



David Watts

Using the IBM Director cimsubscribe Utility

Introduction

The **cimsubscribe** utility configures the processing of CIM-based hardware events, called *CIM indications*, locally on the managed system. Common Information Model (CIM) is a systems management industry standard. CIM provides a common definition of management information for systems, networks, applications and services and allows the exchange of information between systems.

The **cimsubscribe** utility allows you to control what events are sent from IBM® Director Agent to IBM Director Server and enterprise managers such as Tivoli®, Microsoft® SMS, and others that use SNMP. For example, if you do not want to get normal events via SNMP, you can use **cimsubscribe** to turn off all the subscriptions to normal event filters and SNMP. You may also want to enable local popup windows for specific events.

In previous versions of IBM Director Agent, you could use the Web-based Access utility to configure local events; however, this was only for Windows®-based managed systems only. The use of **cimsubscribe** can be on all IBM Director Agent systems and can be scripted for mass configuration.

The utility is installed as part of IBM Director Agent (both Level-1 and Level-2) in the Director\CIMOM\BIN directory (for Windows installs, for example, this is c:\Program Files\IBM\Director\CIMOM\BIN).

In some respects CIM events are similar in structure to event action plans (EAPs) in IBM Director. Whereas EAPs have event filters, event actions and event action plans, CIM events have *filters*, *handlers*, and *subscriptions*.

Filter

Think of filters as thresholds or items being monitored. You can think of a filter as a Simple Filter in the Event Action Plan Builder. An example of a filter is Service Processor Generic Fan Criticals.

Filters are automatically created during the installation of IBM Director, based on the detected hardware capabilities. It is therefore not recommended to delete the predefined filters, even though it is possible to do so. You can also create your own filters.

There are approximately 90 filters predefined as listed in Table 2 on page 11.

When specifying a filter name on the cimsubscribe command line, if it has spaces in the name, enclose the name with double quotes, such as "**Service Processor Generic Fan Criticals**".

Note: The names of filters are case sensitive.

Once IBM Director Server discovers a managed system, a new filter is automatically created. The name of the filter is the unique ID (UID) of the particular management server. See "Subscriptions to IBM Director Server" on page 9 for details.

Handler

A handler is a way of processing an event. You can think of a handler as an action in the Event Action Plan Builder. An example of a handler is popup. Handlers for processing the hardware events, including displaying a popup message, logging in the local operating system event log, and converting to a SNMP Traps are automatically created during the installation of IBM Director.

Like the standard filters, it is not recommended to delete the predefined handlers, even though it is possible to do so.

The standard handlers are:

► **SNMP**

This handler sends an SNMP alert to the systems defined by the local operating system. For Linux®, this is the NetSNMP Agent.

For Windows, you may first have to install SNMP on the managed system as follows:

Step	Action
1	From Control Panel, start Add/Remove Programs .
2	Click the Add/Remove Windows Components button.
3	Highlight Management and Monitoring Tools , and click Details .
4	Select Simple Network Management Protocol , and click OK .
5	Click Next to install SNMP. During the installation, you may be prompted to supply operating system installation CD-ROMs.
6	Once SNMP is installed, open Services (Run services.msc).
7	Scroll down to SNMP Service, right-click it, and click Properties .
8	In the Traps tab, enter a community name and trap destinations where you want the alerts to be sent.

► **SMS**

This handler sends events to Microsoft Systems Management Server (SMS). To use this handler, you must have the SMS agent installed locally. This handler is not configurable.

- ▶ **PopUp**
Display a popup on the local system. See Figure 1 on page 7 for an example.
- ▶ **Health**
The Health handler sends events to the `IBMPGSG_ComponentHealth` Class. This is a CIM Class used to store a snapshot of the system's hardware and its status. A variety of applications, including IBM Director, uses this information to display status information about the managed system.
- ▶ **TEC**
This handler sends alerts to Tivoli Enterprise™ Console (TEC) and requires that the TEC agent be installed locally.

There is some configuration that can be done for TEC by editing the file `cimom/data/cimclient/TivoliConsumer.cfg`. Following are the parameters in this file:
 - **tecEventCommand**: Specify the Tivoli command to be used to send events to TEC. Choices are **TME**, which uses `wpostemsg` (secure, uses Tivoli Endpoint Services) or **nonTME**, which uses `postemsg` (non secure, no Tivoli endpoint required). **TME** is the default.
 - **tecConfigFile**: Specify if the `cimom/data/cimclient/tecad_eif.conf` file is used to configure the Tivoli adapter. The default is **false** (no). Consult the Tivoli documentation on how to configure this file. Here you can configure destination and a wide variety of other settings.

