Unicenter® System Watchdog for OpenVMS I64

Administrator Guide

r2.5

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Contents

Chapter 1: Introduction

Unicenter SW for OpenVMS provides tools that help operations personnel manage computer-related problems that can occur in a data center, and includes the components Watchdog Manager and Watchdog Agent. Using the software, operators and system managers can monitor multiple system activities from one terminal, identify potential problems, and quickly intervene or correct the problems.

The Watchdog Manager and Watchdog Agent software provide the capabilities required to monitor multiple systems from one terminal. Watchdog Manager allows you to identify and correct problems that can occur in a domain of OpenVMS systems connected by a DECnet or TCP/IP network.

The Unicenter SW for OpenVMS uses the following activities to help you manage your system:

- Monitors systems from a central OpenVMS node and informs support personnel about system or network problems that require intervention.
- Invokes user-implemented corrective actions when events are added, updated, or removed.
- Enables users to tailor system monitoring for a site or for individual users by assigning different classes of coverage. Users can assign a priority for each event and define important events for monitoring a specific set of processors.
- Provides an external interface so events not detected by the Watchdog Manager can be monitored by user-written software or command procedures and reported to Watchdog Manager.
- Uses OpenVMS mailbox or DECtalk sets to report abnormal conditions and action routine sets to invoke action routines to correct software-related problems.

This section contains the following topics:

Software Requirements

To use Unicenter SW for OpenVMS, you need the following software installed on your system:

- *Watchdog Manager* must be in place on the local system where all nodes are to be monitored
- *Watchdog Agent* must be running on all nodes that are to be monitored

Note: Watchdog Agent and Watchdog Manager can operate independently, so the installations are completed separately.

For more information about installing Watchdog Agent and Watchdog Manager, see the Unicenter System Watchdog for OpenVMS Installation Guide.

Conventions

The following conventions are used throughout this guide:

Convention	Meaning
UPPERCASE	Uppercase letters indicate the name of a command, a file, a procedure, or utility.
user input system	In interactive examples, this typeface indicates input entered by the user, a system prompt, or displayed system text.
$	The dollar sign is used to indicate the DCL prompt. This prompt may be different on your system.
Ctrl+X	In procedures, a sequence such as Ctrl+X indicates that you must press the key labeled Ctrl while you press another key or pointing device button.
Itallics	This indicates when you need to enter a unique value, variable, or code. For example, enter your *servername*.
Choice1 | Choice2	The vertical line means you need to select one of the choices. For example, TONE | PULSE indicates that you must select the type of phone your system connects to.

Terminology

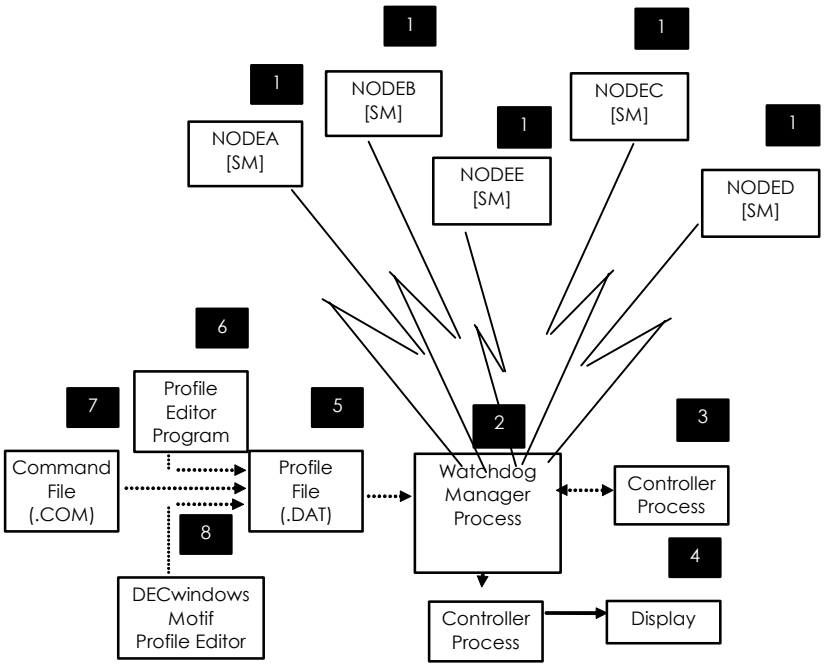
Unicenter SW for OpenVMS is built on previous successful releases of system monitoring software. As products evolve, naming conventions and references change. To ensure you easily understand the terminology, the following table shows the terms and phrases used in prior releases, and their new or updated equivalents:

Original Terminology	Current Terminology
WATCHIT Manager Event Manager (from TNG for OpenVMS) System Watchdog Manager Consolidator	Watchdog Manager or Consolidator
WATCHIT Agent System Monitor (from TNG for OpenVMS) System Watchdog Agent Agent	Watchdog Agent or Agent

Unicenter SW for OpenVMS Component Interaction

In the following illustration showing the interactions between the Unicenter SW for OpenVMS components, nodes A through E (NODEA through NODEE) are shown being monitored by the local Watchdog Manager process. Each node is running a Watchdog Agent as a detached process. Solid lines indicate ongoing operations, such as the continuous event message display controlled by the Watchdog Manager process. Dotted lines indicate interactive user operations, such as creating a profile or communicating with a Watchdog Manager process.

The following illustration :



The components shown for the Watchdog Agent are as follows:

1. Watchdog Agent Process

   The Watchdog Agent runs as a detached process on each OpenVMS node that is being monitored. Each Watchdog Agent maintains a list of event messages for abnormal conditions and responds to requests for event messages from one or more Watchdog Manager processes.

2. Watchdog Manager Process

   The Watchdog Manager runs as a detached process that periodically polls all active Watchdog Agents and requests the currently active event messages. The Watchdog Manager can display a continuous screen of event messages and invoke action on abnormal events using the notification options (action routine sets, DECtalk sets, or OpenVMS mailbox outputs). The Watchdog Manager monitors network status independently of the Watchdog Agents and responds to maintenance or display requests from one or more controller processes.

3. Controller Process

   The controller runs as an interactive online process that enables operators and system managers to:

   - Display event messages
   - Add and delete external messages
   - Start and stop Watchdog Manager (Consolidator) processes
   - Modify Watchdog Manager processes to change operating parameters or node coverage

4. Event Message Display

   The Event Message display is used for displaying the currently active event messages. After polling the active Watchdog Agent processes, the Watchdog Manager can update a continuous display process for new, updated, or removed events.

5. Profile File

   A profile is a data file that defines the nodes to be monitored and the types of actions and notifications to be invoked when an abnormal event occurs. When a Watchdog Manager process is started, it reads and stores the operating parameters from the specified profile.

   A valid profile must be in place when you start a Watchdog Manager process. The default profile SNS$PROFILE.DAT can be customized or you can create your own profiles. You can then specify a different profile each time you start a Watchdog Manager process.

   Profiles can be created, modified, or customized by using the command line profile editor, an executable command file of profile editor commands, or the Motif profile editor.

6. Profile Editor Commands

   Users can create or edit profiles by entering profile editor commands from the terminal keyboard.

7. Executable Command File

   Users can create or edit profiles by executing a command file that contains profile editor commands.

8. Motif Profile Editor

   Users can create or edit profiles by selecting command functions on a DECwindows Motif display.

   Shareable Image File

   The shareable image file SNS$SHR.EXE (not shown in the previous illistration) enables users to invoke user-created applications that add or remove external messages from the lists of event messages maintained by the Watchdog Agent processes.

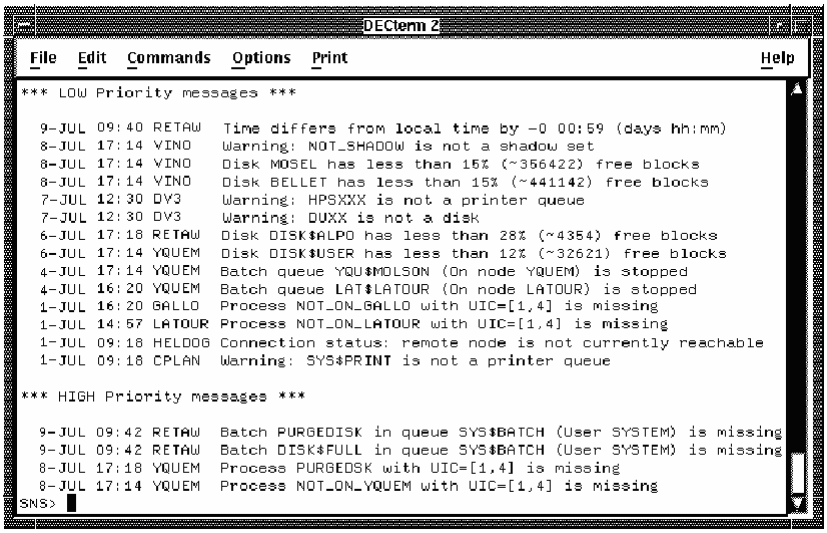
Watchdog Manager Polling Sequence

The Watchdog Agent periodically scans device and data structures on the system. If an abnormal condition appears, the agent adds an event message to a local list of messages. If the abnormal condition disappears, the agent removes the message. Any Watchdog Manager process that polls the active agents at regular intervals can read the list of messages.

Multiple Watchdog Manager processes can be running to provide different levels of coverage for systems or events. Each Watchdog Manager maintains a list of event messages for all polled agents and writes event status changes and notifications to a log file. A Watchdog Manager can invoke action routines and OpenVMS mailbox messages for new, updated, or removed event messages, and can invoke DECtalk calls for new or updated event messages.

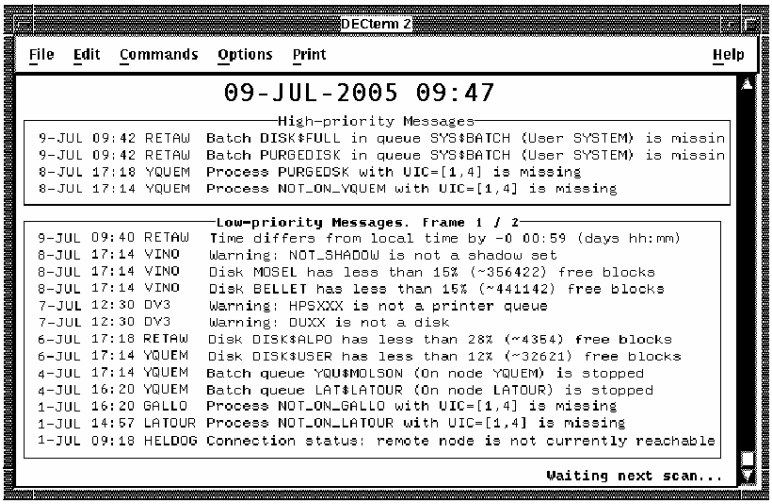
Single Event Message Display

The Single Event Message display shows a sample of the information listed by a single event message display request by the operator. The display lists events according to the parameters and default values defined in the profile.



Continuous Event Message Display

The Continuous Event Message display is periodically updated by the Watchdog Manager process, which lists events according to the parameters and default values defined in the profile. If the message list is long, the continuous display provides more than one screen that can be selected by pressing the Next Screen and Prev Screen keys. (The left and right arrow keys have the same function as the Next Screen and Prev Screen keys.) Press function key F10 or enter Ctrl+Z to cancel the display and return to the prompt.



Event Types

An event is a condition that the Watchdog Manager can detect, such as an increase in the number of CPU errors or disk errors, or a node that becomes unreachable over the network. The chapter "Event Descriptions" provides detailed descriptions of the built-in events and event codes.

When the Watchdog Manager detects an event or receives an event message, it initiates appropriate action as defined in the profile. Each event can be assigned a priority level and can invoke an action routine, initiate a DECtalk call, or send a OpenVMS mailbox message with the severity level.

Watchdog Manager monitors and detects the following types of events:

- Network Events are related to network connections, such as whether a node is reachable or unreachable over DECnet or TCP/IP.
- System/Process Events are related to the system, such as CPU, memory, or device errors, or to processes, such as the existence of specific processes or batch jobs.

- External Events are reported to the Watchdog Agent with user-supplied text by external procedures or software. External messages can be added for events not detected by Watchdog Manager, but which come from external DCL procedures or user applications that call the shareable image. External events can also invoke corrective actions and notification options.

Event Priority Levels

Each event can be assigned one of the following four priority levels:

- High–Occurrences of a high priority event are shown in the high-priority list or display window.
- Low–Occurrences of a low priority event are shown in the low-priority list or display window.
- Not checked–The event is not monitored.
- Not displayed–The event is monitored but occurrences are not displayed.

Notification Options

In addition to the continuous event display, notification options provide a means for taking action or notifying personnel about system or network problems. Each class can have all three of the following notification options defined in the profile:

- Action Routine Sets–An action routine set can invoke a user-written program or procedure to correct a software-generated problem.
- DECtalk Sets–A DECtalk set can initiate a call through a DTC01 or DTC03 DECtalk option to a specified telephone number. The set can deliver a computer-generated voice message to a person or recording device.
- Mailbox Sets and Severity Levels–A mailbox set can send an event packet to a standard OpenVMS mailbox for action required by a user, application, or another product. A user-written mailbox reader program must be in place to read the message and display it, forward it, or initiate a DECtalk call to a responsible party.

  The mailbox message includes the specified severity level for the event:

  - Information
  - Success
  - Error

- Warning
- Fatal

More information:

User Programming (see page 209)

Classes of Event Coverage

You can define different classes of coverage in a profile that provide selective polling and display of built-in and external events. You then specify the profile for Unicenter SW for OpenVMS to use when you start the Watchdog Manager process.

Event Classes

An event class is a collection of built-in events that Watchdog Manager can monitor. One class can be assigned to define an OpenVMS cluster system or several connected systems. Several classes can be used to define groups of systems or different levels of coverage, such as nodes running critical applications or nodes used for program development.

Each event in an event class lists the priority level, action routine set, DECtalk set, and mailbox set with severity level.

External Message Classes

Classes can be assigned for external messages. An external message class defines a list of external message match strings for events not detected by Watchdog Manager. These events not detected come from external DCL procedures or user applications that call the shareable image.

Each external message match string lists the priority level, action routine set, DECtalk set, and mailbox set with severity level.

Getting Started with Watchdog Manager

This section provides exercises to help you begin using the Watchdog Manager. The descriptions and examples provide the syntax you need to enter for the Watchdog Manager editing and operating commands.

You must have the following items installed or available on your system to begin using Watchdog:

- A Watchdog Agent running on the system that runs the Watchdog Manager, and on all other systems that you want to monitor.
- An account with TMPMBX and NETMBX privileges in addition to OPER, SYSPRV, or SETPRV privileges to add and delete external messages.

More information:

Controller Commands (see page 59)

How You Create a Profile

A profile is a data file that defines the nodes to be monitored and the types of actions and notifications to be invoked when an abnormal event occurs. When a Watchdog Manager process is started, it reads and stores the operating parameters from the specified profile.

