROM": "Enabled",
"DcuIpPrefetch": "Enabled",
"PsdCoordType": "HW ALL",
"ProcessorC6Report": "Disabled",
"IPV4PXE": "Enabled",
"PcieSlot2LinkSpeed": "Auto",
"NetworkStack": "Enabled",
"PartialMirrorValue4": "0000",
"PcieSlotMRAIDLinkSpeed": "Auto",
"PartialMirrorValue1": "0000",
"PcieSlotN2OptionROM": "Enabled",
"ATS": "Enabled",
"OSBootWatchdogTimerPolicy": "Reset",
"PartialMirrorPercent": "00.00",
"UsbPortSdCard": "Enabled",
"UsbPortInt": "Enabled",
"DCPMMFirmwareDowngrade": "Disabled",
"UsbPortKVM": "Enabled",
"KTIPrefetch": "Enabled",
"BmeDmaMitigation": "Disabled",
"PcieSlot2OptionROM": "Enabled",
"IntelTurboBoostTech": "Enabled",
"EPPProfile": "Balanced Performance",
"AutoCCState": "Disabled",
"EnergyEfficientTurbo": "Disabled",
"ProcessorC1E": "Disabled",
"SNC": "Enabled",
"AdjacentCacheLinePrefetch": "Enabled",
"CpuHWPM": "HWPM Native Mode",
"BaudRate": "19.2k",
"MemoryMappedIOAbove4GB": "Enabled",
"CpuEngPerfBias": "Balanced Performance",
"TPMControl": "Enabled",
"LomOpromControlPort0": "Enabled",
"IPV6PXE": "Disabled",
"LLCPrefetch": "Disabled",
"CiscoAdaptiveMemTraining": "Disabled",
"PackageCstateLimit": "C0 C1 State",
"PcieSlotMLOMOptionROM": "Enabled",
"LomOpromControlPort1": "Enabled",
"XPTPrefetch": "Disabled",
"DcuStreamerPrefetch": "Disabled",
"IntelVT": "Enabled",
"PartialMirrorValue3": "0000",
"TXTSupport": "Disabled",
"TerminalType": "VT100",
"ConsoleRedir": "COM 0",
"CiscoDebugLevel": "Maximum",
"PcieSlotFrontNvme1LinkSpeed": "Auto",
"ExecuteDisable": "Enabled",
"CiscoOpromLaunchOptimization": "Enabled",
"IntelVTD": "Enabled",
```

```
 "AllLomPortControl": "Enabled",
 "PcieSlotMRAIDOptionROM": "Enabled",
 "IntelSpeedSelect": "Base",
 "VgaPriority": "Onboard",
 "UsbLegacySupport": "Enabled",
 "PowerOnPassword": "Disabled",
 "SelectPprType": "Hard PPR",
 "PcieSlotFrontNvme2LinkSpeed": "Auto",
 "LocalX2Apic": "Disabled",
 "HardwarePrefetch": "Enabled",
 "OSBootWatchdogTimer": "Enabled",
 "EnhancedIntelSpeedStep": "Enabled"
 },
 "Name": "BiosToken",
 "Description": "BIOS Configuration Current Settings",
 "Actions": {
 "#Bios.ResetBios": {
  "target": "/redfish/v1/Systems/WZP21330G5B/Bios/Actions
/Bios.ResetBios"
 }
 }
}
```

Using TFTP to Export Cisco IMC Configuration Data

Request to export CIMC Configuration using TFTP

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/
Actions/Oem/CiscoUCSExtensions.ExportBmcConfig -XPOST -d '{
"Protocol":"TFTP",
"RemoteHostname":"10.10.10.10",
"RemotePath":"Config.xml",
"Passphrase":"Cisco"
}'
```

Response

Response is a link to the async task created:

```
{
 "Messages": [],
 "Id": "55",
 "Name": "Export CIMC Configuration",
 "StartTime": "05/28/2020 15:24:52 IST",
 "TaskState": "Running",
 "@odata.id": "/redfish/v1/TaskService/Tasks/55",
 "@odata.type": "#Task.v1_4_0.Task"
}
```

Request to Check the Status of the Export Config Task

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/TaskService/Tasks/55
```

Response

```
{
 "@odata.id": "/redfish/v1/TaskService/Tasks/55",
 "@odata.context": "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
 "@odata.type": "#Task.v1_4_0.Task",
 "Id": "55",
 "Name": "Export CIMC Configuration",
```

```
"StartTime": "05/28/2020 15:24:52 IST",
"EndTime": "05/28/2020 15:25:03 IST",
"PercentComplete": 100,
"TaskState": "Completed",
"TaskStatus": "OK",
"Messages": [{
  "MessageId": "Base.1.4.Success",
  "Message": "Successfully Completed Request"
 }],
"TaskMonitor": "/redfish/v1/TaskService/Oem/TaskMonitor/55"
}
```

Using TFTP to Import Cisco IMC Configuration Data

Request to import CIMC Configuration using TFTP

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/
CIMC/Actions/Oem/CiscoUCSExtensions.ImportBmcConfig -XPOST -d '{
"Protocol":"TFTP",
"RemoteHostname":"10.10.10.10",
"RemotePath":"Config.xml",
"Passphrase":"Cisco"
}
```

Response

```
{
 "Messages": [],
 "Id": "57",
 "Name": "Import CIMC Configuration",
 "StartTime": "05/28/2020 15:35:26 IST",
 "TaskState": "Running",
 "@odata.id": "/redfish/v1/TaskService/Tasks/57",
 "@odata.type": "#Task.v1_4_0.Task"
}
```

Request to Check Status of Import Config Task

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/TaskService/Tasks/57
```

Response

```
{
 "@odata.id": "/redfish/v1/TaskService/Tasks/57",
 "@odata.context": "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
 "@odata.type": "#Task.v1_4_0.Task",
 "Id": "57",
 "Name": "Import CIMC Configuration",
 "StartTime": "05/28/2020 15:35:26 IST",
 "PercentComplete": 6,
 "TaskState": "Running",
 "Messages": [],
 "TaskMonitor": "/redfish/v1/TaskService/Oem/TaskMonitor/57"
}
```

Using TFTP to Export Cisco IMC Technical Support Data

Request to export CIMC Tech-support Data using TFTP

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/
CIMC/Actions/Oem/CiscoUCSExtensions.BmcTechSupportExport -XPOST -d '{
"Protocol":"TFTP",
"RemoteHostname":"10.10.10.10",
"RemotePath":"TechSupport.tar.gz"
}'
```

Response

```
{
 "Messages": [],
 "Id": "59",
 "Name": "Technical Support Collection",
 "StartTime": "05/28/2020 15:47:59 IST",
 "TaskState": "Running",
 "@odata.id": "/redfish/v1/TaskService/Tasks/59",
 "@odata.type": "#Task.v1_4_0.Task"
}
```

Request to Check Status of Export Tech-support Task

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/TaskService/Tasks/59
```

Response

```
{
 "@odata.id": "/redfish/v1/TaskService/Tasks/59",
 "@odata.context": "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
 "@odata.type": "#Task.v1_4_0.Task",
 "Id": "59",
 "Name": "Technical Support Collection",
 "StartTime": "05/28/2020 15:47:59 IST",
 "PercentComplete": 3,
 "TaskState": "Running",
 "Messages": [],
 "TaskMonitor": "/redfish/v1/TaskService/Oem/TaskMonitor/59"
}
```

Retrieving CPU Product ID Details

Request to Retrieve the Different CPUs on a Server

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/ WZP21330G5B/Processors
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Processors",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Processors",
 "@odata.type": "#ProcessorCollection.ProcessorCollection",
 "Description": "Collection of Processors for this system",
 "Name": "Processors Collection",
 "Members": [{
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Processors/CPU2"
```

```
    }, {
      "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Processors/CPU1"
    }],
  "Members@odata.count": 2
}
```

Request to Retrieve Details for each CPU

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/WZP21330G5B/Processors/CPU1
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Processors/CPU1",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Processors/
Members/$entity",
 "@odata.type": "#Processor.v1_5_0.Processor",
 "InstructionSet": "x86-64",
 "TotalThreads": 10,
 "ProcessorArchitecture": "x86",
 "Status": {
  "State": "Enabled",
  "Health": "OK"
 },
 "ProcessorType": "CPU",
 "Name": "CPU1",
 "ProcessorId": {
  "Step": "4",
  "VendorId": "Intel(R) Corporation",
  "EffectiveModel": "85",
  "EffectiveFamily": "6"
 },
 "TotalEnabledCores": 10,
 "TotalCores": 10,
 "Id": "1",
 "Description": "Intel(R) Xeon(R) Silver 4114 2.20 GHz 85W 10C 13.75MB Cache
DDR4 2400MHz 768GB",
 "Manufacturer": "Intel(R) Corporation",
 "MaxSpeedMHz": 4000,
 "Model": "Intel(R) Xeon(R) Silver 4114 CPU @ 2.20GHz",
 "Socket": "CPU1"
}
```

Retrieving IMM/ Memory Unit Product ID Details

Request to Retrieve all Memory Units

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/<SerialNumber>/Memory/
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Memory",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Memory",
 "@odata.type": "#MemoryCollection.MemoryCollection",
 "Description": "Collection of Memory resource instances for this system",
 "Name": "Memory Collection",
 "Members": [{
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Memory/DIMM_A1"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Memory/DIMM_H1"
```

```
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Memory/DIMM_G1"
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Memory/DIMM_B1"
    }],
 "Members@odata.count": 4
}
```

Request to get Details of a Particular Memory Unit

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/<SerialNumber>/
Memory/DIMM_G1
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Memory/DIMM_G1",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/Memory/Members/$entity",
 "@odata.type": "#Memory.v1_7_0.Memory",
 "Description": "Computer Memory",
 "Links": {
  "Chassis": {
   "@odata.id": "/redfish/v1/Chassis/1"
  }
 },
 "SerialNumber": "3612D2AF",
 "MemoryType": "DRAM",
 "MemoryDeviceType": "DDR4",
 "Id": "13",
 "DeviceLocator": "DIMM_G1",
 "SecurityCapabilities": {
  "PassphraseCapable": false
 },
 "DataWidthBits": 64,
 "Status": {
  "State": "Enabled",
  "Health": "OK"
 },
 "Name": "DIMM_G1",
 "OperatingMemoryModes": ["Volatile"],
 "MemoryMedia": ["DRAM"],
 "PartNumber": "M393A2G40EB2-CTD    ",
 "Manufacturer": "0xCE00",
 "OperatingSpeedMhz": 2666,
 "CapacityMiB": 16384,
 "MemoryLocation": {
  "Channel": 0,
  "Slot": 0,
  "Socket": 1
 }
}
```

Retrieving PCI Adapter Product ID Details

Request to Get List of PCI Adapters

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/<SerialNumber>
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity",
 "@odata.type": "#ComputerSystem.v1_7_0.ComputerSystem",
 "Processors": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Processors"
 },
 "SimpleStorage": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/SimpleStorage"
 },
 "Storage": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Storage"
 },
 "Memory": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Memory"
 },
 "MemoryDomains": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/MemoryDomains"
 },
 "NetworkInterfaces": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/NetworkInterfaces"
 },
 "Bios": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Bios"
 },
 "SecureBoot": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/SecureBoot"
 },
 "EthernetInterfaces": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces"
 },
 "LogServices": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/LogServices"
 },
 "Links": {
  "Chassis": [{
    "@odata.id": "/redfish/v1/Chassis/1"
   }],
  "CooledBy": [{
    "@odata.id": "/redfish/v1/Chassis/1/Thermal"
   }],
  "ManagedBy": [{
    "@odata.id": "/redfish/v1/Managers/CIMC"
   }],
  "PoweredBy": [{
    "@odata.id": "/redfish/v1/Chassis/1/Power"
   }]
 },
 "SerialNumber": "WZP21330G5B",
 "Boot": {
  "BootSourceOverrideTarget": "None",
  "BootSourceOverrideTarget@Redfish.AllowableValues": ["None", "Pxe",
"Floppy", "Cd", "Hdd", "BiosSetup", "Diags"],
  "BootSourceOverrideEnabled@Redfish.AllowableValues": ["Once", "Continuous",
"Disabled"],
  "BootSourceOverrideEnabled": "Disabled"
 },
 "Id": "WZP21330G5B",
 "AssetTag": "Test assetTagRedfish",
 "PowerState": "On",
 "SystemType": "Physical",
 "ProcessorSummary": {
  "Model": "Intel(R) Xeon(R) Silver 4114 CPU @ 2.20GHz",
  "Count": 2
```

```
   },
   "HostName": "test-hostname-kr-webcimc",
   "MemorySummary": {
    "TotalSystemMemoryGiB": 64,
    "Status": {
     "HealthRollup": "OK",
     "Health": "OK"
    }
   },
   "PCIeDevices@odata.count": 6,
   "PCIeFunctions@odata.count": 6,
   "Description": "PatchName",
   "UUID": "1C61EBC6-8E10-4A9B-90CE-A4C03913EA56",
   "Status": {
    "State": "Enabled",
    "Health": "OK"
   },
   "PCIeDevices": [{
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/1"
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/2"
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/FRONT-NVME-2"
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/MLOM"
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/MRAID"
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/L"
    }],
   "Name": "UCS C220 M5L",
   "HostWatchdogTimer": {
    "Status": {
     "State": "Enabled"
    },
    "WarningAction": "None",
    "FunctionEnabled": true,
    "TimeoutAction": "ResetSystem"
   },
   "PCIeFunctions": [{
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/1"
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/2"
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/FRONT-NVME-2"
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/MLOM"
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/MRAID"
    }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/L"
    }],
   "Oem": {
    "Cisco": {
     "PostCompletionStatus": true,
     "SystemEffectiveMemory": 64,
     "SystemEffectiveSpeed": 2400
    }
   },
   "TrustedModules": [{
     "InterfaceType": "TPM2_0",
     "InterfaceTypeSelection": "BiosSetting",
     "FirmwareVersion": "2.0",
```

```
    "Status": {
     "Health": "OK"
    }
  }],
 "PowerRestorePolicy": "LastState",
 "Manufacturer": "Cisco Systems Inc",
 "IndicatorLED": "Off",
 "Model": "UCSC-C220-M5L",
 "BiosVersion": "C220M5.4.1.1.61.0504202214",
 "Actions": {
  "#ComputerSystem.Reset": {
   "target": "/redfish/v1/Systems/WZP21330G5B/Actions/
ComputerSystem.Reset",
   "ResetType@Redfish.AllowableValues": ["On", "ForceOff",
"GracefulShutdown", "GracefulRestart", "ForceRestart", "Nmi", "PowerCycle"]
  }
 }
}
```

Request to Get Information on Each PCI Adapter

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/<SerialNumber>/
PCIeFunctions/MLOM
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/MLOM",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/PCIeFunctions/
Members/$entity",
 "@odata.type": "#PCIeFunction.v1_2_1.PCIeFunction",
 "Links": {
  "PCIeDevice": {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/MLOM"
  },
  "EthernetInterfaces@odata.count": 0,
  "StorageControllers@odata.count": 0,
  "Drives@odata.count": 0,
  "NetworkDeviceFunctions": [{
    "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/MLOM/
NetworkDeviceFunctions/eth0"
   }, {
    "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/MLOM/
NetworkDeviceFunctions/eth1"
   }, {
    "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/MLOM/
NetworkDeviceFunctions/fc0"
   }, {
    "@odata.id": "/redfish/v1/Chassis/1/NetworkAdapters/MLOM/
NetworkDeviceFunctions/fc1"
   }],
  "NetworkDeviceFunctions@odata.count": 4
 },
 "VendorId": "0x1137",
 "Description": "This gives information of PCIeFunctions on the system",
 "DeviceId": "0x0042",
 "Id": "MLOM",
 "SubsystemId": "0x0218",
 "Name": "Cisco UCS VIC 1457 MLOM",
 "SubsystemVendorId": "0x1137"
}
```

Updating Cisco IMC Firmware

Request to Start CIMC Firmware Update

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/UpdateService/
Actions/UpdateService.SimpleUpdate -XPOST -d '{
"Targets":["/redfish/v1/UpdateService/FirmwareInventory/CIMC"],
"TransferProtocol":"SCP",
"ImageURI":"10.10.10.10:/path/to/bin/file.bin",
"Username":"username",
"Password":"password"
}'
```

Response

Response is a link to the async task created:

```
{
 "Messages": [],
 "Id": "53",
 "Name": "BMC Firmware Update",
 "StartTime": "05/28/2020 14:29:39 IST",
 "TaskState": "Running",
 "@odata.id": "/redfish/v1/TaskService/Tasks/53",
 "@odata.type": "#Task.v1_4_0.Task"
}
```

Request to Check Firmware Update Status

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/TaskService/Tasks/53
```

Response

```
{
 "@odata.id": "/redfish/v1/TaskService/Tasks/53",
 "@odata.context": "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
 "@odata.type": "#Task.v1_4_0.Task",
 "Id": "53",
 "Name": "BMC Firmware Update",
 "StartTime": "05/28/2020 14:29:39 IST",
 "PercentComplete": 5,
 "TaskState": "Running",
 "Messages": [],
 "TaskMonitor": "/redfish/v1/TaskService/Oem/TaskMonitor/53"
}
```

Updating BIOS Firmware

Request to Start BIOS Firmware Update

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/UpdateService/
Actions/UpdateService.SimpleUpdate -XPOST -d '{
"Targets":["/redfish/v1/UpdateService/FirmwareInventory/BIOS"],
"TransferProtocol":"SCP",
"ImageURI":"10.10.10.10:/path/to/Bios/file/bios.cap",
"Username":"username",
"Password":"password"
}'
```

Response

```
{
 "Messages": [],
 "Id": "54",
 "Name": "BIOS Firmware Update",
 "StartTime": "05/28/2020 14:39:14 IST",
 "TaskState": "Running",
 "@odata.id": "/redfish/v1/TaskService/Tasks/54",
 "@odata.type": "#Task.v1_4_0.Task"
}
```

Request to Check Status of Firmware Update

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/TaskService/Tasks/54
```

Response

```
{
 "@odata.id": "/redfish/v1/TaskService/Tasks/54",
 "@odata.context": "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
 "@odata.type": "#Task.v1_4_0.Task",
 "Id": "54",
 "Name": "BIOS Firmware Update",
 "StartTime": "05/28/2020 14:39:14 IST",
 "PercentComplete": 29,
 "TaskState": "Running",
 "Messages": [],
 "TaskMonitor": "/redfish/v1/TaskService/Oem/TaskMonitor/54"
}
```

Configuring VIC Adapter Parameters

Get Network Adapter of a VIC

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Request

```
curl  -k -u admin:Password https://10.10.10.10/redfish/v1/Chassis/1
/NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7
```

Response

```
{
        "Id":   "UCSC-PCIE-C25Q-04_FCH233770L7",
        "Name": "UCS VIC 1455",
        "Manufacturer": "Cisco Systems Inc",
        "SerialNumber": "FCH233770L7",
        "Model":        "UCSC-PCIE-C25Q-04",
        "PartNumber":   "73-18418-06",
        "Actions":      {
                "#NetworkAdapter.ResetSettingsToDefault":      {
                        "target":       "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/Actions/NetworkAdapter.ResetSettingsToDefault"
                }
```

```
                },
                "Controllers": [{
                        "FirmwarePackageVersion":        "5.1(2.30)",
                        "Links":        {
                                "NetworkPorts": [{
                                        "@odata.id":    "/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-1"
                                }, {
                                        "@odata.id":    "/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-2"
                                }, {
                                        "@odata.id":    "/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-3"
                                }, {
                                        "@odata.id":    "/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-4"
                                }],
                                "NetworkPorts@odata.count":     4,
                                "NetworkDeviceFunctions":        [{
                                        "@odata.id":    "/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/eth0"
                                }, {
                                        "@odata.id":    "/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/eth1"
                                }, {
                                        "@odata.id":    "/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/fc0"
                                }, {
                                        "@odata.id":    "/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/fc1"
                                }],
                                "NetworkDeviceFunctions@odata.count":   4
                        },
                        "ControllerCapabilities":       {
                                "NetworkPortCount":     4,
                                "NetworkDeviceFunctionCount":   4
                        },
                        "Location":     {
                                "PartLocation": {
                                        "LocationType": "Slot",
                                        "ServiceLabel": "SlotID:1"
                                }
                        }
                }],
        "Oem":  {
                "Cisco":        {
                        "@odata.type":  "#CiscoUCSExtensions.v1_0_0.CiscoUCSExtensions",
                        "BaseMac":      "5C:71:0D:04:44:B4",
                        "VicConfiguration":     {
                                "LldpEnabled":  true,
                                "NivEnabled":   false,
                                "FipEnabled":   true,
                                "PhysicalNicModeEnabled":       false,
                                "AzureQosEnabled":      false,
                                "PortChannelEnabled":   true,
                                "ConfigurationPending": false
                        }
                }
        },
        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7",

        "@odata.type":  "#NetworkAdapter.v1_2_0.NetworkAdapter",
        "@odata.context":       "/redfish/v1/$metadata#NetworkAdapter.NetworkAdapter",
        "NetworkDeviceFunctions":       {
```

```
                    "@odata.id":     "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions"
        },
        "NetworkPorts": {
                "@odata.id":     "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts"
        },
        "Assembly":     {
                "@odata.id":     "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/Assembly"
        }
}
```

Configuring Network Adapter settings

```
curl -X PATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/ -d '{"Oem":{"Cisco":
{"VicConfiguration":{"LldpEnabled":false}}}}
```

```
curl -X PATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/ -d '{"Oem":{"Cisco":
{"VicConfiguration":{"FipEnabled":false}}}}
```

```
 curl -X PATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/ -d '{"Oem":{"Cisco":
{"VicConfiguration":{"PortChannelEnabled":false}}}}
```

```
curl -X PATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/ -d '{"Oem":{"Cisco":
{"VicConfiguration":{"NivEnabled":true}}}}
```

```
curl -X PATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/ -d '{"Oem":{"Cisco":
{"VicConfiguration":{"PhysicalNicModeEnabled":      true }}}}
```

```
curl -X PATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/ -d '{"Oem":{"Cisco":
{"VicConfiguration":{"AzureQosEnabled":      false }}}}
```

```
curl -X PATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/ -d '{"Oem":
{"Cisco":{"VicConfiguration":{ "GeneveOptionsEnabled": false }}}}
```

Retrieving VIC Adapter Uplink Port Details

Note This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4 and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Get NetworkPort Collection

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1
/NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts
{
        "Members":      [{
                        "@odata.id":     "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-1"
```

```
                }, {
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-2"
                }, {
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-3"
                }, {
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-4"
                }],
        "Members@odata.count":  4,
        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts",
        "@odata.type":  "#NetworkPortCollection.NetworkPortCollection",
        "@odata.context":       "/redfish/v1/$metadata#NetworkPortCollection.
NetworkPortCollection",
        "Description":  "Collection of NetworkPort resource instances for this system",
        "Name": "NetworkPort Collection"
}
```

Get Individual Network Port Details

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-1
{
        "Id":   "Port-1",
        "Name": "Port-1",
        "PhysicalPortNumber":   "1",
        "LinkStatus":   "Down",
        "AssociatedNetworkAddresses":   ["5C:71:0D:04:44:B8"],
        "Oem":  {
                "Cisco":        {
                        "@odata.type":  "#CiscoUCSExtensions.v1_0_0.CiscoUCSExtensions",
                        "VicPort":      {
                                "AdminFecMode": "cl91",
                                "OperFecMode":  "Off",
                                "ConnectorPresent":     false,
                                "ConnectorType":        "N/A",
                                "ConnectorVendorName":  "N/A",
                                "ConnectorPartNumber":  "N/A",
                                "ConnectorPartRevision":        "N/A",
                                "ConnectorVendorPid":   "N/A"
                        }
                }
        },
        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-1",
        "@odata.type":  "#NetworkPort.v1_2_0.NetworkPort",
        "@odata.context":       "/redfish/v1/$metadata#NetworkPort.NetworkPort"
}
```

Modify Network Port Settings

```
curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-1 -d '{"Oem":
{"Cisco":{"VicPort":{"AdminFecMode":"Off"}}}}'
```

Retrieving Adapter Ethernet Interface Details

Note	This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.
	VIC 13XX cards are supported from 4.1(3b) release onwards.

Get NetworkDeviceFunctions Collection to list all Ethernet Interfaces and Adapter Fiber Channel Interfaces

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceunctions
{
        "Members":      [{
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/eth0"
                }, {
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/eth1"
                }, {
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/fc0"
                }, {
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/fc1"
                }],
        "Members@odata.count":  4,
        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions",
        "@odata.type":  "#NetworkDeviceFunctionCollection.NetworkDeviceFunctionCollection",

        "@odata.context":       "/redfish/v1/$metadata#NetworkDeviceFunctionCollection.
NetworkDeviceFunctionCollection",
        "Description":  "Collection of NetworkDeviceFunction resource instances for this
system",
        "Name": "NetworkDeviceFunction Collection"
}
```

Retrieve Individual Ethernet Interface Details

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/eth0
{
        "Id":   "eth0",
        "Name": "eth0",
        "NetDevFuncType":       "Ethernet",
        "NetDevFuncCapabilities":       ["Ethernet", "iSCSI"],
        "Ethernet":     {
                "MACAddress":   "5C:71:0D:04:44:C0",
                "MTUSize":      1500,
                "VLAN": {
                        "VLANEnable":   false
                }
        },
        "BootMode":     "Disabled",
        "AssignablePhysicalPorts":      [{
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-1"
                }, {
```

```
                                "@odata.id":     "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-3"
                        }],
          "AssignablePhysicalPorts@odata.count": 2,
          "Links":        {
                "PhysicalPortAssignment":        {
                        "@odata.id":     "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-1"
                }
          },
          "Oem":  {
                "Cisco":         {
                        "@odata.type":   "#CiscoUCSExtensions.v1_0_0.CiscoUCSExtensions",
                        "VnicConfiguration":     {
                                "UplinkPort":    0,
                                "PCIOrder":      "0.0",
                                "InterruptMode":         "Any",
                                "VlanMode":      "Trunk",
                                "Vif":   {
                                        "VifId":         0,
                                        "VifCookie":     0
                                },
                                "EthConfiguration":      {
                                        "Cdn": "VIC-1-eth0",
                                        "TrustedClassOfServiceEnabled": false,
                                        "CompQueueCount":        5,
                                        "StandByRecoveryDly":    5,
                                        "StandByVif":    {
                                                "VifId":         0,
                                                "VifCookie":     0
                                        },
                                        "WorkQueue":     {
                                                "Count":         1,
                                                "RingSize":      256
                                        },
                                        "RecvQueue":     {
                                                "Count":         4,
                                                "RingSize":      512
                                        },
                                        "InterruptProfile":      {
                                                "Count":         8,
                                                "CoalescingTime":        125,
                                                "CoalescingType":        "Min"
                                        },
                                        "Features":      {
                                                "AdvancedFilterEnabled":         false,
                                                "ArfsEnabled":   false,
                                                "NvgreEnabled": false,
                                                "GroupInterruptEnabled":         false,
                                                "VxlanEnabled": false,
                                                "Rocev2Enabled":         false,
                                                "VmqEnabled":   false,
                                                "MultiQueueEnabled":     false,
                                                "GeneveEnabled":         false
                                        },
                                        "OffloadProfile":        {
                                                "TcpLargeReceiveEnabled":         true,
                                                "TcpSegmentEnabled":     true,
                                                "TcpRxChecksumEnabled": true,
                                                "TcpTxChecksumEnabled": true
                                        },
                                        "RssProfile":    {
                                                "RssEnabled":    true,
                                                "RssIpv4HashEnabled":    true,
```

```
                                                "RssTcpIpv4HashEnabled":        true,
                                                "RssIpv6HashEnabled":   true,
                                                "RssTcpIpv6HashEnabled":        true,
                                                "RssIpv6ExHashEnabled": false,
                                                "RssTcpIpv6ExHashEnabled":      false,
                                                "RssUdpIpv4HashEnabled":        false,
                                                "RssUdpIpv6HashEnabled":        false
                                        }
                                }
                        }
                }
        },
        "@odata.id":     "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/eth0",
        "@odata.type":  "#NetworkDeviceFunction.v1_3_0.NetworkDeviceFunction",
        "@odata.context":       "/redfish/v1/$metadata#NetworkDeviceFunction.
NetworkDeviceFunction"
}
```

Creating Adapter Ethernet Interface

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Request

```
curl -k -u admin:password  https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions -d '{"Id": "eth4",
"NetDevFuncType": "Ethernet", "Oem": {"Cisco": {"VnicConfiguration":
{"PCIOrder": "0.6"}}}}' -XPOST
```

Note   PCIOrder is a string of the format x.y, where x is the PCI device number (0 to 255, the upper limit depends upon maximum number of PCI buses supported by the platform), and y is the PCI function number (0 to 7)

Modifying Properties of Ethernet Interface

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

```
curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth0 -d '{"Ethernet":
{"MACAddress":"10:12:23:00:00:02","MTUSize": 1600,"VLAN":{"VLANEnable":true}}}'

curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth0 -d '{"BootMode":
```

```
"PXE"}'

curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth0 -d '{"Oem":
{"Cisco": {"VnicConfiguration":{"UplinkPort":1,"PCIOrder":"0.6","InterruptMode":"Msi",
"VlanMode":"Trunk"}}}}'
```

✎

Note   **PCIOrder** is a string of the format x.y, where x is the PCI device number(0 to 255, the upper limit depends upon maximum number of PCI buses supported by the platform) and y is the PCI function number (0 to 7).

