OCP Server Hardware Management Interface (Redfish Profile) v0.2.0

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1. Scope

This document specifies the model for managing Open Compute Project (OCP) server platforms hardware via a Redfish interface.

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3. Overview

Scalability in today’s data center is increasingly achieved with horizontal, scale-out solutions, which often include large quantities of simple servers. The usage model of scale-out hardware is drastically different than that of traditional enterprise platforms, and requires a new approach to management.

Designed to meet the expectations of end users for simple and secure management of modern scalable platform hardware, DMTF’s Redfish® is an open industry standard specification and schema that specifies a RESTful interface and utilizes JSON and OData to help customers integrate solutions within their existing tool chains. An aggressive development schedule is quickly advancing Redfish toward its goal of addressing all the components in the data center with a consistent API. (dmtf.org/redfish)

1.1 License

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Intel Corporation

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4. Introduction

1.2 Reference Documents

Redfish Whitepaper (DSP2044 v1.0.2, June 2017)
Redfish Scalable Platforms API Specification (DSP0266 v1.4.0, Dec 2017).
Redfish Schema (DSP8010 v2017.3, Dec 2017)
Redfish Interoperability Profiles Specification (DSP0272 v0.99.0a, Dec 2017, Work-in-Progress)
OCP Baseline Hardware Management (Redfish Profile) (v0.2.0, Jan 2018, draft)

1.3 Redfish

The Redfish Scalable Platforms Management API ("Redfish") is a standard that uses RESTful interface semantics to access data defined in model format to perform systems management. It is suitable for a wide range of servers, from stand-alone servers to rack mount and bladed environments but scales equally well for large scale cloud environments.

1.4 Redfish Profile Format

The Redfish Interoperability Profile is a JSON document which contains Schema-level, Property-level, and Registry-level requirements. A Redfish Profile file provides a machine readable file for prescriptive requirements on an implementation.

5. Redfish Profile for OCP Server Hardware Management

The Redfish model for OCP Server Hardware Management is specified in this document.

The figure below shows the resources which are specified in the OCP Server Hardware Management model and for which the specification imposes requirements. The diagram shows the OCP Server Hardware Management profile as an extension to the OCP Baseline Hardware Management profile.
The subsequent sections specifies the requirements per resource. Each section has a mockup, which shows the properties of the resource and the properties with requirements. The properties requirement are specified in a subsequent table.

(The mockups include a superset of properties for a resource. The properties which have a requirement in this document are bold-faced. This provides context, during of this document, for decisions on whether additional (or fewer) requirements should be stated in this document.)

Section 6 contains the Redfish Profile file which expresses these same requirements.

1.5 Service Root resource

The ServiceRoot resource shall exists.

Figure 1 shows a mockup of the ServiceRoot resource. The properties in bold have requirements, which are specified in Table 1.

```json
{
    "@odata.context": "/redfish/v1/$metadata#ServiceRoot.ServiceRoot",
    "@odata.id": "/redfish/v1",
    "@odata.type": "#ServiceRoot.v1_3_0.ServiceRoot",
    "Id": "RootService",
    "Name": "Root Service",
    "Product": "Contoso WidgetDeluxe 8744",
    "RedfishVersion": "1.0.0",
    "UUID": "92384634-2938-2342-8820-489239905423",
    "Systems": { ... },
    "Chassis": { ... },
    "Managers": { ... },
    "SessionService": { ... },
    "AccountService": { ... },
    "Fabrics": { ... },
    "Tasks": { ... },
    "EventService": { ... },
    "UpdateService": { ... },
    "CompositionService": { ... },
    "Registries": { ... },
    "JsonSchemas": { ... },
    "Links": {
        "Sessions": { ... }
    }
}
```
1.6 Systems collection resource

Figure 6 shows a mockup of the Systems collection resource. The properties in bold have requirements, which are specified in Table 6.

```
{
    "@odata.context": "/redfish/v1/$metadata#SystemCollection.SystemCollection",
    "@odata.id": "/redfish/v1/Systems",
    "@odata.type": ":SystemCollection.SystemCollection",
    "Name": "System Collection",
    "Members@odata.count": 1,
    "Members": [ { ... } ]
}
```