A valid profile must be in place when you start a Watchdog Manager process. The default profile SNS$PROFILE.DAT can be customized or you can create your own profiles. You can then specify a different profile each time you start a Watchdog Manager process.

To create and add entries to a basic profile

1. Create a profile directory
2. Open a profile
3. Add an event class
4. Add an external message class
5. Add a node

Create a Profile Directory

A subdirectory is helpful for keeping all of your profiles, log files, and other related files in one area.

You can create a subdirectory for the profile and set your default as follows:

```
$ CREATE /DIRECTORY [.PROFILES]
$ SET DEFAULT [.PROFILES]
```

Open a Profile

Enter the profile editor program and create a basic profile with the following command:

```
$ SENSE WATCHDOGS EDIT PROFILE START
```

The EDIT PROFILE command opens an editing session on the profile START.DAT and returns the SNS$EDIT> profile editor prompt. For a new profile, the response looks like the following example:

```
%SNS-E-PRONOTFOUND, Profile START.DAT not found
%SNS-I-PROCREAWAIT, Creating new profile, please wait ...
 SNS$EDIT>
```

Add an Event Class

The event class determines how the Watchdog Manager handles the built-in events for nodes that are members of the class. If you do not add an event class, the profile editor assigns all entries to the default class DEFAULT.

To add an event class

1. Enter the following command to add an event class:

   ```
   SNS$EDIT> ADD CLASS START
   ```

2. Display the default values in event class START with the following command:

   ```
   SNS$EDIT> SHOW CLASS START
   ```

   The system responds with an informational list similar to the following example:

   ```
   Class : START Event Priority Options
   CPU CPU errors High
   MEM Memory errors High
   DSK Disk errors High
   ETH Ethernet errors High
   ```

```
HSC HSC problems High
CIC CI cable problems High
PRS Printers stalled Low
LOP Processes looping High
DNF Disk near full High
SHS Shadow set Problems High
DSS Disk state Problems High
DQP Device queue problems <- Not checked
BQP Batch queue Problems <- Not checked
QCP Queue manager Problems High
PRO Missing Processes High
BAT Missing Batchjobs High
ILL Login limits too low High
SMP Processors stopped High
UNR Nodes unreachable High
ORS Nodes out of resources High
UNK Nodes unknown Low
TIM Time consistency Low
WDM No SNS server Low
OTH Connection Problems Low
SNS SNS internal messages Low
SWL Software write locked Low
DMM Disabled memory Low
VAL Validation error Low
```

Add an External Message Class

The external message class determines how the Watchdog Manager handles external events for nodes that are members of the class. If you do not add an external message class, the profile editor assigns all entries to the default class DEFAULT.

To add an external message class

1. Enter the following command

```
SNS$EDIT> ADD EXTERNAL_MESSAGE_CLASS START
```

2. Display the default values in the external message class START with the following command

```
SNS$EDIT> SHOW EXTERNAL_MESSAGE_CLASS START
```

The system responds with an informational message similar to the following example:

```
External messages class : START
  Match String       Priority          Options
1 *                    Low
```

In the message, the Watchdog Manager compares the text of an external message to the match string * character. Because * is a wildcard, all external event messages match and are issued a Low display priority.

Add a Node

The ADD NODE command adds a node to be polled to the profile. If you do not specify an event class, the profile editor assigns the node to event class DEFAULT. If you do not specify an external message class, the profile editor assigns the node to external message class DEFAULT.

Add a node to the profile and show the default values with the following command:

```
SNS$EDIT> ADD NODE ALPHA /CLASS=START /EXTERNAL_MESSAGE_CLASS=START
SNS$EDIT> SHOW NODE ALPHA
```

The response indicates that a profile has been created with the node ALPHA assigned to event class START and to external message class START. The EXIT command then stores the profile START.DAT and leaves the editing session. The response is similar to the following example:

```
Node : ALPHA
Class : START
External class : START
Time difference : +00:00:00
Transport : DECNET
DFS event codes :
SNS$EDIT> EXIT
```

Note: Each node must be added separately. Cluster aliases cannot be used. The Watchdog Manager uses DECnet or TCP/IP to individually connect with each node and request event information.

How You Run a Watchdog Manager Process

The Watchdog Manager runs as a detached process that periodically polls all active Watchdog Agents and requests the currently active event messages. The Watchdog Manager can display a continuous screen of event messages and invoke action on abnormal events using the notification options (action routine sets, DECtalk sets, or OpenVMS mailbox outputs). The Watchdog Manager monitors network status independently of the Watchdog Agents and responds to maintenance or display requests from one or more controller processes.

To run a Watchdog Manager process

1. Set Your Privileges
2. Invoke the Controller Program
3. Start the Watchdog Manager
4. Enable Writing to a Log File
5. Display Event Messages
6. Add an External Message
7. Use the POLL Command
8. Set the Watchdog Manager Polling Interval

Set Your Privileges

Your process must have both TMPMBX and NETMBX privileges to use the ADD MESSAGE or DELETE MESSAGE commands. The process must also have OPER, SYSPRV, or SETPRV privileges.

Enter the following command to enable the OPER privilege:

```
$ SET PROCESS /PRIVILEGE=OPER
```

Invoke the Controller Program

After you invoke the controller program, Watchdog returns the SNS> controller prompt. Invoke the controller program with the following command:

```
$ SENSE WATCHDOGS
SNS>
```

Start the Watchdog Manager

Start a Watchdog Manager process and specify the new profile START with the following command:

```
SNS> START CONSOLIDATOR /PROFILE=START
```

The response is similar to the following example:

```
%SNS-I-PROREADWAIT, Reading profile, please wait ...
%SNS-I-CONSSTARTED, Watchdog Manager has been started, Id is 8985
SNS-I-CONSPID, The Watchdog Manager PID is 00000305
```

Enable Writing to a Log File

The ENABLE LOG command enables the Watchdog Manager to write log entries to a log file.

Enable the log file to be generated with the following command:

```
SNS> ENABLE LOG
```

The response is similar to the following example:

```
SNS-I-NEWLOG, No logfile found. Creating a new one.
```

The Using the SHOW Command section shows a sample of the information contained in the log file.

Display Event Messages

The SHOW EVENTS command displays the current event messages maintained by the Watchdog Manager process that you have started.

Display the current event messages with the following command:

```
SNS> SHOW EVENTS
```

The response is similar to the following example:

```
 *** LOW Priority messages ***
 No messages.
 *** HIGH Priority messages ***
 No messages.
```

If the Watchdog Agent detects an event and the event class the node is assigned to has the message display enabled, the event message is listed where the "No messages" text is currently listed in the preceding display.

Add an External Message

The ADD MESSAGE command adds a message to the external message list maintained by the Watchdog Agent on the local system. You can add messages to provide coverage for events not detected by the Watchdog Agent but which are reported by a DCL procedure.

Add an external message to your local node with the following command:

```
SNS> ADD MESSAGE "START-Test"
```

Use the POLL Command

The POLL command instructs the Watchdog Manager to immediately poll the Watchdog Agents on all enabled nodes in the profile. (The Watchdog Manager polls the Watchdog Agents at regular intervals independently of the POLL command.)

To poll the enabled nodes in the profile

1. Enter the following command

   ```
   SNS> POLL
   ```

2. You can then enter the following command to display a single screen of event messages:

   ```
   SNS> SHOW EVENTS
   ```

   The response is similar to the following example:

   ```
   *** LOW Priority messages
   ***23-JUL 13:05 ALPHA START-Test
   *** HIGH Priority messages ***
   No messages.
   ```

Set the Watchdog Manager Polling Interval

The SET POLLING_INTERVAL command sets the Watchdog Manager time interval for polling and notification operations.

You can set a polling interval of 5 minutes (300 seconds) with the following command:

```
SNS> SET POLLING_INTERVAL 300
```

How you Modify a Profile and Reconfigure the Watchdog Manager

To modify a profile and reconfigure a running Watchdog Manager process to use the updated profile

1. Add an Action Routine Set.
2. Modify an Event Class to Include the Action Routine Set.
3. Reconfigure the Watchdog Manager.

Add an Action Routine Set

An action routine set invokes a user-written program or procedure that can correct a problem.

To add an action routine set

1. Enter the profile editor program
2. Add an action routine set to send mail.
3. Display the set with the following commands:

```
$ SENSE WATCHDOGS EDIT PROFILE
SNS$EDIT> ADD ACTION_ROUTINE_SET SEND_MAIL /MODE=SPAWN -
_SNS$EDIT> /COMMAND="MAIL NL: SMITH /SUBJ="|P1""
SNS$EDIT> SHOW ACTION_ROUTINE_SET SEND_MAIL
```

For the /SUBJ qualifier, the P1 parameter after the vertical bar (|) substitutes the event message text in the subject of the mail message. The commands generate an output similar to the following example:

```
Action routine set : SEND_MAIL
Action routine mode : SPAWN
OpenVMS command : MAIL NL: SMITH/SUB="|P1"
Logfile name :
 Logfile switch : OFF
```

Modify an Event Class to Include the Action Routine Set

To modify an event class to Include the Action Routine Set

1. Modify event class START to include the action routine set SEND_MAIL as with the following command:

```
SNS$EDIT> MODIFY CLASS START /EVENT_CODE=PRO
/ACTION_ROUTINE_SET=SEND_MAIL
```

2. Demonstrate the action routine set SEND_MAIL by forcing a missing process event message for a nonexistent process with the following command:

```
SNS$EDIT> ADD NODE ALPHA PROCESS NOT_A_PROCESS /INTERVAL=0:0:0
SNS$EDIT> EXIT
```

Note: When you reconfigure the Watchdog Manager in the next step, the event message is sent because the process NOT_A_PROCESS with a default UIC of [1,4] does not exist on the node. However, if a process called NOT_A_PROCESS with a default UIC of [1,4] does exist, the event message does not display and the action routine is not invoked.

Reconfigure the Watchdog Manager

To update the Watchdog Manager's internal data structure for specific event monitoring

1. Enter the following command:

```
$ SENSE WATCHDOGS RECONFIGURE
```

The response is similar to the following:

```
$%SNS-I-RECONFINPROG, Reconfiguration in progress...
%SNS-I-PROREADWAIT, Reading profile, please wait ...
 New mail on node ALPHA from ALPHA::SMITH
```

The new mail message shows that the action routine has been executed.

2. Enter the SENSE WATCHDOGS SHOW EVENTS command at this point to generate the following response:

```
*** LOW Priority messages
***23-JUL 13:05 ALPHA START-Test
*** HIGH Priority messages ***
23-JUL 13:11 ALPHA Process NOT_A_PROCESS with UIC=[1,4] is missing.
```

3. Enter the mail facility at the DCL prompt.

The system responds with messages similar to the following example:

```
$ MAIL
You have 1 new message.
 MAIL> READ
#1 23-JUL-2000 13:11:53.93 NEWMAIL
From: ALPHA::SMITH
To: SMITH
CC:
 Subj: 23-JUL 13:11 ALPHA Process NOT_A_PROCESS with UIC=[1,4] is missing

MAIL> EXIT
```

How You Use SHOW Commands

You can use SHOW commands to display the current system and Watchdog Manager conditions as follows:

SHOW CONSOLIDATOR Command

- SHOW EVENTS/CONTINUOUS Command
- SHOW EVENTS Command
- SHOW LOG Command

SHOW CONSOLIDATOR Command

The SHOW CONSOLIDATOR command reports information about the current Watchdog Manager process.

For full detail on this command, see

Generate a report for your Watchdog Manager process with the following command:

```
$ SENSE WATCHDOGS SHOW CONSOLIDATOR /FULL | /BRIEF
```

/FULL

The full qualifier shows full information for the Watchdog Manager process.

/BRIEF

The brief qualifier shows only the assigned Watchdog Manager number and the informational message provided

The response is similar to the following example:

```
Controller : V2.5-0706
Consolidator: 8985 V2.5-0706

Profile : DKA300:[SMITH.START]START.DAT;2
Log file : DKA300:[SMITH.START]SNS$LOG.DAT;1 Enabled
Action routines : Enabled
DECtalk : Enabled
Mailbox : Enabled
Polling interval : 300
Before setting : Not specified
Since setting : Not specified
Watchdog information:
 Node Status Class Version OS Version
 ALPHA Enabled START V2.5-0706 OpenVMS V8.3
```

SHOW EVENTS/CONTINUOUS Command

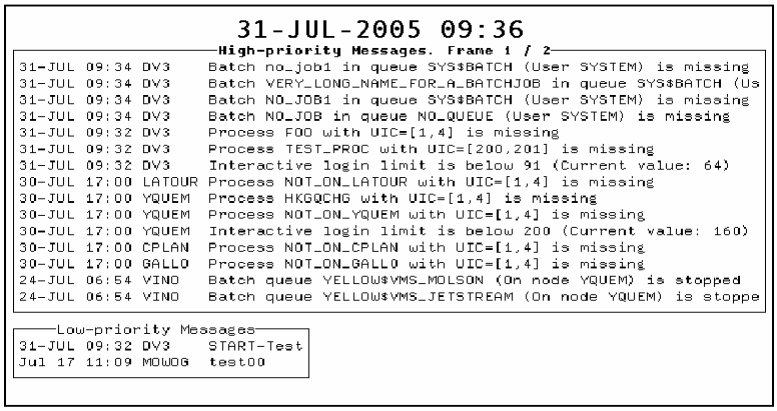
The SHOW EVENTS /CONTINUOUS command provides continuous coverage of the event messages maintained by the selected Watchdog Manager.

You can set up a continuous display of system events with the following command:

```
$ SENSE WATCHDOGS SHOW EVENTS /CONTINUOUS
```

The response is similar to the message shown in the following example.

Note: If there is more than one frame of information, use the Next Screen and Prev Screen keys or the left and right arrow keys to see the other frames. Press function key F10 or Ctrl+Z to cancel the display and return to the prompt.



SHOW EVENTS Command

The SHOW EVENTS command displays a list of the current event messages maintained by the selected Watchdog Manager.

To display a list of the current event messages

1. Initiate a polling sequence with the following command:

   ```
   $ SENSE WATCHDOGS POLL
   ```

2. Display a list of event messages with the following command:

   ```
   $ SENSE WATCHDOGS SHOW EVENTS
   ```

   The response is similar to the following example:

   ```
   *** LOW Priority messages ***
   No messages.
    *** HIGH Priority messages ***
   23-JUL 13:11 ALPHA Process NOT_A_PROCESS with UIC=[1,4] is missing
   ```

SHOW LOG Command

Use the SHOW LOG command to display a history of the addition and deletion of built-in and external event messages.