```
curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth0 -d '{"Oem":
{"Cisco": {"VnicConfiguration":{"EthConfiguration":{"Cdn":"VIC-MLOM-eth5",
"TrustedClassOfServiceEnabled":true,"CompQueueCount":11,"StandByRecoveryDly":123}}}}}}'


curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth0 -d '{"Oem":
{"Cisco":
{"VnicConfiguration":{"EthConfiguration":{"WorkQueue":{"Count":11,"RingSize":65}}}}}}'

curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth0 -d '{"Oem":
{"Cisco":
{"VnicConfiguration":{"EthConfiguration":{"RecvQueue":{"Count":11,"RingSize":65}}}}}}'

curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth0 -d '{"Oem":
{"Cisco": {"VnicConfiguration":{"EthConfiguration":{"InterruptProfile":
{"Count":11,"CoalescingTime":65,"CoalescingType":"Min"}}}}}}'

curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth0 -d '{"Oem":
{"Cisco": {"VnicConfiguration":{"EthConfiguration":{"Features":
{"AdvancedFilterEnabled":true,"ArfsEnabled":true,"NvgreEnabled":true,
"VxlanEnabled":true,"Rocev2Enabled":false,"VmqEnabled":false}}}}}}'

curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth0 -d '{"Oem":
{"Cisco": {"VnicConfiguration":{"EthConfiguration":{"OffloadProfile":
{"TcpLargeReceiveEnabled":true,"TcpSegmentEnabled":true,"TcpRxChecksumEnabled":true,
"TcpTxChecksumEnabled":true}}}}}}'

curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth0 -d '{"Oem":
{"Cisco": {"VnicConfiguration":{"EthConfiguration":{"RssProfile":{"RssEnabled":true,
"RssIpv4HashEnabled":true,"RssTcpIpv4HashEnabled":true,"RssIpv6HashEnabled":true,
"RssTcpIpv6HashEnabled":true,"RssIpv6ExHashEnabled":true,"RssTcpIpv6ExHashEnabled":true,
"RssUdpIpv4HashEnabled":true,"RssUdpIpv6HashEnabled":true}}}}}}'
```

Deleting Ethernet Interface

✎

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Request

```
curl -XDELETE -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth4
```

Retrieving Adapter Fibre Channel Interface Details

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Request

```
curl  -k -u admin:Password https://10.10.10.10/redfish/v1/Chassis/1
/NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/fc0
```

Response

```
{
        "Id":   "fc0",
        "Name": "fc0",
        "NetDevFuncType":       "FibreChannelOverEthernet",
        "NetDevFuncCapabilities":       ["FibreChannelOverEthernet"],
        "Ethernet":     {
                "MACAddress":   "5C:71:0D:04:44:C2",
                "VLAN": {
                        "VLANEnable":   false
                }
        },
        "FibreChannel": {
                "WWNN": "10:00:5C:71:0D:04:44:C2",
                "WWPN": "20:00:5C:71:0D:04:44:C2",
                "WWNSource":    "ConfiguredLocally"
        },
        "BootMode":     "Disabled",
        "AssignablePhysicalPorts":      [{
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-1"
                }, {
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-3"
                }],
        "AssignablePhysicalPorts@odata.count":  2,
        "Links":        {
                "PhysicalPortAssignment":       {
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkPorts/Port-1"
                }
        },
        "Oem":  {
                "Cisco":        {
                        "@odata.type": "#CiscoUCSExtensions.v1_0_0.CiscoUCSExtensions",
                        "VnicConfiguration":    {
                                "UplinkPort":   0,
                                "PCIOrder":     "0.2",
                                "InterruptMode":        "Any",
                                "ClassOfService":       3,
```

```
                        "Vif":  {
                                "VifId":          0,
                                "VifCookie":      0
                        },
                        "VHBAConfiguration":    {
                                "FcWorkQueueRingSize":  64,
                                "FcRecvQueueRingSize":  64,
                                "MaxDataFieldSize":     2112,
                                "PersistentLunBindEnabled":     false,
                                "VHBAType":     ["FcInitiator"],
                                "CdbWorkQueue": {
                                        "Count":        1,
                                        "RingSize":     512
                                },
                                "PortFLogi":    {
                                        "RetryCount":   -1,
                                        "Timeout":      2000
                                },
                                "PortPLogi":    {
                                        "RetryCount":   8,
                                        "Timeout":      2000
                                },
                                "ErrorRecoveryProfile": {
                                        "FcpErrorRecoveryEnabled":      false,
                                        "LinkDownTimeout":      30000,
                                        "PortDownTimeout":      10000,
                                        "IoTimeoutRetry":       5,
                                        "PortDownIoRetryCount": 8,
                                        "ErrorDetectTimeout":   2000,
                                        "ResourceAllocationTimeout":    10000
                                },
                                "FcPortProfile":        {
                                        "IoThrottleCount":      512,
                                        "LunsPerTarget":        256,
                                        "LunQueueDepth":        20
                                },
                                "BootTable":    []
                        }
                }
        },
        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/fc0",
        "@odata.type":  "#NetworkDeviceFunction.v1_3_0.NetworkDeviceFunction",
        "@odata.context":       "/redfish/v1/$metadata#NetworkDeviceFunction.
NetworkDeviceFunction"
}
```

Creating Boot Entry for a Fibre Channel Interface

Note This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Creating a New Fibre Channel Interface

```
curl -X POST -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions -d '{"Id"
```

```
:"ec2""NetDevFuncType": "FibreChannelOverEthernet", "Oem": {"Cisco":{"VnicConfiguration":
{"PCIOrder": "0.5", "NivCfg": {"ChannelNumber":10}}}} }'
```

> ✎
>
> **Note**   To use FC interface, VNTAG/NIV mode has to be enabled.

Set BootMode to FibreChannelOverEthernet

```
curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1
/NetworkAdapters/ UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/fc1 -d
'{"BootMode":"FibreChannelOverEthernet"}'
```

Delete Fibre Channel Interterface

```
curl -XDELETE -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1
/NetworkAdapters/ UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/fc6
```

Mounting/Unmounting Share to the VMedia with Username

Request to Mount vMedia

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/
VirtualMedia/1/Actions/VirtualMedia.InsertMedia -XPOST -d '{
"Image":"http://10.10.10.10/readwrite.img",
"WriteProtected":true,
"TransferProtocolType":"HTTP",
"TransferMethod":"Stream",
"Inserted":true,
"UserName":"username",
"Password":"password"
}'
```

No response in case of success. Error message is displayed in case of failure.

Request to Retrieve Details After Mount

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/VirtualMedia/1
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/VirtualMedia/1",
 "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity/
VirtualMedia/Members/$entity",
 "@odata.type": "#VirtualMedia.v1_3_0.VirtualMedia",
 "ConnectedVia": "URI",
 "Id": "1",
 "MediaTypes": ["Floppy", "USBStick"],
 "Name": "Virtual Removable Disk",
 "Inserted": true,
 "Image": "http://10.104.236.41/readwrite1.img",
 "ImageName": "readwrite1.img",
 "WriteProtected": true,
 "Description": "Virtual Media Settings",
 "TransferMethod": "Stream",
 "TransferProtocolType": "HTTP",
 "UserName": "wwwuser",
```

```
 "Actions": {
  "#VirtualMedia.EjectMedia": {
   "target": "/redfish/v1/Managers/CIMC/VirtualMedia/1/Actions/
VirtualMedia.EjectMedia"
  },
  "#VirtualMedia.InsertMedia": {
   "Image@Redfish.AllowableValues": ["This parameter shall specify
the string URI of the remote media to be attached to the virtual media. (Required)"],
   "UserName@Redfish.AllowableValues": ["This parameter shall contain
a string representing the username to be used when accessing the URI specified by the Image

parameter."],
   "Password@Redfish.AllowableValues": ["This parameter shall contain a
string representing the password to be used when accessing the URI specified by the Image parameter."],
   "WriteProtected@Redfish.AllowableValues": ["true"],
   "TransferProtocolType@Redfish.AllowableValues": ["CIFS", "HTTP",
"HTTPS", "NFS"],
   "TransferMethod@Redfish.AllowableValues": ["Stream"],
   "Inserted@Redfish.AllowableValues": ["true"],
   "target": "/redfish/v1/Managers/CIMC/VirtualMedia/1/Actions/
VirtualMedia.InsertMedia"
  }
 }
}
```

Request to Un-mount vMedia

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/VirtualMedia/1/Actions/
VirtualMedia.EjectMedia -XPOST
```

No response in case of success. Error message is displayed in case of failure.

Request to Retrieve Un-mount

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/VirtualMedia/1
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/VirtualMedia/1",
 "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity/
VirtualMedia/Members/$entity",
 "@odata.type": "#VirtualMedia.v1_3_0.VirtualMedia",
 "ConnectedVia": "NotConnected",
 "Id": "1",
 "MediaTypes": ["Floppy", "USBStick"],
 "Name": "Virtual Removable Disk",
 "Inserted": false,
 "WriteProtected": true,
 "Description": "Virtual Media Settings",
 "Actions": {
  "#VirtualMedia.EjectMedia": {
   "target": "/redfish/v1/Managers/CIMC/VirtualMedia/1/Actions/
VirtualMedia.EjectMedia"
  },
  "#VirtualMedia.InsertMedia": {
   "Image@Redfish.AllowableValues": ["This parameter shall specify the
string URI of the remote media to be attached to the virtual media. (Required)"],
   "UserName@Redfish.AllowableValues": ["This parameter shall contain a
 string representing the username to be used when accessing the URI specified by the Image

parameter."],
   "Password@Redfish.AllowableValues": ["This parameter shall contain a
```

```
string representing the password to be used when accessing the URI specified by the Image
parameter."],
    "WriteProtected@Redfish.AllowableValues": ["true"],
    "TransferProtocolType@Redfish.AllowableValues": ["CIFS", "HTTP",
"HTTPS", "NFS"],
    "TransferMethod@Redfish.AllowableValues": ["Stream"],
    "Inserted@Redfish.AllowableValues": ["true"],
    "target": "/redfish/v1/Managers/CIMC/VirtualMedia/1/Actions/
VirtualMedia.InsertMedia"
  }
 }
}
```

Mounting Share to the VMedia Without the Username

Request to Mount vMedia

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/
VirtualMedia/1/Actions/VirtualMedia.InsertMedia -XPOST -d '{
"Image":"http://10.10.10.10/readwrite.img",
"WriteProtected":true,
"TransferProtocolType":"HTTP",
"TransferMethod":"Stream",
"Inserted":true
}'
```

No response in case of success. Error message is displayed in case of failure.

Request to Retrieve Details of the Mount

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/VirtualMedia/1
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/VirtualMedia/1",
 "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity/VirtualMedia/
Members/$entity",
 "@odata.type": "#VirtualMedia.v1_3_0.VirtualMedia",
 "ConnectedVia": "URI",
 "Id": "1",
 "MediaTypes": ["Floppy", "USBStick"],
 "Name": "Virtual Removable Disk",
 "Inserted": true,
 "Image": "http://10.104.236.41/readwrite1.img",
 "ImageName": "readwrite1.img",
 "WriteProtected": true,
 "Description": "Virtual Media Settings",
 "TransferMethod": "Stream",
 "TransferProtocolType": "HTTP",
 "Actions": {
  "#VirtualMedia.EjectMedia": {
   "target": "/redfish/v1/Managers/CIMC/VirtualMedia/1/Actions/
VirtualMedia.EjectMedia"
  },
  "#VirtualMedia.InsertMedia": {
   "Image@Redfish.AllowableValues": ["This parameter shall specify the
string URI of the remote media to be attached to the virtual media. (Required)"],
   "UserName@Redfish.AllowableValues": ["This parameter shall contain
a string representing the username to be used when accessing the URI specified by the Image
```

```
parameter."],
    "Password@Redfish.AllowableValues": ["This parameter shall contain
a string representing the password to be used when accessing the URI specified by the Image

parameter."],
    "WriteProtected@Redfish.AllowableValues": ["true"],
    "TransferProtocolType@Redfish.AllowableValues": ["CIFS", "HTTP",
"HTTPS", "NFS"],
    "TransferMethod@Redfish.AllowableValues": ["Stream"],
    "Inserted@Redfish.AllowableValues": ["true"],
    "target": "/redfish/v1/Managers/CIMC/VirtualMedia/1/Actions/
VirtualMedia.InsertMedia"
  }
 }
}
```

Setting Remote syslog Primary Server

Request to Configure Remote syslog Primary Server

Note This request is not supported in Cisco UCS C220M4, C240M4, C460M4 and S3X60 Servers.

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/
LogServices/CIMC -XPATCH -d
'{
"Oem":{
"Cisco":{
"MinimumSeverityLevel":"Notice",
"SyslogConnectionInfo":[{
"DestinationServer":"10.10.10.10",
"Enabled":true,
"Port":500,
"Protocol":"TCP"
}]
}
}
}'
```

Response

```
{
 "ServiceEnabled": true,
 "OverWritePolicy": "WrapsWhenFull",
 "Id": "CIMC",
 "Name": "CIMC Log Service",
 "LogEntryType": "OEM",
 "Description": "CIMC Log Service",
 "DateTime": "Thu May 28 07:40:01 2020",
 "DateTimeLocalOffset": "+05:30",
 "MaxNumberOfRecords": 10000,
 "Oem": {
  "Cisco": {
    "MinimumSeverityLevel": "Debug",
    "SyslogConnectionInfo": [{
      "Protocol": "TCP",
      "Enabled": true,
      "DestinationServer": "10.10.10.10",
```

```
      "Port": 500
    }, {
     "Protocol": "UDP",
     "Enabled": false,
     "DestinationServer": "0.0.0.0",
     "Port": 514
    }]
  }
 },
 "Actions": {
  "#LogService.ClearLog": {
   "target": "/redfish/v1/Managers/CIMC/LogServices/CIMC/Actions/
LogService.ClearLog"
  },
  "Oem": {
   "#CiscoUCSExtensions.TestRemoteSyslogCfg": {
    "target": "/redfish/v1/Managers/CIMC/LogServices/CIMC/
Actions/Oem/CiscoUCSExtensions.TestRemoteSyslogCfg"
   }
  }
 }
}
```

Setting Remote syslog Secondary Server

Request to Set the Remote syslog Secondary Server

Note   This request is not supported in Cisco UCS C220M4, C240M4, C460M4 and S3X60 Servers.

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/
LogServices/CIMC -XPATCH -d
'{
"Oem":{
"Cisco":{
"MinimumSeverityLevel":"Debug",
"SyslogConnectionInfo":[{},
{
"DestinationServer":"10.13.12.14",
"Enabled":true,
"Port":501,
"Protocol":"TCP"
}]
}
}
}'
```

Response

```
{
 "ServiceEnabled": true,
 "OverWritePolicy": "WrapsWhenFull",
 "Id": "CIMC",
 "Name": "CIMC Log Service",
 "LogEntryType": "OEM",
 "Description": "CIMC Log Service",
 "DateTime": "Thu May 28 07:46:56 2020",
 "DateTimeLocalOffset": "+05:30",
```

```
 "MaxNumberOfRecords": 10000,
 "Oem": {
  "Cisco": {
    "MinimumSeverityLevel": "Notice",
    "SyslogConnectionInfo": [{
      "Protocol": "TCP",
      "Enabled": true,
      "DestinationServer": "10.10.10.10",
      "Port": 500
     }, {
      "Protocol": "TCP",
      "Enabled": true,
      "DestinationServer": "10.13.12.14",
      "Port": 501
     }]
  }
 },
 "Actions": {
  "#LogService.ClearLog": {
   "target": "/redfish/v1/Managers/CIMC/LogServices/CIMC/Actions/
LogService.ClearLog"
  },
  "Oem": {
   "#CiscoUCSExtensions.TestRemoteSyslogCfg": {
    "target": "/redfish/v1/Managers/CIMC/LogServices/CIMC/Actions/
Oem/CiscoUCSExtensions.TestRemoteSyslogCfg"
   }
  }
 }
}
```

Retrieving Syslog Client-Server Details

Note This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4 and S3X60 Servers.

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1
/Managers/CIMC/LogServices/CIMC
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/CIMC",
 "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity
/LogServices/Members/$entity",
 "@odata.type": "#LogService.v1_1_1.LogService",
 "Entries": {
  "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/CIMC/Entries"
 },
 "ServiceEnabled": true,
 "OverWritePolicy": "WrapsWhenFull",
 "Id": "CIMC",
 "Name": "CIMC Log Service",
 "LogEntryType": "OEM",
 "Description": "CIMC Log Service",
 "DateTime": "Thu May 28 07:17:53 2020",
```

```
"DateTimeLocalOffset": "+05:30",
"MaxNumberOfRecords": 10000,
"Oem": {
 "Cisco": {
  "MinimumSeverityLevel": "Debug",
  "SyslogConnectionInfo": [{
    "Protocol": "UDP",
    "Enabled": true,
    "DestinationServer": "10.104.236.59",
    "Port": 514
   }, {
    "Protocol": "UDP",
    "Enabled": false,
    "DestinationServer": "0.0.0.0",
    "Port": 514
   }]
 }
},
"Actions": {
 "#LogService.ClearLog": {
  "target": "/redfish/v1/Managers/CIMC/LogServices/CIMC/Actions
/LogService.ClearLog"
 },
 "Oem": {
  "#CiscoUCSExtensions.TestRemoteSyslogCfg": {
   "target": "/redfish/v1/Managers/CIMC/LogServices/CIMC
/Actions/Oem/CiscoUCSExtensions.TestRemoteSyslogCfg"
  }
 }
 }
}
```

Retrieving MAC Address of Individual Ports of Network Controllers

Request to Retrieve List of network Adapters with their Ports

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/<SerialNumber>/
EthernetInterfaces/
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/
EthernetInterfaces",
 "@odata.type": "#EthernetInterfaceCollection.EthernetInterfaceCollection",
 "Name": "Ethernet Interfaces Collection",
 "Members": [{
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces/1.1"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces/2.1"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces/1.0"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces/2.2"
  }, {
   "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces/3.1"
  }, {
```

```
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces/L.1"
   }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces/L.2"
   }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces/3.3"
   }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces/3.2"
   }, {
     "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces/3.0"
   }],
 "Members@odata.count": 10,
 "Description": "Collection of EthernetInterfaces for this System"
}
```

Request to Retrieve MAC Address for Each Third Party Network Adapter Port

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/
<SerialNumber>/EthernetInterfaces/L.2
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces/L.2",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity/
EthernetInterfaces/Members/$entity",
 "@odata.type": "#EthernetInterface.v1_4_1.EthernetInterface",
 "Links": {
  "Chassis": {
    "@odata.id": "/redfish/v1/Chassis/1"
  }
 },
 "Id": "L.2",
 "Name": "Ethernet Interface",
 "MACAddress": "70:df:2f:86:f3:73",
 "PermanentMACAddress": "70:df:2f:86:f3:73",
 "Description": "Network Interface"
}
```

Retrieving LSI Storage Adapter Summary Properties Installed on C-Series

> ✎
>
> **Note** This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

Request to Get Storage Controller Collection

```
curl -k -u admin:Password https://10.10.10.10/redfish/v1/Systems/WZP21460GPQ/Storage
```

Response

```
{
        "@odata.id":    "/redfish/v1/Systems/WZP21460GPQ/Storage",
        "@odata.context":      "/redfish/v1/$metadata#Systems/Members/$entity/Storage",
        "@odata.type":  "#StorageCollection.StorageCollection",
        "Description":  "Collection of storage resource instances for this system",
        "Name": "Storage Collection",
        "Members":      [{
```

```
                                "@odata.id":     "/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID"
                }, {
                                "@odata.id":     "/redfish/v1/Systems/WZP21460GPQ/Storage/FlexFlash"

                }, {
                                "@odata.id":     "/redfish/v1/Systems/WZP21460GPQ/Storage/FlexUtil"
                }],
         "Members@odata.count":  3
}
```

Request to Get a Particular Storage Controller Details

```
curl -k -u admin:Password https://10.10.10.10/redfish/v1/Systems/WZP21460GPQ
/Storage/MRAID
```

Response

```
{
        "@odata.id":     "/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID",
        "@odata.context":       "/redfish/v1/$metadata#Systems/Members/$entity/Storage/Members
/$entity",
        "@odata.type":  "#Storage.v1_7_0.Storage",
        "Description":  "Storage Controller",
        "Drives":       [{
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Drives/1"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Drives/5"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Drives/9"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Drives/10"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Drives/13"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Drives/14"
                }],
        "Volumes":      {
                "@odata.id":    "/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes"
        },
        "Links":        {
                "Oem":  {
                        "Cisco":        {
                                "PCIeInfo":     [{
                                                "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ
/PCIeFunctions/MRAID"
                                }]
                        }
                }
        },
        "Id":   "MRAID",
        "Name": "MRAID",
        "StorageControllers":   [{
                        "@odata.id":    "/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID",
                        "SupportedControllerProtocols": ["PCIe"],
                        "SupportedDeviceProtocols":     ["SATA", "SAS"],
                        "MemberId":     "MRAID",
                        "Model":        "UCSC-RAID-M5",
```

```
                                  "Name": "Cisco 12G Modular Raid Controller with 2GB cache (max 16
drives)",
                                  "FirmwareVersion":       "51.10.0-2978",
                                  "Manufacturer": "Cisco Systems Inc",
                                  "SerialNumber": "SK81166472",
                                  "CacheSummary": {
                                          "PersistentCacheSizeMiB":       1374,
                                          "TotalCacheSizeMiB":    2048
                                  },
                                  "Oem":  {
                                          "Cisco":        {
                                                  "StorageControllerBiosVersion":
"7.10.03.1_0x070A0402",

                                                  "PCIeSlot":      "MRAID",
                                                  "ChipRevision": "08003",
                                                  "StorageInstanceId":     8,
                                                  "ControllerInterfaceType":       "Sas",
                                                  "ControllerStatus":      "Optimal",
                                                  "HasForeignConfig":      false,
                                                  "DefaultStripeSizeKiBytes":      64,
                                                  "SupportedStripeSizesKiBytes": [64, 128, 256, 512,
 1024],

                                                  "RaidLevelsSupported": ["RAID0", "RAID1", "RAID5",
 "RAID6",
"RAID10", "RAID50", "RAID60"],

                                                  "JbodMode":      true,
                                                  "MaximumVolumesPerController": 64,
                                                  "ControllerType":        "Raid",
                                                  "FullDiskEncryptionCapable":     true,
                                                  "ControllerEncryptionEnabled":  false,
                                                  "EccBucketLeakRate":     1440,
                                                  "ConnectedSasExpander": true,
                                                  "MemoryCorrectableErrors":       0,
                                                  "PinnedCacheState":      0,
                                                  "RebuildRatePercent":    30,
                                                  "SubOEMId":      2,
                                                  "BootDevices":
["/redfish/v1/Systems/WZP21460GPQ/Storage
/MRAID/Volumes/1"],

                                                  "Bbu":   {
                                                          "BbuVendor":     "",
                                                          "BbuManufacturingDate": "2048-00-00",
                                                          "BbuModuleVersion":      "",
                                                          "BbuSerialNumber":       0,
                                                          "BbuType":       "None",
                                                          "BbuStatus":     "NotPresent",
                                                          "BbuChargingState":      "Unknown",
                                                          "IsCapacitor": false,
                                                          "BbuDesignVoltageInVolts":       0,
                                                          "BbuVoltageInVolts":     0,
                                                          "BbuCurrentInAmps":      0,
                                                          "IsTemperatureHigh":     false,
                                                          "IsBatteryPresent":      false,
                                                          "LearnMode":     "Auto",
                                                          "LearnCycleProgressStatus":      "Success",
                                                          "LearnCycleProgressStartTimeStamp":
"0",

                                                          "LearnCycleProgressEndTimeStamp":
"0",

                                                          "NextLearnCycleTimeStamp":       "N/A",
                                                          "IsLearnCycleRequested":         false,
                                                          "CapacitanceInPercent": 0,
                                                          "DesignCapacityInJoules":        0,
                                                          "PackEnergyInJoules":    0
```

```
                                                }
                                        }
                                },
                                "Status":        {
                                        "State":          "Enabled",
                                        "Health":         "OK",
                                        "HealthRollup": "OK"
                                },
                                "Location":       {
                                        "PartLocation": {
                                                "LocationType": "Slot",
                                                "ServiceLabel": "MRAID"
                                        }
                                }
                        }],
                "Actions":        {
                        "Oem": {
                                "#Cisco.ClearConfig":     {
                                        "target":        "/redfish/v1/Systems/WZP21460GPQ/Storage
/MRAID/Actions/Oem/Cisco.ClearConfig",
                                        "@odata.type": "#CiscoUCSExtensions.v1_0_0.ClearConfig"
                                },
                                "#Cisco.DoForeignConfig":        {
                                        "target":        "/redfish/v1/Systems/WZP21460GPQ/Storage
/MRAID/Actions/Oem/Cisco.DoForeignConfig",
                                        "@odata.type":  "#CiscoUCSExtensions.v1_0_0.DoForeignConfig",

                                        "ForeignCfgOp@Redfish.AllowableValues": ["Clear", "Import"]

                                },
                                "#Cisco.ResetToFactoryDefaults":        {
                                        "target":        "/redfish/v1/Systems/WZP21460GPQ/Storage
/MRAID/Actions/Oem/Cisco.ResetToFactoryDefaults",
                                        "@odata.type":
"#CiscoUCSExtensions.v1_0_0.ResetToFactoryDefaults"
                                }
                        }
                }
}
```