Table 2 - Requirement for Systems collection resource properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="mailto:Members@odata.count">Members@odata.count</a></td>
<td>Mandatory</td>
<td>≥1</td>
</tr>
<tr>
<td>Members</td>
<td>Mandatory</td>
<td>≥ &lt;one item&gt;</td>
</tr>
</tbody>
</table>

1.7 ComputerSystem resource

Figure 7 shows a mockup of the ComputerSystem resource. The properties in bold have requirements, which are specified in Table 7.

```
The ComputerSystem resource version shall be at least "1.0.0".
```

```
{
    "@odata.context": "/redfish/v1/$metadata#ComputerSystem.ComputerSystem",
    "@odata.id": "/redfish/v1/Systems/1",
    "@odata.type": ":ComputerSystem.v1_5_0.ComputerSystem",
    "Id": "1",
    "Name": "My Computer System",
    "Description": "Description of server",
    "SystemType": "Physical",
    "AssetTag": "free form asset tag",
    "Manufacturer": "Manufacturer Name",
    "Model": "Model Name",
    "SKU": "",
    "SerialNumber": "2M220100SL",
    "PartNumber": "",
    "UUID": "00000000-0000-0000-0000-000000000000",
    "HostName": "web-srv344",
    "Status": {
        "State": "Enabled",
        "Health": "OK",
        "HealthRollup": "OK"
    },
    "IndicatorLED": "Off",
    "PowerState": "On",
}
"Boot": { 
  "BootSourceOverrideEnabled": "Once",
  "BootSourceOverrideMode": "UEFI",
  "BootSourceOverrideTarget": "Pxe",
  "UefiTargetBootSourceOverride": "",
  "BootOptions": [ ... ],
  "BootNext": "Boot0003",
  "BootOrder": [ ... ]
},
"BiosVersion": "P79 v1.00 (09/20/2013)",
"ProcessorSummary": { 
  "Count": 8,
  "Model": "Multi-Core Intel(R) Xeon(R) processor 7xxx Series",
  "LogicalProcessorCount": 256,
  "Status": { 
    "State": "Enabled",
    "Health": "OK",
    "HealthRollup": "OK"
  }
},
"MemorySummary": { 
  "TotalSystemMemoryGiB": 16,
  "MemoryMirroring": "System",
  "Status": { 
    "State": "Enabled",
    "Health": "OK",
    "HealthRollup": "OK"
  }
},
"LogServices": [ ... ],
"TrustedModules": [ [ ... ] ],
"HostWatchdogTimer": [ ... ],
"Processors": [ ... ],
"Memory": [ ... ],
"EthernetInterfaces": [ ... ],
"NetworkInterfaces": [ ... ],
"SimpleStorage": [ ... ],
"SecureBoot": [ ... ],
"Bios": [ ... ]
"PCIeDevices": [ [ ... ] ],
"PCIeFunctions": [ [ ... ] ],
"Links": { 
  "Chassis": [ 
    [ @odata.id": "/redfish/v1/Chassis/1"
  ],
  "ManagedBy": [ 
    [ @odata.id": "/redfish/v1/Managers/1"
  ],
  "Endpoints": [ ... ]
  },
  "Actions": { 
    "#ComputerSystem.Reset": { 
      "target": "/redfish/v1/Systems/1/Actions/ComputerSystem.Reset",
      "$Redfish.ActionInfo": "/redfish/v1/Systems/1/ResetActionInfo"
    },
    "#ComputerSystem.SetDefaultBootOrder": { 
      "target": "/redfish/v1/Systems/1/Actions/ComputerSystem.SetDefaultBootOrder",
      "$Redfish.ActionInfo": "/redfish/v1/Systems/1/SetDefaultBootOrderActionInfo"
    }
  }
}
<table>
<thead>
<tr>
<th>Property</th>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SystemType</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>AssetTag</td>
<td>Mandatory, Read/write</td>
<td></td>
</tr>
<tr>
<td>SerialNumber</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>SKU</td>
<td>Recommended, Read only, Conditional (see 1.7.1)</td>
<td></td>
</tr>
<tr>
<td>PartNumber</td>
<td>Recommended, Read only, Conditional (see 1.7.1)</td>
<td></td>
</tr>
<tr>
<td>PowerState</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>BiosVersion</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>UUID</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>IndicatorLED</td>
<td>Recommended, Read only, Conditional (see 1.7.2)</td>
<td></td>
</tr>
<tr>
<td>MemorySummary</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>TotalSystemMemoryGiB</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>ProcessorSummary</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>EthernetInterface</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Boot</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>BootSourceOverrideEnabled</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>BootSourceOverrideTarget</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>BootSourceOverrideMode</td>
<td>Recommended, Read only</td>
<td></td>
</tr>
<tr>
<td>UefiTargetBootSourceOverride</td>
<td>Recommended, Read only, Conditional (see 1.7.3)</td>
<td></td>
</tr>
<tr>
<td>LogService</td>
<td>Mandatory, Read only</td>
<td></td>
</tr>
<tr>
<td>Links</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Chassis</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>ManagedBy</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#ComputerSystem.Reset</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>ResetType@AllowableValues</td>
<td>Mandatory</td>
<td>&quot;ForceRestart, &quot;On&quot;, &quot;ForceOff&quot;</td>
</tr>
</tbody>
</table>

1.7.1 Conditional on SKU and PartNumber properties

Either the PartNumber property or the SKU property (or both) shall have a value.
1.7.2 Conditional on IndicatorLED property
If the SystemType property has a value of "Physical".

1.7.3 Conditional on UefiTargetBootSourceOverride property
If the BootSourceOverrideMode property has a value of "UEFI".

1.8 Systems/{id}/EthernetInterfaces/{id} resource
Figure 4 shows a mockup of the EthernetInterface resource when it is a subordinate resource of ComputerSystem. The properties in bold have requirements, which are specified in Table 4.

The EthernetInterface resource version shall be at least "1.1.0".