By default, `wpostemsg` is used with no configuration file. In this case the Tivoli End Consumer uses the `wpostemsg` command and Tivoli Endpoint Services. It sends events to any TEC Server that discovered this agent.
- ▶ **Log**
Writes the event to the Windows Event Log or syslog on Linux.

Note: The names of handlers are case sensitive.

Once a managed system is discovered by IBM Director Server, a new handler is automatically created. The name of the handler is the unique ID (UID) of the particular management server. See , “Subscriptions to IBM Director Server” on page 9 for details.

Subscription

A subscription is the assignment of a filter to a handler so the event can be processed. You can think of a subscription as an event action plan.

Subscriptions are automatically created during the installation of IBM Director for most (but not all) handlers. You can create and delete subscriptions as desired to modify the processing of the hardware events.

By default every predefined filter is bound to handlers SNMP, SMS, TEC, and Log. Many of the predefined filters are also defined to handler Health. No subscriptions use handler PopUp by default.

A full list of subscriptions, showing the filter and handler combinations is shown in Table 3 on page 14.

Once a managed system is discovered by IBM Director Server, a new subscription is automatically created, which enables the sending of events from IBM Director Agent to IBM Director Server. See “Subscriptions to IBM Director Server” on page 9 for details.

Using cimsubscribe

There are a number of ways to use `cimsubscribe`:

- ▶ As a command line, where all parameters are passed on the command line
- ▶ Interactively using the `-i` parameter
- ▶ In batch, using the `-b filename` parameter where all commands are in the supplied file

You can also issue commands against the local IBM Director Agent installation, or you can specify that the commands update a remote system by using the `-l location` parameter. The remote system must also have Director Agent (Level-1 or Level-2) installed.

A complete list of the parameters that `cimsubscribe` accepts can be found in the *IBM Director Systems Management Guide* or by issuing the following command:

```
cimsubscribe -h  
cimsubscribe -h > cimsubscribe.txt
```

We recommend that you use the second command to pipe the output of the help parameter to a text file for later review. For convenience, the output of the help command is listed in Example 1:

Example 1 Output from the `cimsubscribe -h` command

```
cimsubscribe  
  Create and Delete CIM Indication subscriptions  
  
Create a new Filter:  
cimsubscribe -cf -fn <filterName> -q <query>  
  
Create a new Handler:  
cimsubscribe -ch -hn <handlerName> -d <destination>  
  
Create a new Subscription:  
cimsubscribe -cs -fn <filterName> -hn <handlerName>  
  
Delete an existing Filter:  
cimsubscribe -df -fn <filterName>  
  
Delete an existing Handler:  
cimsubscribe -dh -hn <handlerName>  
  
Delete an existing Subscription:  
cimsubscribe -ds -fn <filterName> -hn <handlerName>  
  
Parameters:  
-----  
  
-lf -listfilters          List the current set of CIM_IndicationFilter  
  
-lh -listhandlers        List the current set of CIM_IndicationHandlerCIMXML  
  
-ls -listsubscriptions   List the current set of CIM_IndicationSubscription
```

-cf -createfilter Create a new CIM_IndicationFilter
Requires the -fn -q option

-ch -createhandler Create a new CIM_IndicationHandlerCIMXML
Requires the -hn -d option

-cs -createsubscription Create a new CIM_IndicationSubscription
Requires the -fn and -hn option
Will do a check to ensure the specified
handler and filter exist.

-df -deletefilter Deletes the specified CIM_IndicationFilter
Will do a check to ensure the specified
filter exists. Also checks to see if an existing
CIM_IndicationSubscription is using this filter.
Returns error if the filter is in use or does not exist
Requires the -fn option or the -a option for ALL

-dh -deletehandler Deletes the specified CIM_IndicationHandlerCIMXML
Will do a check to ensure the specified
handler exists. Also checks to see if an existing
CIM_IndicationSubscription is using this handler.
Returns error if the handler is in use or does not exist
Requires the -hn option or the -a option for ALL

-ds -deletesubscription Deletes the specified CIM_IndicationSubscription
First checks to ensure that the specified
subscription exists.
Requires the -fn and -hn option or the -a option for ALL

-q -query A WQL query used to filter CIM_Indication instances.
eg:
"SELECT * FROM IBM_AlertIndication where Severity = 2"

-d -destination A URL used to identify an End Consumer location. eg:
"http://localhost:6988/CIMListener/syslog"

-fn -filtername Used to identify a specific CIM_IndicationFilter instance

-hn -handlername Used to identify a specific CIM_IndicationHandlerCIMXML instance

-a Used to specify ALL in a deletion operation

Optional parameters:

-n -namespace Namespace. The default is "root/ibmsd"

-l -location The hostname and port of the system on which to modify
subscriptions. Requires a username and password for
non-localhost destinations. Requires a fully qualified
hostname when creating a remote filter, handler, or subscription, eg:
remotehost.raleigh.ibm.com:5988
default is:
localhost:5988

-u -username User. Allows input of a username for authentication

-p -password Password. Allows input of a password for server authentication of the command.