Retrieving Detailed Information of Local Disks (HDD)

> **Note**   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

Request

```
curl -k -u admin:Password https://10.10.10.10/redfish/v1
/Systems/WZP21460GPQ/Storage/MRAID/Drives/1
```

Response

```
{
        "@odata.id":     "/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Drives/1",
        "@odata.context":        "/redfish/v1/$metadata#Systems/Members/$entity/Storage
/Members/$entity/Drives/Members/$entity",
        "@odata.type": "#Drive.v1_5_0.Drive",
        "Id":    "1",
```

```
"Name": "1",
"Model":        "ST1000NM0045",
"Revision":     "CN04",
"Protocol":     "SAS",
"MediaType":    "HDD",
"Manufacturer": "SEAGATE",
"SerialNumber": "ZBS118DD0000R805A5K7",
"BlockSizeBytes":       512,
"CapableSpeedGbs":      12,
"HotspareType": "None",
"PredictedMediaLifeLeftPercent":        0,
"IndicatorLED": "Off",
"CapacityBytes":        1000204140544,
"FailurePredicted":     false,
"EncryptionAbility":    "None",
"Oem":  {
        "Cisco":        {
                "DriveState":   "Online",
                "DrivePowerState":      "Active",
                "DisabledForRemoval":   false,
                "Bootable":     false,
                "PredictiveFailureCount":       0,
                "MediaErrorCount":      0,
                "StorageInstanceId":    1,
                "CoercedSizeBytes":     998999326720,
                "NonCoercedSizeBytes":  999667269632,
                "SmartData":    {
                        "PercentLifeLeft":      0,
                        "PercentReservedCapacityConsumed":      0,
                        "PowerCycleCount":      0,
                        "PowerOnHours": 0,
                        "ThresholdOperatingTemperature":        60,
                        "WearStatusInDays":     0
                }
        }
},
"Status":       {
        "Health":       "OK",
        "State":        "Enabled"
},
"StatusIndicator":      "OK",
"PhysicalLocation":     {
        "PartLocation": {
                "LocationType": "Slot",
                "ServiceLabel": "1"
        }
},
"Actions":      {
        "#Drive.SecureErase":   {
                "target":       "/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Drives
/1/Actions/Drive.SecureErase"
        },
        "Oem":  {
                "#Cisco.AddHotspare":   {
                        "target":       "/redfish/v1/Systems/WZP21460GPQ/Storage
/MRAID/Drives/1/Actions/Oem/Cisco.AddHotspare",
                        "@odata.type":  "#CiscoUCSExtensions.v1_0_0.AddHotSpare",
                        "HotSpareType@Redfish.AllowableValues": ["Global",
"Dedicated"]
                },
                "#Cisco.RemoveHotspare":        {
                        "target":       "/redfish/v1/Systems/WZP21460GPQ/Storage
/MRAID/Drives/1/Actions/Oem/Cisco.RemoveHotspare",
                        "@odata.type":  "#CiscoUCSExtensions.v1_0_0.RemoveHotSpare"
```

```
                                    },
                            "#Cisco.PrepareForRemoval":      {
                                    "target":        "/redfish/v1/Systems/WZP21460GPQ/Storage
/MRAID/Drives/1/Actions/Oem/Cisco.PrepareForRemoval",
                                    "@odata.type":  "#CiscoUCSExtensions.v1_0_0.PrepareForRemoval"

                            },
                            "#Cisco.UndoPrepareForRemoval": {
                                    "target":        "/redfish/v1/Systems/WZP21460GPQ/Storage
/MRAID/Drives/1/Actions/Oem/Cisco.UndoPrepareForRemoval",
                                    "@odata.type":
"#CiscoUCSExtensions.v1_0_0.UndoPrepareForRemoval"
                            }
                    }
            }
    }
```

Assign Local Disk as Hotspare

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 Servers.

Add Global HotSpare

```
curl -X POST -k -u admin:Password https://10.10.10.10/redfish/v1/Systems/
WZP211704JZ/Storage/MRAID/Drives/13/Actions/Oem/CiscoUCSExtensions.AddHotspare -d
'{"Oem":{"Cisco":{"HotSpareType":"Global" }}}'
```

Add a Dedicatd HostSpare

```
curl  -X POST -k -u admin:Password https://10.10.10.10/redfish/v1/Systems
/WZP211704JZ/Storage/MRAID/Drives/12/Actions/Oem/CiscoUCSExtensions.AddHotspare -d
'{"Oem":{"Cisco":{"HotSpareType":"Dedicated","VolumeID":"/redfish/v1/Systems
/WZP211704JZ/Storage/MRAID/Volumes/0" }}}'
```

Remove a HotSpare

```
curl  -X POST -k -u admin:Password https://10.10.10.10/redfish/v1/Systems/WZP211704JZ
/Storage/MRAID/Drives/12/Actions/Oem/CiscoUCSExtensions.RemoveHotspare
```

Prepare Drive for Removal

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

Prepare Drive for Removal

```
curl  -k -u admin:Password https://10.10.10.10/redfish/v1/Systems/WZP211704JZ/
Storage/MRAID/Drives/10/Actions/Oem/Cisco.PrepareForRemoval -XPOST
```

POST Undo Prepare Drive For Removal

```
curl  -k -u admin:Password https://10.10.10.10/redfish/v1/Systems/
/WZP211704JZ/Storage/MRAID/Drives/10/Actions/Oem/Cisco.UndoPrepareForRemoval -XPOST
```

Change a Local Drive state

> **Note** This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.
>
> This requset is not applicable for MSTOR-RAID/M.2 Storage Controller.

Set a DriveState to Jbod

```
curl -XPATCH -k -u admin:Password https://10.10.10.10/redfish/v1/Systems
/WZP211704JZ/Storage/MRAID/Drives/2 -d '{"Oem":{"Cisco":{"DriveState":"Jbod"}}}'
```

Set a DriveState to UnconfiguredGood

```
curl -XPATCH -k -u admin:Password https://10.10.10.10/redfish/v1/Systems
/WZP211704JZ/Storage/MRAID/Drives/2 -d '{"Oem":{"Cisco":{"DriveState":"UnConfiguredGood"}}}'
```

Retrieving Details of All Virtual Drives Configured in LSI Adapters

> **Note** This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

Get the Details of Volume Collection

```
curl -k -u admin:Password https://10.10.10.10/redfish/v1/Systems
/WZP21460GPQ/Storage/MRAID/Volumes
```

Response

```
{
        "@odata.id":    "/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes",
      "@odata.context":      "/redfish/v1/$metadata#Systems/Members/$entity/Storage/Members
/$entity/Volumes",
        "@odata.type":  "#VolumeCollection.VolumeCollection",
        "Description":  "Collection of Volumes for this system",
        "Name": "Volume Collection",
        "Members@odata.count":  13,
        "Members":      [{
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/0"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/1"
                }, {
                        "@odata.id":
```

```
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/2"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/3"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/4"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/5"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/6"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/7"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/8"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/9"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/10"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/11"
                }, {
                        "@odata.id":
"/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/12"
                }]
}
```

Get the Details of Individual Volume

```
curl -k -u admin:Password https://10.10.10.10/redfish/v1/Systems
/WZP21460GPQ/Storage/MRAID/Volumes/0
```

Response

```
{
        "@odata.id":    "/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID/Volumes/0",
        "@odata.context":       "/redfish/v1/$metadata#Systems/Members/$entity/Storage
/Members/$entity/Volumes/Members/$entity",
        "@odata.type":  "#Volume.v1_3_1.Volume",
        "Description":  "Volume",
        "Links":        {
                "Oem":  {
                        "Cisco":        {
                                "Spans":        [{
                                        "DrivesList":   [{
                                                "@odata.id":    "/redfish/v1
/Systems/WZP21460GPQ/Storage/MRAID/Drives/1"
                                        }],
                                        "DrivesList@odata.count":       1,
                                        "SpanId":       0
                                }],
                                "Spans@odata.count":    1
                        }
                },
                "DedicatedSpareDrives": [],
                "SpareResourceSets":    [],
                "DedicatedSpareDrives@odata.count":     0,
```

```
                    "SpareResourceSets@odata.count":        0
         },
         "Id":    "0",
         "Name": "RAID0_1",
         "Operations":    [{
                    "OperationName":        "No operation in progress",
                    "PercentageComplete":   0
              }],
         "Encrypted":    false,
         "CapacityBytes":        214748364800,
         "BlockSizeBytes":       512,
         "OptimumIOSizeBytes":   65536,
         "Identifiers":   [{
                    "DurableNameFormat":    "UUID",
                    "DurableName":  "6cc167e972c8ab4025df649d1f22cc1e"
              }],
         "RAIDType":      "RAID0",
         "Status":       {
              "Health":       "OK",
              "State":        "Enabled"
         },
         "Oem":   {
              "Cisco":           {
                    "VolumeAccessPolicy":   "ReadWrite",
                    "RequestedWriteCachePolicy":    "WriteThrough",
                    "ConfiguredWriteCachePolicy":   "WriteThrough",
                    "VolumeDriveCachePolicy":       "NoChange",
                    "VolumeReadAheadPolicy":        "NoReadAhead",
                    "VolumeIoPolicy":       "DirectIo",
                    "VolumeState":  "Optimal",
                    "AvailableSizeMiBytes": 726920,
                    "Bootable":     false,
                    "FullDiskEncryptionCapable":    false
              }
         },
         "Actions":       {
              "#Volume.Initialize":   {
                    "target":       "/redfish/v1/Systems/WZP21460GPQ/Storage/MRAID
/Volumes/0/Actions/Volume.Initialize",
                    "InitializeType@Redfish.AllowableValues":       ["Fast", "Slow"]
              }
         }
     }
}
```

Enabling Self-encryption on Controllers

✎

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3x60 servers.

Enable Security with Local Key Management

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/
Systems/WZP23391JPJ/Storage/MRAID/Actions/Oem/Cisco.EncryptionOp -d '{"Oem":
{"Cisco":{"EnOpName":"Enable","KeyId":"password","Remote":false,
"EncryptionKey":"12345"}}}' –XPOST
```

Enable Security with Remote Key Management

To enable Controller on security, KMIP has to be configured.

Configure KMIP Settings

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC -d
'{"Oem":{"Cisco":{"CiscoKMIPClient":{"KMIPServerSettings":{"KMIPServers":[{"IPAddress":
"10.10.10.10", "Port": 5696, "TimeOut":5}, {"IPAddress": "10.10.10.10", "Port": 5696,
"TimeOut":5}], "UserName": "StorageQA", "Password": "password"
"Disable":false }}}}}' -XPATCH
```

Download KMIP Root Certificate

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/CertificateService/Actions/C
ertificateService.ReplaceCertificate d '{"CertificateType":"PEM","CertificateUri":"/redfi
sh/v1/Managers/CIMC/Oem/Cisco/CiscoKMIPClient/Certificates/KMIPServer", "CertificateStrin
g":"-----BEGIN CERTIFICATE-----\nMIIEgjCCA2qgAwIBAgIBADANBgkqhkiG9w0BAQsFADCBjDELMAkGA1UE
BhMCSU4xEjAQBgNVBAgTCUthcm5hdGFrYTESMBAGA1UEBxMJQmVuZ2FsdXJlMQ4wDAYDVQQKEwVDaXNjbzESMBAGA
1UECxMJU3RvcmFnZVFBMQ4wDAYDVQQDEwVMQ0EtMTEhMB8GCSqGSIb3DQEJARYSc2FtYmVrYXJAY2lzY28uY29tMB
4XDTE2MTAyNjA3MjIwMVoXDTI2MTAyNTA3MjIwMVowgYwxCzAJBgNVBAYTAklOMRIwEAYDVQQIEwlLYXJuYXRha2E
xEjAQBgNVBAcTCUJlbmdhbHVydTEOMAwGA1UEChMFQ2lzY28xEjAQBgNVBAsTCVN0b3JhZ2VRQTEOMAwGA1UEAxMF
TENBLTExITAfBgkqhkiG9w0BCQEWEnNhbWJla2FyQGNpc2NvLmNvbTCCASIwDQYJKoZIhvcNAQEBBQADggEPADCCA
QoCggEBAOzH2bUgrU5qJioCppJn9ic9DwkXlOBUU8fWu5F02W9rz653wgkwrnQ6/i2zTGuCd2WFNcyNcjZgVFMtwd6
+OSj/NIni6QZK73gDYOAk3GO9rCBLiK6NXJVkK3uHOIhPwWk3+hpheWWn4P7VVx0FGo3uGxBl6JtrRj1ct7J33iVA
zpkTPWLTqpefeZUa8DPDx+qOeTNK4+Ymis/3cOE1QcwYSey6CP/TNPSBk1PRKggZyV08ceiP/T47oVNTShd3NVvOG
iKbwAC7IjZpvTOsjIu0kTfkFJ4HJ1uONn7M1G6y+/gCy7M0vA+4yyHwaxdfX/0tlsKIpIid+Y6dnJgoJ7VkCAwEAA
aOB7DCB6TAdBgNVHQ4EFgQUbhGQoZ3pWp1jCeT4e4j4N5Wwpx0wgbkGA1UdIwSBsTCBroAUbhGQoZ3pWp1jCeT4e4
j4N5Wwpx2hgZKkgY8wgYwxCzAJBgNVBAYTAklOMRIwEAYDVQQIEwlLYXJuYXRha2ExEjAQBgNVBAcTCUJlbmdhbHV
ydTEOMAwGA1UEChMFQ2lzY28xEjAQBgNVBAsTCVN0b3JhZ2VRQTEOMAwGA1UEAxMFTENBLTExITAfBgkqhkiG9w0B
CQEWEnNhbWJla2FyQGNpc2NvLmNvbYIBADAMBgNVHRMEBTADAQH/MA0GCSqGSIb3DQEBCwUAA4IBAQBc8017msZF0
k+/3pUduwJdZw7b/FNLRZI4L+joiHumCycA9lwagjHIY1dfahJkwURAYtmsPh13DBPSE1LCnPm366J6RkMyhwmVuf
iJc6NzKUVhHYrtcoJtrWe7l7nEXTNrceHKwV1ugnMhvspjFGD+WiF+PnyXCi8PAP8TFmf6oYKl1LVEtj7rBRNvX+6
zxIDKSWLE8T3OGsB3yxx/jZqvdUIqtDU35mzqEQm5z6jynOZKg4H11XXCLLizSFTXbjl8WwGZji5dgHxZxYzbqxkV
moclHtmFYP7qX6S3MzAYtCQeN/W1nX0uLp4ITgxZhya5fL7tcQ31ldxVYLe9i+LW\n-----END CERTIFICATE---
--"}' -XPOST
```

Download KMIP Client Certificate

```
curl -k -u admin:password https://10.104.236.156/redfish/v1/CertificateService/Actions/C
ertificateService.ReplaceCertificate -d '{"CertificateType":"PEM","CertificateUri":"/redf
ish/v1/Managers/CIMC/Oem/Cisco/CiscoKMIPClient/Certificates/KMIPClient", "CertificateStri
ng":"-----BEGIN CERTIFICATE-----\nMIIIDszCCApugAwIBAgIDDeKoMA0GCSqGSIb3DQEBCwUAMIGMMQswCQY
DVQQGEwJJTjESMBAGA1UECBMJS2FybmF0YWthMRIwEAYDVQQHEwlCZW5nYWx1cnUxDjAMBgNVBAoTBUNpc2NvMRIw
EAYDVQQLEwlTdG9yYWdlUUExDjAMBgNVBAMTBUxDQS0xMSEwHwYJKoZIhvcNAQkBFhJzYW1iZWthckBjaXNjby5jb
20wHhcNMTkwNTEyMDYwMTE2WhcNMjYxMDI0MDYwMTE2WjCBiDELMAkGA1UEBhMCSU4xEjAQBgNVBAgMCUthcm5hdG
FrYTESMBAGA1UEBwwJQmVuZ2FsdXJlMQ4wDAYDVQQKDAVDaXNjbzESMBAGA1UECwwJU3RvcmFnZVFBMQowCAYDVQQ
DDAExMSEwHwYJKoZIhvcNAQkBFhJzYW1iZWthckBjaXNjby5jb20wggEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEK
AoIBAQDYUAOu98t/3ZZU5JvXQRyaoJbZLa3ladFC7xOEShek+dhLOMPTnk2PmDoi4woCeelHtfh9X3UcB/OQBDfte
o2cfS+aHNXr0ZwHHvpw9M8Vnlpb1RvalPME/PRH2+f4D3zJ+uGfz7TQHYHnc9ZhsM/52MsFM7ong0HJzTEL72DwG2
tpvTWcfyOH35BwPitTdm5/sxS/VsL/ps0e+pBlEQ9s5KEUpwrOfMzvhlvuarzNGO4b6p2xjs/KUl7n4qqwFKfl850
fdvHT6Ytr+CsoroMxeLbpdLpoZTokieR+aRIS3SFzXxplkOes5t1TF5jOKbnD7dN+Kb3/4+WDJ3mTg2y7AgMBAAGj
IDAeMAkGA1UdEwQCMAAwEQYJYIZIAYb4QgEBBAQDAgeAMA0GCSqGSIb3DQEBCwUAA4IBAQC8SyUwERO8jBSdkaWZ4
zkP2T6z+f5vdBQIuQTBdCnQ7MX3dId71T/UkQsQIyc6dgNYWOj70fvo8ZmKqZM5k1TuqwpWdmpCHSD4C/cRDgBtKz
7MAYsNFx+ARf9rBqw1M8KntCNzFc/deVTxmIeUTtKECTiRexrojlg/vuwJhR/zGTn2A0Dw/QIkyAs/N9m/IBA/7j4
GMZxCjKq7VVeEJXWwxyyvPwz1a6jxwMI1oTGmxEpB2WNfNyB/UoY/TrMobf22vigRzTBt8oQp/E3rDXiroctoSa29
YbzquiNqe+OgqoP61c+HjLpN6dhaJBIXN8kCAUpIo4a6dOLRndUxSVuW\n-----END CERTIFICATE-----\n----
-BEGIN RSA PRIVATE KEY-----\nMIIEpAIBAAKCAQEA2FADrvfLf92WVOSb10EcmqCW2S2t5WnRQu8ThEoXpPnY
SzjD055Nj5g6IuMKAnnpR7X4fV91HAfzkAQ37XqNnH0vmhzV69GcBx76cPTPFZ5aW9Ub2pTzBPz0R9vn+A98yfrhn
8+00B2B53PWYbDP+djLBTO6J4NByc0xC+9g8Btrab01nH8jh9+QcD4rU3Zuf7MUv1bC/6bNHvqQZREPbOShFKcKzn
zM74Zb7mq8zRjuG+qdsY7PylJe5+KqsBSn5fOdH3bx0+mLa/grKK6DMXi26XS6aGU6JInkfmkSEt0hc18aZZDnrOb
dUxeYzim5w+3Tfim9/+Plgyd5k4NsuwIDAQABAoIBAD922l3PXelZ/e1SVVbGR7omO5vkhwy0Cy10L2m0w1Mn6onH
Uc0YuPDUXNo3eoxXcFYV0Z4XD6j1vEQYuL/4IOw03m5831ac3QZJ1Hinmspg92nSEKYE5XglLxaWMmzZPmeUL/ZPX
mFhBuf9WHy4/4vySz5vesJ1BCxNA4LY7LwFBQR2X8SyxE9GwlSoP6+gprSJkdUmpmvQ9Fm/oMYQFW85KAwLXXeU8q
SNCbPet5dEaXkolWLuO/9uZsZni2WopdFyZRfficisicyD9fpaIhMWZnOIjhBvlWXKGW1QU3V1taxtNQFDAN/qOa0
RM2GUh5TP+uIgjQ6HfIDm67VJQiECgYEA/JUxzbCENBea5NfCz/KkJhvkmjwOFFghRCRTJ9iOm7JSBTu4TGqiDz4a
```

```
D1G0BhqiEWuLXVRQA4hTjCioNWvi+sB9o4w5wEfj9eWgItCHih+D+6ev0Ri9SwFJWEjuIOzO5i+IYPYQp3vNi/Sew
BJt56IzjKyF77IKV6X30BvK7F8CgYEA2z0zNiPdaxItiTNDAgRP1B3udCOhW88ZUTzZ3HbFFOPCEb1M/HJqE1yJqp
ipJAEtF9XIjqgTFtjIlF+1xjLwSQ0RIMtcsubzmp+QSmdhwvI1k45B7zWXj2tCsDexkm+xT9i0CS3/E8p8uZmMLCX
fl9ooadVEzwI4M82ySj5nnSUCgYBhy+aHrKPTg5w+pOfSGjHCa6Rcr4oICIOA3cuwruGwmR+21QOr2tG6syHl8o2Q
m3lK42gHj+CXLY6jww41+Preee9rhpzJvUwfZnRVZoZETaWNp8SkYj7QrsPWQg6pguctKxRT7pJONtpEKUfaOIiDW
kM5YYdOYpIsk59a3Zf5YwKBgQCJ+BKxYJKoHhFwBUWHEGWYbJmylvWlzEf3et7zwf627bok5cd8GxisRJESPe47jU
3ucQg81oLk3tojnbPMHiRfJI0B4Vjd8T+esAni+Ppp73lN+bl+q3BMvkiCkxn5uLaSNCLgoASlVMl3F61B3ze93Xm
PWLprt87csvcfh/Q2zQKBgQCMd1HdpzYv0f7hk4kq28Php8OYAGek0yE6HQRw6+w2zmgBFvRkccmLVOZc9cCYSyqZ
AL4Ur/sbXzAgYCTQ+e184q1kT7Zze8KMfq+ecea8pbd+Ppu0ghum6/CPw8QcX7Hy7V1vgm3zVrdRsfzLnvZmsvbT5
FVEZwpkGabGBHurow==\n-----END RSA PRIVATE KEY-----\n"}'
```

Enable security with Remote Key management

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/
Systems/WZP23391JPJ/Storage/MRAID/Actions/Oem/Cisco.EncryptionOp -d '{"Oem":
{"Cisco":{"EnOpName":"Enable","Remote":true}}}' -XPOST
```

Enabling Self-encryption on Physical Drives

> **Note**   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3x60 servers.

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/
Systems/WZP23391JPJ/Storage/MRAID/Drives/8/Actions/Oem/Cisco.EncryptinOp -d '{"Oem":
{"Cisco": { "EncryptionOperation":"Enable" }}}' -XPOSTCreating Secured
```

Unlocking Secure Drives on Controllers

> **Note**   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3x60 servers.

Unlock Secure Drives When Local Key Management is Enabled in Controller

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/
WZP23391JPJ/Storage/MRAID/Actions/Oem/Cisco.EncryptionOp -d '{"Oem":{"Cisco":
{"EnOpName":"Unlock", "EncryptionKey":"password",
"DriveEncryptionModeRemote":false}}}' -XPOST
```

Unlock Secure Drives When Local Remote Key Management is Enabled in Controller

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/
WZP23391JPJ/Storage/MRAID/Actions/Oem/Cisco.EncryptionOp -d '"Oem":{"Cisco":
{"EnOpName":"Unlock", "DriveEncryptionModeRemote":true}}}' -XPOST
```

Erasing Data on Secure Unconfigured Good Drives

> **Note**   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3x60 servers.

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/
Systems/WZP23391JPJ/Storage/MRAID/Drives/7/Actions/Drive.SecureErase -XPOST
```

Note The option works only on drives when Security is enabled and it is in **Unconfigured Good** state or **Unlocked Secure foreign** mode.

Modifying the Controller Security Key

Note This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3x60 servers.

