
1 HP Insight Management WBEM IPMI Record Log Provider Overview

Description

The HP Insight Management Web-Based Enterprise Management (WBEM) Intelligent Platform Management Interface (IPMI) Record Log provider supports system logs available on HP servers. These logs are called the System Event Log (SEL) and the Forward Progress Log (FPL) and contain informational, warning, and critical event information about a server's performance and sensors.

This provider implements the following profiles and installs the necessary files:

Profile Name	Organization	Version
HP Record Log Profile (P00109 sample test edit)	HP WBEM TC	1.0.0b

For each hardware architecture listed, this provider requires the following distributions

Requirements

- HP Integrity managed servers**
 - SLES 10 and later
 - RHEL 5.0 and later
- HP ProLiant managed servers**
 - SLES 11 and later
 - RHEL 5.3 and later

Release History

- Initial release with HP Insight Management WBEM Providers for Linux v2.0.

1-1 Setting Up the Provider

Installing the Provider

There are no special installation instructions for this provider. It is installed by default as part of the HP Insight Management WBEM providers.

Configuring the Provider

This provider does not accept specific configuration adjustments beyond standard HP Insight Management WBEM support.

1-2 Using the Provider

Namespaces Supported by the Provider This provider returns instances in the `root/hpq` namespace.

Schema Supported by the Provider

This provider supports the following classes:

- `SMX_FPLRecordLog`
- `SMX_FPLLogEntry`
- `SMX_FPLLogManagesRecord`
- `SMX_FPLUseOfLog`
- `SMX_SELRecordLog`
- `SMX_SELogEntry`
- `SMX_SELogManagesRecord`
- `SMX_SELRecordLogIndication`
- `SMX_SELUseOfLog`

The tables in the following sections describe the properties of the supported classes. The classes are categorized by the class or superclass that defines the property, the first column is the property name (including type and units) and the second column describes how the provider determines the properties implementation. When the property implementation value is a number, the number given is the default behavior and the Managed Object Format interpretation is within parenthesis. If other values are returned, a problem is indicated.

Unless otherwise noted, all of the property implementation values given are for HP ProLiant and HP Integrity (cellular and non-cellular) systems. The location related properties and implementation values are determined based on the server type so they may differ.

1-2-1 SMX_FPLRecordLog Class

The `SMX_FPLRecordLog` class implements the `HP_CommonRecordLog` class to model the server management record log.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_ManagedElement	
Caption	FPL record log

Property Name	Property Implementation
Description	Forward Progress Log
ElementName	FPL record log
CIM_ManagedSystemElement	
Name	FPL record log
OperationalStatus	OperationalStatus[0] indicates whether the FPL log is in good health and accepting new FPL entries. 2 (OK), FPL is operating properly
StatusDescriptions	StatusDescriptions[0] will contain the following value corresponding to OperationalStatus[0]: OK
HealthState	5 (OK), when OperationalStatus[0]=2 (OK)
CIM_LogicalElement	
CIM_EnabledLogicalElement	
EnabledState	2 (Enabled)
RequestedState	5 (Not Applicable)
EnabledDefault	2 (Enabled)
CIM_Log	
MaxNumberOfRecords	Number of records which will be greater than 0
CurrentNumberOfRecords	Number of records in the FPL log (SMX_FPLLogEntry instances)
LogState	2 (Normal)
OverwritePolicy	2 (Wraps When Full) The FPL entries fill up available FPL non-volatile memory space until no room is left. The oldest log entries are then be deleted as needed to create room for new log entries.
CIM_RecordLog	
InstanceID	HPQ:SMX_FPLRecordLog:1
HP_CommonRecordLog	

Property Name	Property Implementation
TimeOfLastChange	Time of last log change

The following table lists implemented methods for the SMX_FPLRecordLog class.

Method Name	Method Implementation
ClearLog	See the HP Record Log profile.
RepairAll	See the HP Record Log profile.

1-2-2 SMX_FPLLogEntry Class

The SMX_FPLLogEntry class implements the HP_CommonLogEntry class to model logs records within the FPL log.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_ManagedElement	
Caption	FPL record log entry <RecordID> Where: <RecordID> is the SMX_FPLLogEntry.RecordID for the event.
Description	Same as Caption.
ElementName	Same as Caption.
CIM_RecordForLog	
CIM_LogEntry	
InstanceID	HPQ:<opaque hexadecimal key>
LogInstanceID	SMX_FPLRecordLog.InstanceID
LogName	SMX_FPLRecordLog.Name
RecordID	FPL event number
HP_CommonLogEntry	
RawData	FPL log event raw data array
MajorClass	11 (FPL)
MinorClass	2 (None)

Property Name	Property Implementation
SystemSerialNumber	System serial number string from SMBIOS. For example: USE4822L0H
SystemModel	System model number string from SMBIOS. For example: server rx6600
SystemName	Computer system name.
LoggerType	2 (Server)

The following table lists implemented methods for the SMX_FPLLogEntry class.

