# Video Profile

Document Number:        DCIM1049

Document Type:          Specification

Document Status:        Published

Document Language:      E

Date:                   2017-06-20

Version:                4.0.0

This profile is for informational purposes only and may contain typographical errors and technical inaccuracies. The content is provided as-is, without express or implied warranties of any kind. If there is no separate agreement between you and Dell with regard to feedback to Dell on this profile specification, you agree any feedback you provide to Dell regarding this profile specification will be owned and can be freely used by Dell.

# Contents

# 1.    Scope

The Dell Video Profile describes the properties and interfaces for executing system management tasks related to the management of video controllers within a system. The profile standardizes and aggregates the description for the video properties into a video controller view representation as well as provides static methodology for the clients to query the video views without substantial traversal of the model.

# 2.    Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- DMTF DSP1033, Profile Registration Profile 4.0.0
- DMTF DSP0226, Web Services for Management (WS-Management) Specification 1.1.0
- DMTF DSP0227, WS-Management CIM Binding Specification 4.0.0
- Dell Lifecycle Controller Best Practices Guide 1.0, *http://en.community.dell.com/techcenter/extras/m/white_papers/20066173.aspx*
- Dell WSMAN Licenses and Privileges 1.0
- Dell Tech Center MOF Library, http://www.delltechcenter.com/page/DCIM.Library.MOF
    - o  DCIM_VideoView.mof
    - o  DCIM_LCEnumeration.mof
    - o  DCIM_LCRegisteredProfile.mof

# 3.    Terms and Definitions

For the purposes of this document, the following terms and definitions apply.

## 3.1.    Conditional

Indicates requirements to be followed strictly in order to conform to the document when the specified conditions are met

## 3.2.    Mandatory

Indicates requirements to be followed strictly in order to conform to the document and from which no deviation is permitted

## 3.3.    May

Indicates a course of action permissible within the limits of the document

## 3.4.    Optional

Indicates a course of action permissible within the limits of the document

## 3.5.    Referencing profile

Indicates a profile that owns the definition of this class and can include a reference to this profile in its "Related Profiles" table

## 3.6.    Shall

Indicates requirements to be followed strictly in order to conform to the document and from which no deviation is permitted

## 3.7.    FQDD

Fully Qualified Device Descriptor is used to identify a particular component in a system.

## 3.8.    Interop Namespace

Interop Namespace is where instrumentation instantiates classes to advertise its capabilities for client discovery.

## 3.9.    Implementation Namespace

Implementation Namespace is where instrumentation instantiates classes relevant to executing core management tasks.

## 3.10.    ENUMERATE

Refers to WS-MAN `ENUMERATE` operation as described in Section 8.2 of DSP0226_V1.1 and Section 9.1 of DSP0227_V1.0

## 3.11.    GET

Refers to WS-MAN `GET` operation as defined in Section 7.3 of DSP00226_V1.1 and Section 7.1 of DSP0227_V1.0

# 4.    Symbols and Abbreviated Terms

## 4.1.    CIM

Common Information Model

## 4.2.    iDRAC

Integrated Dell Remote Access Controller – management controller for blades and monolithic servers

## 4.3.    CMC

Chassis Manager Controller – management controller for the modular chassis

## 4.4.    WBEM

Web-Based Enterprise Management

# 5.    Synopsis

Profile Name: Video

Version: 4.0.0

Organization: Dell

CIM Schema Version: 2.26 Experimental

Dell Schema Version: 4.0.0

Interop Namespace: root/interop

Implementation Namespace: root/dcim

Central Class: DCIM_VideoView

Scoping Class: DCIM_ComputerSystem

The Dell Video Profile is a component profile that contains the Dell specific implementation requirements for video controller view.

DCIM_VideoView shall be the Central Class.

Table 1 identifies profiles that are related to this profile.

**Table 1.**     Related Profiles

| Profile Name | Organization | Version | Relationship |
|---|---|---|---|
| Profile Registration | DCIM | 1.0 | Reference |

# 6.     Description

The Dell Video Profile describes platform's videos. Each video controller's information is represented by an instance of DCIM_VideoView class.

