Event Filter Profile

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Contents

1.   Scope

The Dell Event Filter Profile provides the management capabilities to view the event filters and set actions and notifications for the events.

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 1.0.0
- *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
- DMTF DSP0226, Web Services for Management (WS-Management) Specification 1.1.0
- DMTF DSP0227, WS-Management CIM Binding Specification 1.0.0
- Dell Event Message Registry, <link TBD>
- Dell Tech Center MOF Library, http://www.delltechcenter.com/page/DCIM.Library.MOF
- DCIM_EFConfigurationService.mof
- DCIM_EventFilter.mof
- DCIM_LCElementConformsToProfile.mof
- 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. LIFO

Last In, First Out

4.5. EF

Event Filter

5. Synopsis

Profile Name: Event Filter

Version: 4.0.0

Organization: Dell

CIM Schema Version: 2.41 Final

Dell Schema Version: 1.0.0

Interop Namespace: root/interop

Implementation Namespace: root/dcim

Central Class: DCIM_EFConfigurationService

Scoping Class: DCIM_SPComputerSystem

The Dell Event Filter Profile is an autonomous profile that provides the management capabilities to filter the events of a managed system element.

DCIM_EFConfigurationService 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 *Event Filter Profile* describes the properties and methods of the Event Filter in the managed system element or component. This profile describes the association between the managed system element and the event filters as well as the individual event filters. It also provides a way to set actions and notifications for individual event filters based on category, severity or InstanceID of the event filter.

Figure 1 represents the class schema for *Event Filter Profile*. For simplicity, the prefix DCIM_ has been removed from the names of the classes.

The DCIM_EFConfigurationService class represents the configuration service that allows the user to set the actions and notifications of event filters based on category and severity or purely based on instanceIDs of the event filter instances.

The DCIM_EventFilter class represents the individual event filters. Each instance of the class has many attribute including the category, severity, action to be taken and notification to be sent out on case of events according to these filters.
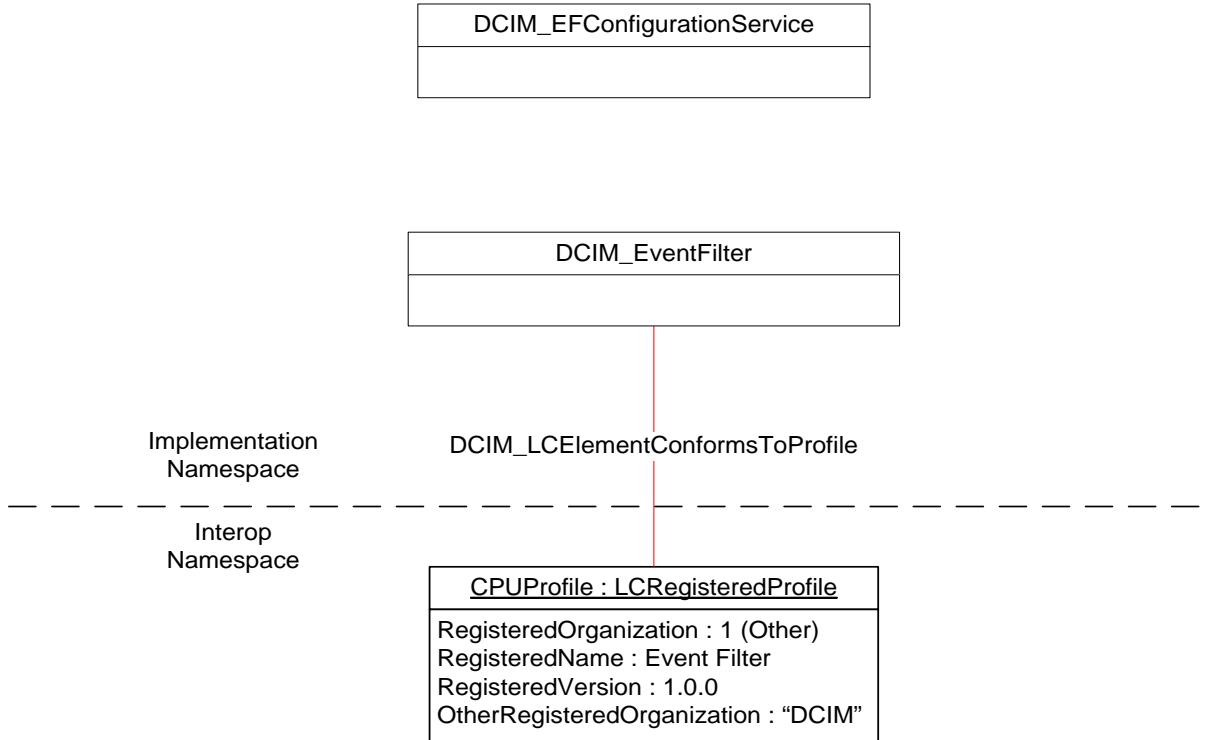
Figure 1.   Event Filter Profile Implementation