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems
/WZP23391JPJ/Storage/MRAID/Actions/Oem/Cisco.EncryptionOp -d '{"Oem":{"Cisco":
{"EnOpName":"Modify","Remote":false,"KeyId":"Cisco@123","EncryptionKey":
"CurrentKey","NewEncryptionKey":"NewKey"}}}' -XPOST
```

Create a Virtual Drive

Note This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

Request to create RAID 1

For storage controller type **MSTOR-RAID**:

Request to create RAID 1

```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/Systems/WZP25130PVM/Storage/MSTOR-RAID/Volumes -d
'{"RAIDType":"RAID1","Name":"boot-dsk253_254","Oem":{"Cisco":{"Spans":[{"DrivesList":[{"@odata.id":"/redfish/v1/
Systems/WZP25130PVM/Storage/MSTOR-RAID/Drives/253"},

{"@odata.id":"/redfish/v1/Systems/WZP25130PVM/Storage/MSTOR-RAID/Drives/254"}],"SpanId":0}]}},"Oem":

{"Cisco":{"VolumeAccessPolicy":"Read-Write","VolumeReadAheadPolicy":"None","RequestedWriteCachePolicy":

"WriteThrough"}}}' -XPOST
```

Response

```
{
        "@odata.id":     "/redfish/v1/TaskService/Tasks/88",
        "@odata.type":   "#Task.v1_5_0.Task",
        "@odata.context":        "/redfish/v1/$metadata#Task.Task",
        "Id":    "88",
        "Name": "Storage:MSTOR-RAID, Operation:Volume Create",
        "StartTime":     "2021-08-06T09:42:59+00:00",
        "EndTime":       "2021-08-06T09:43:15+00:00",
        "PercentComplete":       100,
        "TaskState":     "Completed",
```

```
            "TaskStatus":    "OK",
            "Messages":      [{
                        "@odata.type":  "#Message.v1_1_1.Message",
                        "MessageId":    "Base.1.4.0.Success",
                        "Message":      "Successfully Completed Request",
                        "MessageArgs":  [],
                        "Severity":     "OK"
                 }],
            "TaskMonitor":  "/redfish/v1/TaskService/Oem/TaskMonitor/88"
}
```

For any other storage controller type:

Request to create RAID 1

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH2144W00W/Storage
/RAID/Volumes -XPOST -d
'{"RAIDType":"RAID1","Name":"Raid0-vd","CapacityBytes":"10000000","Oem":
{"Cisco":{"Spans":[{"DrivesList":[{"@odata.id":"/redfish/v1/Systems/FCH2144W00W/Storage/
RAID/Drives/7"},
{"@odata.id":"/redfish/v1/Systems/FCH2144W00W/Storage/RAID/Drives/6"}],"SpanId":"0"}]}},"Oem":
{"Cisco":{"VolumeAccessPolicy":"ReadOnly","VolumeReadAheadPolicy":"ReadAhead","RequestedWriteCachePolicy":
"WriteThrough"}}}'
```

Response

```
{
        "@odata.id":    "/redfish/v1/TaskService/Tasks/88",
        "@odata.type":  "#Task.v1_5_0.Task",
        "@odata.context":       "/redfish/v1/$metadata#Task.Task",
        "Id":   "88",
        "Name": "Storage:RAID, Operation:Volume Create",
        "StartTime":    "2021-08-06T09:42:59+00:00",
        "EndTime":      "2021-08-06T09:43:15+00:00",
        "PercentComplete":      100,
        "TaskState":    "Completed",
        "TaskStatus":   "OK",
        "Messages":     [{
                        "@odata.type":  "#Message.v1_1_1.Message",
                        "MessageId":    "Base.1.4.0.Success",
                        "Message":      "Successfully Completed Request",
                        "MessageArgs":  [],
                        "Severity":     "OK"
                 }],
        "TaskMonitor":  "/redfish/v1/TaskService/Oem/TaskMonitor/88"
}
```

Request to Carve a VD

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/FCH2144W00W/Storage
/RAID/Volumes -XPOST -d
'{"RAIDType":"RAID1","Name":"Raid0-vd-carved","CapacityBytes":"500000",
"Oem":{"Cisco":{"Spans":[{"DrivesList":[{"@odata.id":"/redfish/v1/Systems/FCH2144W00W/Storage
/RAID/Drives/7"},
{"@odata.id":"/redfish/v1/Systems/FCH2144W00W/Storage/RAID/Drives/6"}],"SpanId":"0"}]}},"Oem":
{"Cisco":{"VolumeAccessPolicy":"ReadOnly","VolumeReadAheadPolicy":"ReadAhead","RequestedWriteCachePolicy"
:"WriteThrough"}}}'
```

Note While creating a VD, ensure that the **CapacityBytes** value is based on free space available on the DriveGroup.

Volume Create with two spans, example (RAID 10)

```
curl -k -u admin:Cisco@123 https://10.104.236.148/redfish/v1/Systems/FCH2144W00W
/Storage/RAID/Volumes -XPOST -d '{"RAIDType":"RAID10","Name":"Raid0-vd","Capacityytes":
"10000000","Oem":{"Cisco":{"Spans":[{"DrivesList":[{"@odata.id":"/redfish/v1/Systems
/FCH2144W00W/Storage/RAID/Drives/5"},{"@odata.id":"/redfish/v1/Systems/FCH2144W00W/Storage
/RAID/Drives/3"}],"SpanId":"0"},{"DrivesList":[{"@odata.id":"/redfish/v1/Systems/FCH2144W00W
/Storage/RAID/Drives/7"},{"@odata.id":"/redfish/v1/Systems/FCH2144W00W/Storage/RAID/Drives/6"}],
"SpanId":"1"}]}},"Oem":{"Cisco":{"VolumeAccessPolicy":"ReadOnly","VolumeReadAheadPolicy":
"ReadAhead","RequestedWriteCachePolicy":"WriteThrough"}}}'
```

Volume Deletion

```
curl -k -g -u admin:Password https://10.10.10.10/redfish/v1/Systems
/WZP21460GPQ/Storage/MRAID/Volumes/10 -XDELETE
```

Volume Initialization

```
curl -k -g -u admin:Password https://10.10.10.10/redfish/v1/Systems/WZP21460GPQ/Storage
/MRAID/Volumes/10/Actions/Volume.Initilize -d '{"InitializeType":"Fast"}' -XPOST
```

Retrieving Network Time Protocol (NTP) Properties

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1
/Managers/CIMC/NetworkProtocol
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/NetworkProtocol",
 "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity
/NetworkProtocol",
 "@odata.type": "#ManagerNetworkProtocol.v1_4_1.ManagerNetworkProtocol",
 "KVMIP": {
  "ProtocolEnabled": true,
  "Port": 2068
 },
 "SNMP": {
  "ProtocolEnabled": true,
  "Port": 161
 },
 "Id": "ManagerNetworkProtocol",
 "Oem": {
  "Cisco": {
   "KVMConfiguration": {
    "VideoEncryption": "Enabled",
    "LocalServerVideo": "Enabled",
    "MaxConcurrentSessions": 4
   }
  }
 },
 "NTP": {
  "ProtocolEnabled": true,
  "Port": 123,
  "NTPServers": ["ntp.esl.com", "10.10.10.10", "", ""]
 },
 "Name": "Manager Network Protocol",
 "DHCPv6": {
```

```
  "ProtocolEnabled": false,
  "Port": null
 },
 "HTTPS": {
  "ProtocolEnabled": true,
  "Port": 443,
  "Certificates": {
   "@odata.id": "/redfish/v1/Managers/CIMC/NetworkProtocol/HTTPS
/Certificates/1"
  }
 },
 "HostName": "test-hostname-kr-webcimc",
 "DHCP": {
  "ProtocolEnabled": false,
  "Port": null
 },
 "SSH": {
  "ProtocolEnabled": true,
  "Port": 22
 },
 "IPMI": {
  "ProtocolEnabled": true,
  "Port": 623
 },
 "HTTP": {
  "ProtocolEnabled": true,
  "Port": 80
 },
 "VirtualMedia": {
  "ProtocolEnabled": true,
  "Port": 2068
 },
 "Description": "Manager Network Service"
}
```

Configuring Network Time Protocol (NTP) Properties

Request

```
 curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC
/NetworkProtocol -XPATCH -d
'{
"NTP" : {
"ProtocolEnabled":false,
"NTPServers" : ["1.1.1.1", "abc.com", "testHostname", "10.2.3.4"]
}
}'
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/NetworkProtocol",
 "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity
/NetworkProtocol",
 "@odata.type": "#ManagerNetworkProtocol.v1_4_1.ManagerNetworkProtocol",
 "KVMIP": {
  "ProtocolEnabled": true,
  "Port": 2068
 },
 "SNMP": {
```

```
 "ProtocolEnabled": true,
 "Port": 161
},
"Id": "ManagerNetworkProtocol",
"Oem": {
 "Cisco": {
  "KVMConfiguration": {
   "VideoEncryption": "Enabled",
   "LocalServerVideo": "Enabled",
   "MaxConcurrentSessions": 4
  }
 }
},
"NTP": {
 "ProtocolEnabled": false,
 "Port": 123,
 "NTPServers": ["1.1.1.1", "abc.com", "testHostname", "10.2.3.4"]
},
"Name": "Manager Network Protocol",
"DHCPv6": {
 "ProtocolEnabled": false,
 "Port": null
},
"HTTPS": {
 "ProtocolEnabled": true,
 "Port": 443,
 "Certificates": {
  "@odata.id": "/redfish/v1/Managers/CIMC/NetworkProtocol/HTTPS
/Certificates/1"
 }
},
"HostName": "test-hostname-kr-webcimc",
"DHCP": {
 "ProtocolEnabled": false,
 "Port": null
},
"SSH": {
 "ProtocolEnabled": true,
 "Port": 22
},
"IPMI": {
 "ProtocolEnabled": true,
 "Port": 623
},
"HTTP": {
 "ProtocolEnabled": true,
 "Port": 80
},
"VirtualMedia": {
 "ProtocolEnabled": true,
 "Port": 2068
},
"Description": "Manager Network Service"
}
```

Retrieving all Cisco IMC Users

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1
/AccountService/Accounts/
```

Response

```
{
 "@odata.id": "/redfish/v1/AccountService/Accounts",
 "@odata.context": "/redfish/v1/$metadata#AccountService/Accounts",
 "@odata.type": "#ManagerAccountCollection.ManagerAccountCollection",
 "Description": "Collection of Accounts",
 "Name": "Account Collection",
 "Members": [{
   "@odata.id": "/redfish/v1/AccountService/Accounts/1"
  }, {
   "@odata.id": "/redfish/v1/AccountService/Accounts/2"
  }, {
   "@odata.id": "/redfish/v1/AccountService/Accounts/3"
  }],
 "Members@odata.count": 3
}
```

Setting up ID 11 Cisco IMC User With Username and Password and Enabling Login Access

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/AccountService
/Accounts -XPOST -d '{"Id":"11","UserName":"test11","Password":"password","RoleId":
"admin","Enabled":true}'
```

Response

No response in case of success. Error message is displayed in case of failure.

Enabling Strong Password Policy and Password Expiration

Note   This request is not supported in Cisco UCS C220 M4, C240 M4, C460 M4 and S3X60 servers.

Request

```
curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/AccountService -d '
{
    "Oem" : {
        "Cisco" : {
            "StrongPasswordPolicyEnabled" : true,
  "PasswordHistory":    5,
            "PasswordExpiry":    {
                "GracePeriod":    5,
                "Enabled":    true,
                "NotificationPeriod":    15,
                "ExpiryDuration":    30
            }
        }
    }
}'
```

Response

```
{
 "AccountLockoutThreshold": 0,
 "Id": "AccountService",
 "LDAP": {
  "LDAPService": {
   "Oem": {
    "Cisco": {
     "LDAPGroupAuthorizationEnabled": false
    }
   },
   "SearchSettings": {
    "BaseDistinguishedNames": [],
    "UsernameAttribute": "CiscoAvPair",
    "GroupsAttribute": "memberOf"
   }
  },
  "Authentication": {
   "AuthenticationType": "UsernameAndPassword"
  },
  "Certificates": {
   "@odata.id": "/redfish/v1/AccountService/LDAP/Certificates"
  },
  "RemoteRoleMapping": [],
  "ServiceAddresses": [],
  "AccountProviderType": "LDAPService",
  "ServiceEnabled": false
 },
 "AccountLockoutDuration": 0,
 "Name": "Account Service",
 "MaxPasswordLength": 20,
 "LocalAccountAuth": "Fallback",
 "MinPasswordLength": 8,
 "AuthFailureLoggingThreshold": 0,
 "AccountLockoutCounterResetEnabled": true,
 "Oem": {
  "Cisco": {
   "PasswordHistory": 5,
   "StrongPasswordPolicyEnabled": true,
   "PasswordExpiry": {
    "GracePeriod": 5,
    "Enabled": true,
    "NotificationPeriod": 15,
    "ExpiryDuration": 30
   }
  }
 },
 "AccountLockoutCounterResetAfter": 0,
 "ServiceEnabled": true,
 "Description": "Account Service"
}
```

Retrieving iSCSI Parameter

Note This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/NetworkAdapters
/UCSC-PCIE-C25Q-04_FCH233770TY/NetworkDeviceFunctions/eth1
```

Response

```
{
        "Id":    "eth1",
        "Name": "eth1",
        "NetDevFuncType":        "Ethernet",
        "NetDevFuncCapabilities":       ["Ethernet", "iSCSI"],
        "Ethernet":      {
                "MACAddress":   "5C:71:0D:04:49:E5",
                "MTUSize":       1500,
                "VLAN": {
                        "VLANEnable":   false
                }
        },
        "BootMode":      "iSCSI",
        "iSCSIBoot":     {
                "IPAddressType":         "IPv4",
                "IPMaskDNSViaDHCP":      false,
                "TargetInfoViaDHCP":     false,
                "AuthenticationMethod": "None",
                "InitiatorName":         "i.iqn.com",
                "InitiatorIPAddress":    "1.1.1.1",
                "InitiatorNetmask":      "255.255.255.0",
                "InitiatorDefaultGateway":       null,
                "PrimaryDNS":    null,
                "SecondaryDNS": null,
                "MutualCHAPUsername":    null,
                "MutualCHAPSecret":      null,
                "PrimaryTargetName":     "t.iqn.com",
                "PrimaryTargetIPAddress":        "10.10.10.11",
                "PrimaryTargetTCPPort": 5000,
                "PrimaryLUN":    0,
                "SecondaryTargetName":   "t2.iqn.com",
                "SecondaryTargetIPAddress":      "10.10.10.12",
                "SecondaryTargetTCPPort":        5000,
                "SecondaryLUN": 0,
                "CHAPUsername": null,
                "CHAPSecret":    null
        },
        "AssignablePhysicalPorts":       [{
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770TY/NetworkPorts/Port-1"
                }, {
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770TY/NetworkPorts/Port-3"
                }],
        "AssignablePhysicalPorts@odata.count": 2,
        "Links":        {
                "PhysicalPortAssignment":        {
                        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters/
UCSC-PCIE-C25Q-04_FCH233770TY/NetworkPorts/Port-3"
                }
        },
        "Oem":  {
                "Cisco":         {
                        "@odata.type": "#CiscoUCSExtensions.v1_0_0.CiscoUCSExtensions",
                        "VnicConfiguration":     {
                                "UplinkPort":    1,
                                "PCIOrder":      "0.1",
```

```
                              "InterruptMode":        "Any",
                              "VlanMode":     "Trunk",
                              "NivCfg":       {
                                      "ChannelNumber":        2
                              },
                              "Vif":  {
                                      "VifId":        0,
                                      "VifCookie":    0
                              },
                              "EthConfiguration":     {
                                      "Cdn":  "VIC-2-eth1",
                                      "TrustedClassOfServiceEnabled": false,
                                      "CompQueueCount":       5,
                                      "StandByRecoveryDly":   5,
                                      "StandByVif":   {
                                              "VifId":        0,
                                              "VifCookie":    0
                                      },
                                      "WorkQueue":    {
                                              "Count":        1,
                                              "RingSize":     256
                                      },
                                      "RecvQueue":    {
                                              "Count":        4,
                                              "RingSize":     512
                                      },
                                      "InterruptProfile":     {
                                              "Count":        8,
                                              "CoalescingTime":       125,
                                              "CoalescingType":       "Min"
                                      },
                                      "Features":     {
                                              "UplinkFailOverEnabled":        false,
                                              "AdvancedFilterEnabled":        false,
                                              "ArfsEnabled":  false,
                                              "NvgreEnabled": false,
                                              "GroupInterruptEnabled":        false,
                                              "VxlanEnabled": false,
                                              "Rocev2Enabled":        false,
                                              "VmqEnabled":   false,
                                              "MultiQueueEnabled":    false,
                                              "GeneveEnabled":        false
                                      },
                                      "OffloadProfile":       {
                                              "TcpLargeReceiveEnabled":       true,
                                              "TcpSegmentEnabled":    true,
                                              "TcpRxChecksumEnabled": true,
                                              "TcpTxChecksumEnabled": true
                                      },
                                      "RssProfile":   {
                                              "RssEnabled":   true,
                                              "RssIpv4HashEnabled":   true,
                                              "RssTcpIpv4HashEnabled":        true,
                                              "RssIpv6HashEnabled":   true,
                                              "RssTcpIpv6HashEnabled":        true,
                                              "RssIpv6ExHashEnabled": false,
                                              "RssTcpIpv6ExHashEnabled":      false,
                                              "RssUdpIpv4HashEnabled":        false,
                                              "RssUdpIpv6HashEnabled":        false
                                      },
                                      "iSCSIBootUcs": {
                                              "PrimaryEnabled":       true,
                                              "DHCPId":
          "NetworkDeviceFunctionNetworkDeviceFunctionNetwork",
```

```
                                          "DHCPTimeout":  60,
                                          "LinkTimeout":  255,
                                          "LinkBusyRetryCount":   255,
                                          "TCPTimeout":   255
                                }
                        }
                }
        }
    },
    "Status":       {
            "State":        "Enabled",
            "Health":       "OK"
    },
    "@odata.id":   "/redfish/v1/Chassis/1/NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770TY/
NetworkDeviceFunctions/eth1",
        "@odata.type":  "#NetworkDeviceFunction.v1_3_0.NetworkDeviceFunction",
        "@odata.context":       "/redfish/v1/$metadata#NetworkDeviceFunction.
NetworkDeviceFunction"
}
```

Removing iSCSI Boot

✎

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770TY/NetworkDeviceFunctions/eth1 -d
'{ "BootMode":"Disabled"}' -XPATCH
```

Response

```
{
        "Id":   "eth1",
        "Name": "eth1",
        "NetDevFuncType":       "Ethernet",
        "NetDevFuncCapabilities":       ["Ethernet", "iSCSI"],
        "Ethernet":     {
                "MACAddress":   "5C:71:0D:04:49:E5",
                "MTUSize":      1500,
                "VLAN": {
                        "VLANEnable":   false
                }
        },
        "BootMode":     "Disabled",
        "AssignablePhysicalPorts":      [{
                        "@odata.id":   "/redfish/v1/Chassis/1/NetworkAdapters
/UCSC-PCIE-C25Q-04_FCH233770TY/NetworkPorts/Port-1"
                }, {
                        "@odata.id":   "/redfish/v1/Chassis/1/NetworkAdapters
/UCSC-PCIE-C25Q-04_FCH233770TY/NetworkPorts/Port-3"
                }],
        "AssignablePhysicalPorts@odata.count": 2,
        "Links":        {
                "PhysicalPortAssignment":       {
```

```
                              "@odata.id":     "/redfish/v1/Chassis/1/NetworkAdapters
            /UCSC-PCIE-C25Q-04_FCH233770TY/NetworkPorts/Port-3"
                        }
                },
                "Oem": {
                        "Cisco":            {
                                "@odata.type": "#CiscoUCSExtensions.v1_0_0.CiscoUCSExtensions",
                                "VnicConfiguration":     {
                                        "UplinkPort":    1,
                                        "PCIOrder":      "0.1",
                                        "InterruptMode":          "Any",
                                        "VlanMode":      "Trunk",
                                        "NivCfg":        {
                                                "ChannelNumber":        2
                                        },
                                        "Vif":  {
                                                "VifId":         0,
                                                "VifCookie":    0
                                        },
                                        "EthConfiguration":       {
                                                "Cdn":  "VIC-2-eth1",
                                                "TrustedClassOfServiceEnabled": false,
                                                "CompQueueCount":       5,
                                                "StandByRecoveryDly":   5,
                                                "StandByVif":   {
                                                        "VifId":         0,
                                                        "VifCookie":    0
                                                },
                                                "WorkQueue":     {
                                                        "Count":         1,
                                                        "RingSize":     256
                                                },
                                                "RecvQueue":     {
                                                        "Count":         4,
                                                        "RingSize":     512
                                                },
                                                "InterruptProfile":     {
                                                        "Count":         8,
                                                        "CoalescingTime":        125,
                                                        "CoalescingType":       "Min"
                                                },
                                                "Features":     {
                                                        "UplinkFailOverEnabled":        false,
                                                        "AdvancedFilterEnabled":        false,
                                                        "ArfsEnabled":  false,
                                                        "NvgreEnabled": false,
                                                        "GroupInterruptEnabled":        false,
                                                        "VxlanEnabled": false,
                                                        "Rocev2Enabled":        false,
                                                        "VmqEnabled":   false,
                                                        "MultiQueueEnabled":    false,
                                                        "GeneveEnabled":        false
                                                },
                                                "OffloadProfile":       {
                                                        "TcpLargeReceiveEnabled":       true,
                                                        "TcpSegmentEnabled":    true,
                                                        "TcpRxChecksumEnabled": true,
                                                        "TcpTxChecksumEnabled": true
                                                },
                                                "RssProfile":   {
                                                        "RssEnabled":   true,
                                                        "RssIpv4HashEnabled":   true,
                                                        "RssTcpIpv4HashEnabled":        true,
                                                        "RssIpv6HashEnabled":   true,
```

```
                                        "RssTcpIpv6HashEnabled":        true,
                                        "RssIpv6ExHashEnabled": false,
                                        "RssTcpIpv6ExHashEnabled":       false,
                                        "RssUdpIpv4HashEnabled":         false,
                                        "RssUdpIpv6HashEnabled":         false
                                }
                        }
                }
        }
},
        "Status":       {
                "State":         "Enabled",
                "Health":        "OK"
        },
        "@odata.id":    "/redfish/v1/Chassis/1/NetworkAdapters
/UCSC-PCIE-C25Q-04_FCH233770TY/NetworkDeviceFunctions/eth1",
        "@odata.context":       "/redfish/v1/$metadata#Chassis/Members/$entity
/NetworkAdapters/Members/$entity/NetworkDeviceFunctions/Members/$entity",
        "@odata.type":  "#NetworkDeviceFunction.v1_3_0.NetworkDeviceFunction"
}
```

Retrieving LDAP Server Details

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/AccountService/
```

Response

```
{
 "@odata.id": "/redfish/v1/AccountService",
 "@odata.context": "/redfish/v1/$metadata#AccountService",
 "@odata.type": "#AccountService.v1_5_0.AccountService",
 "Accounts": {
  "@odata.id": "/redfish/v1/AccountService/Accounts"
 },
 "Roles": {
  "@odata.id": "/redfish/v1/AccountService/Roles"
 },
 "PrivilegeMap": {
  "@odata.id": "/redfish/v1/AccountService/PrivilegeMap"
 },
 "AccountLockoutThreshold": 0,
 "Id": "AccountService",
 "LDAP": {
  "LDAPService": {
   "SearchSettings": {
    "BaseDistinguishedNames": [],
    "UsernameAttribute": "CiscoAvPair",
    "GroupsAttribute": "memberOf"
   }
  },
  "Authentication": {
   "AuthenticationType": "UsernameAndPassword"
  },
  "RemoteRoleMapping": [{
    "LocalRole": "readonly",
    "RemoteGroup": "ldap-test"
   }],
  "ServiceAddresses": [],
```

```
 "AccountProviderType": "LDAPService",
 "ServiceEnabled": true
},
"AccountLockoutDuration": 0,
"Name": "Account Service",
"MaxPasswordLength": 20,
"LocalAccountAuth": "Fallback",
"MinPasswordLength": 1,
"AuthFailureLoggingThreshold": 0,
"AccountLockoutCounterResetEnabled": true,
"Oem": {
 "Cisco": {
  "PasswordHistory": 0,
  "StrongPasswordPolicyEnabled": false,
  "PasswordExpiry": {
   "GracePeriod": 0,
   "Enabled": false,
   "NotificationPeriod": 15,
   "ExpiryDuration": 0
  }
 }
},
"AccountLockoutCounterResetAfter": 0,
"ServiceEnabled": true,
"Description": "Account Service"
}
```

Configuring LDAP Server IP Address and Port Numbers

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/AccountService/ -XPATCH -d
'{
"LDAP" :{
"ServiceAddresses":["ldap://10.1.1.1:389","ldap://10.1.1.1:389"]
}
}'
```

Response

```
{
 "@odata.id": "/redfish/v1/AccountService",
 "@odata.context": "/redfish/v1/$metadata#AccountService",
 "@odata.type": "#AccountService.v1_5_0.AccountService",
 "Accounts": {
  "@odata.id": "/redfish/v1/AccountService/Accounts"
 },
 "Roles": {
  "@odata.id": "/redfish/v1/AccountService/Roles"
 },
 "PrivilegeMap": {
  "@odata.id": "/redfish/v1/AccountService/PrivilegeMap"
 },
 "AccountLockoutThreshold": 0,
 "Id": "AccountService",
 "LDAP": {
  "LDAPService": {
   "SearchSettings": {
    "BaseDistinguishedNames": [],
    "UsernameAttribute": "CiscoAvPair",
```

```
    "GroupsAttribute": "memberOf"
   }
  },
  "Authentication": {
   "AuthenticationType": "UsernameAndPassword"
  },
  "RemoteRoleMapping": [{
    "LocalRole": "readonly",
    "RemoteGroup": "ldap-test"
   }],
   "ServiceAddresses": ["ldap://10.2.37.79:389", "ldap://10.2.37.77:389"],
   "AccountProviderType": "LDAPService",
   "ServiceEnabled": true
  },
  "AccountLockoutDuration": 0,
  "Name": "Account Service",
  "MaxPasswordLength": 20,
  "LocalAccountAuth": "Fallback",
  "MinPasswordLength": 1,
  "AuthFailureLoggingThreshold": 0,
  "AccountLockoutCounterResetEnabled": true,
  "Oem": {
   "Cisco": {
    "PasswordHistory": 0,
    "StrongPasswordPolicyEnabled": false,
    "PasswordExpiry": {
     "GracePeriod": 0,
     "Enabled": false,
     "NotificationPeriod": 15,
     "ExpiryDuration": 0
    }
   }
  },
  "AccountLockoutCounterResetAfter": 0,
  "ServiceEnabled": true,
  "Description": "Account Service"
}
```

Configuring LDAP Parameters

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/
AccountService/ -XPATCH -d
'{
"LDAP":{
"ServiceEnabled":true,
"ServiceAddresses":["ldap://10.1.1.1:389","ldap://10.1.1.1:389"],
"LDAPService":{
"SearchSettings":{
"GroupsAttribute":"memberGroup",
"UsernameAttribute":"CiscoUsername",
"BaseDistinguishedNames":["test"]
    },
"Oem" : {
              "Cisco" : {
                   "LDAPGroupAuthorizationEnabled" : true
              }
          }
},
"RemoteRoleMapping" : [
```

```
            {
"LocalRole" : "admin",
"RemoteGroup" : "group1",
"Oem" : {
"Cisco" : {
  "LDAPRemoteGroupDomain":"test.com"
}
}
 }
]
}
}'
```

Response