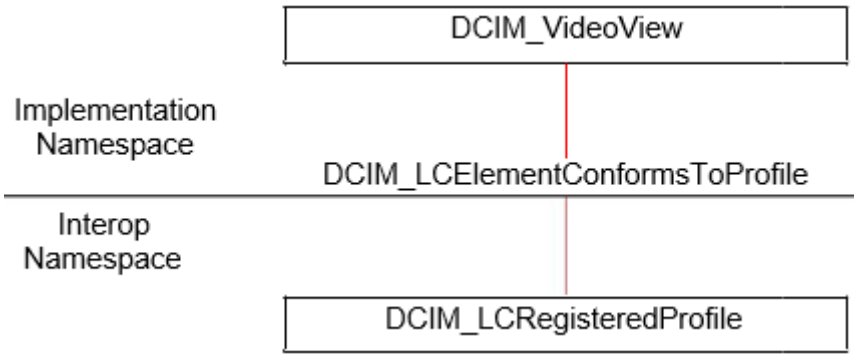Figure 1 details the class diagram of the Dell Video Profile.



**Figure 1.     Class Diagram**

Figure 2 details typical Dell Video Profile implementation for a platform containing a video controller. In order for client to discover the instrumentation's support of this profile, VideoProfile is instantiated in the Interop Namespace. VideoProfile instance describes the information about the implemented profile: most importantly, the name and version of the profile and the organization name that produced the profile.

Video1 is the video view representing the video controller in the Implementation Namespace. It is associated to the Interop namespace's VideoProfile instance.
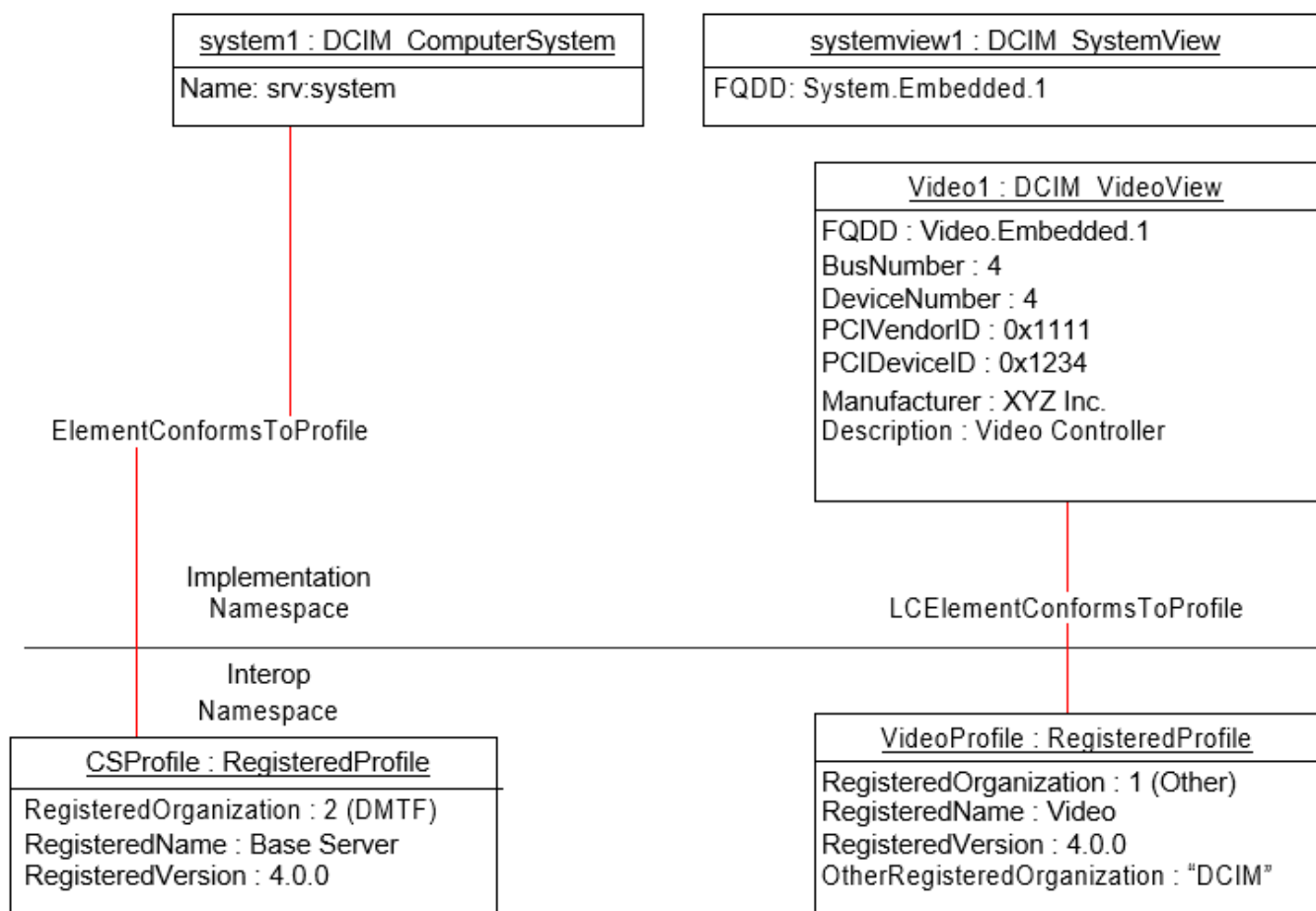
**Figure 2.    Video Profile Implementation**