Method Name	Method Implementation
Repair	See the HP Record Log profile.

1-2-3 SMX_FPLLogManagesRecord Class

The SMX_FPLLogManagesRecord class implements the HP_LogManagesRecord class and associates instances of HP_RecordLog and HP_LogEntry.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_LogManagesRecord	
HP_LogManagesRecord	
Log	References SMX_FPLRecordLog
Record	References SMX_FPLLogEntry

1-2-4 SMX_FPLUseOfLog Class

The SMX_FPLUseOfLog class implements the HP_UseOfLog class and associates the instance of HP_ComputerSystem with the instance of HP_CommonRecordLog.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_Dependency	
CIM_UseOfLog	
HP_UseOfLog	
Antecedent	References SMX_FPLRecordLog
Dependent	References SMX_ComputerSystem

1-2-5 SMX_SELRecordLog Class

The SMX_SELRecordLog class implements the HP_CommonRecordLog class to model the server management record log.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_ManagedElement	
Caption	SEL record log
Description	System Event Log
ElementName	SEL record log
CIM_ManagedSystemElement	
Name	SEL record log
OperationalStatus	OperationalStatus[0] indicates whether the SEL log is in good health and accepting new SEL entries. 2 (OK), SEL is operating properly
StatusDescriptions	StatusDescriptions[0] will contain the following value corresponding to OperationalStatus[0]: OK
HealthState	5 (OK), when OperationalStatus[0]=2 (OK)
CIM_LogicalElement	
CIM_EnabledLogicalElement	

Property Name	Property Implementation
EnabledState	2 (Enabled)
RequestedState	5 (Not Applicable)
EnabledDefault	2 (Enabled)
CIM_Log	
MaxNumberOfRecords	Number of records available in NVRAM. This will be greater than 0
CurrentNumberOfRecords	Number of records in the SEL log (not equal to the SMX_SELLogEntry instances as these instances are the sum of both SEL log entries and the SEL cache).
LogState	2 (Normal)
OverwritePolicy	2 (Wraps When Full) The SEL entries fill up available SEL non-volatile memory space until no room is left. The oldest log entries are then be deleted as needed to create room for new log entries.
CIM_RecordLog	
InstanceID	HPQ:SMX_SELRecordLog:1
HP_CommonRecordLog	
TimeOfLastChange	Time of last log change.

The following table lists implemented methods for the SMX_SELRecordLog class.

Method Name	Method Implementation
ClearLog	See the HP Record Log profile.
RepairAll	See the HP Record Log profile.

1-2-6 SMX_SELLogEntry Class

The SMX_SELLogEntry class implements the HP_CommonLogEntry class to model logs records within the SEL log.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_ManagedElement	
Caption	SEL record log entry <RecordID> Where: <i>RecordID</i> is the <code>SMX_SELLogEntry.RecordID</code> for the event.
Description	Same as Caption.
ElementName	Same as Caption.
CIM_RecordForLog	
CIM_LogEntry	
InstanceID	HPQ:<opaque hexadecimal key>
LogInstanceID	<code>SMX_SELRecordLog.InstanceID</code>
LogName	<code>SMX_SELRecordLog.Name</code>
RecordID	SEL event number.
HP_CommonLogEntry	
RawData	SEL log event raw data array
MajorClass	12 (SEL)
MinorClass	2 (None)
SystemSerialNumber	System serial number string from SMBIOS. For example: USE4822L0H
SystemModel	System model number string from SMBIOS. For example: server rx6600
SystemName	Computer system name.
LoggerType	2 (Server)

The following table lists implemented methods for the SMX_SELLogEntry class.

Method Name	Method Implementation
Repair	See the HP Record Log Profile.

1-2-7 SMX_SELLogManagesRecord Class

The SMX_SELLogManagesRecord class implements the HP_LogManagesRecord class and associates instances of HP_RecordLog and HP_LogEntry.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_LogManagesRecord	
HP_LogManagesRecord	
Log	References SMX_SELRecordLog
Record	References SMX_SELLogEntry

1-2-8 SMX_SELUseOfLog Class

The SMX_SELUseOfLog class implements the HP_UseOfLog class and associates the instance of HP_ComputerSystem with the instance of HP_CommonRecordLog.

The following table lists the properties implemented.