-s -secure <yes | no>
Use this flag to specify communication with the HTTP or HTTPS protocol
yes - will connect securely to port 5989 (by default)
no - will connect to port 5988 (by default)
If this flag is not specified, HTTP will be used.

-k -key <client private key file>
Full system path to the client private key file.
Only valid if using HTTPS port
For example, 'c:\test\client.key'

-c -certificate <client certificate file>
Full system path to the client x509 certificate.
Only valid if using HTTPS port
For example, 'c:\test\client.cert'

-i Interactive mode
Prompts user for information to assist in
Filter/Handler/Subscription creation.

-b Batch mode
Specify a file to read in large batches of subscriptions.
Each line of the file is read and processed like a standard
cimssubscribe command.

-h or -? Displays this message.

To see what subscriptions, filters, and handlers are already defined, use the matching list command:

cimssubscribe -ls — to list all subscriptions
cimssubscribe -lf — to list all filters
cimssubscribe -lh — to list all handlers

Once again, we recommend that you pipe the output to a text file.

Tip: The output of these commands is very long, but we tabulated the default subscriptions, filters, and handlers at the end of this document:

- ▶ “Predefined CIM handlers” on page 10
- ▶ “Predefined CIM filters” on page 10
- ▶ “Predefined CIM subscriptions” on page 14

A review of Table 3 on page 14 shows that no predefined subscriptions use the Popup handler to display a popup on the managed system. This default is different than the one with IBM Director 4.x.

To create a new subscription, use the following command syntax:

cimssubscribe -cs -fn *filter* -hn *handler* [options]

Note: The names of filters and handlers are case sensitive.

As an example, to create a subscription that associates the popup action with filters, Storage Criticals, and Storage Warnings, issue the following commands:

```
cimsubscribe -cs -fn "Storage Criticals" -hn PopUp  
cimsubscribe -cs -fn "Storage Warnings" -hn PopUp
```

If successful, you are returned to the command prompt as shown in Example 2.

Note: The *IBM Director Systems Management Guide* incorrectly lists the syntax of deleting a subscription as `-ds -sn subscription_name`. The correct syntax is `cimsubscribe -ds -fn filter_name -hn handler_name`.

Example 2 Creating new CIM subscriptions

```
C:\Program Files\IBM\Director\cimom\bin>cimsubscribe -cs -fn "Storage Criticals"  
-hn PopUp  
Connecting to localhost:5988...  
C:\Program Files\IBM\Director\cimom\bin>cimsubscribe -cs -fn "Storage Warnings"  
-hn PopUp  
Connecting to localhost:5988...  
  
C:\Program Files\IBM\Director\cimom\bin>
```

Tip: There is little error checking with the `cimsubscribe` command. Errors such as leaving off the quotation marks or specifying “popup” instead of “PopUp” do not return an error message. The only way to confirm the update is to issue a `cimsubscribe -ls` command and review the output.

Now, when you run low on disk storage on the managed system, the following popup message appears on that system.

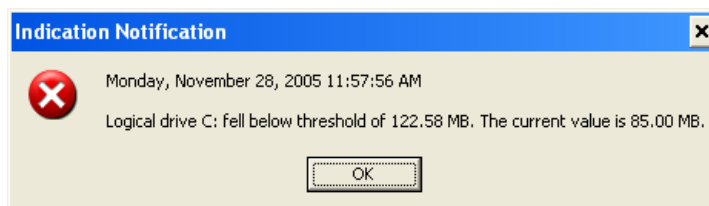


Figure 1 Popup message as a result of the CIM subscription

If you wish to later delete these new popup subscriptions, use the following commands:

```
cimsubscribe -ds -fn "Storage Criticals" -hn PopUp  
cimsubscribe -ds -fn "Storage Warnings" -hn PopUp
```

As we said earlier, you can also use `cimsubscribe` interactively. The following shows the output when creating the above subscriptions.

Notes:

- ▶ The default namespace is `root/ibmsd`; however, you must still enter it when prompted.
- ▶ If you say Yes to wanting a secure connection, then you need to specify the location of a client x509 certificate.
- ▶ Case is significant. For example “popup” and “PopUp” are different handlers.