# 7.    Implementation Description

This section describes the requirements and guidelines for implementing Dell Video Profile.

**Table 2.**    Class Requirements: Video Profile

| Element Name | Requirement | Description |
|---|---|---|
| **Classes** | | |
| DCIM_VideoView | Mandatory | The class shall be implemented in the Implementation Namespace.<br>See section 7.1. |
| DCIM_LCElementConformsToProfile | Mandatory | The class shall be implemented in the Implementation Namespace. |
| DCIM_LCElementConformsToProfile | Mandatory | The class shall be implemented in the Interop Namespace. |
| DCIM_LCRegisteredProfile | Mandatory | The class shall be implemented in the Interop Namespace.<br>See section 7.2. |
| **Indications** | | |
| None defined in this profile | | |

# 7.1. Video View

This section describes the implementation for the DCIM_VideoView class.

This class shall be instantiated in the Implementation Namespace.

The DCIM_ElementConformsToProfile association(s) shall reference the DCIM_VideoView instance(s).

## 7.1.1. Resource URIs for WinRM®

The class Resource URIs shall be "http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_VideoView?__cimnamespace=root/dcim"

The key property shall be the InstanceID.

The instance Resource URIs for DCIM_VideoView instance shall be: "http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_VideoView?__cimnamespace=root/dcim+InstanceID= <FQDD>"

## 7.1.2. Operations

The following table details the implemented operations on DCIM_VideoView.

**Table 3.** DCIM_VideoView - Operations

| Operation Name | Requirements | Required Input |
|---|---|---|
| Get | Mandatory | Instance URI |
| Enumerate | Mandatory | Class URI |

## 7.1.3. Properties

The following table details the implemented properties for DCIM_VideoView instance representing a video controller in a system. The "Requirements" column shall denote the implementation requirement for the corresponding property. If the column "Property Name" matches the property name, the property either shall have the value denoted in the corresponding column "Additional Requirement", or shall be implemented according to the requirements in the corresponding column "Additional Requirement".

