Watchdog Sub Profile

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2   ## Revision History

Version	Due Dates	Milestones
0.0	6/15/04	First Rev – includes CIM classes, properties etc.
0.1	6/10/04	Initial draft. Content mostly complete, not necessarily correct.
0.3	6/15/04	First Profile WG review
		Post to Profile Draft Specifications folder on the Profile web site.
		Fold in review comments. Finish all incomplete sections.
0.6	7/9/04	Second Profile WG review
		Use 'add revision" to update draft.
		Fold in review comments.
0.8	8/1/04	First SMWG review
		Use 'add revision" to update draft.
0.9		Fold in review comments.
1.0	9/1/04	Formal DMTF and Company review
		Use 'add revision" to update draft.

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1.1 Description

This subprofile describes the necessary elements needed to provide the capability for the
hardware watchdog, which allows MAP to monitor the In-Service and Out-of-Service
state of the host. The watchdog is maintained by the map. The host operating system, (via
some device drivers) is able to constantly ping the watchdog hardware to keep it alive. In
the case of OS crash, the OS fails to ping the watchdog, the hardware watchdog kicks off
and allows MAP to recognize this event, and optionally take any corrective actions.

1.2 Standard Dependencies
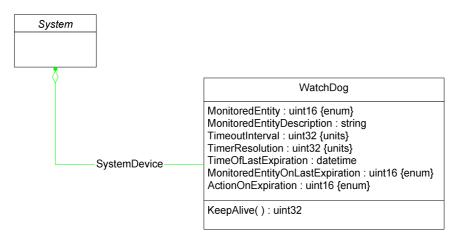
Standard / Specifications	Version	Organization
Base system profile		

1.3 Subprofile Dependencies

Profile / Subprofile Name	Version	Organization	Required

1.4 1.4 Instance Diagram

The following diagram shows the CIM element that is used in this subprofile. For simplicity, the prefix CIM_ has been removed from the name of the classes.

Each instance of the hardware watchdog will be represented by an instance of the above class.

The MonitoredEntity property is used to indicate the entity that is being monitored by the watchdog. This could be the Operating System, Boot process, Shutdown process, BIOS or an application. Typically, the entry that is being monitored is the one responsible for pinging the watchdog by calling Keepalive() function.

ActionOnExpiration property can be used to set the action in response to the timeout. This could be a system reset, power off or generating an interrupt.

EnabledState property is used to enable/disable the watchdog.

1.5 Methods

KeepAlive() is a method that is called by the Monitored Entity to keep the watchdog from expiring and taking the configured action. To keep the watchdog alive, this method must be called within the interval defined by the TimeoutInterval property. If the Monitored Entity fails to do so, then the watchdog will expire.

1.6 Client Considerations

Clients can change the TimeoutInterval, ActionOnExpiration and EnabledState.
It is advised that when enabling the watchdog, the TimeontInterval and ActionOnExpiration is set first, and then the watchdog is enabled.
Other properties are set by the system or MAP.

1.6.1 Use Cases

TBD

1.6.2 CLP Client

TBD

1.6.3 SP WBEM Client

[TBD – dependent on the definition of Structured Protocol.]

1.7 Instrumentation Requirements

Instrumentation must allow a mechanism for the MonitoredEntity to call the KeepAlive() method. This mechanism is not defined as part of the profile, and is dependent on the access methods between the MAP and the MonitoredEntity.

1.8 Required CIM Elements

The following table shows the REQUIRED instances of CIM Elements for this Subprofile. Instances of the following CIM Elements MUST be implemented as described in the table. The Client and Instrumentation Requirements sections MAY impose additional requirements on these elements.

Classes (including Associations)	Notes
CIM_System	
CIM_Watchdog	
Methods	Notes
KeepAlive()	
Indications	Notes
None	

1.9 Required and Recommended Properties for CIM Elements

Class: **CIM_System**

Required Properties	Notes
CreationClassName	Key
Name	Key
InstanceTag	Used in naming – should be set to system1, system2 etc.
Recommended Properties	**Notes**

Class: **CIM_Watchdog**

Required Properties	Notes
SystemCreationClassName	Key
SystemName	Key
CreationClassName	Key
DeviceID	Key
MonitoredEntity	The Entity being monitored by watchdog
TimeoutInterval	
TimerResolution	
ActionOnExpiration	
InstanceTag	
EnabledState	
Recommended Properties	**Notes**
MonitoredEntityDescription	
Description	
ElementName	