Example 3 Output from an interactive session

```
C:\Program Files\IBM\Director\cimom\bin>cimsubscribe -i
What system would you like to connect to?
1. localhost
2. remote host
1
What port would you like to connect to?
1. 5988 (HTTP)
2. 5989 (HTTPS)
3. Another port
1
Enter the namespace.
root/ibmsd
Do you want a secure connection?
1. Yes
2. No
2
Connecting to localhost:5988...
Interactive mode

What would you like to do?
1. Create a filter
2. Create a handler
3. Create a subscription (bind an existing filter and handler)
4. Delete an existing filter
5. Delete an existing handler
6. Delete an existing subscription
7. Exit
3

To create a subscription you must provide a Filter->Handler pair.

What is the name of the Filter you would like to use?
Storage Criticals

What is the name of the Handler you would like to bind it to?
PopUp

What would you like to do?
1. Create a filter
2. Create a handler
3. Create a subscription (bind an existing filter and handler)
4. Delete an existing filter
5. Delete an existing handler
6. Delete an existing subscription
7. Exit
7

C:\Program Files\IBM\Director\cimom\bin>
```

Subscriptions to IBM Director Server

Whenever a management server establishes contact (either through discovery or manually adding the agent to the console), a new filter, handler, and subscription are automatically created. It is this subscription that enables the sending of events from IBM Director Agent to IBM Director Server.

The name of the filter and handler is the UID (unique ID) of the IBM Director Server. The filter receives all events from CIM_AlertIndication, which effectively means “all events”. The handler sends the event to the IBM Director server via its IP address.

For example, if the IBM Director Server UID is 2f7c756f26b00121, then the filter is defined as

```
Name:      2f7c756f26b00121
Query:     SELECT * from CIM_AlertIndication
```

The handler is defined in one of two ways, depending on whether the managed system has Level-1 or Level-2 agent installed:

Level-1 (IBM Director Core Services):

```
Name:      2f7c756f26b00121
Destination: http://192.168.128.51:6988/CIMListener/DirectorConsumer/192.168.128.51
```

Level-2 (IBM Director Agent):

```
Name:      2f7c756f26b00121
Destination: http://localhost:6988/CIMListener/DirectorConsumer/192.168.128.51
```

- ▶ The handlers for the two agent types are different because a Level-1 agent does not support IBM Director interprocess communications (IPC), while Level-2 IBM Director Agent does.
- ▶ The Level-1 agent uses the DirectorConsumer handler on the management server (the `http://192.168.128.51` in the destination), while the Level-2 agent uses the DirectorConsumer handler locally (`http://localhost`) that in turn sends the event via IPC to IBM Director Server.

The subscription that gets automatically created binds the filter and the handler together so that all CIM indications are forwarded to IBM Director Server for further processing via IBM Director event action plans.

Note: Since the handler uses the IP address and UID of the management server, it is essential that these not change. This is why a static IP address is required for the management server.

If the IP address of your management server changes, do the following on each agent (assuming the management server UID is as previously mentioned):

1. Delete the subscription with the name of the management server UID. You can get the UID by double clicking the management server in IBM Director Console to display System Attributes.

```
cimsubscribe -ds -fn 2f7c756f26b00121 -hn 2f7c756f26b00121
```

2. Delete the filter with the name of the management server UID.

```
cimsubscribe -df -fn 2f7c756f26b00121
```

3. Delete the handler with the name of the management server UID.

```
cimsubscribe -dh -hn 2f7c756f26b00121
```

4. Delete the managed system from IBM Director Console.

5. Re-discover the managed system.

Predefined CIM handlers

Table 1 lists the handlers (actions) that are predefined when IBM Director Agent is installed.

Table 1 Predefined CIM handlers

Handler name	Handler destination
Health	http://localhost:6988/CIMListener/HealthConsumer
Log	http://localhost:6988/CIMListener/LogConsumer
PopUp	http://localhost:6988/CIMListener/PopupConsumer
SMS	http://localhost:6988/CIMListener/SMSConsumer
SNMP	http://localhost:6988/CIMListener/SnmpConsumer
TEC	http://localhost:6988/CIMListener/TivoliConsumer
2f7c756f26b00121 (See note)	http://localhost:6988/CIMListener/DirectorConsumer/192.168.128.51
7f6e6daa36b2e3e5 (See note)	http://localhost:6988/CIMListener/DirectorConsumer/9.42.171.174
<p>Note: The last two handlers are created when a management server first discovers a managed system. One handler is created for each IBM Director Server that contacts the agent. The handler name is the unique ID (UID) of the IBM Director Server and varies from installation to installation. <i>ipaddress</i> in the handler destination is the IP address of that particular IBM Director Server system. See "Subscriptions to IBM Director Server" on page 9 for more information.</p>	

Predefined CIM filters

Table 2 on page 11 lists all the filters defined by default. All filters are of the following form:

```
SELECT * from cim_indication where PerceivedSeverity = sev
```

where `cim_indication` and `sev` are listed in the table below. When you list all filters using the `cimsubscribe -lf` command, each filter is displayed as follows (using the first one as an example):