Display the system log file with the following command:

```
$ SENSE WATCHDOGS SHOW LOG
```

The response is similar to the following example:

```
SNS logfile listing ( 23-JUL-2005 13:20:47.74 )

DKA300:[SMITH.START]SNS$LOG.DAT;1

*************************** 23-JUL-2005 13:02:23 ***************************
Record type : Logfile started
Header : Logfile started

*************************** 23-JUL-2005 13:06:05 ***************************
Record type : Message added
Message type : SNS_C_EXT
Node name : ALPHA
Message text :
 23-JUL 13:05 ALPHA START-Test

*************************** 23-JUL-2005 13:11:50 ***************************
Record type : SNS$CONSOLIDATOR reconfigured
Header : Profile used is DKA300:[SMITH.START]START.DAT;2

*************************** 23-JUL-2005 13:11:51 ***************************
Record type : Message added
Message type : SNS_C_PRO
Node name : ALPHA
Message text :
 23-JUL 13:11 ALPHA Process NOT_A_PROCESS with UIC=[1,4] is missing


*************************** 23-JUL-2005 13:11:51 ***************************
Record type : Information message
Header : Submitting action routine SEND_MAIL, mode is Spawn,
 for message :
 Message text :
 23-JUL 13:11 ALPHA Process NOT_A_PROCESS with UIC=[1,4] is missing


*************************** 23-JUL-2005 13:11:52 ***************************
Record type : Information message
Header : Action routine successfully spawned
```

```
************************** 23-JUL-2005 13:13:53 **************************
Record type : Message removed
Message type : SNS_C_EXT
Node name : ALPHA
Message text :
 23-JUL 13:05 ALPHA START-Test
```

Controller Program Commands

Enter and leave the Watchdog Manager controller program with the following command:

```
$ SENSE WATCHDOGS
SNS> EXIT
$
```

The controller returns the SNS> prompt where you can enter controller commands. The EXIT command terminates the controller program and returns the DCL prompt.

You can also enter single commands at the DCL prompt. For example, you can display a single screen of the current event messages with the following command:

```
$ SENSE WATCHDOGS SHOW EVENTS
```

The command displays a list of event messages and returns to the DCL prompt.

Select a Watchdog Manager

A Watchdog Manager runs as a detached process that continues running after you log out. When you log in again, the SET CONSOLIDATOR command allows you to access the same Watchdog Manager or any other Watchdog Managers that are running on the system.

To determine which Watchdog Managers are running on the system

1. Enter the following command:

```
$ SENSE WATCHDOGS
SNS> SHOW CONSOLIDATOR /ALL
```

   The response is similar to the following example:

```
Controller : V2.5-07100706
Watchdog Manager : 2036 V2.5-07100706 "Getting Started"
Watchdog Manager : 4395 V2.4-0510 OPERATIONS
Watchdog Manager : 5171 V2.4-0510
```

   The system displays brief information about all Watchdog Managers on the system.

2. Set the Watchdog Manager you want to access with the following command:

```
SNS> SET CONSOLIDATOR 2036
SNS> SHOW CONSOLIDATOR
```

   The response is similar to the following example:

```
Controller : V2.54-07510
Watchdog Manager : 2036 V2.54-07510 "Getting Started"
```

3. Enter the following command:

```
SNS> SHOW EVENTS
```

   The response is similar to the following example:

```
*** LOW Priority messages ***
 No messages
*** HIGH Priority messages ***
29-JUL 16:28 ALPHA Process NOT_A_PROCESS with UIC=[1,4] is missing
```

Add Nodes to Your Profile

To expand your profile by adding additional nodes

1. Enter the following commands:

```
$ SENSE WATCHDOGS EDIT PROFILE
SNS$EDIT> ADD NODE YQUEM /CLASS=START
SNS$EDIT> ADD NODE YQUEM LOGINS /LIMIT=200
SNS$EDIT> ADD NODE YQUEM PROCESS NOT_ON_YQUEM SMITH
SNS$EDIT> ADD NODE YQUEM BATCHJOB BATCH_NOT_ON_YQUEM
SNS$EDIT> ADD NODE LATOUR /CLASS=START
SNS$EDIT> ADD NODE LATOUR LOGINS /LIMIT=64
SNS$EDIT> ADD NODE LATOUR PROCESS NOT_ON_LATOUR
SNS$EDIT> ADD NODE LATOUR FREE_BLOCKS MOSEL /PERCENT=15
SNS$EDIT> EXIT
```

2. Reconfigure the selected Watchdog Manager with the updated profile with the following command:

```
$ SENSE WATCHDOGS RECONFIGURE
```

   The response is similar to the following:

```
%SNS-I-RECONFINPROG, Reconfiguration in progress...
%SNS-I-PROREADWAIT, Reading profile, please wait ...
 $
```

3. Examine high priority events with the following command:

```
$ SENSE WATCHDOGS SHOW EVENTS /PRIORITY=HIGH
```

   The response is similar to the following:

```
*** HIGH Priority messages ***
29-JUL 16:28 ALPHA Process NOT_A_PROCESS with UIC=[1,4] is missing
29-JUL 16:35 YQUEM Interactive login limit is below 200 (Current value: 160
29-JUL 16:35 YQUEM Process NOT_ON_YQUEM with UIC=[SMITH] is missing
29-JUL 16:35 VINO Disk MOSEL has less than 10% (~237615) free blocks
29-JUL 16:35 LATOUR Process NOT_ON_LATOUR with UIC=[1,4] is missing
```

   The response verifies that you added two nodes to the profile with interactive login limit and missing process verification on both nodes. It also shows that disk MOSEL on node VINO has less than 10% free blocks.

   When appropriate, the Watchdog Manager substitutes OpenVMS cluster aliases for node names in event messages. For example, the event message for the free blocks on MOSEL shows VINO as the node because node LATOUR is in a cluster with the cluster alias VINO.

Watchdog Manager Profiles

A valid profile must be in place before you can start a Watchdog Manager process. The profile is a data file that stores the parameters and defaults used by the Watchdog Manager to monitor system and network events.

Profiles can be tailored to provide different types of event coverage. You can run more than one Watchdog Manager process with each Watchdog Manager using a different profile to provide the coverage you want. For example, you can set one screen to display clusterwide activities and another screen to display only certain classes of events, such as nodes running critical applications.

The following examples show profile names that can be used to identify different types of event coverage:

- **SYS$PROFILE.DAT !** Default profile for general coverage of all nodes
- **SYS$CRTCL.DAT !** Coverage for nodes running critical applications
- **SYS$SFTWR.DAT !** Coverage for nodes used for software development
- **SYS$DECnet.DAT !** Coverage for the DECnet router nodes
- **SYS$VAXSTA.DAT !** Coverage for Integrity systems

Controller Commands

The controller program uses the following controller commands that are listed in this section:

- Start the controller
- Administration commands
- Watchdog manager process commands
- Event message display commands
- External message commands
- Coverage parameter commands
- Troubleshooting commands

Start the Controller

Start the controller program by entering the SENSE WATCHDOGS command at the DCL prompt. The controller program returns the SNS> prompt from where you can enter controller commands, as shown in the following example:

```
$ SENSE WATCHDOGS
SNS>
```

Administration Commands

The commands in this section are used for to access Help and to exit the controller program:

- HELP command
- EXIT command

HELP Command

The HELP command provides online information about the controller commands.

```
SNS> HELP
```

EXIT Command

The EXIT command terminates the controller program and returns to the DCL prompt. If you start a Watchdog Manager process, you can log off the system and enable the notification procedures to take action on any abnormal events detected by Watchdog Manager.

```
SNS> EXIT
```

Watchdog Manager Processes Commands

The commands in this section show you how to start, control, and stop a Watchdog Manager Controller command:

- START CONSOLIDATOR command
- SHOW CONSOLIDATOR command
- SET CONSOLIDATOR command
- Show Watchdog Manager ID
- STOP CONSOLIDATOR command

START CONSOLIDATOR Command

The START CONSOLIDATOR command starts a detached Watchdog Manager process that periodically polls the nodes defined in the profile. A profile must be in place for the Watchdog Manager to use. The following command starts a Watchdog Manager process that uses one of the previously listed profiles to provide coverage for Integrity systems:

```
SNS> START CONSOLIDATOR /PROFILE=SYS$VAXSTA.DAT -
_SNS> /INFORMATION="Integrity coverage"
```

If the /PROFILE qualifier is not given, the Watchdog Manager uses the default file SNS$PROFILE.DAT in your default directory. The /INFORMATION qualifier stores a message that returns information about the use or purpose of the process when you use the SHOW CONSOLIDATOR command.

The Watchdog Manager startup assigns the process name SNS$CONS_nnnn where nnnn is the numeric identifier of the Watchdog Manager process. The startup also assigns the nnnn value to the logical name SNS$CONSOLIDATOR_ID which selects the Watchdog Manager process to receive controller commands.

For all enabled forms of notification, the Watchdog Manager startup initiates action routines, DECtalk calls, or mailbox messages for any existing event messages.

SHOW CONSOLIDATOR Command

If no other Watchdog Manager processes are running, the SHOW CONSOLIDATOR command returns information about the Watchdog Manager process you created, as with the following example:

```
SNS> SHOW CONSOLIDATOR /BRIEF /ALL
Controller : Vx.x
Watchdog Manager : 6801 Vx.x
 "Integrity coverage"
```

The /ALL qualifier shows brief or full information for all Watchdog Manager processes running on the system. The /BRIEF qualifier shows only the assigned Watchdog Manager number and the informational message provided with the /INFORMATION qualifier in the START WATCHDOG MANAGER command.

SET CONSOLIDATOR Command

If you are running multiple Watchdog Manager processes, this command verifies the existence of a Watchdog Manager process with the specified identifier. It then sets the logical name SNS$CONSOLIDATOR_ID to the Watchdog Manager process to use with subsequent controller commands, as with the following example:

```
SNS> SET CONSOLIDATOR 1234
```

Show Watchdog Manager (Consolidator) ID

The following DCL command shows that Watchdog Manager process 1234 is currently selected by SNS$CONSOLIDATOR_ID for controller commands:

```
$ SHOW LOGICAL SNS$*

"SNS$CONSOLIDATOR_ID" = "1234"
```

STOP CONSOLIDATOR Command

The STOP CONSOLIDATOR command stops the specified Watchdog Manager process:

```
SNS> STOP CONSOLIDATOR 1234
```

Without the process number, the command stops the Watchdog Manager currently selected by the logical name SNS$CONSOLIDATOR_ID, which is then deleted if it refers to the stopped process. The /ALL qualifier performs an orderly shutdown of all Watchdog Manager processes.

Event Message Display Commands

The commands in this section show how to use a single or continuous event message display:

- SHOW EVENTS command
- SHOW EVENTS /CONTINUOUS command

SHOW EVENTS Command

The SHOW EVENTS command displays a list of the current event messages maintained by the selected Watchdog Manager process.

Command qualifiers enable you to display high or low priority messages, or both, or display any hidden messages. You can also select the event codes for only the messages you want to display. The following command displays high priority messages for CPU, memory, or disk errors:

```
SNS> SHOW EVENTS /PRIORITY=HIGH /EVENT_CODES=(CPU,MEM,DSK)
```

Without the /EVENT_CODES qualifier, the command displays the messages for all event codes by default.

SHOW EVENTS /CONTINUOUS Command

The SHOW EVENTS /CONTINUOUS command starts an interactive process that displays a continuous coverage of the event messages maintained by the selected Watchdog Manager process. The following command displays high and low priority messages for all event codes:

```
SNS> SHOW EVENTS /CONTINUOUS
```

The qualifiers are the same as for the SHOW EVENTS command, discussed in the previous section.

Although the continuous events display process is interactive, only a few commands are available.

If you want to display more than one screen:

- Pressing the Next Screen key to display the next screen of event messages
- Pressing the Prev Screen key to display the previous screen of event messages
- Using the right and left arrow keys have the same functions as the Next Screen and Prev Screen keys
- Using the F10 function key or Ctrl+Z terminates the display and returns to the SNS> prompt

External Message Commands

The shareable image file SNS$SHR.EXE provides access for calls from user-supplied application programs that add or delete external messages. This section contains commands that show how to add or delete external messages. These messages make up the SDK/API, also known as the callable interface.

The commands in this section are:

- ADD MESSAGE command
- DELETE MESSAGE command

ADD MESSAGE Command

The ADD MESSAGE command adds messages to the external message list maintained by the Watchdog Agent process on the specified node. You can provide coverage for events not detected by the Watchdog Agent but which are reported by a DCL procedure or by calls to the shareable image by user software. The following command adds an external message to node NODEX:

```
SNS> ADD MESSAGE "Income averaging process missing" /NODE=NODEX
```

If you do not specify the /NODE qualifier, the command adds the external message to the Watchdog Agent process on the local node.

DELETE MESSAGE Command

The DELETE MESSAGE command deletes an external event message from the external message list maintained by the Watchdog Agent process on the specified node:

```
SNS> DELETE MESSAGE "Income averaging" /NODE=NODEX
```

If the text matches any portion of any existing external or deletable message on NODEX, the entire message is deleted. The string comparison is not case-sensitive so you can delete several messages with one command.

If you do not specify the /NODE qualifier, the command deletes the external message from the Watchdog Agent process on the local node.

Coverage Parameter Commands

This section contains the commands you can use set or change coverage parameters:

- POLL command
- RECONFIGURE command
- SET COLLECTING command
- SET POLLING INTERVAL command

POLL Command

The POLL command polls all enabled nodes in the profile. The /RESET_LAST_SCAN qualifier resets the time stamp for events with individually set polling intervals:

```
SNS> POLL /RESET_LAST_SCAN
```

RECONFIGURE Command

The RECONFIGURE command causes the Watchdog Manager process to read a specified profile or the profile currently in use (which may have been edited) then update its internal data structure for monitoring events. The following command directs the Watchdog Manager to reconfigure using SYS$NEWPRFL.DAT as the new profile:

```
SNS> RECONFIGURE /PROFILE=SYS$NEWPRFL
```

SET COLLECTING Command

The SET COLLECTING command sets the Watchdog Manager to collect events that occurred before or since specific dates and times. The following command sets the Watchdog Manager to collect event messages that have appeared since 3:00 p.m. on December 30, 2006:

```
SNS> SET COLLECTING /SINCE=30-DEC-2006:15:00:00
```

SET POLLING_INTERVAL Command

The SET POLLING_INTERVAL command sets the Watchdog Manager interval for polling and notification operations. The following command sets a polling interval of 5 minutes (300 seconds):

```
SNS> SET POLLING_INTERVAL 300
```

Troubleshooting Commands

Watchdog Manager process elements can be disabled and enabled to limit the levels or types of coverage while troubleshooting system or network problems. This section contains the following commands used for troubleshooting:

- Logging and log file commands
- Changing node coverage commands
- Changing notification options commands
- Enabling or disabling event message commands

Logging and Log Files

A Watchdog Manager process can write a log file that stores information about all recorded events and the actions taken.