7.   Implementation Description

This section describes the requirements and guidelines for implementing Dell Event FilterEvent Filter Profile.

Table 2.   Class Requirements: Event Filter Profile

Element Name	Requirement	Description
Classes		
DCIM_EFConfigurationService	Mandatory	The class shall be implemented in the Implementation Namespace. It represents the EF configuration service and the methods available.
DCIM_EventFilter	Mandatory	The class shall be implemented in the Implementation Namespace. It captures the Event Filter itself.
DCIM_LCElementConformsToProfile	Mandatory	The class shall be implemented in both the Interop and Implementation Namespaces.
DCIM_LCElementConformsToProfile	Mandatory	The class shall be implemented in both the Interop and Interop Namespaces.
DCIM_LCRegisteredProfile	Mandatory	The class shall be implemented in the Interop Namespace.
Indications		
None defined in this profile		

7.1.   Event Filter (EF) Configuration Service

This section describes the implementation for the DCIM_EFConfigurationService class.

This class shall be instantiated in the Implementation Namespace.

7.1.1.   Resource URIs for WinRM®

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

The key properties shall be the SystemCreationClassName, CreationClassName, SystemName, Name.

The instance Resource URI for DCIM_EFConfigurationService instance shall be:
"http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_EFConfigurationService?__cimnamespace=root/dcim+SystemCreationClassName=DCIM_SPComputerSystem+CreationClassName=
DCIM_EFConfigurationService+SystemName=systemmc+Name=DCIM:EFConfigurationService"

7.1.2.   Operations

The following table details the implemented operations on DCIM_EFConfigurationService.

Table 3.   DCIM_EFConfigurationService - Operations

Operation Name	Requirements	Required Input
Get	Mandatory	Instance URI
Enumerate	Mandatory	Class URI
Invoke SetEventFilterByCategory()	Mandatory	Instance URI, parameter name-value pairs
Invoke SetEventFilterByInstanceIDs()	Mandatory	Instance URI, parameter name-value pairs

7.1.3.   Properties

The following table details the implemented properties for DCIM_EFConfigurationService instance representing the configuration service for event filters 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_EFConfigurationService – Properties

Property Name	Type	Requirements	Additional Requirements
SystemCreationClassName	string	Mandatory	The property shall have value of "DCIM_SPComputerSystem".
CreationClassName	string	Mandatory	The property shall have value of "DCIM_EFConfigurationService"
SystemName	string	Mandatory	The property shall have value of "systemmc"
ElementName	string	Mandatory	The property shall have value of "Event Filters"
Name	string	Mandatory	The property shall have value of "DCIM:EFConfigurationService"

7.2.   Event Filter

This section describes the implementation for the DCIM_EventFilter class.

For the full list of the Dell event filters, please refer to the *Dell Event Message Registry.*

This class shall be instantiated in the Implementation Namespace.

7.2.1.   Resource URIs for WinRM®

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

The key property shall be the InstanceID.

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

7.2.2. Operations

The following table details the implemented operations on DCIM_EventFilter.

Table 5. DCIM_EventFilter – 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_ EventFilter instance representing the event filters 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 6. DCIM_EventFilter – Properties

Property Name	Type	Requirements	Additional Requirements
InstanceID	string	Mandatory	The property shall have a format of "DCIM:<UID>" where <UID> is a unique identifier.
Category	string	Mandatory	The property shall represent the event filter category and may have one of the following values: "Audit", "Configuration", "Storage", "System Health", and "Update".
SubCategory	string	Mandatory	The property shall represent the event filter sub-category.
SubCategoryDescription	string	Mandatory	The property shall represent description of the sub-category.
Severity	string	Mandatory	The property shall describe the event severity and may have one of the following values: "Critical", "Warning", "Informational"
Action	uint16	Mandatory	The property shall have a value from one of the values in the PossibleActions property array.
Notification[]	uint16	Mandatory	The property array shall have values from one or more of the the PossibleNotifications property array values.
PossibleActions[]	uint16	Mandatory	The property array shall have the following value: • 0 (None), • 1 (Reboot), • 2 (Power Off) , • 3 (Power Cycle).
PossibleActionDescriptions[]	String	Mandatory	The property array shall have the following value: "Reboot","Power Off", "Power Cycle", "None"