Example 4 Portion of output from the `cimsubscribe -lf` command

```

CIM_IndicationFilter.CreationClassName="CIM_IndicationFilter",Name="ASR Criticals",SystemCreationClassName=
"CIM_ComputerSystem",SystemName="fs2-vm-xp"
Caption =
CreationClassName = CIM_IndicationFilter
Description =
ElementName =
Name = ASR Criticals
Query = SELECT * from IBMx_AutomaticServerRestartEvent where PerceivedSeverity = 6
QueryLanguage = WQL
SourceNamespace =
SystemCreationClassName = CIM_ComputerSystem
SystemName = fs2-vm-xp

```

Table 2 Predefined CIM filters

CIM filter name	CIM indication	Sev
ASR Criticals	IBMx_AutomaticServerRestartEvent	6
ASR Normals	IBMx_AutomaticServerRestartEvent	2
ASR Warnings	IBMx_AutomaticServerRestartEvent	4
Chassis Criticals	IBMPSG_ChassisEvent	6
Chassis Normals	IBMPSG_ChassisEvent	2
Chassis Warnings	IBMPSG_ChassisEvent	4
IPMI Log Criticals	IBM_MgmtHwLogStatus	6
IPMI Log Normals	IBM_MgmtHwLogStatus	2
IPMI Log Warnings	IBM_MgmtHwLogStatus	4
Lease Criticals	IBMPSG_LeaseExpirationEvent	6
Lease Normals	IBMPSG_LeaseExpirationEvent	2
Lease Warnings	IBMPSG_LeaseExpirationEvent	4
Memory PFA Criticals	IBMPSG_MemoryPFEEvent	6
Memory PFA Normals	IBMPSG_MemoryPFEEvent	2
Memory PFA Warnings	IBMPSG_MemoryPFEEvent	4
Network Adapter Criticals	IBMPSG_NetworkAdapterFailedEvent	6
Network Adapter Normals	IBMPSG_NetworkAdapterFailedEvent	2
Network Adapter Offline Criticals	IBMPSG_NetworkAdapterOfflineEvent	6
Network Adapter Offline Normals	IBMPSG_NetworkAdapterOfflineEvent	2
Network Adapter Offline Warnings	IBMPSG_NetworkAdapterOfflineEvent	4
Network Adapter Online Criticals	IBMPSG_NetworkAdapterOnlineEvent	6
Network Adapter Online Normals	IBMPSG_NetworkAdapterOnlineEvent	2

CIM filter name	CIM indication	Sev
Network Adapter Online Warnings	IBMPSG_NetworkAdapterOnlineEvent	4
Network Adapter Warnings	IBMPSG_NetworkAdapterFailedEvent	4
POST Memory Criticals	IBMx_PhysicalMemoryEvent	6
POST Memory Normals	IBMx_PhysicalMemoryEvent	2
POST Memory Warnings	IBMx_PhysicalMemoryEvent	4
POST Processor Criticals	IBMx_ProcessorEvent	6
POST Processor Normals	IBMx_ProcessorEvent	2
POST Processor Warnings	IBMx_ProcessorEvent	4
Power Supply Criticals	IBMPSG_PowerSupplyEvent	6
Power Supply Normals	IBMPSG_PowerSupplyEvent	2
Power Supply SP Criticals	IBMPSG_SP_PowerSupplyEvent	6
Power Supply SP Normals	IBMPSG_SP_PowerSupplyEvent	2
Power Supply SP Warnings	IBMPSG_SP_PowerSupplyEvent	4
Power Supply Warnings	IBMPSG_PowerSupplyEvent	4
Processor PFA Criticals	IBMPSG_ProcessorPFEEvent	6
Processor PFA Normals	IBMPSG_ProcessorPFEEvent	2
Processor PFA Warnings	IBMPSG_ProcessorPFEEvent	4
RAID Criticals	IBMPSG_StorageRAIDEvent	6
RAID Normals	IBMPSG_StorageRAIDEvent	2
RAID System Health Criticals	IBMPSG_StorageRAIDHealthEvent	6
RAID System Health Normals	IBMPSG_StorageRAIDHealthEvent	2
RAID System Health Warnings	IBMPSG_StorageRAIDHealthEvent	4
RAID Warnings	IBMPSG_StorageRAIDEvent	4
Redundant NIC Switchback Criticals	IBMPSG_RedundantNetworkAdapterSwitchbackEvent	6
Redundant NIC Switchback Normals	IBMPSG_RedundantNetworkAdapterSwitchbackEvent	2
Redundant NIC Switchback Warnings	IBMPSG_RedundantNetworkAdapterSwitchbackEvent	4
Redundant NIC Switchover Criticals	IBMPSG_RedundantNetworkAdapterSwitchoverEvent	6
Redundant NIC Switchover Normals	IBMPSG_RedundantNetworkAdapterSwitchoverEvent	2
Redundant NIC Switchover Warnings	IBMPSG_RedundantNetworkAdapterSwitchoverEvent	4
Service Processor DASD Backplane Criticals	IBMPSG_DASDBackplaneEvent	6
Service Processor DASD Backplane Normals	IBMPSG_DASDBackplaneEvent	2
Service Processor DASD Backplane Warnings	IBMPSG_DASDBackplaneEvent	4
Service Processor Error Log Criticals	IBMPSG_ErrorLogEvent	6
Service Processor Error Log Normals	IBMPSG_ErrorLogEvent	2