SET LOG Command

The SET LOG command opens a log data file for the selected Watchdog Manager to write event status and notification information. The following command enables logging to the file SNS$TMPLOG.DAT in the default directory:

```
SNS> SET LOG SNS$TMPLOG.DAT
```

DISABLE/ENABLE LOG Commands

The DISABLE LOG command directs the selected Watchdog Manager to stop writing to the current log file.

```
SNS> DISABLE LOG
```

The ENABLE LOG command directs the Watchdog Manager to resume writing to the file previously disabled by a DISABLE LOG command:

```
SNS> ENABLE LOG
```

SHOW LOG Command

The SHOW LOG command shows the contents of the specified log file or the current log file for the selected Watchdog Manager. The following command reads the contents of the default log file SNS$LOG.DAT and stores the information in the ASCII file LOG_INFO.TXT:

```
SNS> SHOW LOG /OUTPUT=LOG_INFO.TXT
```

The following command displays the contents of the specified log file SNS$TMPLOG.DAT:

```
SNS> SHOW LOG SNS$TMPLOG
```

Changing Node Coverage

Watchdog Manager processes can be modified to limit the coverage of nodes currently defined in the profile.

DISABLE NODE Command

The DISABLE NODE command stops the polling of nodes defined in the profile. You can specify individually or by class the nodes to be disabled. The following example disables nodes NODEA and NODEB:

```
SNS> DISABLE NODE NODEA,NODEB
```

This example disables all nodes in the LAB2 class:

```
SNS> DISABLE NODE /CLASS=LAB2
```

This example command disables all nodes in the LAB1 and LAB3 classes:

```
SNS> DISABLE NODE /CLASS=(LAB1,LAB3)
```

Note: Nodes must be disabled or enabled individually or by class. The cluster alias cannot be used.

ENABLE NODE Command

The ENABLE NODE command enables the polling of nodes previously disabled by a DISABLE NODE command. The following command enables all nodes in class LAB2:

```
SNS> ENABLE NODE /CLASS=LAB2
```

Changing Notification Options

Watchdog Manager processes can be modified to enable and disable notification for events as defined in the profile. The valid notification sets are:

- ACTION_ROUTINE
- MAILBOX
- DECtalk

DISABLE NOTIFICATION Command

The DISABLE NOTIFICATION command disables notification action for events defined in the profile or for events previously enabled by the ENABLE NOTIFICATION command. The following command stops sending event messages to OpenVMS mailboxes:

```
SNS> DISABLE NOTIFICATION MAILBOX
```

ENABLE NOTIFICATION Command

The ENABLE NOTIFICATION command enables notification actions for events not defined in the profile or for events previously disabled by a DISABLE NOTIFICATION command. The following command resumes sending event messages to OpenVMS mailboxes:

```
SNS> ENABLE NOTIFICATION MAILBOX
```

Enabling or Disabling Event Messages

Event messages can be hidden so only messages that are related to a problem are displayed.

HIDE MESSAGE Command

The HIDE MESSAGE command marks messages as hidden in the Watchdog Manager list of messages. The messages can be normal event messages or external messages. The following command inhibits the display of all messages from the OpenVMS cluster "ALPHA" that contain "Income averaging":

```
SNS> HIDE MESSAGE "ALPHA Income averaging"
```

Note: The first word in the quoted string must be the node name or the cluster alias.

SHOW MESSAGE Command

The SHOW MESSAGE command enables event or external messages previously hidden by the HIDE MESSAGE command. The following command enables the display of all messages from the OpenVMS cluster "ALPHA" that contain "income averaging":

```
SNS> SHOW MESSAGE "ALPHA Income averaging"
```

Chapter 2: Event Descriptions

This chapter provides detailed descriptions of events monitored by the Unicenter SW for OpenVMS software and lists the event error codes and meanings.

An event is a problem or potential problem that the Unicenter SW for OpenVMS software can detect, for example, an increase in the number of CPU errors, or a node that becomes unreachable over the network. When the Watchdog Manager (consolidator) detects an event, it initiates the appropriate action for that event as defined in the profile. For example, Watchdog Manager can write a message to a display, send an OpenVMS mail message, or initiate a DECtalk telephone call.

The Unicenter SW for OpenVMS software monitors the following event types:

- Network Events-Events related to the network connection with a system, such as whether the system is reachable or unreachable over DECnet or TCP/IP.
- System/Process Events-Events related to a system such as CPU, memory, or device errors, and events related to processes such as the existence of specific processes or batch jobs.
- External Events-Events with user-supplied text that are reported by external procedures or software.

This section contains the following topics:

Network Events

The Watchdog Manager produces network events when there are problems establishing a network connection with a Watchdog Agent process on one of the nodes being polled.

Network event messages are automatically removed only when the condition is corrected. Network event messages cannot be deleted with the DELETE MESSAGE command.

Node Unreachable

The Node Unreachable (UNR) event occurs when the consolidator cannot establish a DECnet or TCP/IP connection to the node within a preset timeout period. This can mean that the node is down or DECnet or TCP/IP is not running on the node. The message can also occur as a transient event if the network or node is busy.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Node Out Of Resources

The Node Out of Resources (ORS) event occurs when a resource allocation failure is encountered while attempting to initiate a DECnet or TCP/IP logical link to a remote node. The message corresponds to the OpenVMS error message "REMRSRC, insufficient system resources at remote node." The message can also occur as a transient event.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Node Unknown

The Node Unknown (UNK) event occurs when the specified node does not exist in the volatile DECnet database on the node where the consolidator process is running.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

No SNS Server

The No SNS Server (WDM) event occurs when a DECnet or TCP/IP connection to the specified node is successfully created but there is no Watchdog Agent running on the node.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Connection Problems

The Connection Problems (OTH) event occurs when an attempt to initiate a DECnet pr TCP/IP connection has failed for some reason other than the reasons discussed above. Other link failure messages include "Network partner exited" and "Network protocol error."

The message “Connect to network object rejected” can result from the access restriction to the Watchdog Agent as specified in the system rights list database.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

System/Process Events

The Watchdog Manager produces System/Process events when there are CPU, memory, or device problems on a local or remote polled node.

Some events cover many devices or queues without requiring you to specify individual devices or queues. For these types of events, you can exclude specific devices or queues from the coverage. For example, the Disk State Problem event reports on all disks on the node. To exclude one or more devices, you can enter a profile editor command with a qualifier that specifies the name of the device to be excluded.

CPU Errors

The CPU Errors (CPU) event occurs when the Watchdog Agent detects an increase in the CPU error count on the specified node. The CPU error count shown is the same as displayed with the DCL command SHOW ERROR.

The event message can only be removed with the DELETE MESSAGE command.

Memory Errors

The Memory Errors (MEM) event occurs when the Watchdog Agent detects an increase in the memory error count on the specified node. The memory error count shown is the same as displayed with the DCL command SHOW ERROR.

The event message can only be removed with the DELETE MESSAGE command.

Disabled Memory

The Disabled Memory (DMM) event occurs when the Watchdog Agent detects that pages of memory are disabled on a node. This can mean pages of memory marked bad during the boot process.

The event message can only be removed with the DELETE MESSAGE command.

Disk Errors

The Disk Errors (DSK) event occurs when the Watchdog Agent detects a significant increase in the number of disk errors on any local or HSC-connected disk devices on the specified node.

A report of all disk errors can be misleading for the following reasons:

- The OpenVMS operating system maintains a count of all errors on disk devices since the last reboot.
- The error count can relate to problems that have already been corrected.
- Isolated disk errors are not necessarily significant.

To avoid reporting old disk errors or isolated disk errors, a Disk Error message displays only for the following conditions:

- Two or more new errors occur in any single scan period (between two consecutive scans).
- One new error occurs in each of three consecutive scan periods.

After the Watchdog Agent reports the first Disk Error message for a disk, it reports increments in the disk error count.

The Watchdog Manager software provides a means to disable the disk error count filtering. At startup, the Watchdog Agent translates the logical name SNS$DSK_FILTER_OFF. If the logical name exists, the Watchdog Agent reports an event for each increment of the disk error count.

The event message can only be removed with the DELETE MESSAGE command.

Exclusions: Disk names. OpenVMS disk names such as DKA300: or DKA*: include the colon.

Ethernet Errors

The Ethernet Errors (ETH) event occurs when the Watchdog Agent detects an increase in the error count on the Ethernet device in the specified node. The Ethernet error count shown is the same as displayed with the DCL command SHOW DEVICE interface_name.

The event message can only be removed with the DELETE MESSAGE command.

Exclusions: Ethernet interface names

HSC Problem

The HSC Problem (HSC) event occurs when the Watchdog Agent detects a change of state in an HSC device connected to the specified node.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

CI Problem

The CI Problem (CIC) event occurs when the Watchdog Agent detects a change of state in a CI cable path connected to the specified node.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Printer Stalled

The Printer Stalled (PRS) event occurs when the Watchdog Agent detects that one of the printer queues listed in the profile for the node is in the stalled state. Only printer queues that are open and included in the profile are checked. The event is not reported if the queue is closed.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Process Looping

The Process Looping (LOP) event occurs when the Watchdog Agent detects a process on the system that satisfies all of the following conditions:

- Is in a compute status at two consecutive scans

- More than 25 percent of CPU usage between the two scans
- No direct or buffered I/O between the two scans

If the node is running either artificial intelligence or scientific applications, do not select this event for the node.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Disk Near Full

The Disk Near Full (DNF) event occurs when the Watchdog Agent finds that the amount of free space on a disk or volume is below the threshold set by the user. The event message reports the percentage and approximate number of free blocks.

Only disks included in the profile are checked. You can specify either a number of blocks or percentage of free space for the threshold.

The event message is removed when the condition is corrected and cannot be removed by the DELETE MESSAGE command.

Shadow Set Problem

The Shadow Set Problem (SHS) event occurs when the Watchdog Agent detects one of the following conditions:

- A shadow set with other than the desired number of members
- A shadow set performing a full copy operation, if enabled
- A shadow set performing a merge copy operation, if enabled

Only shadow sets included in the profile are checked.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Disk State Problem

The Disk State Problem (DSS) event occurs when the Watchdog Agent detects one of the following conditions:

- A disk marked for dismount (Mount/Dismount)
- A disk in timeout state

- A disk marked in mount verification state
- A disk marked in mount verification pending state

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Exclusions: Disk names. OpenVMS disk names such as DKA300: or DKA*: include the colon.

Software Write Locked

The Software Write Locked (SWL) event occurs when the Watchdog Agent finds a disk marked as software write locked. The software write locked state is not checked for CD disks.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Important! OpenVMS disk names such as DKA300: or DKA*: include the colon. When a node is added to a profile, an exclusion entry for console disks equal to "CSA*" is included.

Batch Queue Problem

The Batch Queue Problem (BQP) event occurs when the Watchdog Agent finds one of the following conditions:

- A queue with status "Pausing"
- A queue with status "Paused"
- A queue with status "Stopping"
- A queue with status "Stopped"

The event is not reported if the queue is closed.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Exclusions: Batch queue names

Device Queue Problem

The Device Queue Problem (DQP) event occurs when the Watchdog Agent finds one of the following conditions for an open device queue:

- A queue with status "Paused"
- A queue with status "Pausing"
- A queue with status "Stopping"
- A queue with status "Stopped"
- A queue with status "Resetting"
- A queue with status "Device unavailable"

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Exclusions: Device queue names

Queue Manager Problem

The Queue Manager Problem (QCP) event occurs when the Watchdog Agent finds one of the following conditions:

- A stopped queue manager
- A job control process that is stopped or is not answering requests

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Missing Process

The Missing Process (PRO) event occurs when the Watchdog Agent finds that a process is missing. Only processes specified in the profile are checked.

The parameter PROCESS provides the name and UIC of the process to monitor.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Missing Batchjob

The Missing Batchjob (BAT) event occurs when the Watchdog Agent finds that a batch job is missing or retained on error. Only batch jobs specified in the profile are checked.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Interactive Login Limit

The Interactive Login Limit (ILL) event occurs when the Watchdog Agent detects an interactive login limit below the specified value.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Processor Stopped

The Processor Stopped (SMP) event occurs when one or more processors in a multiprocessor system are no longer running.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Time Consistency

The Time Consistency (TIM) message is routed according to the event priority field of the class definition. This message displays when the Watchdog Agent detects a difference of more than 5 minutes between the local node and the remote node after adjusting for a time zone difference. The time difference is displayed in the DD HH:MM:SS format.

The event message is removed when the condition is corrected and cannot be removed with the DELETE MESSAGE command.

Validation Error

The Validation Error (VAL) event occurs when the profile specifies a nonexistent object.

External Events

External events with user-supplied text can be reported to a Watchdog Agent by external procedures or software. The Watchdog Agent process assigns the EXT event code to all external messages.

External messages can be added to or deleted from the list of messages maintained by a Watchdog Agent process by using the ADD MESSAGE and DELETE MESSAGE commands. The "User Programming" chapter provides guidelines for developing routines for handling external messages.

Event Code Summary

The following tables list each event code and its definition:

Network Events:

Code	Definition	Removed by Delete Message?
UNR	Node unreachable	N
ORS	Node out of resources	N
UNK	Node unknown	N
WDM	No SNS server	N
OTH	Connection problems	N

System/Process Events:

Code	Definition	Removed by Delete Message?
CPU	CPU errors	Y
MEM	Memory errors	Y
DMM	Disabled memory	Y
DSK	Disk errors [1]	Y
ETH	Ethernet errors [1]	Y
HSC	HSC problem	N
CIC	CI problem	N
PRS	Printer queue stalled [2]	N
LOP	Process looping	N
DNF	Disk near full [2]	N
SHS	Shadow set problem [2]	N

Code	Definition	Removed by Delete Message?
DSS	Disk state problem [1,3]	N
SWL	Software write-locked disk [1,3]	N
BQP	Batch queue problem [1]	N
DQP	Device queue problem [1]	N
QCP	Queue manager problem	N
PRO	Missing process [2]	N
BAT	Missing batch job [2]	N
ILL	Interactive login limit [2]	N
SMP	Processor stopped	N
TIM	Time Consistency	N
VAL	Validation Error	N

External Events:

Code	Definition	Removed by Delete Message?
EXT	External message	Y

1 Event codes supporting exclusions.
2 Valid event codes for node object coverage.
3 Event codes with DFS coverage.

Chapter 3: Controller Commands

The Watchdog controller commands enable you to start, stop, and manage Watchdog Manager processes.

When you enter the SENSE WATCHDOGS command at the DCL prompt, the controller starts and returns the SNS> prompt from where you can enter controller commands, as shown in the following example:

```
$ SENSE WATCHDOGS
SNS> EXIT
```

The EXIT command terminates the controller program and returns to the DCL prompt. Commands entered at the controller prompt have a 1024-character limit.

You can also enter single controller commands at the DCL prompt. For example, the following command stops the Watchdog Manager writing to the log file and returns to the DCL prompt:

```
$ SENSE WATCHDOGS DISABLE LOG
```

Commands entered at the DCL prompt have a 256-character limit. Default values for command parameters are indicated by (D) in the command descriptions.

This section contains the following topics:

ADD MESSAGE

The ADD MESSAGE command adds or updates an external message in a Watchdog Agent event message list.