Property Name	Type	Requirements	Additional Requirements
PossibleNotifications[]	uint16	Mandatory	The property array shall have the following value: 0(None), • 1(IPMI Alert), • 2(SNMP Trap), • 3(Email Alert), • 4(LCD), • 5(OS Log), • 6 (WS-Event).
PossibleNotificationDescriptions[]	string	Mandatory	The property array shall have the following value: "None", "IPMI Alert", "SNMP Trap", "Email Alert", "LC Log", "LCD", "OS Log".

7.3.   Event Filter 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)' ConformantStandard property shall reference the DCIM_LCRegisteredProfile instance.

7.3.1.   Resource URIs for WinRM®

The class Resource URI 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 URI shall be: "http://schemas.dell.com/wbem/wscim/1/cim-schema/2/DCIM_LCRegisteredProfile?__cimnamespace=root/interop+InstanceID= DCIM:EventFilter:1.0.0"

7.3.2.   Operations

The following table details the implemented operations on DCIM_SystemView.

Table 7.   DCIM_LCRegisteredProfile - Operations

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

7.3.3.   Properties

The following table details the implemented properties for DCIM_LCRegisteredProfile instance representing Event Filter 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 8.   Class: DCIM_LCRegisteredProfile

Properties	Requirement	Type	Description
InstanceID	Mandatory	String	This property shall have a value of "DCIM:EventFilter:4.0.0"
RegisteredName	Mandatory	String	This property shall have a value of "Event Filter".

Properties	Requirement	Type	Description
RegisteredVersion	Mandatory	String	This property shall have a value of "1.0.0".
RegisteredOrganization	Mandatory	Uint16	This property shall have a value of 1 (Other).
OtherRegisteredOrganization	Mandatory	String	This property 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. 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: • "LICENSED" • "NOT_LICENSED" If no license is required for the profile, the property shall have value NULL.

8. Methods

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

8.1. DCIM_EFConfigurationService.SetEventFilterByCategory()

A method used to set the action and notifications for all the event filters that belong to a particular category, subcategory and severity. If category, subcategory and severity are not provided as input to the method then it sets the action and notifications on ALL categories, ALL subcategories and ALL severities.

Table 9. DCIM_EFConfigurationService.SetEventFilterByCategory() Method: Return Code Values

Value	Description
0	Request was successfully executed.
2	Error occurred

Table 10. DCIM_EFConfigurationService.SetEventFilterByCategory() Method: Parameters

Qualifiers	Name	Type	Description/Values
IN	Category	string	Category of event filter. If value is given, it will try to set all
IN	SubCategory	string	SubCategory of event filter.
IN	Severity	string	Severity of event filter. If value is given, it will try to set all
IN, REQ	RequestedAction	uint16	Action requested to be set for the event filter. Refer mof for values.
IN, REQ	RequestedNotification[]	uint16	Notifications requested to be set for the event filter. Refer mof for values.

Qualifiers	Name	Type	Description/Values
OUT	MessageID	string	Error Message ID- can be used to index into Dell Message registry files
OUT	Message	string	Error Message in English corresponding to MessageID is returned if the method fails to execute
OUT	MessageArguments[]	string	Substitution variables for dynamic error messages

Table 11.   DCIM_EFConfigurationService.SetEventFilterByCategory() Method: Standard Messages

MessageID (OUT parameter)	Message	MessageArguments[]
RAC038	Cannot perform the operation due to an unknown error in iDRAC.	
RAC039	Invalid parameter value for %s	RequestedNotification, Category, Severity, SubCategory RequestedAction
RAC040	Missing parameter(s) %s	RequestedNotification, Category, Severity, SubCategory RequestedAction
RAC041	The Set operation on the event filter(s) failed	
RAC042	Invalid number of input parameters	
RAC043	Method failed to update some of the event filter settings.	
RAC044	Method failed to update all the event filter settings.	
RAC045	Event filter does not exist for input parameter combination	

8.2.   DCIM_EFConfigurationService.SetEventFilterByInstanceIDs()

A method used to set the action and notifications for all the event filters that belong to a particular set of InstanceIDs.