CIM filter name	CIM indication	Sev
Service Processor Error Log Warnings	IBMPSTG_ErrorLogEvent	4
Service Processor Generic Fan Criticals	IBMPSTG_GenericFanEvent	6
Service Processor Generic Fan Normals	IBMPSTG_GenericFanEvent	2
Service Processor Generic Fan Warnings	IBMPSTG_GenericFanEvent	4
Service Processor Generic Volatge Criticals	IBMPSTG_GenericVoltageEvent	6
Service Processor Generic Volatge Normals	IBMPSTG_GenericVoltageEvent	2
Service Processor Generic Volatge Warnings	IBMPSTG_GenericVoltageEvent	4
Service Processor PFA Criticals	IBMPSTG_PFAEvent	6
Service Processor PFA Normals	IBMPSTG_PFAEvent	2
Service Processor PFA Warnings	IBMPSTG_PFAEvent	4
Service Processor Remote Login Criticals	IBMPSTG_RemoteLoginEvent	6
Service Processor Remote Login Normals	IBMPSTG_RemoteLoginEvent	2
Service Processor Remote Login Warnings	IBMPSTG_RemoteLoginEvent	4
SMART Drive Criticals	IBMPSTG_SMARTEvent	6
SMART Drive Normals	IBMPSTG_SMARTEvent	2
SMART Drive Warnings	IBMPSTG_SMARTEvent	4
Storage Criticals	IBMPSTG_StorageEvent	6
Storage Normals	IBMPSTG_StorageEvent	2
Storage Warnings	IBMPSTG_StorageEvent	4
Tachometer Normals	IBMPSTG_FanEvent	2
Tachometer Sensor Criticals	IBMPSTG_FanEvent	6
Tachometer Sensor Warnings	IBMPSTG_FanEvent	4
Temperature Sensor Criticals	IBMPSTG_TemperatureEvent	6
Temperature Sensor Normals	IBMPSTG_TemperatureEvent	2
Temperature Sensor Warnings	IBMPSTG_TemperatureEvent	4
Voltage Sensor Criticals	IBMPSTG_VoltageEvent	6
Voltage Sensor Normals	IBMPSTG_VoltageEvent	2
Voltage Sensor Warnings	IBMPSTG_VoltageEvent	4
Warranty Criticals	IBMPSTG_WarrantyExpirationEvent	6
Warranty Normals	IBMPSTG_WarrantyExpirationEvent	2
Warranty Warnings	IBMPSTG_WarrantyExpirationEvent	4

CIM filter name	CIM indication	Sev
2f7c756f26b00121 (See note)	CIM_AlertIndication	Any
7f6e6daa36b2e3e5 (See note)	CIM_AlertIndication	Any
Note: The last two filters are created when a management server first discovers a managed system. The CIM filter name is the unique ID (UID) of IBM Director Server and will vary from installation to installation. See "Subscriptions to IBM Director Server" on page 9 for details.		

Predefined CIM subscriptions

Table 3 lists all combinations of filters and handlers that were used to create the predefined subscriptions. You can see, for example, that no predefined subscriptions use the Popup handler to display a popup on the managed system. This default is different than the one with IBM Director 4.x.

When you list all subscriptions using the `cimsubscribe -ls` command, each subscription is displayed as follows (using the first one in the Table 3, ASR Criticals/Log as an example):