Property Name	Property Implementation
CIM_Dependency	
CIM_UseOfLog	
HP_UseOfLog	
Antecedent	References SMX_SELRecordLog
Dependent	References SMX_ComputerSystem

1-3 Provider Indications

1-3-1 SMX_SELRecordLogIndication Class

The `SMX_SELRecordLogIndication` class implements and extends the `HP_CommonRecordLogIndication` class to Alert Clients to new WBEM events found in the SEL Record log.

The following table describes the properties that are exposed for the SEL Record Log Provider indications that are implemented for server platforms, where available:

Property Name	Property Implementation
CIM_Indication	
IndicationIdentifier	GUID string generated at the time of indication.
IndicationTime	Time of indication.
CIM_AlertIndication	
EventTime	Time of the event or time of the indication if event time unknown.
SystemName	<code>SMX_ComputerSystem.Name</code>
SystemCreationClassName	<code>SMX_ComputerSystem.CreationClassName</code>
HP_AlertIndication	
AlertingElementFormat	2 (CIMObjectPath)
AlertType	1 (Other)
Description	Long text description of the event.
EventCategory	Any of 30 Supported WBEM Event Categories: 0-9, 11,14,16,18, 20-21, 23,25,28, 33-34, 39, 40-43, 45-46
EventID	Valid specific WBEM Event Number.
ProviderName	<code>FPL_IndicationProvider</code>
ProviderVersion	Provider Version in the format <code>VV.UU.FF</code> . For example: <code>02.03.10</code>
NetworkAddresses	Contains a list of all the IP addresses or hostname of the computer system generating the indication.

Property Name	Property Implementation
OSType	On Linux, 36 (Linux)
OSVersion	The operating system version of the computer system generating the indication in the following format: <major>, <minor>, <build>
ProbableCause	0 (Unknown)
ProbableCauseDescription	Short text describing cause if known.
RecommendedActions	If action exists, this array will contain text values of human readable strings for potential resolution.
Summary	Short Text describing the SEL Record Log Event.
SystemFirmwareVersion	Array of firmware versions of the computer system generating the indication.
SystemSerialNumber	Serial number of the computer system generating the indication.
SystemProductID	Product ID of the computer system generating the indication.
SystemModel	Model name of the computer system generating the indication.
SystemGUID	Platform GUID of the computer system generating the indication.
SystemVirtualUUID[]	If Synergy is enabled, this will contain the logical UUID for the system.
SystemVirtualSerialNumber[]	If Synergy is enabled, this will contain the logical Serial Number for the system.
EnclosureName	HP_BladeEnclosureCS.Name
RackName	Rack name, if one exists
RackUUID	Rack Unique Identifier, if one exists
BladeName	HP_ComputerSystem.Name, if BladeSystem
BladeBay	HP_BladeCSLocation.LocationInformation[0], if BladeSystem
HP_CommonRecordLogIndication	
PerceivedSeverity	0 (Unknown) 3 (Degraded/Warning) 6 (Critical)
RecordLogInstanceID	Opaque Record Log key.

Property Name	Property Implementation
LogEntryInstanceIDs	Array of length 1 containing an opaque Log Entry key.
SMX_SELRecordLogIndication	
RawData	Array of 14 bytes of raw event data.
VariableNames	<p>Indexed arrays VariableNames[0] per VariableValues[0] per VariableTypes[0], any or all of the following values:</p> <p>"IPMIEventHex"</p> <p>"DataFieldTypeName"</p> <p>"DecodedDataFiled"</p> <p>"ReportingEntityID"</p> <p>"ReportingEntityFullName"</p> <p>"IPMIEventID"</p> <p>"SWID"</p>
VariableTypes	1
VariableValues	<p>For VariableNames "IPMIEventHex":</p> <p>This will be hex string representing the IPMIEvent</p> <p>For VariableNames "DataFieldTypeName":</p> <p>This will contain text Physical Location</p> <p>For VariableNames "DecodedDataFiled":</p> <p>"Physical Location = " followed by HWPhysicalLocation</p> <p>For VariableNames "ReportingEntityID":</p> <p>Value will contain hex string representing the ReportingEntity</p> <p>For VariableNames "ReportingEntityFullName":</p> <p>Value will be NA</p> <p>For VariableNames "IPMIEventID":</p> <p>Value will contain hex string representation of IPMIEventID</p> <p>For VariableNames "SWID":</p> <p>Value will contain hex string representation of SystemGUID</p>
HWPhysicalLocation	<p>8-Byte Physical Location blob represented as a string</p> <p>For example:</p> <p>"00-ff-ff-ff-ff-05-ff-64"</p>