```
{
 "@odata.id": "/redfish/v1/AccountService",
 "@odata.context": "/redfish/v1/$metadata#AccountService",
 "@odata.type": "#AccountService.v1_5_0.AccountService",
 "Accounts": {
  "@odata.id": "/redfish/v1/AccountService/Accounts"
 },
 "Roles": {
  "@odata.id": "/redfish/v1/AccountService/Roles"
 },
 "PrivilegeMap": {
  "@odata.id": "/redfish/v1/AccountService/PrivilegeMap"
 },
 "AccountLockoutThreshold": 0,
 "Id": "AccountService",
 "LDAP": {
  "LDAPService": {
   "SearchSettings": {
    "BaseDistinguishedNames": ["testDN"],
    "UsernameAttribute": "CiscoUsername",
    "GroupsAttribute": "memberGroup"
   },
"Oem" : {
                  "Cisco" : {
                      "LDAPGroupAuthorizationEnabled" : true
                  }
             }
  },
  "Authentication": {
   "AuthenticationType": "UsernameAndPassword"
  },
  "RemoteRoleMapping": [{
    "LocalRole": "admin",
    "RemoteGroup": "group1",
"Oem" : {
"Cisco" : {
  "LDAPRemoteGroupDomain":"test.com"
}
}
],
  "ServiceAddresses": ["ldap://10.10.10.10", "ldap://10.10.10..10"],
  "AccountProviderType": "LDAPService",
  "ServiceEnabled": false
 },
 "AccountLockoutDuration": 0,
 "Name": "Account Service",
 "MaxPasswordLength": 20,
 "LocalAccountAuth": "Fallback",
```

```
       "MinPasswordLength": 1,
       "AuthFailureLoggingThreshold": 0,
       "AccountLockoutCounterResetEnabled": true,
       "Oem": {
        "Cisco": {
         "PasswordHistory": 0,
         "StrongPasswordPolicyEnabled": false,
         "PasswordExpiry": {
          "GracePeriod": 0,
          "Enabled": false,
          "NotificationPeriod": 15,
          "ExpiryDuration": 0
         }
        }
       },
       "AccountLockoutCounterResetAfter": 0,
       "ServiceEnabled": true,
       "Description": "Account Service"
      }
```

Retrieving the Existing Fault Events on a Server

Request to Retrieve a List of Existing Faults

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/
LogServices/Fault/Entries
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/Fault/Entries",
 "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity/LogServices
/Members/$entity/Entries",
 "@odata.type": "#LogEntryCollection.LogEntryCollection",
 "Name": "Log Service Collection",
 "Members": [{
   "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/Fault/Entries/1",
   "Id": "1",
   "EventId": "1",
   "EntryType": "Event",
   "Name": "Log Entry 1",
   "Description": "Log Entry 1",
   "Message": "TEMP_SENS_FRONT: Front Panel Thermal Threshold at upper
non recoverable levels: Check Cooling ",
   "EventType": "Alert",
   "Created": "2020-05-28T10:14:35",
   "EventTimestamp": "2020-05-28T10:14:35",
   "MessageId": "F0411"
  }],
 "Members@odata.count": 1
}
```

Request to Retrieve Details on Each Fault

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/LogServices/
Fault/Entries/1
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/Fault/Entries/1",
 "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity/LogServices
/Members/$entity/Entries/Members/$entity",
 "@odata.type": "#LogEntry.v1_4_0.LogEntry",
 "Id": "1",
 "EventId": "1",
 "EntryType": "Event",
 "Name": "Log Entry 1",
 "Description": "Log Entry 1",
 "Message": "TEMP_SENS_FRONT: Front Panel Thermal Threshold at upper non
recoverable levels: Check Cooling ",
 "EventType": "Alert",
 "Created": "2020-05-28T10:14:35",
 "EventTimestamp": "2020-05-28T10:14:35",
 "MessageId": "F0411",
 "Severity": "Critical"
}
```

Retrieving TPM Information

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/<SerialNumber>
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity",
 "@odata.type": "#ComputerSystem.v1_7_0.ComputerSystem",
 "Processors": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Processors"
 },
 "SimpleStorage": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/SimpleStorage"
 },
 "Storage": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Storage"
 },
 "Memory": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Memory"
 },
 "MemoryDomains": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/MemoryDomains"
 },
 "NetworkInterfaces": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/NetworkInterfaces"
 },
 "Bios": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Bios"
 },
 "SecureBoot": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/SecureBoot"
 },
 "EthernetInterfaces": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces"
 },
 "LogServices": {
```

```
             "@odata.id": "/redfish/v1/Systems/WZP21330G5B/LogServices"
            },
            "Links": {
             "Chassis": [{
                "@odata.id": "/redfish/v1/Chassis/1"
              }],
             "CooledBy": [{
                "@odata.id": "/redfish/v1/Chassis/1/Thermal"
              }],
             "ManagedBy": [{
                "@odata.id": "/redfish/v1/Managers/CIMC"
              }],
             "PoweredBy": [{
                "@odata.id": "/redfish/v1/Chassis/1/Power"
              }]
            },
            "SerialNumber": "WZP21330G5B",
            "Boot": {
             "BootSourceOverrideTarget": "None",
             "BootSourceOverrideTarget@Redfish.AllowableValues": ["None", "Pxe",
        "Floppy", "Cd", "Hdd", "BiosSetup", "Diags"],
             "BootSourceOverrideEnabled@Redfish.AllowableValues": ["Once", "Continuous",
        "Disabled"],
             "BootSourceOverrideEnabled": "Disabled"
            },
            "Id": "WZP21330G5B",
            "AssetTag": "Test assetTagRedfish",
            "PowerState": "On",
            "SystemType": "Physical",
            "ProcessorSummary": {
             "Model": "Intel(R) Xeon(R) Silver 4114 CPU @ 2.20GHz",
             "Count": 2
            },
            "HostName": "test-hostname-kr-webcimc",
            "MemorySummary": {
             "TotalSystemMemoryGiB": 64,
             "Status": {
              "HealthRollup": "OK",
              "Health": "OK"
             }
            },
            "PCIeDevices@odata.count": 6,
            "PCIeFunctions@odata.count": 6,
            "Description": "PatchName",
            "UUID": "1C61EBC6-8E10-4A9B-90CE-A4C03913EA56",
            "Status": {
             "State": "Enabled",
             "Health": "OK"
            },
            "PCIeDevices": [{
                "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/1"
              }, {
                "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/2"
              }, {
                "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/FRONT-NVME-2"
              }, {
                "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/MLOM"
              }, {
                "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/MRAID"
              }, {
                "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/L"
              }],
            "Name": "UCS C220 M5L",
            "HostWatchdogTimer": {
```

```
 "Status": {
  "State": "Enabled"
 },
 "WarningAction": "None",
 "FunctionEnabled": true,
 "TimeoutAction": "ResetSystem"
},
"PCIeFunctions": [{
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/1"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/2"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions
/FRONT-NVME-2"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/MLOM"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/MRAID"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/L"
 }],
"Oem": {
 "Cisco": {
  "PostCompletionStatus": true,
  "SystemEffectiveMemory": 64,
  "SystemEffectiveSpeed": 2400
 }
},
"TrustedModules": [{
  "InterfaceType": "TPM2_0",
  "InterfaceTypeSelection": "BiosSetting",
  "FirmwareVersion": "2.0",
  "Status": {
   "Health": "OK"
  }
 }],
"PowerRestorePolicy": "LastState",
"Manufacturer": "Cisco Systems Inc",
"IndicatorLED": "Off",
"Model": "UCSC-C220-M5L",
"BiosVersion": "C220M5.4.1.1.61.0504202214",
"Actions": {
 "#ComputerSystem.Reset": {
  "target": "/redfish/v1/Systems/WZP21330G5B/Actions
/ComputerSystem.Reset",
  "ResetType@Redfish.AllowableValues": ["On", "ForceOff",
"GracefulShutdown", "GracefulRestart", "ForceRestart", "Nmi", "PowerCycle"]
 }
}
}
```

Retrieving PCI Slot Information

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems
/<SerialNumber>
```

Response

```
{
 "@odata.id": "/redfish/v1/Systems/WZP21330G5B",
 "@odata.context": "/redfish/v1/$metadata#Systems/Members/$entity",
 "@odata.type": "#ComputerSystem.v1_7_0.ComputerSystem",
 "Processors": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Processors"
 },
 "SimpleStorage": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/SimpleStorage"
 },
 "Storage": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Storage"
 },
 "Memory": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Memory"
 },
 "MemoryDomains": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/MemoryDomains"
 },
 "NetworkInterfaces": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/NetworkInterfaces"
 },
 "Bios": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/Bios"
 },
 "SecureBoot": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/SecureBoot"
 },
 "EthernetInterfaces": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/EthernetInterfaces"
 },
 "LogServices": {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/LogServices"
 },
 "Links": {
  "Chassis": [{
    "@odata.id": "/redfish/v1/Chassis/1"
   }],
  "CooledBy": [{
    "@odata.id": "/redfish/v1/Chassis/1/Thermal"
   }],
  "ManagedBy": [{
    "@odata.id": "/redfish/v1/Managers/CIMC"
   }],
  "PoweredBy": [{
    "@odata.id": "/redfish/v1/Chassis/1/Power"
   }]
 },
 "SerialNumber": "WZP21330G5B",
 "Boot": {
  "BootSourceOverrideTarget": "None",
  "BootSourceOverrideTarget@Redfish.AllowableValues": ["None",
"Pxe", "Floppy", "Cd", "Hdd", "BiosSetup", "Diags"],
  "BootSourceOverrideEnabled@Redfish.AllowableValues": ["Once",
"Continuous",
"Disabled"],
  "BootSourceOverrideEnabled": "Disabled"
 },
 "Id": "WZP21330G5B",
 "AssetTag": "Test assetTagRedfish",
 "PowerState": "On",
 "SystemType": "Physical",
```

```
"ProcessorSummary": {
 "Model": "Intel(R) Xeon(R) Silver 4114 CPU @ 2.20GHz",
 "Count": 2
},
"HostName": "test-hostname-kr-webcimc",
"MemorySummary": {
 "TotalSystemMemoryGiB": 64,
 "Status": {
  "HealthRollup": "OK",
  "Health": "OK"
 }
},
"PCIeDevices@odata.count": 6,
"PCIeFunctions@odata.count": 6,
"Description": "PatchName",
"UUID": "1C61EBC6-8E10-4A9B-90CE-A4C03913EA56",
"Status": {
 "State": "Enabled",
 "Health": "OK"
},
"PCIeDevices": [{
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/1"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/2"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/FRONT-NVME-2"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/MLOM"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/MRAID"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeDevices/L"
 }],
"Name": "UCS C220 M5L",
"HostWatchdogTimer": {
 "Status": {
  "State": "Enabled"
 },
 "WarningAction": "None",
 "FunctionEnabled": true,
 "TimeoutAction": "ResetSystem"
},
"PCIeFunctions": [{
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/1"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/2"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions
/FRONT-NVME-2"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/MLOM"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/MRAID"
 }, {
  "@odata.id": "/redfish/v1/Systems/WZP21330G5B/PCIeFunctions/L"
 }],
"Oem": {
 "Cisco": {
  "PostCompletionStatus": true,
  "SystemEffectiveMemory": 64,
  "SystemEffectiveSpeed": 2400
 }
},
"TrustedModules": [{
```

```
    "InterfaceType": "TPM2_0",
    "InterfaceTypeSelection": "BiosSetting",
    "FirmwareVersion": "2.0",
    "Status": {
     "Health": "OK"
    }
  }],
 "PowerRestorePolicy": "LastState",
 "Manufacturer": "Cisco Systems Inc",
 "IndicatorLED": "Off",
 "Model": "UCSC-C220-M5L",
 "BiosVersion": "C220M5.4.1.1.61.0504202214",
 "Actions": {
  "#ComputerSystem.Reset": {
   "target": "/redfish/v1/Systems/WZP21330G5B/Actions
/ComputerSystem.Reset",
   "ResetType@Redfish.AllowableValues": ["On", "ForceOff",
"GracefulShutdown", "GracefulRestart", "ForceRestart", "Nmi", "PowerCycle"]
  }
 }
}
```

Retrieving DIMM Blacklisting Status

Request to Retrieve DIMM Blacklisting Status

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/<SerialNumber>
```

Response

```
{
        "@odata.id":     "/redfish/v1/Systems/WZP220607R1",
        "@odata.type":   "#ComputerSystem.v1_9_0.ComputerSystem",
        "@odata.context":        "/redfish/v1/$metadata#ComputerSystem.ComputerSystem",
        "Description":   "Represents general resources for the overall system",
        "Processors":    {
                "@odata.id":    "/redfish/v1/Systems/WZP220607R1/Processors"
        },
"Oem":  {
                "Cisco":         {
                        "DimmBlacklistingEnabled":       true,
                        "SystemEffectiveMemory":         48,
                        "SystemEffectiveSpeed": 2400,
                        "PostCompletionStatus": true
                }
        },
"Manufacturer": "Cisco Systems Inc"
<SNIP>
}
```

Retrieving Network Settings

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers
/CIMC/EthernetInterfaces/NICs
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/EthernetInterfaces/NICs",
 "@odata.context": "/redfish/v1/$metadata#Managers/Members/$entity
/EthernetInterfaces/Members/$entity",
 "@odata.type": "#EthernetInterface.v1_4_1.EthernetInterface",
 "Links": {
  "Chassis": {
   "@odata.id": "/redfish/v1/Chassis/1"
  }
 },
 "IPv6DefaultGateway": "3002::3001",
 "Id": "NICs",
 "NameServers": ["11.11.11.11", "12.12.12.12", "3003::3002"],
 "AutoNeg": false,
 "SpeedMbps": 1024,
 "HostName": "test-hostname-kr-webcimc",
 "IPv6Addresses": [{
   "Address": "3002::3003",
   "PrefixLength": 64,
   "AddressOrigin": "Static"
  }],
 "FullDuplex": true,
 "StaticNameServers": ["11.11.11.11", "12.12.12.12", "3003::3002"],
 "DHCPv4": {
  "UseDNSServers": false,
  "UseGateway": false,
  "UseNTPServers": false,
  "UseDomainName": false,
  "DHCPEnabled": false,
  "UseStaticRoutes": false
 },
 "IPv4Addresses": [{
   "Gateway": "10.10.10.1",
   "Address": "10.10.10.10",
   "SubnetMask": "255.255.255.0",
   "AddressOrigin": "Static"
  }],
 "VLAN": {
  "VLANId": 5,
  "VLANEnable": false
 },
 "IPv6StaticDefaultGateways": [{
   "Address": "3002::3001"
  }],
 "InterfaceEnabled": true,
 "MACAddress": "70:DF:2F:86:F3:6C",
 "Name": "Manager Ethernet Interface",
 "DHCPv6": {
  "OperatingMode": "Disabled",
  "UseDNSServers": false,
  "UseDomainName": false,
  "UseNTPServers": false
 },
 "MaxIPv6StaticAddresses": 1,
 "StatelessAddressAutoConfig": {
  "IPv4AutoConfigEnabled": false,
  "IPv6AutoConfigEnabled": true
 },
 "MTUSize": 1500,
 "PermanentMACAddress": "70:DF:2F:86:F3:6C",
 "Description": "Manager Network Interface"
}
```

Enabling Auto-Negotiation

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1
/Managers/CIMC/EthernetInterfaces/NICs -XPATCH -d '{"AutoNeg":true}'
```

Response

```
{
 "IPv6DefaultGateway": "3002::3001",
 "Id": "NICs",
 "NameServers": ["11.11.11.11", "12.12.12.12", "3003::3002"],
 "AutoNeg": true,
 "SpeedMbps": 1024,
 "HostName": "test-hostname-kr-webcimc",
 "IPv6Addresses": [{
   "Address": "3002::3003",
   "PrefixLength": 64,
   "AddressOrigin": "Static"
  }],
 "FullDuplex": true,
 "StaticNameServers": ["11.11.11.11", "12.12.12.12", "3003::3002"],
 "DHCPv4": {
 "UseDNSServers": false,
 "UseGateway": false,
 "UseNTPServers": false,
 "UseDomainName": false,
 "DHCPEnabled": false,
 "UseStaticRoutes": false
 },
 "IPv4Addresses": [{
   "Gateway": "10.10.10.1",
   "Address": "10.10.10.10",
   "SubnetMask": "255.255.255.0",
   "AddressOrigin": "Static"
  }],
 "VLAN": {
 "VLANId": 5,
 "VLANEnable": false
 },
 "IPv6StaticDefaultGateways": [{
   "Address": "3002::3001"
  }],
 "InterfaceEnabled": true,
 "MACAddress": "70:DF:2F:86:F3:6C",
 "Name": "Manager Ethernet Interface",
 "DHCPv6": {
 "OperatingMode": "Disabled",
 "UseDNSServers": false,
 "UseDomainName": false,
 "UseNTPServers": false
 },
 "MaxIPv6StaticAddresses": 1,
 "StatelessAddressAutoConfig": {
 "IPv4AutoConfigEnabled": false,
 "IPv6AutoConfigEnabled": true
 },
 "MTUSize": 1500,
 "PermanentMACAddress": "70:DF:2F:86:F3:6C",
```

```
        "Description": "Manager Network Interface"
}
```

Disabling Auto-Negotiation

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC
/EthernetInterfaces/NICs -XPATCH -d '{"AutoNeg":false}'
```

Response

```
{
 "IPv6DefaultGateway": "3002::3001",
 "Id": "NICs",
 "NameServers": ["11.11.11.11", "12.12.12.12", "3003::3002"],
 "AutoNeg": false,
 "SpeedMbps": 100,
 "HostName": "test-hostname-kr-webcimc",
 "IPv6Addresses": [{
   "Address": "3002::3003",
   "PrefixLength": 64,
   "AddressOrigin": "Static"
  }],
 "FullDuplex": true,
 "StaticNameServers": ["11.11.11.11", "12.12.12.12", "3003::3002"],
 "DHCPv4": {
  "UseDNSServers": false,
  "UseGateway": false,
  "UseNTPServers": false,
  "UseDomainName": false,
  "DHCPEnabled": false,
  "UseStaticRoutes": false
 },
 "IPv4Addresses": [{
   "Gateway": "10.10.10.1",
   "Address": "10.10.10.10",
   "SubnetMask": "255.255.255.0",
   "AddressOrigin": "Static"
  }],
 "VLAN": {
  "VLANId": 5,
  "VLANEnable": false
 },
 "IPv6StaticDefaultGateways": [{
   "Address": "3002::3001"
  }],
 "InterfaceEnabled": true,
 "MACAddress": "70:DF:2F:86:F3:6C",
 "Name": "Manager Ethernet Interface",
 "DHCPv6": {
  "OperatingMode": "Disabled",
  "UseDNSServers": false,
  "UseDomainName": false,
  "UseNTPServers": false
 },
 "MaxIPv6StaticAddresses": 1,
 "StatelessAddressAutoConfig": {
  "IPv4AutoConfigEnabled": false,
  "IPv6AutoConfigEnabled": true
```

```
    },
    "MTUSize": 1500,
    "PermanentMACAddress": "70:DF:2F:86:F3:6C",
    "Description": "Manager Network Interface"
}
```

Configuring Network Port Speed and Duplex With Auto-negotiation in Disabled State

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1
/Managers/CIMC/EthernetInterfaces/NICs -XPATCH -d
'{
"SpeedMbps":10,
"FullDuplex":false
}'
```

Response

```
{
 "IPv6DefaultGateway": "3002::3001",
 "Id": "NICs",
 "NameServers": ["11.11.11.11", "12.12.12.12", "3003::3002"],
 "AutoNeg": false,
 "SpeedMbps": 10,
 "HostName": "test-hostname-kr-webcimc",
 "IPv6Addresses": [{
   "Address": "3002::3003",
   "PrefixLength": 64,
   "AddressOrigin": "Static"
  }],
 "FullDuplex": false,
 "StaticNameServers": ["11.11.11.11", "12.12.12.12", "3003::3002"],
 "DHCPv4": {
  "UseDNSServers": false,
  "UseGateway": false,
  "UseNTPServers": false,
  "UseDomainName": false,
  "DHCPEnabled": false,
  "UseStaticRoutes": false
 },
 "IPv4Addresses": [{
   "Gateway": "10.10.10.1",
   "Address": "10.10.10.10",
   "SubnetMask": "10.10.10.10",
   "AddressOrigin": "Static"
  }],
 "VLAN": {
  "VLANId": 5,
  "VLANEnable": false
 },
 "IPv6StaticDefaultGateways": [{
   "Address": "3002::3001"
  }],
 "InterfaceEnabled": true,
 "MACAddress": "70:DF:2F:86:F3:6C",
 "Name": "Manager Ethernet Interface",
 "DHCPv6": {
```

```
 "OperatingMode": "Disabled",
 "UseDNSServers": false,
 "UseDomainName": false,
 "UseNTPServers": false
},
"MaxIPv6StaticAddresses": 1,
"StatelessAddressAutoConfig": {
 "IPv4AutoConfigEnabled": false,
 "IPv6AutoConfigEnabled": true
},
"MTUSize": 1500,
"PermanentMACAddress": "70:DF:2F:86:F3:6C",
"Description": "Manager Network Interface"
}
```

Creating PXE Boot Device

✎

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4 and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Request

```
curl -k -u admin:Password  https://10.10.10.10/redfish/v1/Chassis
/1/NetworkAdapters/UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/ -d
'{"Id": "eth4", "NetDevFuncType": "Ethernet", "BootMode": "PXE", "Oem":
{"Cisco": {"VnicConfiguration": {"PCIOrder": "0.5", "NivCfg":
{"ChannelNumber":14}}}}}' -XPOST
```

Deleting PXE Boot Device

Request

✎

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4 and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth4 -XDELETE
```

Modifying PXE Boot Device

Request

Note This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4 and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

```
curl -k -u admin:Password  https://10.104.236.126/redfish/v1
/Chassis/1/NetworkAdapters/UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/eth4 -d
'{ "BotMode": "Disabled"}'
-XPATCH
```

Creating ISCSI Boot Device

Note This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Request

```
curl -k -u admin:Password  https://10.10.10.10/redfish
/v1/Chassis/1/NetworkAdapters/UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions -d
'{"Id":"eth11","NetDevFuncType":"Ethernet","BootMode":"iSCSI","iSCSIBoot":{"InitiatorName":
"iqn.initiator.com","InitiatorIPAddress":"192.168.0.1","InitiatorNetmask":
"255.255.255.0","PrimaryTargetName":"iqn.target0.com","PrimaryTargetIPAddress":
"192.168.0.2","PrimaryLUN":0,"AuthenticationMethod":"MutualCHAP","CHAPSecret":
"Chapsecret","CHAPUsername":"chapname" ,"MutualCHAPUsername":"mutualname",
"MutualCHAPSecret":"msecret","IPAddressType":"IPv4" },"Oem":{"Cisco":
{"VnicConfiguration":{"PCIOrder":"1.2","NivCfg":{"ChannelNumber":12} }}}}'  -XPOST
```

Modifying ISCSI Boot Device

Note This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Set/Modify iSCSI properties with static configuration

```
curl -k -u admin:password  https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/eth0 -XPATCH -d
'{"BootMode":"iSCSI","iSCSIBoot":{"InitiatorName":"in.initiator.com","InitiatorIPAddress":
"192.168.0.1","InitiatorNetmask":"255.255.255.0","PrimaryTargetName":"iqn.target0.com",
```

```
"PrimaryTargetIPAddress":"192.168.1.1", "PrimaryTargetTCPPort":5000,
"SecondaryTargetTCPPort":5000 }}'
```

Set/Modify iSCSI Properties with DHCP Configuration

```
curl -k -u admin:password  https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/eth0 -XPATCH -d
'{"BootMode":"iSCSI","iSCSIBoot":{"InitiatorName":"in.initiator.com","IPMaskDNSViaDHCP":
true,"TargetInfoViaDHCP":true}}'
```

Set iSCSI Properties for Both Primary Targets, Secondary Target, and Authentication Settings

```
curl -k -u admin:password  https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/eth0 -XPATCH -d
'{"BootMode":"iSCSI","iSCSIBoot":{"InitiatorName":"in.initiator.com","AuthenticationMethod":
"MutualCHAP","CHAPSecret":"Chapsecret","CHAPUsername":"chapname","IPAddressType":"IPv4",
"InitiatorDefaultGateway":"1.1.1.1","InitiatorIPAddress":"1.1.1.1","InitiatorNetmask":
"255.255.255.0","MutualCHAPSecret":"msecret","MutualCHAPUsername":"mutualname",
"PrimaryDNS":"1.2.2.2","PrimaryLUN":3,"PrimaryTargetIPAddress":"1.1.1.1",
"PrimaryTargetName":"qweq", "SecondaryDNS":"1.1.1.1","SecondaryLUN":4,
"SecondaryTargetIPAddress":"12.23.34.4","SecondaryTargetName":"qwrqwrwq",
"TargetInfoViaDHCP":false}}'
```

Set AuthenticationMethod as no CHAP, no MutualCHAP

```
curl -k -u admin:password  https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/et1 -XPATCH -d
'{"iSCSIBoot":{"InitiatorName":"in.initiator.com","AuthenticationMethod":"None",
"CHAPSecret":"","CHAPUsername":"","IPAddressType":"IPv4","InitiatorDefaultGateway":
"1.1.1.1","InitiatorIPAddress":"1.1.1.1","InitiatorNetmask":"255.255.255.0",
"MutualCHAPSecret":"","MutualCHAPUsername":""}}'
```

Note No CHAP/MutualCHAP properties should be accepted when setting **None**. If the properties already exists, it should be mentioned with null value as in below request.

AuthenticationMethod as CHAP with CHAP Name/Secret

```
curl -k -u admin:password  https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/eth0 -XPATCH -d
'{"iSCSIBoot":{"InitiatorName":"in.initiator.com","AuthenticationMethod":"CHAP",
"IPAddressType":"IPv4","InitiatorDefaultGateway":"1.1.1.1","InitiatorIPAddress":
"1.1.1.1","InitiatorNetmask":"255.255.255.0","PrimaryDNS":"1.2.2.2","PrimaryLUN":333,
"PrimaryTargetIPAddress":"1.1.1.1","PrimaryTargetName":"qweq","CHAPSecret":"Chapsecret",
"CHAPUsername":"chapname"}}'
```

Note If authenticationMethod is CHAP, Only CHAP name/secret should be accepted in the request. If mutualCHAP attributes already exists, MutualCHAP properties should be set with Null value as below.
"MutualCHAPSecret":"","MutualCHAPUsername":""

AuthenticationMethod as MutualCHAP

```
curl -k -u admin:password  https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/eth1 -XPATCH -d
'{"iSCSIBoot":{"InitiatorName":"i.initiator.com","AuthenticationMethod":"MutualCHAP",
```

```
"IPAddressType":"IPv4","InitiatorDefaultGateway":"1.1.1.1","InitiatorIPAddress":"1.1.1.1",
"InitiatorNetmask":"255.255.255.0","MutualCHAPSecret":"msecret","MutualCHAPUsername":
"mutualname","PrimaryDNS":"1.2.2.2","PrimaryLUN":333,"PrimaryTargetIPAddress":"1.1.1.1",
"PrimaryTargetName":"qweq","CHAPSecret":"Chapsecret","CHAPUsername":"chapname"}}'
```

Note   For MutualCHAP both CHAP and MutualCHAP credentials should be mentioned.

Configure iSCSIBootUcs Configurations

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770TY/NetworkDeviceFunctions/eth1 -d
'{"BootMode":"iSCSI", "Oem":{"Cisco":{"VnicConfiguration":{"EthConfiguration":
{"iSCSIBootUcs":{"PrimaryEnabled":true,"DHCPTimeout":60,"LinkTimeout":255,
"LinkBusyRetryCount":255,"TCPTimeout":255,"DHCPId":
"NetworkDeviceFunctionNetworkDeviceFunctionNetwork"}}}}}}
```

Creating SAN Boot Device

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

To use FC interface, VNTAG/NIV mode should be enabled.