Format

ADD MESSAGE "message text" [/qualifier[...]]

Parameters

"message text"

Text of the external message to be added, contained in quotes.

Qualifiers

/LOG

/NOLOG (D)

The /LOG qualifier displays an informational message if the command is successful. The /NOLOG qualifier inhibits the informational message. The default is /NOLOG.

/NODE=node_name

Name of the node for which you are adding the external message text. The default is the current node.

/TRANSPORT=TCPIP | DECnet (D)

Selects DECnet or TCP/IP as the network transport. The default is DECnet.

Description

The ADD MESSAGE command adds or updates an external message in the message list maintained by the detached Watchdog Agent process. User processes require OPER, SYSPRV, or SETPRV privileges to use the ADD MESSAGE command.

If the new message text and length both match an existing message, the new message replaces the old message. The string comparison is not case sensitive, so you can update a message (for a new date and time, for example) without having to delete, then add, the same message.

A special character, the vertical bar (|) is available as an update marker.

If you use the vertical bar as an update marker, the match is based on the characters preceding the vertical bar. When you add an external message with a vertical bar, the message is inserted in the Watchdog Manager's message list with the vertical bar, but the vertical bar is not displayed. If you then add another message with the same characters up to and including the vertical bar, the new message replaces the message text that follows the vertical bar.

Note: The vertical bar is a special character, and cannot be escaped or quoted to appear as a normal character within an external message.

For example, if you add the message:

```
"FAN - |Low speed"
```

The event display shows this:

```
dd-mmm hh:mm FAN - Low speed
```

If you then add the message:

```
"FAN - |High speed"
```

The event display then shows this:

```
dd-mmm hh:mm FAN - High speed
```

The *High speed* message replaces the *Low speed* message.

If you add an external message without a vertical bar, a subsequent ADD command with the identical message text completely replaces the message with the same message text. The event display then shows the same message with an updated date and time.

Note: If you do not use identical case, the new case will be displayed.

Related Commands

DELETE MESSAGE

Examples

The following command adds the external message “Process started.” on the current node and returns an informational message:

```
SNS> ADD MESSAGE "Process started." /LOG
%SNS-S-ADDED, Message successfully added.
```

The following command adds the external message “Process started.” to the System Monitor process on node NODEB:

```
SNS> ADD MESSAGE "Process started." /NODE=NODEB
```

DELETE MESSAGE

The DELETE MESSAGE command deletes an external message or removable built-in message from the specified Watchdog Agent event message list.

Format

DELETE MESSAGE "message text" [/qualifier[...]]

Parameters

"message text"

Text of the external message to be deleted, contained in quotes.

Qualifiers

/LOG,

/NOLOG (D)

The /LOG qualifier displays the informational (success) message if the command is successful. The /NOLOG qualifier inhibits the informational (success) message. The default is /NOLOG.

/NODE=name

Name of the node for which you are deleting the external message text. The default is the current node.

/TRANSPORT=TCPIP | DECnet (D)

Selects DECnet or TCP/IP as the network transport. The default is DECnet.

Description

The DELETE MESSAGE command deletes an external message or removable built-in message from a Watchdog Agent's message list. User processes require OPER, SYSPRV, or SETPRV privileges to use the DELETE MESSAGE command.

If any existing message contains the text supplied with the command, the process removes the entire message. The string comparison is not case sensitive, so you can remove multiple messages with one command.

Related Commands

ADD MESSAGE

Examples

The following command deletes all external messages containing *info*, *Info*, or *INFO* for the Watchdog Agent process on the current node and returns an informational message.

```
SNS> DELETE MESSAGE "Info" /LOG
%SNS-S-DELETED, Message successfully deleted.
```

The following command deletes all external messages containing *Process started* for the Watchdog Agent process on NODEB.

```
SNS> DELETE MESSAGE "Process started" /NODE=NODEB
```

DISABLE Commands

The DISABLE commands disable a specified Watchdog Manager function.

Format

DISABLE option

Options

- LOG
- NODE
- NOTIFICATION

Description

The DISABLE command directs the Watchdog Manager to stop or inhibit the specified function.

Note: The DISABLE command modifies the Watchdog Manager's memory-resident data structures and it is not necessary to reconfigure the Watchdog Manager.

Related Commands

ENABLE

DISABLE LOG

The DISABLE LOG command stops the Watchdog Manager from writing to the log file.

Format

DISABLE LOG

Description

The DISABLE LOG command directs the Watchdog Manager to stop writing to the current log file. The log file remains and a subsequent ENABLE LOG command resumes appending records to the existing file.

Related Commands

- ENABLE LOG
- SET LOG

Example

The following command stops writing to the log file:

```
SNS> DISABLE LOG
```

DISABLE NODE

The DISABLE NODE command stops the Watchdog Manager polling of specified nodes.

Format

DISABLE NODE [name[,...]] [/qualifier]

Parameters

name,...

Name, or comma-separated list of names, of node(s) to be disabled. Node names may be specified with the wildcard characters (* and %).

Qualifiers

/CLASS=(name[,...])

Class name, or comma-separated list of class names of class(es) of nodes to be disabled. All nodes in each class are disabled. Class names may be specified with the wildcard characters (* and %).

Description

The DISABLE NODE command directs the Watchdog Manager to stop the polling of specified nodes until reenabled by a subsequent ENABLE NODE command.

Note: The effects of the DISABLE NODE command may not appear immediately on a running SHOW EVENTS /CONTINUOUS display. The display must wait for the polling and message list update process to complete.

Related Commands

ENABLE NODE

Examples

The following command stops the polling of NODEA and NODEB.

```
SNS> DISABLE NODE NODEA,NODEB
```

The following command stops the polling of all nodes in class CLUSTER1.

```
SNS> DISABLE NODE /CLASS=CLUSTER1
```

The following command stops the polling of all nodes in classes CLUSTER1 and LAB4.

```
SNS> DISABLE NODE /CLASS=(CLUSTER1,LAB4)
```

DISABLE NOTIFICATION

The DISBALE NOTIFICATION command disables action routine, mailbox, and DECtalk notification sets.

Format

DISABLE NOTIFICATION option[,...]

Options

- ACTION_ROUTINE
- DECtalk
- MAILBOX

Description

The DISABLE NOTIFICATION command disables action routine, mailbox, or DECtalk notifications by the Watchdog Manager. The command can be used to override the default setting in the profile or to change the state set by a previous ENABLE NOTIFICATION command.

Related Commands

ENABLE NOTIFICATION

Example

The following command stops sending event messages to OpenVMS mailboxes.

```
SNS> DISABLE NOTIFICATION MAILBOX
```

EDIT PROFILE

The EDIT PROFILE command invokes the command line profile editor program or the Motif Profile Editor facility.

Format

EDIT PROFILE [filename] [/qualifier[...]]

Parameters

Filename

Name of the profile to be edited. The default is to edit the profile currently defined by SNS$CONSOLIDATOR_ID. The default file extension is .DAT.

Qualifiers

/INTERFACE=DECwindows

Invokes the Motif Profile Editor.

/OUTPUT=filename

Name of the output profile to be written if not specified by the filename parameter. The default is to edit the profile specified by the filename parameter. The default file extension is .DAT.

Description

The EDIT PROFILE command without the /INTERFACE=DECwindows qualifier invokes a command line editing session for the specified profile and places the user at the SNS$EDIT> prompt. Chapter 5 describes the command line profile editor commands.

The EDIT PROFILE /INTERFACE=DECwindows command invokes the Motif Profile Editor. Chapter 6 describes the Motif Profile Editor.

Examples

The following command enters the command line profile editor on the default profile SNS$PROFILE.DAT:

```
SNS> EDIT PROFILE SNS$PROFILE
SNS$EDIT>
```

The following command invokes the profile editor:

```
SNS> EDIT PROFILE
```

The following command invokes the Motif Profile Editor on the profile SNS$PROFILE.DAT:

```
SNS> EDIT PROFILE SNS$PROFILE /INTERFACE=DECwindows
```

ENABLE Commands

The ENABLE commands enable a specified Watchdog Manager function.

Format

ENABLE option

Options

- LOG
- NODE
- NOTIFICATION

The ENABLE command directs the Watchdog Manager to start or resume the specified function.

Note: The ENABLE command modifies the Watchdog Manager's memory-resident data structures and it is not necessary to reconfigure the Watchdog Manager.

Related Commands

DISABLE

ENABLE LOG

The ENABLE LOG command enables Watchdog Manager writing to the log file.

Format

ENABLE LOG

Description

The ENABLE LOG command directs the Watchdog Manager to resume writing to the log file previously disabled by the DISABLE LOG command.

Related Commands

- DISABLE LOG
- SET LOG

Example

The following command resumes writing to the log file:

```
SNS> ENABLE LOG
```

ENABLE NODE

The ENABLE NODE command enables Watchdog Manager polling of specified nodes.

Format

ENABLE NODE [name[,...]] [/qualifier]

Parameters

name,...

Name, or comma-separated list of names, of node(s) to be enabled. Node names may be specified with the wildcard characters (* and %).

Qualifiers

/CLASS=(name[,...])

Class name, or comma-separated list of class name of class(es) of nodes to be enabled. All nodes in each class are enabled. Class names may be specified with the wildcard characters (* and %).

Description

The ENABLE NODE command directs the Watchdog Manager to resume polling specified nodes that were previously disabled by the DISABLE NODE command.

Note: The effects of the ENABLE NODE command may not appear immediately on a running SHOW EVENTS /CONTINUOUS display. The display must wait for the polling and message list update process to complete.

Related Commands

DISABLE NODE

Examples

The following command resumes polling of NODEA and NODEB:

```
SNS> ENABLE NODE NODEA, NODEB
```

The following command resumes polling of all nodes in classes LAB6 and MVII:

```
SNS> ENABLE NODE CLASS=(LAB6, MVII)
```

ENABLE NOTIFICATION

The ENABLE NOTIFICATION command enables action routine, mailbox, and DECtalk notifications.

Format

ENABLE NOTIFICATION option[,...]

Options

- ACTION_ROUTINE
- DECtalk
- MAILBOX

Description

The ENABLE NOTIFICATION command enables action routine, mailbox, and DECtalk notifications by the Watchdog Manager. It can be used to override the default setting in the profile or to change the state set by a previous DISABLE NOTIFICATION command.

Related Commands

DISABLE NOTIFICATION

Example

The following command resumes the sending of event messages to OpenVMS mailboxes:

```
SNS> ENABLE NOTIFICATION MAILBOX
```

EXIT

The EXIT command terminates the controller program.

Format

EXIT

Description

The EXIT command terminates your session with the controller program and returns you to the DCL prompt.

Example

The following command terminates the controller program:

```
SNS> EXIT
$
```

HELP

The HELP command provides online information about the controller commands.

Format

HELP [command [option [option]]]

Parameters

command

The command for which you are requesting help.

option

Any parameter, option, or qualifier invoked by the command.

Description

The HELP command implements the standard OpenVMS Help protocol to provide online information about the controller commands during a controller session.

Examples

The following command invokes Help at the top menu:

```
SNS> HELP
```

The following command invokes Help on the HIDE command:

```
SNS> HELP HIDE
```

The following command invokes Help on the /LOG qualifier of the HIDE MESSAGE command:

```
SNS> HELP HIDE MESSAGE /LOG
```

HIDE MESSAGE

Marks an event message as hidden in the Watchdog Manager list of messages. Messages to be hidden can be either built-in or external.

Format

HIDE MESSAGE "node_name message text" [/qualifier]

Parameters

"node_name message text"

Event message text to mark as hidden, where the first word must be the node name or cluster alias. All messages containing the subsequent message text are hidden.

Note: The node name match is case-sensitive, but the message text match is not case-sensitive.

Qualifiers

/LOG

/NOLOG (D)

The /LOG qualifier displays an informational message if the command is successful. The /NOLOG qualifier inhibits the informational message. The default is /NOLOG.

Description

The HIDE MESSAGE command directs the Watchdog Manager to mark an event or message as hidden in its list of event messages. The command marks all messages that contain the characters given in "message text."

The hidden status is removed if an event message is updated. The command only affects messages in the Watchdog Manager and does not affect messages in any Watchdog Agent list.

The first word of the message text must be the node name or cluster alias as displayed by the SHOW EVENTS or SHOW EVENTS /CONTINUOUS command. For example, if the message to be hidden is "12-OCT 03:45 NODEX unreachable," the HIDE MESSAGE command parameter is "NODEX unreachable."

The node name match is case-sensitive, but the message text match is not case-sensitive.

When entering the message text, only one space is necessary between the node name or cluster alias and the remaining text. (The SHOW EVENTS display line pads the node or cluster field to 6 characters with spaces.)

Related Commands

SHOW MESSAGE

Example

The following example hides all event messages containing "Process missing" for NODEB:

```
SNS> HIDE MESSAGE "NODEB Process missing"
```

POLL

The POLL command controls polling on all enabled nodes.

Format

POLL [/qualifier]

Qualifiers

/RESET_LAST_SCAN

The /RESET_LAST_SCAN qualifier causes all events to be checked during the scan, regardless of the individually set scan intervals, and resets the last scan time-stamp for all events. The result is an immediate poll of all enabled nodes.

Description

The POLL command directs the Watchdog Manager to poll all enabled nodes in the profile. If Watchdog Manager is already polling, the command has no effect.

Some events, such as Disk Free Blocks and Printer Stalled, have polling intervals that can be individually set. Although the Watchdog Manager polls the Watchdog Agents at a regular interval (60 seconds by default), events with settable polling intervals are polled only at their set intervals (but not more often than the Watchdog Manager polling interval).

The /RESET_LAST_SCAN qualifier directs the Watchdog Manager to immediately poll all Watchdog Agents, including events with individual polling intervals. When polling has completed, the interval timer is reset for each event with a settable polling interval.

If polling has not been initialized, the POLL command initializes polling. This is required if Watchdog Manager was started or reconfigured using the /WAIT qualifier.

Example

The following example immediately polls all enabled nodes and resets the time-stamp of the last scan:

```
SNS> POLL /RESET_LAST_SCAN
```

RECONFIGURE

The RECONFIGURE command requests reconfiguration of the selected Watchdog Manager process.

Format

RECONFIGURE [/qualifier[...]]

Qualifiers

/DISCARD=(item[,...])

The default is not to discard any items. Valid items are:

- MESSAGES - Directs the Watchdog Manager to remove all existing messages before reconfiguring. Otherwise, the event messages received in the first scan after the reconfigure are merged into the existing event message list.
- DISABLED_NODES - Directs the Watchdog Manager to disregard the disabled status of all nodes in the configuration prior to the reconfigure. The default leaves all nodes disabled that were disabled before the reconfiguration.
- ALL - Performs the same function as /DISCARD=(MESSAGES, DISABLED_NODES).

/FIRST_SCAN=(option[,...])