```
{  
  "@odata.context": "/redfish/v1/$metadata#EthernetInterface.EthernetInterface",  
  "@odata.id": "/redfish/v1/Managers/1/EthernetInterfaces/1",  
  "@odata.type": "#EthernetInterface.v1_4_0.EthernetInterface",  
  "Id": "1",  
  "Name": "Manager Ethernet Interface",  
  "Description": "Management Network Interface",  
  "Status": {  
    "State": "Enabled",  
    "Health": "OK"  
  },  
  "InterfaceEnabled": true,  
  "PermanentMACAddress": "1E:C3:DE:6F:1E:24",  
  "MACAddress": "1E:C3:DE:6F:1E:24",  
  "SpeedMbps": 100,  
  "AutoNeg": true,  
  "FullDuplex": true,  
  "MTUSize": 1500,  
  "HostName": "MyHostName",  
  "FQDN": "MyHostName.MyDomainName.com",  
  "MaxIPv6StaticAddresses": 1,  
  "VLAN": {  
    "VLANEnable": true,  
    "VLANId": 101  
  },  
  "DHCPv4": { ... },  
  "IPv4Addresses": [  
    {  
      "Address": "192.168.0.10",  
      "SubnetMask": "255.255.252.0",  
      "AddressOrigin": "Static",  
      "Gateway": "192.168.0.1"  
    }  
  ],  
  "IPv4StaticAddresses": [ ... ],  
  "DHCPv6": { ... },  
  "IPv6Addresses": [  
    {  
      "Address": "fe80::1ec1:deff:fe6f:1e24",  
      "PrefixLength": 64,  
      "AddressOrigin": "Static",  
      "AddressState": "Preferred"  
    }  
  ],  
  "IPv6StaticAddresses": [ ... ],  
  "IPv6AddressPolicyTable": [ ... ],  
  "IPv6StaticDefaultGateways": [ ... ],  
  "IPv6DefaultGateway": "fe80::214:clf/fe4c:5c4d",  
  "StatelessAddressAutoConfig": {  
    "IPv4AutoConfigEnabled": false,  
    "IPv6AutoConfigEnabled": true  
  },  
  "NameServers": [ ... ],  
  "StaticNameServers": [ ... ]
}
```
"@Redfish.Settings": {  
  "@odata.type": "#Settings.v1_0_0.Settings",  
  "SettingsObject": {  
    "@odata.id": "/redfish/v1/Managers/1/EthernetInterfaces/1/SD"  
  },  
  "Time": "2012-03-07T14:44.30-05:00",  
  "ETag": "someetag",  
  "Messages": [  
    {  
      "MessageId": "Base.1.0.SettingsFailed",  
      "RelatedProperties": [  
        "/IPv6Addresses/PrefixLength"  
      ]  
    }  
  ]
}

Figure 4 – Mockup of EthernetInterface resource

Table 4 - Requirement for EthernetInterface resource properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>InterfaceEnabled</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>MACAddress</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>SpeedMbps</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>HostName</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>FQDN</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>NameServers</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>IPv4Addresses</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>SubnetMask</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>AddressOrigin</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Gateway</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>IPv6Addresses</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>PrefixLength</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>AddressOrigin</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>AddressState</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>IPv6StaticAddresses</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>IPv6AddressPolicyTable</td>
<td>Mandatory</td>
<td></td>
</tr>
</tbody>
</table>

1.9 Systems/{id}/ResetActionInfo

Figure 8 shows a mockup of the ResetActionInfo resource. The properties in bold have requirements, which are specified in Table 8.