The method shall return 2 (Error Occurred), if a DCIM_EventFilter instance referenced by the InstanceID parameter has PossibleActions property value equal to 0 (None).

Table 12.   DCIM_EFConfigurationService.SetEventFilterByInstanceIDs() Method: Return Code Values

Value	Description
0	Request was successfully executed.
2	Error occurred

Table 13.   DCIM_EFConfigurationService.SetEventFilterByInstanceIDs() Method: Parameters

Qualifiers	Name	Type	Description/Values
IN, REQ	InstanceID[]	string	InstanceIDs of the event filter instances.
IN, REQ	RequestedAction	uint16	Action requested to be set for the event filter. Refer mof for values.
IN, REQ	RequestedNotification[]	uint16	Notifications requested to be set for the event filter. Refer mof for values.
OUT	MessageID	string	Error Message ID- can be used to index into Dell Message registry files

Qualifiers	Name	Type	Description/Values
OUT	Message	string	Error Message in English corresponding to MessageID is returned if the method fails to execute
OUT	MessageArguments[]	string	Substitution variables for dynamic error messages

Table 14. DCIM_EFConfigurationService.SetEventFilterByInstanceIDs() Method: Standard Messages

MessageID (OUT parameter)	Message	
RAC038	Cannot perform the operation due to an unknown error in iDRAC.	
RAC039	Invalid parameter value for %s	RequestedNotification,RequestedAction, InstanceID
RAC040	Missing parameter(s) %s	RequestedNotification,RequestedAction, InstanceID
RAC041	The Set operation on the event filter(s) failed	
RAC042	Invalid number of input parameters	
RAC046	Unsupported notification on the filter %s	InstanceID
RAC047	Unsupported action on the filter %s	InstanceID

8.3. DCIM_EFConfigurationService.SimulateTestEvent()

A method used to set the action and notifications for all the event filters that belong to a particular set of InstanceIDs.

The method shall return 2 (Error Occurred), if a DCIM_EventFilter instance referenced by the EFMessageID parameter has an invalid MessageID that does not exist within the iDRAC database.

The message IDs can be referred from Dell Message Registry at

http://ftp.dell.com/Manuals/all-products/esuprt_software/esuprt_ent_sys_mgmt/esuprt_ent_sys_mgmt_opnmng_sw/dell-opnmang-sw-v7.3_Reference%20Guide4_en-us.pdf

Table 15. DCIM_EFConfigurationService.SimulateTestEvent() Method: Return Code Values

Value	Description
0	Request was successfully executed.
2	Error occurred

Table 16. DCIM_EFConfigurationService.SimulateTestEvent() Method: Parameters

Qualifiers	Name	Type	Description/Values
IN, REQ	EFMessageIDs[]	string	EFMessageIDs of the event filter instances.
OUT	MessageID	string	Error Message ID- can be used to index into Dell Message registry files
OUT	Message	string	Error Message in English corresponding to MessageID is returned if the method fails to execute
OUT	MessageArguments[]	string	Substitution variables for dynamic error messages

Table 17. DCIM_EFConfigurationService.SetEventFilterByInstanceIDs() Method: Standard Messages

MessageID (OUT parameter)	Message	
RAC038	Cannot perform the operation due to an unknown error in iDRAC.	
RAC039	Invalid parameter value for %s	EFMessageIDs
RAC040	Missing parameter(s) %s	EFMessageIDs

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 18. Privilege and License Requirements

Class and Method	Operation	User Privilege Required	License Required
DCIM_EventFilter	ENUMERATE, GET	Login	None.
DCIM_EFConfigurationService	ENUMERATE, GET	Login	None.
DCIM_EFConfigurationService. SetEventFilterByCategory()	INVOKE	Login, Configure	LM_REMOTE_CONFIGURATION
DCIM_EFConfigurationService. SetEventFilterByInstanceIDs()	INVOKE	Login, Configure	LM_REMOTE_CONFIGURATION
DCIM_LCRegisteredProfile	ENUMERATE, GET	Login	None.
DCIM_LCElementConformsToProfile	ENUMERATE, GET	Login	None.