Enables or disables notification action on the first scan of the reconfiguration, which can contain old messages. Valid options are:

- [NO]ACTION_ROUTINE - Specifies whether action routines are to be triggered immediately after the first scan.
- [NO]DECtalk - Specifies whether DECtalk is to be triggered immediately after the first scan.
- [NO]MAILBOX - Specifies whether mailbox messages are to be sent during the first scan.

  The defaults are ACTION_ROUTINE, DECtalk, and MAILBOX.

/INFORMATION="information text"

Informational text to be stored in the Watchdog Manager. The information text is useful to describe what the particular Watchdog Manager is watching when more than one Watchdog Manager process is in use.

/PROFILE=filename

File name of the profile to be used for the reconfiguration. If the /PROFILE qualifier is not given, the default is to use the latest version of the profile currently in use by the selected Watchdog Manager.

/WAIT

/NOWAIT (D)

The /WAIT qualifier specifies that polling of the Watchdog Agent processes does not begin until a subsequent POLL command is entered. Using /WAIT enables the user to disable nodes and to set a log file, polling interval, and other parameters before polling starts. The default is /NOWAIT which directs polling to begin immediately.

Note: After a START CONSOLIDATOR /WAIT or RECONFIGURE /WAIT command, the Watchdog Manager remains in an initialization state until it receives the POLL command. The Watchdog Manager cannot be reconfigured again until you have issued the POLL command.

Description

RECONFIGURE sends a request to the selected Watchdog Manager to read the profile and rebuild the configuration data structures according to the supplied parameters.

RECONFIGURE causes a running SHOW EVENTS /CONTINUOUS display to return the "Reconfiguring" and "Synchronizing" informational messages.

The highlight time and scroll settings of a running continuous event display are not affected by the reconfiguration.

Example

The following command reconfigures the Watchdog Manager using the existing profile (which may have been edited) and inhibits first scan action on the mailbox, DECtalk, and action routine items:

```
SNS> RECONFIGURE /FIRST_SCAN=(NOMAILBOX,NODECtalk,NOACTION_ROUTINE)
```

SET Commands

The SET commands change Watchdog Manager functions.

Format

SET option

Options

- COLLECTING
- CONSOLIDATOR
- LOG
- POLLING_INTERVAL

Description

The SET command directs the Watchdog Manager to change the specified function.

Related Commands

SHOW

SET COLLECTING

The SET COLLECTING command sets the time range for the collecting of event messages.

Format

SET COLLECTING /qualifier[...]

Qualifiers

/BEFORE=time

Collects event messages with event times before the specified time.

/SINCE=time

Collects event messages with event times since the specified time.

Description

The SET COLLECTING command sets a time range for the collecting of event messages. Events with time-stamps after the SINCE time and before the BEFORE time are held in the Watchdog Manager event message list.

Examples

The following command sets collecting of event messages that have appeared since 15 November 2006 at 00:00 (midnight):

```
SNS> SET COLLECTING /SINCE=15-NOV-2006
```

The following command sets collecting of event messages that have appeared between 15 November 2006 at 9:00 a.m. and 13 December 2006 at 6:30 p.m:

```
SNS> SET COLLECTING /SINCE=15-NOV-2006:09:00:00 -
_SNS> /BEFORE=13-DEC-2006:18:30:00
```

SET CONSOLIDATOR

The SET CONSOLIDATOR command sets the Watchdog Manager process for receiving controller commands.

Format

SET CONSOLIDATOR identifier

Parameters

identifier

Numeric identifier of the Watchdog Manager process to receive and respond to controller commands. The identifier can also be a logical name that represents a numeric value.

Description

The SET CONSOLIDATOR command sets the Watchdog Manager process to receive and respond to controller commands.

Watchdog Managers have the process name SNS$CONS_nnnn where nnnn is the Watchdog Manager identifier. The SET CONSOLIDATOR command verifies the existence of the Watchdog Manager process specified by the identifier. If the Watchdog Manager process exists, the command defines the logical name SNS$CONSOLIDATOR_ID to the value of nnnn.

The DCL command SHOW LOGICAL SNS$* shows the identifier value currently defined by SNS$CONSOLIDATOR_ID.

Related Commands

- SHOW CONSOLIDATOR
- START CONSOLIDATOR
- STOP CONSOLIDATOR

Example

The following command verifies that Watchdog Manager process SNS$CONS_1234 exists, then sets the Watchdog Manager to receive controller commands.

```
SNS> SET CONSOLIDATOR 1234
```

SET LOG

The SET LOG command selects the log file for the Watchdog Manager to write to.

Format

SET LOG filename

Parameters

filename

Name of the log file for the Watchdog Manager to write log data. The default is SNS$LOG.DAT in your default directory.

Description

The SET LOG command specifies the file for the Watchdog Manager to log event status and notification information then issues an ENABLE LOG function.

The START CONSOLIDATOR command uses the default log file SNS$LOG.DAT in your default directory but with logging disabled. If you enter the ENABLE LOG command without first using the SET LOG command, logging to the default log file is enabled.

Related Commands

- DISABLE LOG
- ENABLE LOG
- SHOW LOG

Example

The following command closes the current logs file and opens a new one called SNS$TEMP.LOG.

```
SNS> SET LOG SNS$TEMP.LOG
```

SET POLLING INTERVAL

The SET POLLING_INTERVAL command sets the polling and notification time interval for the Watchdog Manager.

Format

SET POLLING_INTERVAL seconds

Parameters

seconds

Number of seconds in the time interval.

Description

The SET POLLING_INTERVAL command sets the time interval between polling and notification operations in the Watchdog Manager. The seconds parameter specifies the number of seconds that the Watchdog Manager waits after the last poll of a Watchdog Agent process or after the last invocation of an action routine notification, DECtalk notification, or mailbox output before starting another polling sequence. A polling sequence starts by polling the Watchdog Agent process on the first node in the profile.

Example

The following command sets the polling interval to three minutes.

```
SNS> SET POLLING_INTERVAL 180
```

SHOW Commands

The SHOW command displays the state of specified Watchdog Manager functions.

Format

SHOW option

Options

- CONSOLIDATOR
- EVENTS
- EVENTS /CONTINUOUS
- LOG
- MESSAGE

Description

The SHOW command displays information for the specified Watchdog Manager function.

Related Commands

SET

SHOW CONSOLIDATOR

The SHOW CONSOLIDATOR command displays configuration information about Watchdog Manager processes.

Format

SHOW CONSOLIDATOR [identifier] [/qualifier[...]]

Parameters

identifier

Numeric identifier from the process name SNS$CONS_nnnn. The identifier can also be a logical name that represents a numeric value.

If you do not give the identifier, and use the SHOW CONSOLIDATOR command without the /ALL qualifier, the currently SET CONSOLIDATOR process is shown (as defined in SNS$CONSOLIDATOR_ID).

Qualifiers

/ALL

Displays brief or full information for all Watchdog Manager processes on the system that are enabled by protections and privileges.

/BRIEF (D)

/FULL

The /FULL qualifier displays all of the information listed in the following description. The /BRIEF qualifier displays only the identifier and informational text. The default is /BRIEF.

/OUTPUT=filename

Name of the file to receive the information. The default is the SYS$OUTPUT device.

Description

The SHOW CONSOLIDATOR command displays the following information for a Watchdog Manager process:

- Numeric identifier (nnnn in the SNS$CONS_nnnn process name) and version.
- Informational text specified by the /INFORMATION qualifier from the START CONSOLIDATOR or RECONFIGURE command.

- Profile file name.
- Log file name and the enabled or disabled status.
- Enabled or disabled state of DECtalk, mailbox, and action routines. If issued during the wait phase after the START CONSOLIDATOR or RECONFIGURE command, the SHOW CONSOLIDATOR command displays the first scan that enables or disables these functions.
- Polling interval.
- Event since and before settings.
- Watchdog Agent information: node names, Watchdog Agent versions, polling enabled or disabled status.

Note: Some settings are not displayed until the Watchdog Manager starts the next Watchdog Agent polling sequence.

Related Commands

- SET CONSOLIDATOR
- START CONSOLIDATOR
- STOP CONSOLIDATOR

Example

The following command displays all of the information listed in the previous description about Watchdog Manager process SNS$CONS_1234:

```
SNS> SHOW CONSOLIDATOR 1234 /FULL
```

SHOW EVENTS

The SHOW EVENTS command displays event messages from the event message list maintained by the selected Watchdog Manager (defined in SNS$CONSOLIDATOR_ID).

Format

SHOW EVENTS [/qualifier[...]]

Qualifiers

/BEFORE=time

Displays all events with event times before the specified time.

Note: The /BEFORE time specification must fit within the /SINCE and /BEFORE time range used when starting or reconfiguring a Watchdog Manager or no event messages are displayed. The default is to display all event messages held by the Watchdog Manager regardless of event time.

/EVENT_CODES=(code[,...])

Displays event messages for the specified event code(s). The default is to display messages for all event codes.

/HIDDEN

/NOHIDDEN (D)

The /HIDDEN qualifier displays only those event messages marked as hidden by the HIDE command. The /NOHIDDEN qualifier displays only the unhidden messages. The default is /NOHIDDEN.

/NODES=(name[,...])

Displays events only from the specified node(s). The default is to display events from all enabled nodes in the profile.

/OUTPUT=filename

Name of the file to contain the event list. The default is the SYS$OUTPUT device.

/PRIORITY=HIGH | LOW | BOTH

Displays high or low priority messages or messages of both priorities.

The default qualifier value is the value set in the profile that is currently in use by the Watchdog Manager (consolidator). The default priority setting for a profile is BOTH.

/SINCE=time

Displays all events with event times since the specified time.

Note: The /SINCE time specification must fit within the /SINCE and /BEFORE time range used when starting or reconfiguring a Watchdog Manager or no event messages are displayed. The default is to display all event messages held by the Watchdog Manager regardless of event time.

Description

The SHOW EVENTS command displays the event messages in a list of high priority messages followed by low priority messages.

The SHOW EVENTS command provides a snapshot of the event messages held in the Watchdog Manager list. See the SHOW EVENTS /CONTINUOUS command description for a continuous event status display.

Note: The controller must synchronize with the polling and notification operation of the Watchdog Manager (a synchronizing informational message is displayed). If a large number of nodes are being polled with a large number of event messages, there is a noticeable delay before the Watchdog Manager process displays the first event message.

Example

If the profile currently in use has the following settings:

```
SNS$EDIT> show display
DISPLAY Parameters
Active window: Both
```

Then the following command displays both high and low priority event messages that appeared between 18 October 2006 at 00:00 (midnight) and 15 November 2006 at 6:30 pm:

```
SNS> SHOW EVENTS /SINCE=18-OCT-2006 /BEFORE=15-NOV-2006:18:30:00
```

SHOW EVENTS/CONTINUOUS

The SHOW EVENTS / CONTINOUS command Starts a continuous event status display from the event message list maintained by the selected Watchdog Manager (defined in SNS$CONSOLIDATOR_ID).

Format

SHOW EVENTS /CONTINUOUS [/qualifier[...]]

Qualifiers

/BEFORE=time

Displays all events with event times before the specified time.

Note: The /BEFORE time specification must fit within the /SINCE and /BEFORE time range used when starting or reconfiguring a Watchdog Manager or no event messages are displayed. The default is to display all event messages held by the Watchdog Manager regardless of event time.

/DISABLE=SCROLLING

Displays only the screen with the most recent event messages.

/ENABLE=SCROLLING

Enables the scrolling display of all screens of event messages.

/EVENT_CODES=(code[,...])

Displays event messages for the specified event code(s). The default is to display messages for all event codes.

/HIDDEN

/NOHIDDEN (D)

The /HIDDEN qualifier displays only those event messages marked as hidden by the HIDE command. The /NOHIDDEN qualifier displays only the unhidden messages. The default is /NOHIDDEN.

/HIGHLIGHT_TIME=hh:mm:ss

Specifies the interval for which an event message is highlighted in the display after the event is generated or updated.

/NODES=(name[,...])

Displays events from the specified node(s). The default displays events from all enabled nodes in the profile.

/PRIORITY=HIGH | LOW | BOTH

Displays high or low priority messages or messages of both priorities.

The default qualifier value is the value set in the profile that is currently in use by the Watchdog Manager (consolidator). The default priority setting for a profile is BOTH.

/SINCE=time

Displays all events with event times since the specified time.

Note: The /SINCE time specification must fit within the /SINCE and /BEFORE time range used when starting or reconfiguring a Watchdog Manager or no event messages are displayed. The default is to display all event messages held by the Watchdog Manager regardless of event time.

Description

The SHOW EVENTS /CONTINUOUS command starts a continuous event status display.

If there is more than one screen, you can:

- Press the Next Screen key to display the next screen of event messages. The right arrow key has the same function as the Next Screen key.
- Press the Prev Screen key to display the previous screen of event messages. The left arrow key has the same function as the Prev Screen key.
- Press the F10 function key or press Ctrl/Z, Ctrl/C, or Ctrl/Y to terminate the display and return to the prompt.

These are the only available command functions while the continuous event status display is active.

Note: The controller displays an informational message stating that it is synchronizing with the polling and notification operation of the Watchdog Manager. If a large number of nodes are being polled with a large number of event messages, there is a noticeable delay before the Watchdog Manager process displays the first event message.

Example

The following command starts a continuous display of high priority messages that have appeared since 15 November 2006 at 12:00 (noon):

```
SNS> SHOW EVENTS /CONTINUOUS /PRIORITY=HIGH /SINCE=15-NOV-2006:12:00:00
```

SHOW LOG

The SHOW LOG command displays the selected log file.

Format

SHOW LOG [filename] [/qualifier[...]]

Parameters

filename

Name of the log file to be shown. If not given, the default shows the log file for the Watchdog Manager process defined in SNS$CONSOLIDATOR_ID.

Qualifiers

/BEFORE=time

Selects the list of messages written to the log file before the specified time.

Note: The time contained in an event message records the time that the event was detected. The /BEFORE time specifies the time that the entry was written to the log file, not the time that the event was detected.

/EVENT_CODES=(code[,...])

Enables the output of event log messages for the specified event code(s). The default is to display messages for all event codes.

/NODES=(name[,...])

Displays the log file entries only for the selected node(s). The default displays events from all nodes in the profile.

/OUTPUT=filename

Specifies a new file to contain the SHOW LOG output. The default is SYS$OUTPUT.

/RECORD_TYPE=(name[,...])

Displays the log files only for the selected record type(s). Valid record types are:

- START_STOP - Shows the starts, stops, and reconfigures of the Watchdog Manager process.
- MESSAGE - Shows the addition, update, and removal of any event and external messages.

- ACTION_ROUTINE - Shows entries related to action routines and their status.
- DECtalk - Shows entries related to DECtalk calls and their status.
- MAILBOX - Shows entries related to OpenVMS mailbox outputs and their status.

/SINCE=time

Selects the list of messages written to the log file since the specified time.

Note: The time contained in an event message records the time that the event was detected. The /SINCE time specifies the time that the entry was written to the log file, not the time that the event was detected.

Description

The SHOW LOG command displays the log file written by a Watchdog Manager.