```json
{  
  "@odata.context": "/redfish/v1/$metadata#ActionInfo.ActionInfo",  
  "@odata.id": "/redfish/v1/Systems/1/ResetActionInfo",  
  "@odata.type": ":ActionInfo.v1_0_0.ActionInfo",  
  "Parameters": [  
    "Name": "ResetType",  
    "Required": true,
```
1.10 Chassis collection resource

Figure 6 shows a mockup of the Chassis collection resource. The properties in bold have requirements, which are specified in Table 6.

<table>
<thead>
<tr>
<th>Property</th>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="mailto:Members@odata.count">Members@odata.count</a></td>
<td>Mandatory</td>
<td>≥1</td>
</tr>
<tr>
<td>Members</td>
<td>Mandatory</td>
<td>≥&lt;one item&gt;</td>
</tr>
</tbody>
</table>

1.11 Chassis resource

Figure 7 shows a mockup of the Chassis resource. The properties in bold have requirements, which are specified in Table 7.

The Chassis resource version shall be at least "1.0.0".

The Chassis resource version shall be at least "1.0.0".
1.12 Chassis/{id}/Power resource

Figure 8 shows a mockup of the Power resource. The properties in bold have requirements, which are specified in Table 8.

```
{
    "@odata.context": "/redfish/v1/$metadata#Power.Power",
    "@odata.id": "/redfish/v1/Chassis/1/Power",
    "@odata.type": "+Power.v1_5_0.Power",
    "Id": "Power",
    "Name": "Power",
    "PowerControl": [
        
        {
            "@odata.id": "/redfish/v1/Chassis/1/Power#/PowerControl/0",
            "MemberId": "0",
            "Name": "System Power Control",
            "PhysicalContext": "Chassis",
            "PowerConsumedWatts": 8000,
            "PowerCapacityWatts": 10000,
            "PowerRequestedWatts": 8500,
            "PowerAvailableWatts": 8500,
            "PowerAllocatedWatts": 8500,
            "PowerMetrics": {
                "IntervalInMin": 30,
                "MinConsumedWatts": 7500,
                "MaxConsumedWatts": 8200,
                "AverageConsumedWatts": 8000
            },
            "PowerLimit": {
                "LimitInWatts": 9000,
                "LimitException": "LogEventOnly"
            }
        }
    ]
}
```
Figure 8 – Mockup of Power resource

Table 8 - Requirement for Power resource properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerControl</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>PowerControl/PowerConsumedWatts</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>PowerControl/PowerCapacityWatts</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>PowerControl/PowerLimit</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>PowerControl/PowerLimits/LimitInWatts</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>PowerControl/PowerLimits/LimitException</td>
<td>Mandatory</td>
<td></td>
</tr>
</tbody>
</table>

1.13 Chassis/{id}/Thermal resource

Figure 9 shows a mockup of the Thermal resource. The properties in bold have requirements, which are specified in Table 9.

The Thermal resource version shall be "1.1.0".