Add Bootable Entries

```
curl -XPATCH -k -u admin:Password https://10.10.10.10/redfish/v1
/Chassis/1/NetworkAdapters/UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/fc1 -d
'{"Oem":{"Cisco":{"VnicConfiguration":{"VHBAConfiguration":{"BootTable":[{"WWPN":
"01:02:03:04:05:09:09:08","Lun":5}]}}}}}'
```

Add Multiple BootTable Entries

```
curl -XPATCH -k -u admin:Password https://10.10.10.10/redfish/v1
/Chassis/1/NetworkAdapters/UCSC-MLOM-C100-04_FCH224172K8/NetworkDeviceFunctions/fc0
-d '{"Oem":{"Cisco":{"VnicConfiguratio":{"VHBAConfiguration":{"BootTable":
[{"WWPN":"21:22:33:44:55:66:77:22","Lun":6 }, {"WWPN":"21:22:33:44:55:66:77:23","Lun":7},
{"WWPN":"21:22:33:44:55:66:77:24","Lun":8}, {"WWPN":"21:22:33:44:55:66:77:25","Lun":9}]}}}}}'
```

Deleting SAN Boot Device

Note   This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

Request

```
curl -k -u admin:Password  https://10.10.10.10/redfish/v1
/Chassis/1/NetworkAdapters/UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/fc3 -d
'{"Oem"{"Cisco":{"VnicConfiguration":{"VHBAConfiguration":{"BootTable":
[null, null, null, null]}}}}}' -XPATCH
```

Modifying SAN Boot Device

Note

This request is not supported for Cisco UCS C220 M4, C240 M4, C460 M4, and S3X60 servers.

VIC 13XX cards are supported from 4.1(3b) release onwards.

To use FC interface, VNTAG/NIV mode should be enabled.

Request

```
curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/Chassis/1/
NetworkAdapters/ UCSC-PCIE-C25Q-04_FCH233770L7/NetworkDeviceFunctions/fc0 -d
'{"Oem":{"Cisco":{"VnicConfiguratio":{"VHBAConfiguration":{"BootTable":
[{"WWPN":"21:22:33:44:55:66:77:30","Lun":6 }, {}, null, {"WWPN":"21:22:33:44:55:66:77:31",
"Lun":9}]}}}}}'
```

Note

Here, First BootTable Entry is modified. Second entry is not modified. Third entry is deleted and fourth entry is modified.

BootTable entry is a array of 4 values. BootTable: [{},{},{},{}], where

- {} - does not modify the value of that index in array

- null - Delete the value of that index in array

- new value- Modifies the existing value in that index

Creating and Uploading SSL certificate

Request

```
curl -XPOST -k -u admin:password https://10.10.10.10/redfish/v1
/CertificateService/Actions/CertificateService.GenerateCSR -d '
{
    "CommonName" : "CNValue",
    "Organization" : "OrgValue",
    "OrganizationalUnit" : "OUValue",
    "City" : "CityName",
    "State" : "StateName",
    "Country" : "IN",
    "KeyPairAlgorithm" : "TPM_ALG_SHA512",
    "Email" : "Redfish@redfish.com",
    "CertificateCollection" :
```

```
"/redfish/v1/Managers/CIMC/NetworkProtocol/HTTPS/Certificates/1",
    "ChallengePassword" : "password",
    "AlternativeNames" : ["no-one@cisco.com", "10.10.10.10","cisco.com","https://10.10.10.10
/login.html"]
}'
```

Response

```
{
 "CertificateCollection": "/redfish/v1/Managers/CIMC/NetworkProtocol/HTTPS/Certificates/1",

 "CSRString": "-----BEGIN CERTIFICATE REQUEST-----
     <REDACTED_CERTIFICATE_STRING>
                         -----END CERTIFICATE REQUEST-----\n"
}

After the certificate is signed from the CA, it can be uploaded to CIMC using below request:
curl -XPOST -k -u admin:password https://10.10.10.10/redfish/v1/ CertificateService/
Actions/CertificateService.ReplaceCertificate -d '
{
"CertificateString" : <SIGNED CERTIFICATE CONTENT>
"CertificateType" : "PEM",
"CertificateUri" : "/redfish/v1/Managers/CIMC/NetworkProtocol/HTTPS/Certificates/1"
}
```

HSU Discovery and Update

Note This request is not supported in C220M4, C240M4, C460M4 and S3X60 Servers.

Triggering HSU Deep Discovery

Request

```
curl -k -u admin:Password https://10.10.10.10/redfish/v1
/Managers/CIMC/Actions/Oem/CiscoUCSExtensions.HostOSBootManagement -XPOST -d
'{"BootOption":"Immediate","ImageRepository":"10.10.10.10/nfsshare
/hsu1s53mad/","Mode":"Discovery","TransferProtocol":"VMEDIA-NFS"}'
```

Note **BootOption**: **Immediate** or **OnNextBoot**

ImageRepository: <specify hsu tar file extracted path in remote share>

TransferProtocol: VMEDIA-NFS or VMEDIA-CIFS orVMEDIA-HTTPS or NFS or CIFS or HTTPS

To use NFS or CIFS or HTTPS, FlexUtil SD card has to be populated in the system.

Mode: Discovery

Response

```
{
        "Messages":      [],
        "Id":    "401",
        "Name": "HSU-inventory",
        "StartTime":    "01/15/2020 12:01:07 IST",
```

```
        "TaskState":      "New",
        "PercentComplete":       0,
        "@odata.id":      "/redfish/v1/TaskService/Tasks/401",
        "@odata.type":    "#Task.v1_4_0.Task"
}
```

Get Task to Find HSU Deep Discovery Status

Request

```
curl -k -u admin:Password https://10.10.10.10/redfish/v1/TaskService/Tasks/401
```

Response

```
{
        "@odata.id":      "/redfish/v1/TaskService/Tasks/401",
        "@odata.context":        "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
        "@odata.type":    "#Task.v1_4_0.Task",
        "Id":    "401",
        "Name": "HSU-inventory",
        "StartTime":     "01/15/2020 12:01:07 IST",
        "EndTime":       "01/15/2020 12:15:45 IST",
        "PercentComplete":       100,
        "TaskState":     "Completed",
        "Messages":      [{
                         "MessageId":     "Base.1.4.Success",
                         "Message":       "Successfully Completed Request"
                }],
        "TaskMonitor":  "/redfish/v1/TaskService/Oem/TaskMonitor/401"
}
```

Get Firmware Inventory to Find the List of Updatable Items Discovered

Request

```
curl -k -u admin:Password https://10.10.10.10/redfish/v1/UpdateService/FirmwareInventory
```

Response

```
{
        "@odata.id":      "/redfish/v1/UpdateService/FirmwareInventory",
        "@odata.context":        "/redfish/v1/$metadata#UpdateService/FirmwareInventory",
        "@odata.type":    "#SoftwareInventoryCollection.SoftwareInventoryCollection",
        "Description":    "Inventory of Firmware components",
        "Name": "Firmware Inventory",
        "Members":       [{
                         "@odata.id":
"/redfish/v1/UpdateService/FirmwareInventory/Board_Controller"
                }, {
                         "@odata.id":      "/redfish/v1/UpdateService/FirmwareInventory/BIOS"
                }, {
                         "@odata.id":      "/redfish/v1/UpdateService/FirmwareInventory/CIMC"
                }, {
                         "@odata.id":      "/redfish/v1/UpdateService/FirmwareInventory
/HDD-model-MTFDDAV960TCB-serial-174619C268DF"
                }, {
                         "@odata.id":      "/redfish/v1/UpdateService/FirmwareInventory
/UCSC-NVMELW-I500-slot-FRONT-NVME-11"
                }, {
                         "@odata.id":
"/redfish/v1/UpdateService/FirmwareInventory/X550-LOM-slot-L"
                }, {
                         "@odata.id":      "/redfish/v1/UpdateService/FirmwareInventory
/HDD-model-MTFDDAV960TCB-serial-174619C26BA5"
                }, {
```

```
                        "@odata.id":    "/redfish/v1/UpdateService/FirmwareInventory/SasExpM5"

                }, {
                        "@odata.id":     "/redfish/v1/UpdateService/FirmwareInventory
/UCSC-NVMELW-I500-slot-FRONT-NVME-3"
                }, {
                        "@odata.id":
"/redfish/v1/UpdateService/FirmwareInventory/UCSC-RAID-M5HD-slot-RAID"
                }, {
                        "@odata.id":
"/redfish/v1/UpdateService/FirmwareInventory/P40-24GB-slot-10"
                }, {
                        "@odata.id":    "/redfish/v1/UpdateService/FirmwareInventory/mswitch1"

                }, {
                        "@odata.id":     "/redfish/v1/UpdateService/FirmwareInventory
/UCSC-NVMELW-I500-slot-FRONT-NVME-12"
                }, {
                        "@odata.id":     "/redfish/v1/UpdateService/FirmwareInventory
/UCSC-NVMELW-I500-slot-FRONT-NVME-2"
                }, {
                        "@odata.id":
"/redfish/v1/UpdateService/FirmwareInventory/FirePro-slot-2"
                }, {
                        "@odata.id":     "/redfish/v1/UpdateService/FirmwareInventory
/UCSC-NVMELW-I500-slot-FRONT-NVME-1"
                }, {
                        "@odata.id":     "/redfish/v1/UpdateService/FirmwareInventory
/UCSC-NVMELW-I500-slot-FRONT-NVME-6"
                }, {
                        "@odata.id":
"/redfish/v1/UpdateService/FirmwareInventory/UCSC-SAS9460-8i-slot-12"
                }, {
                        "@odata.id":     "/redfish/v1/UpdateService/FirmwareInventory
/UCSC-NVMELW-I500-slot-FRONT-NVME-4"
                }, {
                        "@odata.id":     "/redfish/v1/UpdateService/FirmwareInventory
/UCSC-NVMELW-I500-slot-FRONT-NVME-5"
                }, {
                        "@odata.id":    "/redfish/v1/UpdateService/FirmwareInventory/mswitch2"

                }],
        "Members@odata.count":  21
}
```

Triggering HSU Firmware Update on "All" Discovered Components

Request

```
curl -k -u admin:Password https://10.10.10.10/redfish/v1
/UpdateService/Actions/Oem/CiscoUCSExtensions.UCSUpdate -d '{ "Targets":[],
"ApplyTime":"Immediate",
"ForceUpdate":true, "ImageRepository":"10.10.10.10/nfsshare/hsu1s53mad/", "TransferProtocol"
:"VMEDIA-NFS" , "Username":"<share_username>", "Password":"<share_password>" }' -XPOST
```

✎

Note   **TransferProtocol**: **VMEDIA-NFS** or **VMEDIA-CIFS** or **VMEDIA-HTTPS** or **NFS** or **CIFS** or **HTTPS**

ApplyTime: **Immediate** or **OnNextBoot**

- Immediate- HSU iso booting will happen immediately to update some components

- OnNextBoot- HSU iso booting to update some components will take place only in host next power cycle/power on

ImageRepository : <specify hsu tar file extracted path in remote share>

ForceUpdate: true or false

Targets: To trigger update on all the discovered components

["Array of Software/Firmware Inventory URIs indicating where the image is to be applied."]

To trigger update on specific component, Targets of individual one or more components can be specified. For find Targets of individual components, refer this command

Response

```
{
        "Messages":      [],
        "Id":   "402",
        "Name": "HSU-update",
        "StartTime":    "01/15/2020 12:58:59 IST",
        "TaskState":    "New",
        "PercentComplete":      0,
        "@odata.id":    "/redfish/v1/TaskService/Tasks/402",
        "@odata.type": "#Task.v1_4_0.Task"
}
```

Get Task ID to Get Status of Firmware Update

```
curl -k -u admin:Password https://10.10.10.10/redfish/v1/TaskService/Tasks/402
```

Response

```
{
        "@odata.id":    "/redfish/v1/TaskService/Tasks/402",
        "@odata.context":       "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
        "@odata.type": "#Task.v1_4_0.Task",
        "Id":   "402",
        "Name": "HSU-update",
        "StartTime":    "01/15/2020 12:58:59 IST",
        "EndTime":      "01/15/2020 13:48:20 IST",
        "PercentComplete":      100,
        "TaskState":    "Completed",
        "Messages":     [{
                        "MessageId":    "CiscoUcsHsu.1.0.0.UpdateSuccess",
                        "Message":      "Successfully updated the software inventory at
'UCSC-NVMELW-I500-slot-FRONT-NVME-11'.",
                        "Resolution":   "NULL"
                }, {
                        "MessageId":    "CiscoUcsHsu.1.0.0.UpdateSuccess",
                        "Message":      "Successfully updated the software inventory at
'X550-LOM-slot-L'.",
                        "Resolution":   "NULL"
                }, {
                        "MessageId":    "CiscoUcsHsu.1.0.0.UpdateSuccess",
```

                              "Message":   "Successfully updated the software inventory at
'SasExpM5'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'UCSC-NVMELW-I500-slot-FRONT-NVME-3'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'CIMC'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'UCSC-RAID-M5HD-slot-RAID'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'P40-24GB-slot-10'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'mswitch1'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'UCSC-NVMELW-I500-slot-FRONT-NVME-12'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'UCSC-NVMELW-I500-slot-FRONT-NVME-2'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'FirePro-slot-2'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'UCSC-NVMELW-I500-slot-FRONT-NVME-1'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'UCSC-NVMELW-I500-slot-FRONT-NVME-6'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'UCSC-SAS9460-8i-slot-12'.",
                              "Resolution":   "NULL"
                   }, {
                              "MessageId":   "CiscoUcsHsu.1.0.0.UpdateSuccess",
                              "Message":   "Successfully updated the software inventory at
'UCSC-NVMELW-I500-slot-FRONT-NVME-4'.",
                              "Resolution":   "NULL"
                   }, {

```
                                "MessageId":    "CiscoUcsHsu.1.0.0.UpdateSuccess",
                                "Message":      "Successfully updated the software inventory at
'UCSC-NVMELW-I500-slot-FRONT-NVME-5'.",
                                "Resolution":   "NULL"
                    }, {
                                "MessageId":    "CiscoUcsHsu.1.0.0.UpdateSuccess",
                                "Message":      "Successfully updated the software inventory at
'mswitch2'.",
                                "Resolution":   "NULL"
                    }, {
                                "MessageId":    "CiscoUcsHsu.1.0.0.UpdateSuccess",
                                "Message":      "Successfully updated the software inventory at
'Board_Controller'.",
                                "Resolution":   "NULL"
                    }, {
                                "MessageId":    "CiscoUcsHsu.1.0.0.UpdateSuccess",
                                "Message":      "Successfully updated the software inventory at
'BIOS'.",
                                "Resolution":   "NULL"
                    }, {
                                "MessageId":    "Base.1.4.Success",
                                "Message":      "Successfully Completed Request"
                    }],
        "TaskMonitor":  "/redfish/v1/TaskService/Oem/TaskMonitor/402"
}
```

Terminate HSU Update Task trigger with ApplyTime as OnNextBoot before Power Cycle/Power On

```
curl -k -u admin:Password https://10.10.10.10/redfish/v1
/UpdateService/Actions/Oem/CiscoUCSExtensions.UCSUpdate
-d '{ "Targets":[], "ApplyTime":"OnNextBoot", "ForceUpdate":true, "ImageRepository":
"10.10.10.10/nfsshare/hsu1s53mad/", "TransferProtocol":"VMEDIA-NFS" }' -XPOST
```

Response

```
{
        "Messages":       [],
        "Id":    "405",
        "Name": "HSU-update",
        "StartTime":    "01/15/2020 17:10:26 IST",
        "TaskState":    "New",
        "PercentComplete":       0,
        "@odata.id":    "/redfish/v1/TaskService/Tasks/405",
        "@odata.type":  "#Task.v1_4_0.Task"
}
```

Get the Task Status

```
curl  -k -u admin:Password https://10.10.10.10/redfish/v1/TaskService/Tasks/405
```

Response

```
{
        "@odata.id":    "/redfish/v1/TaskService/Tasks/405",
        "@odata.context":       "/redfish/v1/$metadata#TaskService/Tasks/Members/$entity",
        "@odata.type":  "#Task.v1_4_0.Task",
        "Id":    "405",
        "Name": "HSU-update",
        "StartTime":    "01/15/2020 17:10:26 IST",
        "PercentComplete":       0,
        "TaskState":    "Running",
        "Messages":       [],
        "TaskMonitor":  "/redfish/v1/TaskService/Oem/TaskMonitor/405"
}
```

Use the taskMonitor URI in the above command to terminate the Update Task

```
curl  -k -u admin:Password https://10.10.10.10/redfish/v1/TaskService/Oem
/TaskMonitor/405 -XDELETE
```

Retrieving the HTTP Detail

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC
/NetworkProtocol
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/NetworkProtocol",
 "@odata.type": "#ManagerNetworkProtocol.v1_5_0.ManagerNetworkProtocol",
 "@odata.context": "/redfish/v1/$metadata#ManagerNetworkProtocol.ManagerNetworkProtocol",
 "HTTP": {
  "ProtocolEnabled": true,
  "Port": 80
 },
 "HTTPS": {
  "ProtocolEnabled": true,
  "Port": 443
  }
 }
 <SNIP>
}
```

Modifying HTTP Mode

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC
/NetworkProtocol -XPATCH -d
'{
 "HTTP":{
  "ProtocolEnabled":false
 }
        }'

{
 "@odata.id": "/redfish/v1/Managers/CIMC/NetworkProtocol",
 "@odata.type": "#ManagerNetworkProtocol.v1_5_0.ManagerNetworkProtocol",
 "@odata.context": "/redfish/v1/$metadata#ManagerNetworkProtocol.ManagerNetworkProtocol",
 "HTTP": {
  "ProtocolEnabled": false,
  "Port": 80
 },
 "HTTPS": {
  "ProtocolEnabled": true,
  "Port": 443
  }
 }
 <SNIP>
}
```

Configuring SMTP Email Recipient

✎

Note	Severity is not part of standard schema. An OEM property is defined which is configurable per recipient.

```
curl -XPOST -k -u admin:$PASSWORD https://$IP/redfish/v1/EventService
/Subscriptions -d '{
    "Protocol" : "SMTP",
    "Oem":{
        "Cisco" : {
            "SMTPMinimumSeverityToReport" : "Warning"
        }
    },
    "Destination":"mailto:username@cisco.com"
}'
curl -XPATCH -k -u admin:$PASSWORD https://$IP/redfish/v1/EventService
/Subscriptions/SMTP_1 -d '{
    "Oem" : {
        "Cisco":{
            "SMTPMinimumSeverityToReport": "Informational"
        }
    }
}'
```

Retrieving Local Logging Severity

Request

```
Request to retireive Local logging Severity:
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/LogServices/CIMC
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/CIMC",
 "@odata.type": "#LogService.v1_2_0.LogService",
 "@odata.context": "/redfish/v1/$metadata#LogService.LogService",
 "Entries": {
  "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/CIMC/Entries"
 },
 "ServiceEnabled": true,
 "OverWritePolicy": "WrapsWhenFull",
 "Id": "CIMC",
 "Name": "CIMC Log Service",
 "LogEntryType": "OEM",
 "Description": "CIMC Log Service",
 "DateTimeLocalOffset": "+05:30",
 "DateTime": "2020-12-22T14:01:38+05:30",
 "MaxNumberOfRecords": 10000,
 "SyslogFilters": [{
   "LowestSeverity": "Debug"
  }],
 "Oem": {
  "Cisco": {
   "MinimumSeverityLevel": "Debug",
```

```
    "SyslogConnectionInfo": [{
      "Protocol": "TCP",
      "Enabled": false,
      "DestinationServer": "10.10.10.11",
      "Port": 678
    }, {
      "Protocol": "UDP",
      "Enabled": false,
      "DestinationServer": "10.10.10.12",
      "Port": 689
    }]
  }
 },
 "Actions": {
  "#LogService.ClearLog": {
   "target": "/redfish/v1/Managers/CIMC/LogServices/CIMC
/Actions/LogService.ClearLog"
  },
  "Oem": {
   "#CiscoUCSExtensions.TestRemoteSyslogCfg": {
    "target": "/redfish/v1/Managers/CIMC/LogServices
/CIMC/Actions/Oem/CiscoUCSExtensions.TestRemoteSyslogCfg"
   }
  }
 }
}
```

Configuring Local Logging Severity

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC
/LogServices/CIMC -XPATCH -d
'{
"SyslogFilters" : [{
"LowestSeverity" : "Error"
    }]
}'
```

Response

```
{
 "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/CIMC",
 "@odata.type": "#LogService.v1_2_0.LogService",
 "@odata.context": "/redfish/v1/$metadata#LogService.LogService",
 "Entries": {
  "@odata.id": "/redfish/v1/Managers/CIMC/LogServices/CIMC/Entries"
 },
 "ServiceEnabled": true,
 "OverWritePolicy": "WrapsWhenFull",
 "Id": "CIMC",
 "Name": "CIMC Log Service",
 "LogEntryType": "OEM",
 "Description": "CIMC Log Service",
 "DateTimeLocalOffset": "+05:30",
 "DateTime": "2020-12-22T14:01:38+05:30",
 "MaxNumberOfRecords": 10000,
 "SyslogFilters": [{
   "LowestSeverity": "Error"
  }],
 "Oem": {
```

```
  "Cisco": {
   "MinimumSeverityLevel": "Debug",
   "SyslogConnectionInfo": [{
     "Protocol": "TCP",
     "Enabled": false,
     "DestinationServer": "10.10.10.11",
     "Port": 678
    }, {
     "Protocol": "UDP",
     "Enabled": false,
     "DestinationServer": "10.10.10.12",
     "Port": 689
    }]
  }
 },
 "Actions": {
  "#LogService.ClearLog": {
   "target": "/redfish/v1/Managers/CIMC/LogServices
/CIMC/Actions/LogService.ClearLog"
  },
  "Oem": {
   "#CiscoUCSExtensions.TestRemoteSyslogCfg": {
    "target": "/redfish/v1/Managers/CIMC/LogServices
/CIMC/Actions/Oem/CiscoUCSExtensions.TestRemoteSyslogCfg"
   }
  }
 }
```

Clear BIOS CMOS

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/
v1/Systems/SERIAL/ Actions/Oem/ComputerSystem.ResetBIOSCMOS-XPOST -d '{}'
```

Response

No response in case of success. Error message is displayed in case of failure.

Drive Diagnostics

Request to Start HDD Diagnostics on a Particular Drive

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/
WZP211704JZ/Storage/MRAID/Drives/10/Actions/Oem/Cisco.StartDiagnostics -XPOST -d '{}'
```

Response

```
{
        "Messages":      [],
        "Id":    "1170",
        "Name": "Storage:MRAID, Operation:Get Diagnostics Status",
        "StartTime":     "11/29/2020 10:34:49 SAST",
        "TaskState":     "Running",
       "@odata.id":     "/redfish/v1/TaskService/Tasks/1170",
        "@odata.type":  "#Task.v1_4_0.Task"
}
```

Request to Get the Status of HDD Diagnostic Self Test of a Particular HDD

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/TaskService/Tasks/1170
```

Response

```
{
        "@odata.id":     "/redfish/v1/TaskService/Tasks/1170",
        "@odata.type":  "#Task.v1_4_0.Task",
        "@odata.context":        "/redfish/v1/$metadata#Task.Task",
        "Id":    "1170",
        "Name": "Storage:MRAID, Operation:Get Diagnostics Status",
        "StartTime":    "11/29/2020 10:34:49 SAST",
        "EndTime":      "11/29/2020 10:36:53 SAST",
        "PercentComplete":      100,
        "TaskState":    "Completed",
        "TaskStatus":   "OK",
        "Messages":     [{
                        "MessageId":    "Base.1.4.0.Success",
                        "Message":      "Successfully Completed Request"
                }],
        "TaskMonitor":  "/redfish/v1/TaskService/Oem/TaskMonitor/1170"
}
```

Cancel HDD Diagnostic Self Test of a Particular HDD when Self Test is in Progress

```
curl -k -u admin:password https://10.10.10.10/redfish/v1Systems/
WZP23391JPJ/Storage/MRAID/Drives/1/Actions/Oem/Cisco.CancelDiag -d '{}' -XPOST
```

Status of Diagnostic Self Test After Canceling the Self Test

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/TaskService
/Tasks/856
```

Response

```
{
        "@odata.id":     "/redfish/v1/TaskService/Tasks/856",
        "@odata.type":  "#Task.v1_4_0.Task",
        "@odata.context":        "/redfish/v1/$metadata#Task.Task",
        "Id":    "856",
        "Name": "Storage:MRAID, Operation:Get Diagnostics Status",
        "StartTime":    "12/22/2020 14:37:44 IST",
        "EndTime":      "12/22/2020 14:38:04 IST",
        "PercentComplete":      100,
        "TaskState":    "Completed",
        "TaskStatus":   "Warning",
        "Messages":     [{
                        "MessageId":    "Base.1.4.0.InternalError",
                        "Message":      "Diagnostics job aborted!"
                }],
        "TaskMonitor":  "/redfish/v1/TaskService/Oem/TaskMonitor/856"
}
```

Configuring SNMP Users

SNMP user can be created using the following authentication protocols:

- HMAC_SHA96

- HMAC128_SHA224

- HMAC192_SHA256

- HMAC256_SHA384

- HMAC384_SHA512

Create SNMP user with Authentication Protocol value HMAC_SHA512

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/AccountService/Accounts/
-XPOST -d '{"Id":"12","AccountTypes":["SNMP"],"UserName":"SHA512","RoleId":"SNMPOnly",
"Enabled":true,"SNMP":{"AuthenticationProtocol":"HMAC384_SHA512","AuthenticationKey":
"password","EncryptionProtocol":"CFB128_AES128","EncryptionKey":"password"}}'
```

Response

```
{
        "Id":    "12",
        "UserName":      "SHA512",
        "RoleId":        "SNMPOnly",
        "Enabled":       true,
        "@odata.id":     "/redfish/v1/AccountService/Accounts/12",
        "@odata.type":   "#ManagerAccount.v1_7_0.ManagerAccount",
        "Name": "User Account",
        "AccountTypes": [null, "SNMP"],
        "SNMP": {
                "AuthenticationProtocol":        "HMAC384_SHA512",
                "AuthenticationKey":    null,
                "EncryptionProtocol":   "CFB128_AES128",
                "EncryptionKey":        null
        }
```

Configuring MCTP Fault Alert Setting

Request to Configure Fault Alert Setting to *Partial*

Note   This request is not supported for Cisco UCS C245 M6 server.