Note: To only display messages for a particular event you must specify both the /EVENT_CODES and /RECORD_TYPE qualifiers.

Related Commands

- SET LOG
- DISABLE LOG
- ENABLE LOG

Example

The following command displays the log file T.LOG:

```
SNS> SHOW LOG T.LOG
```

SHOW MESSAGE

The SHOW MESSAGE command removes the hidden state of an event message in the Watchdog Manager list of messages. Hidden messages can be either built-in or external.

Format

SHOW MESSAGE "node_name message text" [/qualifier]

Parameters

"node_name message text"

Event message text for which hidden status is to be enabled, where the first word must be the node name or cluster alias. All messages matching the subsequent message text are enabled.

Note: The node name match is case-sensitive, but the message text match is not case-sensitive.

Qualifiers

/LOG

/NOLOG (D)

The /LOG qualifier causes an informational message to be displayed if the command is successful. The /NOLOG qualifier inhibits the informational message. The default is /NOLOG.

Description

The SHOW MESSAGE command directs the Watchdog Manager to restore the display of event or external messages that are hidden in its list of event messages. The command only affects messages in the Watchdog Manager and does not affect messages in a Watchdog Agent list.

The first word of the message text must be the node name or cluster alias as displayed by the SHOW EVENTS/HIDDEN command. The SHOW MESSAGE command resets the hidden status of all messages that contain "name message text." For example, if the hidden message is "12-OCT 03:45 NODEA unreachable," the SHOW MESSAGE command parameter must be "NODEA unreachable." When entering the message, only one space is required between the name and remaining text (even though the SHOW EVENTS display line pads the field to six spaces).

The node name match is case-sensitive, but the message text match is not case-sensitive.

Related Commands

HIDE MESSAGE

Example

The following example restores the display of all event messages "Process missing" for NODEB:

```
SNS> HIDE MESSAGE "NODEB Process missing"
```

START CONSOLIDATOR

The START CONSOLIDATOR command starts a detached Watchdog Manager process.

Format

START CONSOLIDATOR [/qualifier[...]]

Qualifiers

/ACCESS=(option[,...])

Specifies access to the Watchdog Manager process in addition to the owner access. Valid options are [NO]SYSTEM, [NO]GROUP, and [NO]WORLD. The defaults are NOSYSTEM, NOGROUP, and NOWORLD.

/ERROR=filename

Name of the file to receive event messages sent by the Watchdog Manager to SYS$ERROR. The default file name is SNS$CONSOLIDATOR_ERROR.LOG.

/FIRST_SCAN=(option[,...])

Enables or disables notification action on the first scan of the Watchdog Manager process, which can contain old messages. Valid options are:

- [NO]ACTION_ROUTINE - Specifies whether action routines are to be triggered immediately after the first scan.
- [NO]DECtalk - Specifies whether DECtalk is to be initiated immediately after the first scan.
- [NO]MAILBOX - Specifies whether mailbox messages are to be sent during the first scan.

The defaults are ACTION_ROUTINE, DECtalk, and MAILBOX.

/INFORMATION="information text"

Informational text to be stored in the Watchdog Manager process. The information text is useful to describe what the particular Watchdog Manager is watching, when more than one Watchdog Manager process is in use

/OUTPUT=filename

Name of the file to receive event messages and any other text sent by the Watchdog Manager to the SYS$OUTPUT device. The default file name is SNS$CONSOLIDATOR_OUTPUT.LOG.

/PROFILE=filename

File name of the profile to be used by the Watchdog Manager process. The default is SNS$PROFILE.DAT in your default directory.

/UIC=[m,n] | [name] | [group,name]

Specifies the user identification code (UIC) under which the Watchdog Manager runs, where m,n is the numeric group and user codes, name is the user name, and group is the group name. The UIC must be enclosed in brackets ([]) as shown. The default is the current UIC.

/WAIT

/NOWAIT (D)

Use /WAIT to delay the polling of Watchdog Agent processes until the first POLL command is executed. This enables the user to disable nodes and to set the log file, polling interval, and other parameters before polling starts. Use /NOWAIT to begin polling immediately. The default is /NOWAIT.

Description

The START CONSOLIDATOR command creates a detached Watchdog Manager process and passes configuration parameters to the process from the specified profile. The process name SNS$CONS_nnnn is created where nnnn is the numeric identifier of the Watchdog Manager process and is also the unit number of the Watchdog Manager command input mailbox.

When the Watchdog Manager process starts, the logical name SNS$CONSOLIDATOR_ID is set to the default numeric identifier value to direct controller commands to the process. The DCL command SHOW LOGICAL SNS$* shows the identifier value currently defined by SNS$CONSOLIDATOR_ID.

Your process requires the following privileges:

- CMKRNL or DETACH to start a Watchdog Manager under another UIC
- CMKRNL to start a Watchdog Manager that must submit batch action routines to users other than the owner of the Watchdog Manager
- OPER, SYSPRV, or SETPRV to start a Watchdog Manager that must reduce the number of disk error count messages that apply to the same disk in an OpenVMS cluster system

Related Commands

- SET CONSOLIDATOR
- SHOW CONSOLIDATOR
- STOP CONSOLIDATOR

Examples

You can start a Watchdog Manager process and assign a logical name to the process as follows:

```
$ SENSE WATCHDOGS START CONSOLIDATOR /PROFILE=SNS$PROFILE
$ T_CONS = F$TRNLNM( “SNS$CONSOLIDATOR_ID” )
$ ASSIGN 'T_CONS' MY_CONS
```

The first of the preceding commands starts a Watchdog Manager process using the default profile SNS$PROFILE.DAT. The other two commands assign the logical names. You can then use MY_CONS instead of the numeric identifier with the SET CONSOLIDATOR, SHOW CONSOLIDATOR, and STOP CONSOLIDATOR commands, for example:

```
$ SENSE WATCHDOGS SHOW CONSOLIATOR MY_CONS /FULL
```

STOP CONSOLIDATOR

The STOP SONSOLIDATOR command stops a Watchdog Manager process.

Format

STOP CONSOLIDATOR identifier [/qualifier]

Parameters

identifier

Numeric identifier of the SNS$CONS_nnnn Watchdog Manager process to be stopped. The identifier can also be a logical name that represents a numeric value. If the identifier is not specified, the command stops the process currently defined by SNS$CONSOLIDATOR_ID.

Qualifiers

/ALL

Stops all Watchdog Manager processes on the system that are enabled by protections and privileges. This provides an orderly shutdown of Watchdog Manager processes during system shutdown procedures.

Description

The STOP CONSOLIDATOR command directs the Watchdog Manager process to terminate. It also deletes the logical name SNS$CONSOLIDATOR_ID if it refers to the stopped Watchdog Manager process.

Related Commands

- SET CONSOLIDATOR
- SHOW CONSOLIDATOR
- START CONSOLIDATOR

Example

The following command stops Watchdog Manager process SNS$CONS_1234:

```
SNS> STOP CONSOLIDATOR 1234
```

Chapter 4: Profile Management

A profile is a data file that defines the nodes to be scanned by the consolidator. It also defines the types of notification actions to be performed when an abnormal event occurs. The default profile SNS$PROFILE.DAT is provided but you can create and modify different profiles using one of the following Watchdog Manager facilities:

- The command line profile editor
- The Motif profile editor
- A command file containing profile editor commands

You can then specify a different profile each time you start a Watchdog Manager process.

This chapter provides guidelines for creating a profile and adding entries using the command line profile editor commands. The Watchdog Manager Motif profile editor facility enables you to select profile-editing functions with the pointer and to add character string information from the keyboard. The chapter "Profile Editor Commands" provides detailed information about the profile editor commands.

This section contains the following topics:

How You Gather System Information

To use the System Watchdog software effectively, it is necessary to first collect the required system information and plan the use of the software. Following are the tasks for collecting the necessary information:

1. Identify all of the nodes to be polled.
2. Determine the events to be monitored on each node.
3. Identify the nodes that will monitor events not detected by the System Watchdog software. These nodes generate external messages for detected events.

   Note: Each node that generates external messages must have a user-written program or procedure that adds the messages to an external message list in the system's Watchdog Agent memory. The Watchdog Manager software assigns the EXT event code to each external message.

4. Determine the notification options (action routine, DECtalk, and OpenVMS mailbox sets) to be used for taking action on user-generated external events or on events detected by the Watchdog Manager software.
5. Determine the names to be assigned to the notification options.
6. Identify nodes that have similar event coverage and notification options so you can place them in the same event class.
7. Determine the names to be assigned to the event classes.
8. Identify nodes that have similar external message coverage and notification options so they can be placed in the same external message class.
9. Determine the names to be assigned to the external message classes.
10. Determine the node objects to be monitored on each node.

The chapter "User Programming" provides guidelines for developing action routines and OpenVMS mailbox reader programs, and using the callable interface for external messages.

The following table lists the system information used in the Adding Profiles Section for purposes of illustration. The first two nodes run critical applications. The next two nodes run mostly software applications. The last three nodes are HP Integrity systems connected by an Ethernet network.

Node Name	Event Class	External Message Class	Action Routine Set	Mailbox Set	DECtalk Set
ALPHA	CRITCL			TO_MGR	CALL_MGR
BRAVO	CRITCL			TO_MGR	CALL_MGR
CHARLY	SFTWR	SITE_APPL1		TO_MGR	
DELTA	SFTWR			TO_MGR	
ECHO	ITNIUM	SITE_APPL2	FIXIT1	TO_SUPR	
FOXTRT	ITNIUM		FIXIT1	TO_SUPR	
GEORGE	ITNIUM		FIXIT1	TO_SUPR	

1The procedure file is SYS$DISK:[SYSTEM]SYSFIX.COM.

How You Create a Profile

This section provides step-by-step examples of entries being added to a new profile. If you have questions about how a command is used, see the chapter "Profile Editor Commands" (page 115) for a description of the command and qualifiers.

While learning to build a profile, you can start with a subset of your final configuration, and then add entries and modify parameters later to provide more complete coverage. A command file of profile editor commands is useful for reviewing your entries and making any changes before creating the final profile. You can then execute the command file to create the profile.

When you have all or most of the information you need, you can enter command line profile editor commands from the keyboard or use the Motif profile editor.

The software verifies each entry that is added. You must add the action routine sets, DECtalk sets, and mailbox sets before they can be referenced by the classes or external message classes. You must then add the classes and external message classes before they can be referenced by the nodes.

Add the entries in the following order:

1. Invoke the command line profile editor.
2. Add action routine sets with the ADD ACTION_ROUTINE_SET command.
3. Add mailbox sets with the ADD MAILBOX_SET command.
4. Add DECtalk sets with the ADD DECtalk_SET command.
5. Modify the DECtalk sets with the MODIFY DECtalk_SET command.
6. Add event classes with the ADD CLASS command.
7. Modify the event classes with the MODIFY CLASS command.
8. Add external message classes with the ADD EXTERNAL_MESSAGE_CLASS command.
9. Modify the external message classes with the MODIFY EXTERNAL_MESSAGE_CLASS command.
10. Add each node to be polled with the ADD NODE command.
11. Add node objects to the polled nodes with the ADD NODE node_object command.
12. List the Watchdog Manager parameters with the SHOW CONSOLIDATOR command. If necessary, set the parameters with the SET CONSOLIDATOR command.

13. List the display parameters with the SHOW DISPLAY command. If necessary, set the parameters with the SET DISPLAY command.
14. List the profile contents with the SHOW ALL command. Add any further entries that are necessary.
15. Close the profile with the EXIT command.

The guidelines provided in this section apply whether you are building a profile with the command line profile editor or Motif profile editor. The Motif profile editor selects the same command functions and parameters as the command line profile editor.

Step 1: Invoke the Profile Editor

Invoke the command line profile editor or Motif profile editor to begin.

For a detailed description of the EDIT PROFILE command, see the chapter "Controller Commands" (page 59).

To invoke the Command Line Profile editor

The following commands invoke the command line profile editor from DCL or the Watchdog Manager controller:

```
$ SENSE WATCHDOGS
SNS> EDIT PROFILE SNS$MY_PROFILE.DAT
SNS$EDIT>

$ SENSE WATCHDOGS EDIT PROFILE SNS$MY_PROFILE.DAT
SNS$EDIT>
```

To invoke the Motif profile editor

The following commands invoke the Motif profile editor window from DCL or from the Watchdog Manager controller:

```
$ SENSE WATCHDOGS EDIT PROFILE SNS_PROFILE.DAT /INTERFACE=DECwindows

SNS> EDIT PROFILE SNS$MY_PROFILE.DAT /INTERFACE=DECwindows
```

Step 2: Add Action Routine Sets

An action routine set invokes a user-written program or procedure that corrects a software-generated problem. If you are using action routine sets, add each set with all necessary qualifiers.

The following commands add action routine set FIXIT as a batch queue and action routine set PURGE as a spawned subprocess:

```
SNS$EDIT> ADD ACTION_ROUTINE_SET FIXIT /PROCEDURE=SYS$DISK:[SYSTEM]SYSFIX.COM

SNS$EDIT> ADD ACTION_ROUTINE_SET PURGE /MODE=SPAWN /COMMAND="PURGE [...]"
```

If you do not specify a mode, the default is batch queue. If batch queue is used, the complete path for the service routine, including the file extension, must be specified.

Step 3: Add Mailbox Sets

A mailbox set writes event information to an OpenVMS mailbox. If you are using mailbox sets, add each set with the mailbox name and recipient name. A user-written mailbox reader program must be in place to read and process the message.

The following commands add the mailbox sets TO_MGR and TO_SUPR to the profile:

```
SNS$EDIT> ADD MAILBOX_SET TO_MGR /MAILBOX=MBA1234:

SNS$EDIT> ADD MAILBOX_SET TO_SUPR /MAILBOX=SHS$MAILBOX
```

Step 4: Add DECtalk Sets

A DECtalk set initiates a call through a DTC01 or DTC03 DECtalk option to a specified telephone number and delivers a computer-generated voice message to a person or recording device. If you are using DECtalk sets, add each set with all necessary qualifiers.

The following command adds the DECtalk set CALL_MGR to the profile:

```
SNS$EDIT> ADD DECTALK_SET CALL_MGR /LINE=LTA002: /VOICE=DEEP_FEMALE -
_SNS$EDIT> /MESSAGE_TYPE=BRIEF /KEYSTROKE_TRIALS=3
```

The ADD DECtalk_SET command provides most of the required qualifiers. Some examples of the additional qualifiers provided by the MODIFY DECtalk_SET command are shown in the step Modify DECtalk Sets.