**Table 4.** DCIM_VideoView - Properties

| Property Name | Requirements | Type | Requirement and description |
|---|---|---|---|
| InstanceID | Mandatory | string | The property value shall be the FQDD property value. |
| FQDD | Mandatory | string | A string containing the Fully Qualified Device Description, a user-friendly name for the object. |
| BusNumber | Mandatory | uint32 | The bus number where the Video device resides. |
| DeviceNumber | Mandatory | uint32 | The device number assigned to the Video for the bus. |
| FunctionNumber | Mandatory | uint32 | The function number for the Video device. The property contains a value assigned by the Video SIG used to identify the |
| PCIVendorID | Mandatory | string | Manufacturer of the device. |
| PCISubVendorID | Mandatory | string | Subsystem vendor ID. |
| PCIDeviceID | Mandatory | string | The property contains a value assigned by the device manufacturer used to identify the type of device. |
| PCISubDeviceID | Mandatory | string | The property contains a value assigned by the vendor manufacturer used to identify the type of device. |

DELLEMC

| Property Name | Requirements | Type | Requirement and description |
|---|---|---|---|
| Manufacturer | Optional | string | A string containing the Manufacturer name. The name of the organization responsible for producing the Video device. |
| Description | Mandatory | string | Gives the description of the Video Device |
| DataBusWidth | Mandatory | string | • Data bus width of the video card:<br>• "0001" - "Other",<br>• "0002" - "Unknown",<br>• "0003" - "8 bit",<br>• "0004" - "16 bit",<br>• "0005" - "32 bit",<br>• "0006" - "64 bit",<br>• "0007" - "128 bit",<br>• "0008" - "1x or x1",<br>• "0009" - "2x or x2",<br>• "000A" - "4x or x4",<br>• "000B" - "8x or x8",<br>• "000C" - "12x or x12",<br>• "000D" - "16x or x16",<br>• "000E" - "32x or x32" |
| SlotLength | Mandatory | string | Slot length of the video card:<br>• "0001" - "Other",<br>• "0002" - "Unknown",<br>• "0003" - "Short Length",<br>• "0004" - "Long Length" |
| SlotType | Mandatory | string | • Video card slot type:<br>• "0001" - "Other",<br>• "0002" - "Unknown",<br>• "0003" - "ISA",<br>• "0004" - "MCA",<br>• "0005" - "EISA",<br>• "0006" - "PCI",<br>• "0007" - "PC Card (PCMCIA)",<br>• "0008" - "VL-VESA",<br>• "0009" - "Proprietary",<br>• "000A" - "Processor Card Slot",<br>• "000B" - "Proprietary Memory Card Slot",<br>• "000C" - "I/O Riser Card Slot",<br>• "000D" - "NuBus",<br>• "000E" - "PCI - 66MHz Capable",<br>• "000F" - "AGP",<br>• "0010" - "AGP 2X",<br>• "0011" - "AGP 4X",<br>• "0012" - "PCI-X",<br>• "0013" - "AGP 8X",<br>• "00A0" - "PC-98/C20",<br>• "00A1" - "PC-98/C24",<br>• "00A2" - "PC-98/E",<br>• "00A3" - "PC-98/Local Bus",<br>• "00A4" - "PC-98/Card",<br>• "00A5" - "PCI Express (see below)", |

| Property Name | Requirements | Type | Requirement and description |
|---|---|---|---|
| | | | • "00A6" - "PCI Express x1",<br>• "00A7" - "PCI Express x2",<br>• "00A8" - "PCI Express x4",<br>• "00A9" - "PCI Express x8",<br>• "00AA" - "PCI Express x16",<br>• "00AB" - "PCI Express Gen 2 (see below)",<br>• "00AC" - "PCI Express Gen 2 x1",<br>• "00AD" - "PCI Express Gen 2 x2",<br>• "00AE" - "PCI Express Gen 2 x4",<br>• "00AF" - "PCI Express Gen 2 x8",<br>• "00B0" - "PCI Express Gen 2 x16"<br>• "00B1" - "PCI Express Gen 3",<br>• "00B2" - "PCI Express Gen 3 x1",<br>• "00B3" - "PCI Express Gen 3 x2",<br>• "00B4" - "PCI Express Gen 3 x4",<br>• "00B5" - "PCI Express Gen 3 x8",<br>• "00B6" - "PCI Express Gen 3 x16", |
| LastSystemInventoryTime | Mandatory | string | This property provides the last time \"System \"Inventory Collection On Reboot(CSIOR)\" was performed. The value is represented as yyyymmddHHMMSS. |
| LastUpdateTime | Mandatory | string | This property provides the last time the data was updated. The value is represented as yyyymmddHHMMSS |

# 7.2. Video Profile Profile Registration

This section describes the implementation for the DCIM_LCRegisteredProfile class.