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/SERIAL
-XPATCH -d
'{
  "Oem": {
    "Cisco": {
      "MCTP": {
        "FaultAlertSetting": "Disabled"
      }
    }
  }
}'
```

Response

```
{
        "SerialNumber": "WZP24160R9G",
```

```
         "Boot": {
                 "BootSourceOverrideTarget":        "None",
                 "BootSourceOverrideTarget@Redfish.AllowableValues":       ["None", "Pxe",
"Floppy", "Cd", "Hdd", "BiosSetup", "Diags"],
                 "BootSourceOverrideEnabled@Redfish.AllowableValues":       ["Once", "Continuous",
"Disabled"],
                 "BootSourceOverrideEnabled":       "Disabled"
         },
         "Id":   "WZP24160R9G",
         "AssetTag":     "Unknown",
         "PowerState":   "Off",
         "SystemType":   "Physical",
         "ProcessorSummary":     {
                 "Model":          "Genuine Intel(R) CPU $0000%@",
                 "Count":          2
         },
         "HostName":     "C240-WZP24160R9G",
         "PowerRestorePolicy":   "AlwaysOff",
         "PCIeDevices@odata.count":        3,
         "PCIeFunctions@odata.count":        3,
         "UUID": "7ABEAAEE-7F0E-A049-AAB1-914FFB52BEFF",
         "Name": "UCS C240 M6N\n",
         "HostWatchdogTimer":     {
                 "Status":        {
                         "State":        "Disabled"
                 },
                 "WarningAction":        "None",
                 "FunctionEnabled":      false,
                 "TimeoutAction":        "PowerDown"
         },
         "PCIeFunctions":        [{
                 "@odata.id":    "/redfish/v1/Systems/WZP24160R9G/PCIeDevices
/MLOM/PCIeFunctions/0"
         }, {
                 "@odata.id":    "/redfish/v1/Systems/WZP24160R9G/PCIeDevices
/FRONT-NVME-1/PCIeFunctions/0"
         }, {
                 "@odata.id":    "/redfish/v1/Systems/WZP24160R9G/PCIeDevices/L
/PCIeFunctions/0"
         }],
         "Oem": {
                 "Cisco":        {
                         "DimmBlacklistingEnabled":      true,
                         "SystemEffectiveMemory":        512,
                         "SystemEffectiveSpeed": 3200,
                         "PostCompletionStatus": false,
                         "FrontPanelButtonsLocked":      false,
                         "MCTP": {
                                 "FaultAlertSetting":    "Partial",
                                 "SPDMHandShakeStatus":  "Completed"
                         }
                 }
         },
         "PCIeDevices": [{
                 "@odata.id":    "/redfish/v1/Systems/WZP24160R9G/PCIeDevices/MLOM"
         }, {
                 "@odata.id":
"/redfish/v1/Systems/WZP24160R9G/PCIeDevices/FRONT-NVME-1"
         }, {
                 "@odata.id":    "/redfish/v1/Systems/WZP24160R9G/PCIeDevices/L"
         }],
         "BiosVersion": "C240M6.4.2.0.321.0311210937",
         "Manufacturer": "Cisco Systems Inc",
```

```
"MemorySummary":        {
        "TotalSystemMemoryGiB": 512,
        "Status":        {
                "HealthRollup": "OK",
                "Health":       "OK"
        }
},
"Model":        "UCSC-C240-M6N",
"IndicatorLED": "Off",
"TrustedModules":       [{
                "FirmwareVersion":      null,
                "Status":       {
                        "State":        "Absent"
                },
                "Oem":  {
                        "Cisco":        {
                                "TPM":  null
                        }
                }
        }],
"Status":       {
        "State":        "Enabled",
        "Health":       "OK",
        "HealthRollup": "OK"

}
}
```

Adding SPDM Authority Certificate

Request to Add a SPDM Authority Certificate

> **Note** This request is not supported for Cisco UCS C245 M6 server.

```
Curl -XPOST
http://10.10.10.10/redfish/v1/Managers/CIMC/Oem/Cisco/SPDMTrustStore/Certificates -d
'{
    "CertificateType" : "PEM",
    "CertificateString" : "<CERTIFICATE_STRING>"
}'
```

Response

```
{
        "@odata.id" : "/redfish/v1/Managers/CIMC/Oem/Cisco/SPDMTrustStore/Certificates/1",
        "Id" : "1",
        "Name" : "Certificate"
}
```

Viewing Endpoint SPDM Certificate

Request to View the Endpoint SPDM Certificate Collection

> **Note** This request is not supported for Cisco UCS C245 M6 server.

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/SERIAL
/Oem/Cisco/SPDMDevice/Certificates
```

Response

```
{
        "@odata.id":    "/redfish/v1/Systems/WZP2412176A/Oem/Cisco/SPDMDevice/Certificates",

        "@odata.type":  "#CertificateCollection.CertificateCollection",
        "@odata.context":
"/redfish/v1/$metadata#CertificateCollection.CertificateCollection",
        "Description":  "A Collection of Certificate resource instances.",
        "Name": "Certificate Collection",
        "Members":      [{
                        "@odata.id":    "/redfish/v1/Systems/SERIAL/Oem/Cisco/SPDMDevice
/Certificates/MRAID1_0"
                }, {
                        "@odata.id":    "/redfish/v1/Systems/SERIAL/Oem/Cisco/SPDMDevice
/Certificates/MRAID2_0"
                }],
        "Members@odata.count":  2
}
```

Request to View the Individual Endpoint SPDM Certificate

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Systems/SERAIL/Oem/Cisco
/SPDMDevice/Certificates/MRAID1_0
```

Response

```
{
        "@odata.id":
"/redfish/v1/Systems/SERIAL/Oem/Cisco/SPDMDevice/Certificates/MRAID1_0",
        "@odata.type":  "#Certificate.v1_0_1.Certificate",
        "@odata.context":       "/redfish/v1/$metadata#Certificate.Certificate",
        "Id":   "Certificate",
        "Name": "Certificate",
        "Description":  "The Certificate resource describes a certificate used to prove the

identify of a component, account, or service.",
        "CertificateType":      "PEM",
        "Subject":      {
                "Country":      "IN",
                "City": "Bengaluru",
                "State":        "Karnataka",
                "Organization": "Cisco",
                "OrganizationalUnit":   "CSPG",
                "CommonName":   "SAS3916"
        },
        "Issuer":       {
                "Country":      "IN",
                "State":        "Karnataka",
```

```
                "Organization": "Cisco",
                "OrganizationalUnit":    "CSPG",
                "CommonName":   "SAS3916"
        },
        "Oem":  {
                "Cisco":            {
                        "CertificateSerialNumber":      "10:05",
                        "IssuerCertificate":    {
                                "@odata.id":    "/redfish/v1/Systems/WZP2412176A/Oem/Cisco
/SPDMDevice/Certificates/MRAID1_1"
                        }
                }
        },
        "ValidNotBefore":       "Nov  2 19:20:59 2020 GMT",
        "ValidNotAfter":        "Aug  6 19:20:59 2075 GMT",
        "KeyUsage":     ["ServerAuthentication"]
}
```

Activate Backup BIOS Firmware

Request

```
curl -k -u admin:password https://10.10.10.10/
redfish/v1/Managers/CIMC/Actions/Oem/CiscoUCSExtensions.BiosFwActivate -XPOST -d '{}'
```

Response

No response in case of success. Appropriate error message is displayed in case of failure.

Cisco IMC Syslog Configuration

Configuring Secure Syslog Setting to One of the Servers

Request

```
curl -XPOST -k -u admin:password https://10.10.10.10/redfish/v1/EventService/Subscriptions
 -d
'{ "Protocol":"SyslogTLS", "Destination":"syslog://10.10.10.10.55:6514", "SyslogFilters":
[{
"LowestSeverity": "Warning" }], "SubscriptionType" : "Syslog" }'
```

Response

```
{
        "Id":   "SyslogServer_1",
        "Name": "EventSubscription SyslogServer_1",
        "Protocol":     "SyslogTLS",
        "Destination":  "syslog://10.10.10.55:6514",
        "@odata.type":  "#EventDestination.v1_10_1.EventDestination",
        "@odata.id":    "/redfish/v1/EventService/Subscriptions/SyslogServer_1",
        "SubscriptionType":     "Syslog"
}
```

Adding Secure Syslog Server Certificate

Request

```
curl -v -XPOST -k -u admin:password https://10.10.10.10/redfish/v1/EventService/Subscriptions/
SyslogServer_1/Certificates -d '{      "CertificateType" : "PEM",  "CertificateString" :
"-----BEGIN
CERTIFICATE-----\nMIIDTDCCAjSgAwIBAgIQPRZOPtyIS7BAn2z5bG9WFjANBgkqhkiG9w0BAQ0FADAm\
nMSQwIgYDVQQDExtibHJxYS1zYW0tbGFiLVZBSS1XSU4tVk0tQ0EwHhcNMTUwMTE5\
nMDYwOTMyWhcNMjAxMTE2MjM0NTI1WjAmMSQwIgYDVQQDExtibHJxYS1zYW0tbGFi
\nLVZBSS1XSU4tVk0tQ0EwggEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEKAoIBAQDt\
npASz0Rt3BtbBcPgHYZ0JDjnRp6yvdYOmgEIagRLTDbsnRZPBd5e8PywDPMzRS1t2\
nmoLv3qeL49r5urcF6yxPZiAhhz2TusYBujACXpkRYUCO5e4H451mmqJynTGgloDC\nxHrt0cw27cr/
6Wxa1RgpDGqXl4iBtDQPezvkTD5bvB6YQW9rmA8s7b6tspcCSMsd\
n4RDB0buWr96+n2R+sYeM5VHAVAJN+Dj6fQs70bUic3fUDcErUrvmOnhPiPM9cOpk\
nnkjmlkdP+SMJPJ6wxaJjWJiOQPrbtqsuXWAN6bCqn1xgWAVnmgCSCZN+uWQEDzNG\
nMP11Sk5fBdzQxIE4IgSrAgMBAAGjdjB0MAsGA1UdDwQEAwIBhjAPBgNVHRMBAf8E\
nBTADAQH/MB0GA1UdDgQWBBTWC9AK1GJhVr+uLC88U7yjIOcU5jAQBgkrBgEEAYI3\
nFQEEAwIBATAjBgkrBgEEAYI3FQIEFgQUJ84v4we7bUEnToMxmsY5TPdkmmEwDQYJ\
nKoZIhvcNAQENBQADggEBAI5+rPX/WdGdbl2YrS1lRua/D6UyXgv9bS7MysU046DU\
nY8rfI7xf8MLNN6RkESxB/L1Ot+l3YQbPCxc8XAjGm/vSdSFFw4sSjIvtOH8qUFEY\
nHvj8SWH4Rf/zVZfN4kQQ6dIa7qNSOGCmBOce3delNpcIArb7vk7mVBWdE/4G62W1\
nGP1vinhzmHPUjOuu4uT9Qz4WebGfic2gk2s+9PCRfHVTK1w7FMq+wgiv5dJpjZvl\
nTMYun944KugrN1esHAU1u+Ys0pf9uJPF2ob0U9HWGRe+NiUOO2unDWlGAA1jr0w5\
nIJtrtCvKVuAouoPLeoccxRD6yWAeyCu1TcHmuWFPBXs=\
n-----END CERTIFICATE-----\n" }'
```

Response

```
{
        "@odata.id":
"/redfish/v1/EventService/Subscriptions/SyslogServer_1/Certificates/1",
        "Id":    "1",
        "Name": "Certificate"
}
```

Viewing Secure Syslog Certificate of one of the Servers

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/EventService/Subscriptions/
SyslogServer_1/Certificates/1
```

Response

```
{
        "@odata.id":
"/redfish/v1/EventService/Subscriptions/SyslogServer_1/Certificates/1",
        "@odata.type":  "#Certificate.v1_3_0.Certificate",
        "@odata.context":       "/redfish/v1/$metadata#Certificate.Certificate",
        "Id":    "Certificate",
        "Name": "Certificate",
        "Description":  "The Certificate resource describes a certificate used to prove the
 identify of a
component, account, or service.",
        "CertificateType":      "PEM",
        "CertificateString":
"-----BEGIN
CERTIFICATE-----\nMIIDTDCCAjSgAwIBAgIQPRZOPtyIS7BAn2z5bG9WFjANBgkqhkiG9w0BAQ0FADAm\
nMSQwIgYDVQQDExtibHJxYS1zYW0tbGFiLVZBSS1XSU4tVk0tQ0EwHhcNMTUwMTE5\
```

```
nMDYwOTMyWhcNMjAxMTE2MjM0NTI1WjAmMSQwIgYDVQQDExtibHHJxYS1zYW0tbGFi\
nLVZBSS1XSU4tVk0tQ0EwggEiMA0GCSqGSIb3DQEBAQUAA4IBDwAwggEKAoIBAQDt\
npASz0Rt3BtbBcPgHYZ0JDjnRp6yvdYOmgEIagRLTDbsnRZPBd5e8PywDPMzRS1t2\
nmoLv3qeL49r5urcF6yxPZiAhhz2TusYBujACXpkRYUCO5e4H451mmqJynTGgloDC\
nxHrt0cw27cr/6Wxa1RgpDGqXl4iBtDQPezvkTD5bvB6YQW9rmA8s7b6tspcCSMsd\
n4RDB0buWr96+n2R+sYeM5VHAVAJN+Dj6fQs70bUic3fUDcErUrvmOnhPiPM9cOpk\
nnkjmlkdP+SMJPJ6wxaJjWJiOQPrbtqsuXWAN6bCqn1xgWAVnmgCSCZN+uWQEDzNG\
nMP11Sk5fBdzQxIE4IgSrAgMBAAGjdjB0MAsGA1UdDwQEAwIBhjAPBgNVHRMBAf8E\
nBTADAQH/MB0GA1UdDgQWBBTWC9AK1GJhVr+uLC88U7yjIOcU5jAQBgkrBgEEAYI3\
nFQEEAwIBATAjBgkrBgEEAYI3FQIEFgQUJ84v4we7bUEnToMxmsY5TPdkmmEwDQYJ\
nKoZIhvcNAQENBQADggEBAI5+rPX/WdGdbl2YrS1lRua/D6UyXgv9bS7MysU046DU\
nY8rfI7xf8MLNN6RkESxB/L1Ot+l3YQbPCxc8XAjGm/vSdSFFw4sSjIvtOH8qUFEY\
nHvj8SWH4Rf/zVZfN4kQQ6dIa7qNSOGCmBOce3delNpcIArb7vk7mVBWdE/4G62W1\
nGP1vinhzmHPUjOuu4uT9Qz4WebGfic2gk2s+9PCRfHVTK1w7FMq+wgiv5dJpjZvl\
nTMYun944KugrN1esHAU1u+Ys0pf9uJPF2ob0U9HWGRe+NiUOO2unDWlGAA1jr0w5\
nIJtrtCvKVuAouoPLeoccxRD6yWAeyCu1TcHmuWFPBXs=\n-----END CERTIFICATE-----\n",
        "KeyUsage":    ["ServerAuthentication"]
}
```

Configuring Syslog Setting to One of the Servers in Non-Secure Mode

Request

```
curl -XPOST -k -u admin:password https://10.10.10.10/redfish/v1/EventService/Subscriptions
 -d '
{ "Protocol":"SyslogTCP", "Destination":"syslog://10.10.10.10.56:6514", "SyslogFilters":
[{      "LowestSeverity": "Warning" }], "SubscriptionType" : "Syslog" }'
```

Response

```
{
        "Id":   "SyslogServer_2",
        "Name": "EventSubscription SyslogServer_2",
        "Protocol":     "SyslogTCP",
        "Destination":  "syslog://10.10.10.10.56:6514",
        "@odata.type":  "#EventDestination.v1_10_1.EventDestination",
        "@odata.id":    "/redfish/v1/EventService/Subscriptions/SyslogServer_2",
        "SubscriptionType":     "Syslog"
}
```

Modify the Syslog Server Settings

Request

```
curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/EventService/Subscriptions/
SyslogServer_2 -d '{ "Protocol":"SyslogTLS",  "Destination":"syslog://10.10.10.10",
"SyslogFilters":
[{  "LowestSeverity": "Critical"  }],  "SubscriptionType" : "Syslog" }'
```

Delete the Syslog Server Configuration

Request

```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/EventService/Subscriptions/SyslogServer_1 -XDELETE
```

FlexMMC Configurations

Get Cisco Internal Storage (FlexMMC)

Request

```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage
```

Response

```
{
        "@odata.id":    "/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage",
        "@odata.type":  "#CiscoInternalStorageCollection.CiscoInternalStorageCollection",
        "@odata.context":
"/redfish/v1/$metadata#CiscoInternalStorageCollection.CiscoInternalStorageCollection",
        "Description":  "Collection of Cisco Internal Storge resources",
        "Name": "Cisco Internal Storage Collections",
        "Members":      [{
                        "@odata.id":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC"
                }],
        "Members@odata.count":  1
}
```

Request

```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC
```

Response

```
{
        "@odata.id":    "/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC",
        "@odata.type":  "#CiscoInternalStorage.v1_0_0.CiscoInternalStorage",
        "@odata.context":
"/redfish/v1/$metadata#CiscoInternalStorage.CiscoInternalStorage",
        "Partitions":   [{
                        "@odata.id":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/
CiscoPartition/IMCImages"
                }, {
                        "@odata.id":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/
CiscoPartition/UserFiles"
                }],
        "Partitions@odata.count":       2,
        "Id":   "FlexMMC",
        "Name": "FlexMMC",
        "Description":  "FlexMMC Details",
        "Actions":      {
                "#CiscoInternalStorage.ResetToDefault": {
                        "target":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/
Actions/CiscoInternalStorage.ResetToDefault"
                }
        }
}
```

FlexMMC–IMCImage Partition

Request

```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/
FlexMMC/CiscoPartition/IMCImages
```

Response

```
{
        "@odata.id":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/CiscoPartition/IMCImages",
        "@odata.type":  "#CiscoPartition.v1_0_0.CiscoPartition",
        "@odata.context":        "/redfish/v1/$metadata#CiscoPartition.CiscoPartition",
        "CiscoFile":    {
                "@odata.id":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/CiscoPartition/IMCImages/CiscoFile"

        },
        "Id":   "IMCImages",
        "Name": "IMCImages",
        "Description":  "Cisco IMC Images",
        "TotalSpaceMiB":        1536,
        "AvailableSpaceMiB":    1132,
        "Actions":      {
                "#CiscoPartition.UploadFile":   {
                        "target":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/CiscoPartition/IMCImages/
Actions/CiscoPartition.UploadFile"
                }
        }
}
```

Request

```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/
FlexMMC/CiscoPartition/UserFiles
```

Response

```
{
        "@odata.id":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/CiscoPartition/UserFiles",
        "@odata.type":  "#CiscoPartition.v1_0_0.CiscoPartition",
        "@odata.context":        "/redfish/v1/$metadata#CiscoPartition.CiscoPartition",
        "CiscoFile":    {
                "@odata.id":    "/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/
CiscoPartition/UserFiles/CiscoFile"
        },
        "Id":   "UserFiles",
        "Name": "UserFiles",
        "Description":  "User Uploaded Files",
        "TotalSpaceMiB":        6656,
        "AvailableSpaceMiB":    6600,
        "Actions":      {
                "#CiscoPartition.UploadFile":   {
                        "target":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/
CiscoPartition/UserFiles/Actions/CiscoPartition.UploadFile"
```

```
                }
            }
}
```

FlexMMC–Map Image to IMCImage Partition

Request

```
curl -XPOST -k -u admin:password
https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/
FlexMMC/CiscoPartition/IMCImages/Actions/CiscoPartition.UploadFile -d '
{"File":"NFS://10.10.10.10/nfsshare/rebooter.iso"}'
```

Response

```
{
        "Messages":      [],
        "Id":    "138",
        "Name": "FlexMMc File Upload Monitor",
        "StartTime":    "2022-05-23T13:15:32+00:00",
        "TaskState":    "Running",
        "@odata.id":    "/redfish/v1/TaskService/Tasks/138",
        "@odata.type": "#Task.v1_4_0.Task"
}
```

Getting the Image Upload Status in IMCImage Partition

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/TaskService/Tasks/138
```

Response

```
{
        "@odata.id":    "/redfish/v1/TaskService/Tasks/138",
        "@odata.type": "#Task.v1_5_0.Task",
        "@odata.context":        "/redfish/v1/$metadata#Task.Task",
        "Id":    "138",
        "Name": "FlexMMc File Upload Monitor",
        "StartTime":    "2022-05-23T13:15:32+00:00",
        "EndTime":      "2022-05-23T13:15:35+00:00",
        "PercentComplete":      100,
        "TaskState":    "Completed",
        "TaskStatus":   "OK",
        "Messages":     [{
                        "@odata.type": "#Message.v1_1_1.Message",
                        "MessageId":    "Base.1.4.0.Success",
                        "Message":      "Successfully Completed Request",
                        "MessageArgs": [],
                        "Severity":     "OK"
                }],
        "TaskMonitor": "/redfish/v1/TaskService/Oem/TaskMonitor/138"
}
```

Note Use the following data for CIFS file share:

{"File":"CIFS://10.10.10.10/nfsshare/ucs-c220m4-huu-4.1.2fS5.iso"}

Use following data for HTTPS file share:

{"File":"HTTPS://10.10.10.10/huu/ucs-c220m4-huu-4.1.2fS5.iso"}

Use following data for HTTP file share

{"File":"HTTP://10.10.10.10/huu/ucs-c220m4-huu-4.1.2fS5.iso"}

Read the IMCImage Partition Details

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/
CiscoInternalStorage/FlexMMC/CiscoPartition/IMCImages/CiscoFile
```

Response

```
{
        "@odata.id":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/CiscoPartition/
IMCImages/CiscoFile",
        "@odata.type":  "#CiscoFileCollection.CiscoFileCollection",
        "@odata.context":
"/redfish/v1/$metadata#CiscoFileCollection.CiscoFileCollection",
        "Description":  "Collection of Cisco Internal Storge Partition resources",
        "Name": "Cisco Internal Storage Partition Collections",
        "Members":       [{
                        "@odata.id":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/
CiscoPartition/IMCImages/CiscoFile/rebooter.iso"
                }],
        "Members@odata.count":  1
}
```

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/
CiscoInternalStorage/FlexMMC/CiscoPartition/IMCImages/CiscoFile/rebooter.iso
```

Response

```
{
        "@odata.id":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/CiscoPartition/
IMCImages/CiscoFile/rebooter.iso",
        "@odata.type":  "#CiscoFile.v1_0_0.CiscoFile",
        "@odata.context":       "/redfish/v1/$metadata#CiscoFile.CiscoFile",
        "Description":  "A file in the partition of the Internal Storage",
        "Id":   "rebooter.iso",
        "Name": "rebooter.iso",
        "Type": "ISO",
        "SizeMiB":      0,
        "SpaceOccupiedMiB":     0,
```

```
            "HostVisible":  false
}
```

Modify Host Visible Setting for File Mapped in IMCImage Partition

Request

```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/
FlexMMC/CiscoPartition/IMCImages/CiscoFile/rebooter.iso -d '{"HostVisible":true}' -XPATCH
```

Response

```
{
        "Id":   "rebooter.iso",
        "Name": "rebooter.iso",
        "Type": "ISO",
        "SizeMiB":      0,
        "SpaceOccupiedMiB":     0,
        "HostVisible":  true,
        "@odata.id":
"/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/CiscoPartition/
IMCImages/CiscoFile/rebooter.iso"
}
```

Delete the Image Mapped in IMCImage Partition

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/
CiscoInternalStorage/FlexMMC/CiscoPartition/IMCImages/CiscoFile/rebooter.iso -XDELETE
```

FlexMMC–Map image to UserFiles Partition

Request

```
curl -XPOST -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/
CiscoInternalStorage/FlexMMC/CiscoPartition/UserFiles/Actions/CiscoPartition.UploadFile -d
 '
{"File":"NFS://10.104.236.41/nfsshare/rebooter.iso"}'
```

Response

```
{
        "@odata.id":    "/redfish/v1/TaskService/Tasks/139",
        "@odata.type":  "#Task.v1_5_0.Task",
        "@odata.context":       "/redfish/v1/$metadata#Task.Task",
        "Id":   "138",
        "Name": "UserFile File Upload Monitor",
        "StartTime":    "2022-05-23T13:15:32+00:00",
        "EndTime":      "2022-05-23T13:15:35+00:00",
        "PercentComplete":      100,
        "TaskState":    "Completed",
        "TaskStatus":   "OK",
        "Messages":     [{
                        "@odata.type":  "#Message.v1_1_1.Message",
                        "MessageId":    "Base.1.4.0.Success",
                        "Message":      "Successfully Completed Request",
```

```
                        "MessageArgs":    [],
                        "Severity":       "OK"
                }],
        "TaskMonitor":   "/redfish/v1/TaskService/Oem/TaskMonitor/139"
}
```

Note	Use following data for CIFS file share:

{"File":"CIFS://10.10.10.10/nfsshare/ucs-c220m4-huu-4.1.2fS5.iso"}

Use following data for HTTPS file share:

{"File":"HTTPS://10.10.10.10/huu/ucs-c220m4-huu-4.1.2fS5.iso"}

Use following data for HTTP file share:

{"File":"HTTP://10.10.10.10/huu/ucs-c220m4-huu-4.1.2fS5.iso"}

Getting the Image Upload status in UserFiles Partition

Request

```
curl  -k -u admin:password https://10.10.10.10/redfish/v1/TaskService/Tasks/139
```

Response

```
{
        "@odata.id":     "/redfish/v1/TaskService/Tasks/139",
        "@odata.type":  "#Task.v1_5_0.Task",
        "@odata.context":        "/redfish/v1/$metadata#Task.Task",
        "Id":   "139",
        "Name": "FlexMMc File Upload Monitor",
        "StartTime":    "2022-05-23T22:19:06+00:00",
        "EndTime":      "2022-05-23T22:19:09+00:00",
        "PercentComplete":      100,
        "TaskState":    "Completed",
        "TaskStatus":   "OK",
        "Messages":     [{
                        "@odata.type":  "#Message.v1_1_1.Message",
                        "MessageId":    "Base.1.4.0.Success",
                        "Message":      "Successfully Completed Request",
                        "MessageArgs":  [],
                        "Severity":     "OK"
                }],
        "TaskMonitor":  "/redfish/v1/TaskService/Oem/TaskMonitor/139"
}
```