Example 5 Portion of output from the `cimsubscribe -ls` command

```

CIM_IndicationSubscription.Filter="CIM_IndicationFilter.CreationClassName=\"CIM_IndicationFilter\",Name=\"ASR Criticals\",SystemCreationClassName=\"CIM_ComputerSystem\",SystemName=\"fs2-vm-xp\"",Handler="CIM_IndicationHandlerCIMXML.CreationClassName=\"CIM_IndicationHandlerCIMXML\",Name=\"Log\",SystemCreationClassName=\"CIM_ComputerSystem\",SystemName=\"fs2-vm-xp\""
FailureTriggerTimeInterval =
Filter = CIM_IndicationFilter.CreationClassName="CIM_IndicationFilter",Name="ASR Criticals",SystemCreationClassName="CIM_ComputerSystem",SystemName="fs2-vm-xp"
Handler = CIM_IndicationHandlerCIMXML.CreationClassName="CIM_IndicationHandlerCIMXML",Name="Log",SystemCreationClassName="CIM_ComputerSystem",SystemName="fs2-vm-xp"
OnFatalErrorPolicy =
OtherOnFatalErrorPolicy =
OtherRepeatNotificationPolicy =
OtherSubscriptionState =
RepeatNotificationCount =
RepeatNotificationGap =
RepeatNotificationInterval =
RepeatNotificationPolicy =
SubscriptionDuration =
SubscriptionStartTime =
SubscriptionState =
SubscriptionTimeRemaining =
TimeOfLastStateChange =

```

In Table 3, if a subscription exists by default for a given filter and handler, then the corresponding cell contains **Yes**. If a subscription is not defined, then the cell contains **No**.

Table 3 Predefined CIM subscriptions

CIM filter name	CIM Handler					
	Health	Log	Popup	SMS	SNMP	TEC
ASR Criticals	No	Yes	No	Yes	Yes	Yes
ASR Normals	No	Yes	No	Yes	Yes	Yes
ASR Warnings	No	Yes	No	Yes	Yes	Yes

CIM filter name	CIM Handler					
	Health	Log	Popup	SMS	SNMP	TEC
Chassis Criticals	Yes	Yes	No	Yes	Yes	Yes
Chassis Normals	Yes	Yes	No	Yes	Yes	Yes
Chassis Warnings	Yes	Yes	No	Yes	Yes	Yes
IPMI Log Criticals	No	Yes	No	Yes	Yes	Yes
IPMI Log Normals	No	Yes	No	Yes	Yes	Yes
IPMI Log Warnings	No	Yes	No	Yes	Yes	Yes
Lease Criticals	No	Yes	No	Yes	Yes	Yes
Lease Normals	No	Yes	No	Yes	Yes	Yes
Lease Warnings	No	Yes	No	Yes	Yes	Yes
Memory PFA Criticals	Yes	Yes	No	Yes	Yes	Yes
Memory PFA Normals	Yes	Yes	No	Yes	Yes	Yes
Memory PFA Warnings	Yes	Yes	No	Yes	Yes	Yes
Network Adapter Criticals	Yes	Yes	No	Yes	Yes	Yes
Network Adapter Normals	Yes	Yes	No	Yes	Yes	Yes
Network Adapter Warnings	Yes	Yes	No	Yes	Yes	Yes
Network Adapter Offline Criticals	Yes	No	No	No	No	No
Network Adapter Offline Normals	Yes	No	No	No	No	No
Network Adapter Offline Warnings	Yes	No	No	No	No	No
Network Adapter Online Criticals	Yes	No	No	No	No	No
Network Adapter Online Normals	Yes	No	No	No	No	No
Network Adapter Online Warnings	Yes	No	No	No	No	No
POST Memory Criticals	Yes	Yes	No	Yes	Yes	Yes
POST Memory Normals	Yes	Yes	No	Yes	Yes	Yes
POST Memory Warnings	Yes	Yes	No	Yes	Yes	Yes
POST Processor Criticals	Yes	Yes	No	Yes	Yes	Yes
POST Processor Normals	Yes	Yes	No	Yes	Yes	Yes
POST Processor Warnings	Yes	Yes	No	Yes	Yes	Yes
Power Supply Criticals	Yes	Yes	No	Yes	Yes	Yes
Power Supply Normals	Yes	Yes	No	Yes	Yes	Yes
Power Supply Warnings	Yes	Yes	No	Yes	Yes	Yes
Power Supply SP Criticals	No	Yes	No	Yes	Yes	Yes
Power Supply SP Normals	No	Yes	No	Yes	Yes	Yes
Power Supply SP Warnings	No	Yes	No	Yes	Yes	Yes