```json
{
    "@odata.context": "/redfish/v1/$metadata#Thermal.Thermal",
    "@odata.id": "/redfish/v1/Systems/1/Processors/1"  
}
```
"MemberId": "0",
"Name": "BaseBoard System Fans",
"RedundancyEnabled": false,
"RedundancySet": [ { } ],
"Mode": "N+m",
"Status": [ {} ],
"MinNumNeeded": 1,
"MaxNumSupported": 2
}
"
"Fans": [ {} ]
}

Figure 9 – Mockup of Thermal resource

Table 9 - Requirement for Thermal resource properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperatures</td>
<td>Mandatory</td>
<td>≥3</td>
</tr>
<tr>
<td>ReadingCelsius</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>PhysicalContext</td>
<td>Mandatory</td>
<td>&quot;CPU&quot; &quot;Intake&quot;</td>
</tr>
<tr>
<td>Status</td>
<td>Mandatory</td>
<td>&quot;SystemBoard&quot;</td>
</tr>
<tr>
<td>UpperThresholdFatal</td>
<td>Recommended, Read only</td>
<td></td>
</tr>
<tr>
<td>UpperThresholdCritical</td>
<td>Recommended, Read only</td>
<td></td>
</tr>
<tr>
<td>UpperThresholdNonCritical</td>
<td>Recommended, Read only</td>
<td></td>
</tr>
<tr>
<td>Redundancy</td>
<td>If Implemented</td>
<td></td>
</tr>
<tr>
<td>MemberID</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>RedundancySet</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Node</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>MinNumNeeded</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>MaxNumSupported</td>
<td>Recommended, Read only</td>
<td></td>
</tr>
</tbody>
</table>

1.14 Managers collection resource

Figure 6 shows a mockup of the Managers collection resource. The properties in bold have requirements, which are specified in Table 6.

{ "@odata.context": "/redfish/v1/$metadata#ManagerCollection.ManagerCollection",
"@odata.id": "/redfish/v1/Managers",
"@odata.type": "#ManagerCollection.ManagerCollection",
"Name": "Manager Collection",
"Members@odata.count": 1,
"Members": [ { } ]
}

Figure 10 – Mockup of Managers collection resource

Table 10 - Requirement for Managers collection resource properties

| Property                | Requirement          | Value |
1.15 Managers/{id} resource

Figure 11 shows a mockup of the Manager resource. The properties in bold have requirements, which are specified in Table 11.

```json
{
"@odata.context": "/redfish/v1/$metadata#Manager.Manager",
"@odata.id": "/redfish/v1/Managers/1",
"@odata.type": ":Manager.v1_1_0.Manager",
"Id": "1",
"Name": "Manager",
"ManagerType": "BMC",
"Description": "BMC",
"ServiceEntryPointUUID": "92384634-2938-2342-8820-489239905423",
"UUID": "00000000-0000-0000-0000-000000000000",
"Model": "Joo Janta 200",
"DateTime": "2015-03-13T04:14:33+06:00",
"DateTimeLocalOffset": "+06:00",
"Status": {
"State": "Enabled",
"Health": "OK"
},
"GraphicalConsole": { ... },
"SerialConsole": {
"ServiceEnabled": true,
"MaxConcurrentSessions": 1,
"ConnectTypesSupported": {
"Telnet",
"SSH",
"IPMI"
}
},
"CommandShell": { ... },
"FirmwareVersion": "1.00",
"NetworkProtocol": { ... },
"EthernetInterfaces": { ... },
"SerialInterfaces": { ... },
"LogServices": { ... },
"VirtualMedia": { ... },
"Links": {
"ManagerForServers": [ ... ],
"ManagerForChassis": [ ... ],
"ManagerInChassis": [ ... ]
},
"Actions": { ... }
}
```

Figure 11 – Mockup of Manager resource

Table 11 - Requirement for Manager resource properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Requirement</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SerialConsole</td>
<td>Mandatory, Read only</td>
<td></td>
</tr>
<tr>
<td>ConnectTypesSupport</td>
<td>Mandatory</td>
<td>AnyOf (&quot;SSH&quot;, &quot;IPMI&quot;)</td>
</tr>
<tr>
<td>Links</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>ManagedForServers</td>
<td>Mandatory</td>
<td></td>
</tr>
</tbody>
</table>
6. OCP Server Management Interface Profile

Redfish specifies that format of a 'profile' file which express the prescriptive requirements of Redfish resources. The profile file can be read by the Redfish Interoperability Tool, with will run a series of conformance tests against an implementation. This can be used to verify the conformance of the implementation to the profile.

Error! Reference source not found. shows the content of the file, OCPServerManagementInterface.v0.1.json, which express the preceding requirements.

The profile uses the RequiredProfiles property to specify that this profile is an extension of the OCP Hardware Management Baseline Profile.

To be added