Read the UserFile Partition Details

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/
CiscoInternalStorage/FlexMMC/CiscoPartition/UserFiles/CiscoFile
```

Response

```
{
        "@odata.id":     "/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/
```

```
CiscoPartition/UserFiles/CiscoFile",
        "@odata.type":  "#CiscoFileCollection.CiscoFileCollection",
        "@odata.context":
"/redfish/v1/$metadata#CiscoFileCollection.CiscoFileCollection",
        "Description":  "Collection of Cisco Internal Storge Partition resources",
        "Name": "Cisco Internal Storage Partition Collections",
        "Members":        [{
                      "@odata.id":    "/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/
FlexMMC/CiscoPartition/UserFiles/CiscoFile/rebooter.iso"
                  }],
        "Members@odata.count":  1
}
```

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/
CiscoInternalStorage/FlexMMC/CiscoPartition/UserFiles/CiscoFile/rebooter.iso
```

Response

```
{
        "@odata.id":    "/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/
CiscoPartition/UserFiles/CiscoFile/rebooter.iso",
        "@odata.type": "#CiscoFile.v1_0_0.CiscoFile",
        "@odata.context":        "/redfish/v1/$metadata#CiscoFile.CiscoFile",
        "Description":  "A file in the partition of the Internal Storage",
        "Id":   "rebooter.iso",
        "Name": "rebooter.iso",
        "Type": "ISO",
        "SizeMiB":        0,
        "SpaceOccupiedMiB":      0,
        "HostVisible":  false
}
```

Modify Host Visible Setting for File Mapped in UserFiles Partition

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/
CiscoInternalStorage/FlexMMC/CiscoPartition/UserFiles/CiscoFile/rebooter.iso -d '
{"HostVisible":true}' -XPATCH
```

Response

```
{
        "Id":   "rebooter.iso",
        "Name": "rebooter.iso",
        "Type": "ISO",
        "SizeMiB":        0,
        "SpaceOccupiedMiB":      0,
        "HostVisible":  true,
        "@odata.id":    "/redfish/v1/Managers/CIMC/Oem/CiscoInternalStorage/FlexMMC/
CiscoPartition/UserFiles/CiscoFile/rebooter.iso"
}
```

Delete the Image Mapped in IMCImage UserFiles Partition

Request

```
curl -k -u admin:password https://10.10.10..10/redfish/v1/Managers/CIMC/Oem/
CiscoInternalStorage/FlexMMC/CiscoPartition/UserFiles/CiscoFile/rebooter.iso -XDELETE
```

Reset FlexMMC to Factory Defaults

Request

```
curl -XPOST -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/Oem/
CiscoInternalStorage/FlexMMC/Actions/CiscoInternalStorage.ResetToDefault
```

Password Change

Verifying PasswordChangeRequired Property After Restore Factory Default

Request

```
$ curl -k -u admin:password https://10.10.10.10/redfish/v1/AccountService/Accounts/1
```

Response

```
{
"@odata.id": "/redfish/v1/AccountService/Accounts/1",
"@odata.type": "#ManagerAccount.v1_5_0.ManagerAccount",
"@odata.context": "/redfish/v1/$metadata#ManagerAccount.ManagerAccount",
"Name": "User Account",
"Description": "User Account",
"Links": {
"Role": {
"@odata.id": "/redfish/v1/AccountService/Roles/admin"
}
},
"AccountTypes": ["Redfish", null],
"Id": "1",
"Description": "User Account",
"Enabled": true,
"Name": "User Account",
"UserName": "admin",
"RoleId": "admin",
"PasswordChangeRequired": true
}
```

Changing Password with PATCH Property After Restore Factory Default

Request

```
$ curl -k -u admin:password https://10.10.10.10/redfish/v1/AccountService/Accounts/1 -XPATCH
 -
d '{"Password" : "New_Password"}'
```

Response

```
{
"AccountTypes": ["Redfish", null],
"Id": "1",
"Description": "User Account",
"Enabled": true,
"Name": "User Account",
"UserName": "admin",
"RoleId": "admin",
"PasswordChangeRequired": false,
"@odata.id": "/redfish/v1/AccountService/Accounts/1"
}
```

Configuring LDAP Server with NULL Address

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/AccountService -XPATCH -
d '{"LDAP": {"ServiceAddresses": [null]} }'
```

Response

```
"LDAP": {
…
"ServiceEnabled": true,
"ServiceAddresses": [],
},
```

DDNS and Domain Name Properties Support Under NIC

GET

Request

```
curl -k –u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/EthernetInterfaces/NICs
```

Response

```
{
"@odata.id":      "/redfish/v1/Managers/CIMC/EthernetInterfaces/NICs",
"@odata.type":    "#EthernetInterface.v1_4_1.EthernetInterface",
"@odata.context":       "/redfish/v1/$metadata#EthernetInterface.EthernetInterface",
"Links":         {
"Chassis":        {
"@odata.id":    "/redfish/v1/Chassis/1"
}
},
"HostName":      "C220-WZP26330KVU",
"IPv4Addresses":         [{
"AddressOrigin":        "Static",
"Address":      "10.10.10.10",
"SubnetMask":   "255.255.255.0",
"Gateway":      "10.10.10.1"
}],
"MaxIPv6StaticAddresses":        1,
"VLAN": {
"VLANEnable":   false,
```

```
    "VLANId":        1
},
"DHCPv4":        {
"DHCPEnabled":  false,
"UseDNSServers":        false,
"UseGateway":   false,
"UseDomainName":        false,
"UseNTPServers":        false,
"UseStaticRoutes":      false
},
"DHCPv6":        {
"OperatingMode":        "Stateful",
"UseNTPServers":        false,
"UseDNSServers":        true,
"UseDomainName":        false
},
"Name": "Manager Ethernet Interface",
"IPv6Addresses":        [{
"AddressOrigin":        "DHCPv6",
"PrefixLength": 64,
"Address":      "::"
}],
"Description":  "Manager Network Interface",
"IPv6DefaultGateway":   "::",
"InterfaceEnabled":     true,
"PermanentMACAddress":  "EC:F4:0C:1C:12:A4",
"NameServers":  [],
"MTUSize":      1500,
"AutoNeg":      false,
"StatelessAddressAutoConfig":   {
"IPv4AutoConfigEnabled":        false,
"IPv6AutoConfigEnabled":        true
},
"StaticNameServers":    [],
"Id":   "NICs",
"Oem":  {
"Cisco":        {
"DynamicDNS":   {
"RefreshInterval":      0,
"Enabled":      true
}
}
},
"MACAddress":   "EC:F4:0C:1C:12:A4"
}
```

SET

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/EthernetInterfaces/
NICs -XATCH -d '{ "Oem": {"Cisco": {"DynamicDNS": {"RefreshInterval": 100, "Enabled": true,

"DomainName": "Domain_Name"} } } }'
```

Response

```
{
"MTUSize":      1500,
"AutoNeg":      false,
"StaticNameServers":    [],
"Oem":  {
"Cisco":        {
"DynamicDNS":   {
```

```
                 "Enabled":        true,
                 "RefreshInterval":        100,
                 "DomainName":   "Domain_Name"
                 }
                 }
                 },
                 "HostName":     "C220-WZP26330KVU",
                 "IPv4Addresses":          [{
                 "AddressOrigin":          "Static",
                 "Address":      "10.10.10.10",
                 "SubnetMask":   "255.255.255.0",
                 "Gateway":      "10.10.10.1"
                 }],
                 "MaxIPv6StaticAddresses":        1,
                 "VLAN": {
                 "VLANId":       1,
                 "VLANEnable":   false
                 },
                 "IPv6Addresses":          [{
                 "AddressOrigin":          "DHCPv6",
                 "PrefixLength": 64,
                 "Address":      "::"
                 }],
                 "DHCPv4":       {
                 "DHCPEnabled":  false,
                 "UseDNSServers":          false,
                 "UseGateway":   false,
                 "UseNTPServers":          false,
                 "UseStaticRoutes":        false,
                 "UseDomainName":          false
                 },
                 "MACAddress":   "EC:F4:0C:1C:12:A4",
                 "DHCPv6":       {
                 "OperatingMode":          "Stateful",
                 "UseNTPServers":          false,
                 "UseDomainName":          false,
                 "UseDNSServers":          true
                 },
                 "Id":   "NICs",
                 "Name": "Manager Ethernet Interface",
                 "StatelessAddressAutoConfig":    {
                 "IPv4AutoConfigEnabled":         false,
                 "IPv6AutoConfigEnabled":         true
                 },
                 "IPv6DefaultGateway":    "::",
                 "PermanentMACAddress":  "EC:F4:0C:1C:12:A4",
                 "InterfaceEnabled":      true,
                 "NameServers":  [],
                 "Description":  "Manager Network Interface",
                 "@odata.id":    "/redfish/v1/Managers/CIMC/EthernetInterfaces/NICs"
                 }
```

Enabling SMTP Service with Allowable Port from 1 to 65535

Note Port 0 is not supported. You may see the following error message for port 0:

```
Choose a value within the range that the implementation can support and resubmit
the request if the operation failed.
```

Request

```
curl -XPATCH -k -u admin:password https://10.10.10.10/redfish/v1/EventService -
d '{"SMTP": {"ServiceEnabled": true, "ServerAddress": "1.1.1.1", "Port": 1}}'
```

Response

```
{
"Status":          {
"State":           "Disabled",
"Health":          "OK"
},
"ServiceEnabled":          false,
"DeliveryRetryAttempts":          3,
"DeliveryRetryIntervalSeconds": 30,
"EventTypesForSubscription":     ["Alert"],
"SMTP": {
"ServerAddress":           "1.1.1.1",
"FromAddress":   "ucs-server@cisco.com",
"Port": 1,
"ServiceEnabled":        true
},
"Actions":        {
"#EventService.SubmitTestEvent":          {
"target":        "/redfish/v1/EventService/Actions/EventService.SubmitTestEvent"
}
},
"@odata.id":     "/redfish/v1/EventService"
}
```

Setting COM Port for Serial Over LAN Policy

GET

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/SerialInterfaces/TTY0
```

Response

```
"InterfaceEnabled": true,
"BitRate": "115200",
"Oem": {
"Cisco": { "SerialOverLanComPort": "com1",
"SerialOverLanSSHPort": 2400
}
}
```

SET

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/SerialInterfaces/TTY0
 -XPATCH -
d '{"Oem":{"Cisco":{"SerialOverLanComPort":"com1", "SerialOverLanSSHPort": 2200}}}'
```

Response

```
{
"@odata.id": "/redfish/v1/Managers/BMC2/SerialInterfaces/TTY0",
"@odata.type": "#SerialInterface.v1_1_3.SerialInterface",
```

```
"@odata.context": "/redfish/v1/$metadata#SerialInterface.SerialInterface",
"Description": "Management for Serial Interface",
"SignalType": "Rs232",
"Id": "TTY0",
"InterfaceEnabled": true,
"Name": "Manager Serial Interface 1",
"PinOut": "Cisco",
"BitRate": "115200",
"DataBits": "8",
"FlowControl": "None",
"StopBits": "1",
"ConnectorType": "DB9 Female",
"Parity": "None",
"Description": "Management for Serial Interface",
"Oem": {
"Cisco": {
"SerialOverLanComPort": "com0",
"SerialOverLanSSHPort": 2400
}
}
}
```

Setting Privilege and Encryption Key

GET

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/NetworkProtocol
```

Response

```
{
"@odata.id":      "/redfish/v1/Managers/CIMC/NetworkProtocol",
"@odata.type":    "#ManagerNetworkProtocol.v1_5_0.ManagerNetworkProtocol",
"@odata.context":        "/redfish/v1/$metadata#ManagerNetworkProtocol.ManagerNetworkProtocol",
"Id":    "ManagerNetworkProtocol",
"Name": "Manager Network Protocol",
"SSH":   {
"ProtocolEnabled":       true,
"Port": 22
},
"Description":  "Manager Network Service",
"VirtualMedia": {
"ProtocolEnabled":       true,
"Port": 2068
},
"HostName":      "C220-WZP26330KVU",
"HTTP": {
"ProtocolEnabled":       false,
"Port": 80
},
"KVMIP":         {
"ProtocolEnabled":       true,
"Port": 2068
},
"DHCP": {
"ProtocolEnabled":       false,
"Port": null
},
"HTTPS":         {
```

```
"ProtocolEnabled":        true,
"Port": 443,
"Certificates": {
"@odata.id":      "/redfish/v1/Managers/CIMC/NetworkProtocol/HTTPS/Certificates"
}
},
"NTP":  {
"ProtocolEnabled":        false,
"Port": 123,
"NTPServers":     []
},
"DHCPv6":        {
"ProtocolEnabled":        true,
"Port": null
},
"Oem":  {
"Cisco":         {
"KVMConfiguration":       {
"LocalServerVideo":       "Enabled",
"MaxConcurrentSessions":          4
},
"KVMVendor":      {
"Vendor":        "Cisco"
},
"SSHTimeout":    1800,
"IPMIOverLan":  {
"ChannelSecurityKey":     "00000000000000000000000000000000000000000",
"PrivilegeLevelLimit":    "admin"
}
}
},
"IPMI":  {
"ProtocolEnabled":        false,
"Port": 623
},
"SNMP": {
"ProtocolEnabled":        false,
"EnableSNMPv2c":          false,
"EnableSNMPv3": false,
"CommunityStrings":       [{
"AccessMode":    null,
"CommunityString":        ""
}],
"HideCommunityStrings": false,
"Port": 161,
"EnableSNMPv1": false
},
"Actions":       {
"Oem":  {
"#CiscoUCSExtensions.ResetKVM": {
"target":
"/redfish/v1/Managers/CIMC/NetworkProtocol/Actions/Oem/CiscoUCSExtensions.ResetKVM",
"@odata.type":  "#CiscoUCSExtensions.v1_0_0.ResetKVM"
}
}
}
}
```

SET

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/NetworkProtocol
-XPATCH -
```

```
d '{"IPMI": {"ProtocolEnabled": false}, "Oem": {"Cisco": {"SSHTimeout": 2500, "IPMIOverLan":
 {"ChannelSecurityKey": "055
DDDE537EF5F50C6593B199BBB4D3429102222", "PrivilegeLevelLimit": "read-only" } } } }'
```

Response

```
{
"@odata.id":       "/redfish/v1/Managers/CIMC/NetworkProtocol",
"@odata.type":   "#ManagerNetworkProtocol.v1_5_0.ManagerNetworkProtocol",
"@odata.context":         "/redfish/v1/$metadata#ManagerNetworkProtocol.ManagerNetworkProtocol",
"Id":    "ManagerNetworkProtocol",
"Name": "Manager Network Protocol",
"SSH":  {
"ProtocolEnabled":       true,
"Port": 22
},
"Description":   "Manager Network Service",
"VirtualMedia": {
"ProtocolEnabled":       true,
"Port": 2068
},
"HostName":      "C220-WZP26330KVU",
"HTTP": {
"ProtocolEnabled":       false,
"Port": 80
},
"KVMIP":          {
"ProtocolEnabled":       true,
"Port": 2068
},
"DHCP": {
"ProtocolEnabled":       false,
"Port": null
},
"HTTPS":          {
"ProtocolEnabled":       true,
"Port": 443,
"Certificates": {
"@odata.id":      "/redfish/v1/Managers/CIMC/NetworkProtocol/HTTPS/Certificates"
}
},
"NTP":  {
"ProtocolEnabled":       false,
"Port": 123,
"NTPServers":     []
},
"DHCPv6":          {
"ProtocolEnabled":       true,
"Port": null
},
"Oem":  {
"Cisco":          {
"KVMConfiguration":      {
"LocalServerVideo":      "Enabled",
"MaxConcurrentSessions":         4
},
"KVMVendor":      {
"Vendor":        "Cisco"
},
"SSHTimeout":   2500,
"IPMIOverLan":  {
"ChannelSecurityKey":   "055DDDE537EF5F50C6593B199BBB4D3429102222",
"PrivilegeLevelLimit":  "read.only"
}
}
```

```
},
"IPMI": {
"ProtocolEnabled":        false,
"Port": 623
},
"SNMP": {
"ProtocolEnabled":        false,
"EnableSNMPv2c":          false,
"EnableSNMPv3": false,
"CommunityStrings":       [{
"AccessMode":    null,
"CommunityString":        ""
}],
"HideCommunityStrings": false,
"Port": 161,
"EnableSNMPv1": false
},
"Actions":        {
"Oem":    {
"#CiscoUCSExtensions.ResetKVM": {
"target":
"/redfish/v1/Managers/CIMC/NetworkProtocol/Actions/Oem/CiscoUCSExtensions.ResetKVM",
"@odata.type":   "#CiscoUCSExtensions.v1_0_0.ResetKVM"
}
}
}
}
```

Setting Session Timeout for SSH Protocol

GET

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/NetworkProtocol/
```

Response

```
[root@LNX-IPV6-236-41 ~]# curl -k -u admin:password
https://10.10.10.10/redfish/v1/Managers/CIMC/NetworkProtocol/

RESPONSE
{
"@odata.id":     "/redfish/v1/Managers/CIMC/NetworkProtocol",
"@odata.type": "#ManagerNetworkProtocol.v1_5_0.ManagerNetworkProtocol",
"@odata.context":        "/redfish/v1/$metadata#ManagerNetworkProtocol.ManagerNetworkProtocol",
"Id":    "ManagerNetworkProtocol",
"Name": "Manager Network Protocol",
"SSH":    {
"ProtocolEnabled":        true,
"Port": 22
},
"Description":   "Manager Network Service",
"VirtualMedia": {
"ProtocolEnabled":        true,
"Port": 2068
},
"HostName":      "C220-WZP26330KVU",
"HTTP": {
"ProtocolEnabled":        false,
"Port": 80
```

```
},
"KVMIP":          {
"ProtocolEnabled":        true,
"Port": 2068
},
"DHCP": {
"ProtocolEnabled":        false,
"Port": null
},
"HTTPS":          {
"ProtocolEnabled":        true,
"Port": 443,
"Certificates": {
"@odata.id":      "/redfish/v1/Managers/CIMC/NetworkProtocol/HTTPS/Certificates"
}
},
"NTP":  {
"ProtocolEnabled":        false,
"Port": 123,
"NTPServers":    []
},
"DHCPv6":         {
"ProtocolEnabled":        true,
"Port": null
},
"Oem":  {
"Cisco":          {
"KVMConfiguration":       {
"LocalServerVideo":       "Enabled",
"MaxConcurrentSessions":         4
},
"KVMVendor":      {
"Vendor":         "Cisco"
},
"SSHTimeout":    1800,
"IPMIOverLan":   {
"ChannelSecurityKey":     "00000000000000000000000000000000000000000",
"PrivilegeLevelLimit":  "admin"
}
}
},
"IPMI": {
"ProtocolEnabled":        false,
"Port": 623
},
"SNMP": {
"ProtocolEnabled":        false,
"EnableSNMPv2c":          false,
"EnableSNMPv3": false,
"CommunityStrings":       [{
"AccessMode":    null,
"CommunityString":        ""
}],
"HideCommunityStrings": false,
"Port": 161,
"EnableSNMPv1": false
},
"Actions":        {
"Oem":  {
"#CiscoUCSExtensions.ResetKVM": {
"target":
"/redfish/v1/Managers/CIMC/NetworkProtocol/Actions/Oem/CiscoUCSExtensions.ResetKVM",
"@odata.type":   "#CiscoUCSExtensions.v1_0_0.ResetKVM"
}
```

```
}
}
}
```

SET

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/Managers/CIMC/NetworkProtocol/
-XPATCH -
d '{"Oem": {"Cisco": {"SSHTimeout": 1500 } } }'
```

Response

```
[root@LNX-IPV6-236-41 ~]# curl -k -u admin:password
https://10.10.10.10/redfish/v1/Managers/CIMC/NetworkProtocol/

RESPONSE
{
"@odata.id":      "/redfish/v1/Managers/CIMC/NetworkProtocol",
"@odata.type":   "#ManagerNetworkProtocol.v1_5_0.ManagerNetworkProtocol",
"@odata.context":        "/redfish/v1/$metadata#ManagerNetworkProtocol.ManagerNetworkProtocol",
"Id":    "ManagerNetworkProtocol",
"Name": "Manager Network Protocol",
"SSH":    {
"ProtocolEnabled":       true,
"Port": 22
},
"Description":  "Manager Network Service",
"VirtualMedia": {
"ProtocolEnabled":       true,
"Port": 2068
},
"HostName":      "C220-WZP26330KVU",
"HTTP": {
"ProtocolEnabled":       false,
"Port": 80
},
"KVMIP":          {
"ProtocolEnabled":       true,
"Port": 2068
},
"DHCP": {
"ProtocolEnabled":       false,
"Port": null
},
"HTTPS":          {
"ProtocolEnabled":       true,
"Port": 443,
"Certificates": {
"@odata.id":    "/redfish/v1/Managers/CIMC/NetworkProtocol/HTTPS/Certificates"
}
},
"NTP":   {
"ProtocolEnabled":       false,
"Port": 123,
"NTPServers":    []
},
"DHCPv6":         {
"ProtocolEnabled":       true,
"Port": null
},
"Oem":   {
"Cisco":          {
```

```
"KVMConfiguration":      {
"LocalServerVideo":      "Enabled",
"MaxConcurrentSessions":       4
},
"KVMVendor":      {
"Vendor":       "Cisco"
},
"SSHTimeout":   1500,
"IPMIOverLan":   {
"ChannelSecurityKey":   "00000000000000000000000000000000000000",
"PrivilegeLevelLimit":  "admin"
}
}
},
"IPMI": {
"ProtocolEnabled":      false,
"Port": 623
},
"SNMP": {
"ProtocolEnabled":      false,
"EnableSNMPv2c":       false,
"EnableSNMPv3": false,
"CommunityStrings":      [{
"AccessMode":   null,
"CommunityString":      ""
}],
"HideCommunityStrings": false,
"Port": 161,
"EnableSNMPv1": false
},
"Actions":       {
"Oem":   {
"#CiscoUCSExtensions.ResetKVM": {
"target":
"/redfish/v1/Managers/CIMC/NetworkProtocol/Actions/Oem/CiscoUCSExtensions.ResetKVM",
"@odata.type":   "#CiscoUCSExtensions.v1_0_0.ResetKVM"
}
}
}
}
```

Data Sanitization

- Data Sanitization - Beginning with release 4.2(3d), Cisco IMC supports data sanitization feature. Using the data sanitization process, Cisco IMC erases all sensitive data, thus making extraction or recovery of customer data impossible. As Cisco IMC progresses through the erase process, the status report is updated. You can check the status and progress of the data sanitization process for each individual device erase from the report, identify and rectify any issues, if required.

✎

Note
- You must perform data sanitization on the components that contain customer data.

- This feature is supported on the following servers:
    - Cisco UCS C220 M5, C240 M5, C480 M5, C125 M5 servers
    - Cisco UCS C220 M6, C240 M6, C225 M6, C245 M6 servers

Erase process for data sanitization is performed in the following order on the server components:

- Storage

- VIC

- BIOS

- Cisco IMC

You can choose to either perform data sanitization on all the server components or select only VIC and Storage components for data sanitization. Cisco IMC reboots when the data sanitization process is completed and generates a report.

After the process is complete, the password is reset to default. You can change the password and perform a full component firmware update using the latest firmware.

Issuing the Command to Perform Data Sanitization

Command to issue data sanitization on all components:

```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/Managers/CIMC/Actions/Oem/CiscoUCSExtensions.DataSanitize
-XPOST -d '{"SanitizeTargets":[ "HostDomainComponents","BoardDomainComponents"]}'
```

Command to issue data sanitization only on VIC, Storage components:

```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/Managers/CIMC/Actions/Oem/CiscoUCSExtensions.DataSanitize
-XPOST -d '{"SanitizeTargets":["HostDomainComponents"]}'
```

Request

```
curl -k -u admin:password
https://10.10.10.10/redfish/v1/Managers/CIMC/Actions/Oem/CiscoUCSExtensions.DataSanitize
-XPOST -d '{"SanitizeTargets":["BoardDomainComponents","HostDomainComponents"]}'
```

Response

```
{
"Messages":
[{
"@odata.type": "#Message.v1_1_1.Message",
"MessageId": "CiscoUCS.1.2.0.DataSanitizationOK",
"Message": "Performing data sanitization of targets Storage, VIC, BIOS, CIMC.",
"MessageArgs": ["Performing data sanitization of targets Storage, VIC, BIOS, CIMC."],
"Severity": "OK",
"Resolution": "Indicates that data sanitization is proceeding successfully." },
{
"@odata.type": "#Message.v1_1_1.Message",
"MessageId": "CiscoUCS.1.2.0.DataSanitizationWarning",
"Message": "Storage data sanitization is not yet supported.",
"MessageArgs": ["Storage data sanitization is not yet supported."],
"Severity": "Warning",
"Resolution": "Data sanitization status message should be inspected to determine if this condition
 is expected or a problem requiring resolution." },
{
"@odata.type": "#Message.v1_1_1.Message",
"MessageId": "CiscoUCS.1.2.0.DataSanitizationOK",
"Message": "VIC is preparing to initiate data sanitization.",
```

```
"MessageArgs": ["VIC is preparing to initiate data sanitization."],
"Severity": "OK",
"Resolution": "Indicates that data sanitization is proceeding successfully." }],
 "Id": "19",
"Name": "Data Sanitization",
"StartTime": "2012-03-11T05:37:00+09:00",
"TaskState": "Running",
"PercentComplete": 90,
"@odata.id": "/redfish/v1/TaskService/Tasks/19",
 "@odata.type": "#Task.v1_4_0.Task"
}
```

Issuing the Command to View the Status of Data Sanitization

The Redfish command to view the status of data sanitization is as follows.

✎

Note   You can use the task id from the data sanitization command issued.

Request

```
curl -k -u admin:password https://10.10.10.10/redfish/v1/TaskService/Tasks/task-id -XGET
```

Response

```
{
"@odata.id": "/redfish/v1/TaskService/Tasks/19",
"@odata.type": "#Task.v1_5_0.Task",
"@odata.context": "/redfish/v1/$metadata#Task.Task",
"Id": "19",
"Name": "Data Sanitization",
"StartTime": "2012-03-11T05:37:00+09:00",
"EndTime": "1970-01-01T00:07:11+00:00",
"PercentComplete": 100,
"TaskState": "Completed",
"TaskStatus": "Warning",
"Messages":
    [{
    "@odata.type": "#Message.v1_1_1.Message",
    "MessageId": "CiscoUCS.1.2.0.DataSanitizationOK",
    "Message": "Performing data sanitization of targets Storage, VIC, BIOS, CIMC.",
    "MessageArgs": ["Performing data sanitization of targets Storage, VIC, BIOS, CIMC."],
    "Severity": "OK",
    "Resolution": "Indicates that data sanitization is proceeding successfully."
}
```