CIM filter name	CIM Handler					
	Health	Log	Popup	SMS	SNMP	TEC
Processor PFA Criticals	Yes	Yes	No	Yes	Yes	Yes
Processor PFA Normals	Yes	Yes	No	Yes	Yes	Yes
Processor PFA Warnings	Yes	Yes	No	Yes	Yes	Yes
RAID Criticals	No	Yes	No	Yes	Yes	Yes
RAID Normals	No	Yes	No	Yes	Yes	Yes
RAID Warnings	No	Yes	No	Yes	Yes	Yes
RAID System Health Criticals	Yes	Yes	No	Yes	Yes	Yes
RAID System Health Normals	Yes	Yes	No	Yes	Yes	Yes
RAID System Health Warnings	Yes	Yes	No	Yes	Yes	Yes
Redundant NIC Switchback Criticals	Yes	Yes	No	Yes	Yes	Yes
Redundant NIC Switchback Normals	Yes	Yes	No	Yes	Yes	Yes
Redundant NIC Switchback Warnings	Yes	Yes	No	Yes	Yes	Yes
Redundant NIC Switchover Criticals	Yes	Yes	No	Yes	Yes	Yes
Redundant NIC Switchover Normals	Yes	Yes	No	Yes	Yes	Yes
Redundant NIC Switchover Warnings	Yes	Yes	No	Yes	Yes	Yes
Service Processor DASD Backplane Criticals	No	Yes	No	Yes	Yes	Yes
Service Processor DASD Backplane Normals	No	Yes	No	Yes	Yes	Yes
Service Processor DASD Backplane Warnings	No	Yes	No	Yes	Yes	Yes
Service Processor Error Log Criticals	No	Yes	No	Yes	Yes	Yes
Service Processor Error Log Normals	No	Yes	No	Yes	Yes	Yes
Service Processor Error Log Warnings	No	Yes	No	Yes	Yes	Yes
Service Processor Generic Fan Criticals	No	Yes	No	Yes	Yes	Yes
Service Processor Generic Fan Normals	No	Yes	No	Yes	Yes	Yes
Service Processor Generic Fan Warnings	No	Yes	No	Yes	Yes	Yes
Service Processor Generic Volatge Criticals	No	Yes	No	Yes	Yes	Yes
Service Processor Generic Volatge Normals	No	Yes	No	Yes	Yes	Yes
Service Processor Generic Volatge Warnings	No	Yes	No	Yes	Yes	Yes
Service Processor PFA Criticals	No	Yes	No	Yes	Yes	Yes
Service Processor PFA Normals	No	Yes	No	Yes	Yes	Yes
Service Processor PFA Warnings	No	Yes	No	Yes	Yes	Yes
Service Processor Remote Login Criticals	No	Yes	No	Yes	Yes	Yes
Service Processor Remote Login Normals	No	Yes	No	Yes	Yes	Yes
Service Processor Remote Login Warnings	No	Yes	No	Yes	Yes	Yes

CIM filter name	CIM Handler					
	Health	Log	Popup	SMS	SNMP	TEC
SMART Drive Criticals	Yes	Yes	No	Yes	Yes	Yes
SMART Drive Normals	Yes	Yes	No	Yes	Yes	Yes
SMART Drive Warnings	Yes	Yes	No	Yes	Yes	Yes
Storage Criticals	Yes	Yes	No	Yes	Yes	Yes
Storage Normals	Yes	Yes	No	Yes	Yes	Yes
Storage Warnings	Yes	Yes	No	Yes	Yes	Yes
Tachometer Normals	Yes	Yes	No	Yes	Yes	Yes
Tachometer Sensor Criticals	Yes	Yes	No	Yes	Yes	Yes
Tachometer Sensor Warnings	Yes	Yes	No	Yes	Yes	Yes
Temperature Sensor Criticals	Yes	Yes	No	Yes	Yes	Yes
Temperature Sensor Normals	Yes	Yes	No	Yes	Yes	Yes
Temperature Sensor Warnings	Yes	Yes	No	Yes	Yes	Yes
Voltage Sensor Criticals	Yes	Yes	No	Yes	Yes	Yes
Voltage Sensor Normals	Yes	Yes	No	Yes	Yes	Yes
Voltage Sensor Warnings	Yes	Yes	No	Yes	Yes	Yes
Warranty Criticals	No	Yes	No	Yes	Yes	Yes
Warranty Normals	No	Yes	No	Yes	Yes	Yes
Warranty Warnings	No	Yes	No	Yes	Yes	Yes
2f7c756f26b00121 (See note)	No	No	No	No	No	No
7f6e6daa36b2e3e5 (See note)	No	No	No	No	No	No

Note: The last two subscriptions are created when a management server first discovers a managed system. The CIM filter name is the unique ID (UID) of IBM Director Server and will vary from installation to installation. See “Subscriptions to IBM Director Server” on page 9 for details.

The team that wrote this Redpaper

David Watts is a Consulting IT Specialist at the IBM ITSO Center in Raleigh. He manages residencies and produces Redbooks™ on hardware and software topics related to IBM @server® xSeries® systems and associated client platforms. He has authored over 40 Redbooks and Redpapers. He holds a Bachelor of Engineering degree from the University of Queensland (Australia) and has worked for IBM for over 15 years. He is an IBM @server Certified Specialist for xSeries and an IBM Certified IT Specialist.

Thanks to the following people for their contributions to this project:

Craig Elliot, Dallas
Jake Kitchener, Raleigh
Dave Feisthammel, Seattle

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