This class shall be instantiated in the Interop Namespace.

The DCIM_ElementConformsToProfile association(s) shall reference the DCIM_LCRegisteredProfile instance.

## 7.2.1. Resource URIs for WinRM®

The class Resource URIs shall be "http://schemas.dmtf.org/wbem/wscim/1/cim-schema/2/CIM_RegisteredProfile?__cimnamespace= root/interop"

The key property shall be the InstanceID property.

The instance Resource URIs shall be: "http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_LCRegisteredProfile?__cimnamespace= root/interop+InstanceID= DCIM:Video:4.0.0"

## 7.2.2. Operations

The following table details the implemented operations on DCIM_LCRegisteredProfile.

**Table 5.** DCIM_LCRegisteredProfile - Operations

| Operation Name | Requirements | Required Input |
|---|---|---|
| Get | Mandatory | Instance URI |
| Enumerate | Mandatory | Class URI |

## 7.2.3. Properties

The following table details the implemented properties for DCIM_LCRegisteredProfile instance representing Video Profile implementation. The "Requirements" column shall denote the implementation requirement for the corresponding property. If the column "Name" matches the property name, the property either shall have the value denoted in the corresponding column "Additional Requirements", or shall be implemented according to the requirements in the corresponding column "Additional Requirements".

**Table 6.** DCIM_LCRegisteredProfile

| Property Name | Requirement | Type | Additional Requirements |
|---|---|---|---|
| InstanceID | Mandatory | String | DCIM:Video:4.0.0 |
| RegisteredName | Mandatory | String | This property shall have a value of "Video". |
| RegisteredVersion | Mandatory | String | This property shall have a value of "4.0.0". |
| RegisteredOrganization | Mandatory | Uint16 | This property shall have a value of 1 (Other). |
| OtherRegisteredOrganization | Mandatory | String | The property value shall match "DCIM". |
| AdvertisedTypes[] | Mandatory | Uint16 | This property array shall contain [1(Other), 1(Other)]. |
| AdvertiseTypeDescriptions[] | Mandatory | String | This property array shall contain ["WS-Identify", "Interop Namespace"]. |
| ProfileRequireLicense[] | Mandatory | String | This property array shall describe the required licenses for this profile.<br>If no license is required for the profile, the property shall have value NULL. |
| ProfileRequireLicenseStatus[] | Mandatory | String | This property array shall contain the status for the corresponding license in the same element index of the ProfileRequireLicense array property. Each array element shall contain:<br>• "LICENSED"<br>• "NOT_LICENSED"<br>If no license is required for the profile, the property shall have value NULL. |

# 8. Methods

This section details the requirements for supporting extrinsic methods for the CIM elements defined by this profile.

No additional details specified.

# 9. Use Cases

See Lifecycle Controller (LC) Integration Best Practices Guide.

# 10. CIM Elements

No additional details specified.

# 11.    Privilege and License Requirement

The following table describes the privilege and license requirements for the listed operations. For the detailed explanation of the privileges and licenses, refer to the Dell WSMAN Licenses and Privileges specification.

**Table 7.**    Privilege and License Requirements

| Class and Method | Operation | User Privilege Required | License Required |
|---|---|---|---|
| DCIM_VideoView | ENUMERATE, GET | Login | LM_REMOTE_ASSET_INVENTORY |
| DCIM_LCRegisteredProfile | ENUMERATE, GET | Login | None. |
| DCIM_LCElementConformsToProfile | ENUMERATE, GET | Login | None. |