Step 5: Modify DECtalk Sets

Modify each DECtalk set to specify the additional qualifiers. The following commands specify the 24-hour call schedule, the valid telephone numbers (up to 16 characters), and the online operators for the DECtalk set CALL_MGR previously added to the profile:

```
SNS$EDIT> MODIFY DECTALK_SET CALL_MGR /SCHEDULE=000002221110011111000222 -
_SNS$EDIT> /DAY=WEEKDAYS

SNS$EDIT> MODIFY DECTALK_SET CALL_MGR /SCHEDULE=000000000022220000000000 -
_SNS$EDIT> /DAY=WEEKENDS

SNS$EDIT> MODIFY DECTALK_SET CALL_MGR /PHONE_NUMBER=16175551234 -
_SNS$EDIT> /OPERATOR=1/DAY=WEEKDAYS

SNS$EDIT> MODIFY DECTALK_SET CALL_MGR /PHONE_NUMBER=16175553456 -
_SNS$EDIT> /OPERATOR=2/DAY=WEEKDAYS

SNS$EDIT> MODIFY DECTALK_SET CALL_MGR /PHONE_NUMBER=16175559876 -
_SNS$EDIT> /OPERATOR=2/DAY=WEEKENDS
```

Step 6: Add Event Classes

A class is a collection of events that the Watchdog Manager software can monitor. If you do not specify the class name when adding a node, the profile editor assigns the node to the class DEFAULT.

One class can be used to define an OpenVMS cluster system or several connected systems. However, other classes can be used to define groups of systems, such as nodes running critical applications, nodes used for program development, or a group of Integrity systems.

Add each event class with the class name. The following commands add event classes CRITCL, SFTWR, and ITNIUM to the profile:

```
SNS$EDIT> ADD CLASS CRITCL

SNS$EDIT> ADD CLASS SFTWR

SNS$EDIT> ADD CLASS ITNIUM
```

Step 7: Modify Event Classes

Modify each event class to specify the event codes to be monitored, the event priority level, and the notification options to be used. The following commands customize the event classes CRITCL, SFTWR, and ITNIUM that were previously added to the profile:

```
SNS$EDIT>  MODIFY CLASS CRITCL /EVENT=(UNR,BQP,PRO,CPU,MEM,DSK) -
_SNS$EDIT> /PRIORITY=HIGH /DECTALK_SET=CALL_MGR /MAILBOX=TO_MGR /SEVERITY=WARNING

SNS$EDIT> MODIFY CLASS SFTWR /EVENT=(UNR,BQP,PRO,CPU,MEM,DSK -
_SNS$EDIT> /PRIORITY=LOW /MAILBOX_SET=TO_MGR /SEVERITY=ERROR

SNS$EDIT> MODIFY CLASS ITNIUM /EVENT=(UNR,CPU,MEM,DSK -

_SNS$EDIT> /PRIORITY=LOW /ACTION=FIXIT /MAILBOX_SET=TO_SUPR
/SEVERITY=INFORMATIONAL
```

Step 8: Add External Message Classes

External message classes must be added for nodes that report events outside the scope of the System Watchdog software by a user-written program or a DCL command procedure. If you are monitoring external messages, add each external message class with the class name.

The following commands add the external message classes PURGE_DSK2 and PURGE_DSK1 to the profile:

```
SNS$EDIT> ADD EXTERNAL_MESSAGE_CLASS PURGE_DSK2

SNS$EDIT> ADD EXTERNAL_MESSAGE_CLASS PURGE_DSK1
```

Step 9: Modify External Message Classes

Modify each external message class previously added to the profile. For each external message class, specify the match string, the priority level for the match string, and the notification options to be used by the class:

```
SNS$EDIT> MODIFY EXTERNAL_MESSAGE_CLASS PURGE_DSK2 /POSITION=1 /INSERT -
_SNS$EDIT> /TEXT="DISK2 first message string" /PRIORITY=HIGH /ACTION=FIXIT

SNS$EDIT> MODIFY EXTERNAL_MESSAGE_CLASS PURGE_DSK2 /POSITION=2 /INSERT -
_SNS$EDIT> /TEXT="DISK2 second message string" /PRIORITY=HIGH /ACTION=FIXIT

SNS$EDIT> MODIFY EXTERNAL_MESSAGE_CLASS PURGE_DSK2 /POSITION=3 /INSERT -
_SNS$EDIT> /TEXT="DISK2 third message string" /PRIORITY=HIGH /ACTION=FIXIT
```

```
SNS$EDIT> MODIFY EXTERNAL_MESSAGE_CLASS PURGE_DSK1 /POSITION=1 /INSERT -
_SNS$EDIT> /TEXT="DISK1 first message string" /PRIORITY=LOW /ACTION=FIXIT

SNS$EDIT> MODIFY EXTERNAL_MESSAGE_CLASS PURGE_DSK1 /POSITION=2 /INSERT -
_SNS$EDIT> /TEXT="DISK1 second message string" /PRIORITY=LOW /ACTION=FIXIT
```

Step 10: Add the Nodes to be Polled

Add each node to be polled. Specify the event class and any external message class. If you do not specify the class, the software assigns the node to the class DEFAULT.

The following commands add the nodes to the profile:

```
SNS$EDIT> ADD NODE ALPHA /CLASS=CRITCL

SNS$EDIT> ADD NODE BRAVO /CLASS=CRITCL

SNS$EDIT> ADD NODE CHARLY /CLASS=SFTWR /EXTERNAL_MESSAGE_CLASS=PURGE_DSK2

SNS$EDIT> ADD NODE DELTA /CLASS=SFTWR

SNS$EDIT> ADD NODE ECHO /CLASS=ITNIUM /EXTERNAL_MESSAGE_CLASS=PURGE_DSK1

SNS$EDIT> ADD NODE FOXTRT /CLASS=ITNIUM

SNS$EDIT> ADD NODE GEORGE /CLASS=ITNIUM
```

Note: Each node must be added separately. Cluster aliases cannot be used with the ADD NODE command. The Watchdog Manager uses DECnet or TCP/IP to individually connect with each node and request event information.

Step 11: Add Node Objects for the Nodes Being Polled

Each node object must be added separately for each node. Add any node object entries for nodes requiring node object coverage.

The following commands add node objects to the nodes added to the profile in step 10:

```
SNS$EDIT> ADD NODE ALPHA BATCHJOB GNUBAT SYSMAN SNS$BAT

SNS$EDIT> ADD NODE BRAVO BATCHJOB GNUBAT SYSTEM SYS$BATCH  !Uses defaults

SNS$EDIT> ADD NODE ALPHA LOGINS/LIMIT=12

SNS$EDIT> ADD NODE BRAVO LOGINS/LIMIT=20

SNS$EDIT> ADD NODE BRAVO EXCLUSION ETH *
```

Step 12: Set Consolidator Parameters

The SHOW CONSOLIDATOR command displays the current Watchdog Manager settings and attributes. Use SET CONSOLIDATOR to Eevaluate and set the Watchdog Manager parameters, if necessary. You can also If necessary, change the polling interval and enable or disable the notification options by type.

The following command sets and enables Watchdog Manager parameters in the profile:

```
SNS$EDIT> SET CONSOLIDATOR /POLL=120 /ENABLE=(ACTION_ROUTINE,MAILBOX,DECTALK)
```

Step 13: Set Display Parameters

The SHOW DISPLAY command lists the current display settings and attributes. Evaluate and set the display parameters, if necessary. If necessary, set the priority levels, and highlight time and scrolling for the display.

The following command sets the display parameters in the profile:

```
SNS$EDIT> SET DISPLAY /PRIORITY=BOTH /HIGHLIGHT_TIME=0:5:0 /ENABLE=SCROLLING
```

Step 14: Show the Profile Contents

Use the SHOW ALL command to list the current profile entries and make any additions, if necessary.

Step 15: Close the Profile

This command closes the profile and terminates the profile editing session:

```
SNS$EDIT> EXIT
```

The EXIT command closes the profile and returns to the prompt from where you entered the EDIT PROFILE command. The QUIT command aborts the profile and terminates the session without saving changes.

Additional Commands

The following commands provide functions to help you manage and maintain your profiles:

- The COPY command copies an existing entry, with all existing values, to a new entry that you can customize with the MODIFY command.

- The DELETE command deletes an entry that is not required in the updated profile.
- The HELP command provides online information for all profile editor commands.
- The SHOW command displays the current values for the specified entry or all entries.
- The SPAWN command spawns a subprocess that enables you to enter commands at the DCL level. To return to the profile editor, enter the LOGOUT command.

Profile Contents Summary

The following is a summary of the parameters and attributes that a Watchdog Manager profile can provide to one or more Watchdog Managers:

For each node:

Node name
Class
External message class
Time difference
Network transport
DFS disks coverage enabled: event code list (DSS or SWL or neither).

For each missing batch job entry, if any:

Job name
Batch queue
User name
Interval

For the interactive log limit entry, if used:

Value
Interval

For each shadow set entry, if any:

Shadow set name
Full copy messages: On/Off
Merge messages: On/Off
Member count
Interval

For each stalled printer queue entry, if any:

Printer queue name
Interval

For each missing process entry, if any:

Process name
UIC
Interval

For each disk free blocks entry, if any:

Disk name
Threshold (percent or blocks)
Interval
Exclusion entries, if any:

Event_code/Wildcarded_name. Events with exclusions are Ethernet errors, disk errors, disk state, software write-locked disks, batch queue problems, device queue problems.

For each class:

Class name
For each built-in event:
Priority: High/Low/Not displayed/Not checked
Action routine set name, if any

DECtalk set name, if any
Mailbox set name, if any
Event severity: Success, Information, Warning, Error, Fatal

For each external message class:

External message class name
Definitions of match strings or references to other external message classes:

Up to 64 definitions per external message class. Match

strings can be up to 24 characters and can contain "%" and "*" wildcard characters. References to another external message class have the format "@name" where name is the name of the external message class.

For each match string definition:

Priority: High/Low/Not displayed/Not checked
Action routine set name, if any
DECtalk set name, if any

Mailbox set name, if any
Event severity: Success, Information, Warning, Error, Fatal

For each action routine set:

Action routine set name
Mode: Batch/Spawn
If Batch:
User
Command file name
Queue name

Log file: On/Off
If Spawn:
Command
Log file name
Log file: On/Off

For each DECtalk set:

DECtalk set name
DECtalk line
DECtalk type: DTC01/DTC03
Speech speed

Voice type: Female/Child/Deep male/Deep female
/Older male/Light female/All voices/Male
Dialing type: Pulse/Tone
Repeat count
Message type: Full/Brief

Keystroke trials
Welcome text
For each day of the week:
Schedule for operator selection: 0/1/2 for each hour

Delay for operator 1
Phone number for operator 1
Delay for operator 2
Phone number for operator 2

For each mailbox set:

Mailbox set name
OpenVMS mailbox name or logical name

Display parameters:

Active windows: High/Low/Both
Highlight time
Display scrolling: On/Off

Consolidator parameters:

Polling interval
DECtalk: On/Off
Action routines: On/Off
Mailbox output: On/Off

Chapter 5: Profile Editor Commands

The command line profile editor commands enable you to create, modify, or update Watchdog Manager profiles from your keyboard. The EDIT PROFILE command invokes the command line profile editor and opens a profile in your default directory. The default profile is SNS$PROFILE.DAT.

For more information on editing profiles, see the EDIT PROFILE command description in the "Controller Commands" chapter.

You can enter the command line profile editor from either the Watchdog Manager controller prompt or the DCL prompt as follows:

```
$ SENSE WATCHDOGS
SNS> EDIT PROFILE filename
SNS$EDIT>

$ SENSE WATCHDOGS EDIT PROFILE filename
SNS$EDIT>
```

After you are done editing profiles, use one of the following commands:

- EXIT- Updates and closes the profile and terminates the editing session.
- QUIT-Aborts the editing session without saving the changes.

You can edit an existing profile for output as a new profile with the /OUTPUT qualifier.

Tip: To speed entry of new profiles, use the COPY command at the DCL level to copy an existing profile to a new profile with the same attributes. You can then use the DELETE and MODIFY commands to change the attributes of the new profile.

This section contains the following topics:

@

The @ command executes a command file containing profile editor commands where you can create a new profile or update an existing profile.

Format

@*filename*

Parameters

filename

Name of the command file containing profile editor commands. The default file extension is .COM.

Description

The @ symbol executes a command file containing profile editor commands to create a new profile.

Related Commands

SHOW ALL /FORMAT=COMMANDS /OUTPUT=filename

If you invoke the profile editor on an existing profile, the SHOW ALL command outputs a command file you can modify and use to build a new profile with the @ command.

Example

The following command executes the command file ADD_MAILBOXES.COM:

```
SNS$EDIT> @ADD_MAILBOXES.COM
```

ADD Commands

The ADD command adds the specified entry to the profile.

Format

`ADD` *entry*

Entries

- ACTION_ROUTINE_SET
- CLASS
- DECtalk_SET
- EXTERNAL_MESSAGE_CLASS
- MAILBOX_SET
- NODE
- NODE node_object

Description

Adds the specified entry to the profile.

Related Commands

- COPY
- DELETE
- MODIFY
- SHOW

ADD ACTION_ROUTINE_SET

The ADD ACTION_ROUTINE_SET command adds an action routine set to the profile.

Format

```
ADD ACTION_ROUTINE_SET set_name /qualifier...
```

Parameters

set_name

Name of the action routine set to be added.

Qualifiers

/COMMAND=command

The DCL command string to be executed by the spawned subprocess. Only applies, and is required, when /MODE=SPAWN. See the "User Programming" chapter for more information on command strings and procedures.

/LOG_FILE

/NOLOG_FILE (D)

Enables and disables writing to a batch or spawn mode output file. The default is /NOLOG_FILE.

/MODE=SPAWN | BATCH (D)

BATCH submits a command procedure to a batch queue. SPAWN executes a DCL command by a spawned subprocess. The default is BATCH.

/OUTPUT=filename

Specifies an output file for writing the information written to SYS$OUTPUT by the spawned DCL command. Only applies when /MODE=SPAWN.

/PROCEDURE=proc_name

Name of the command procedure to be submitted as a batch job. The full path name with file extension must be specified. Only applies, and is required, when /MODE=BATCH. See the "User Programming" chapter for more information on command procedures.

/QUEUE=queue_name

Name of the batch queue to which the procedure is to be submitted. Only applies when /MODE=BATCH. The default is SYS$BATCH.

/USERNAME=username

User name under which the action routine is submitted as a batch job. Only applies when /MODE=BATCH. The default user name is SYSTEM.

Description

The ADD ACTION_ROUTINE_SET command adds an action routine set to the profile with all required parameters.

Example

The following command adds the action routine set PURGE_DISK2:

```
SNS$EDIT> ADD ACTION_ROUTINE_SET PURGE_DISK2 /MODE=SPAWN -
_SNS$EDIT> /COMMAND="PURGE [...]"
```

ADD CLASS

The ADD CLASS command adds an event class to the profile.

Format

ADD CLASS class_name

Parameters

class_name

Name of the class to be added.

Description

The ADD CLASS command adds an event class to the profile. You must then use the MODIFY CLASS command to customize the class parameters.

Example

The following command adds the event class CRITICAL for nodes running critical applications:

```
SNS$EDIT> ADD CLASS CRITICAL
```

ADD DECtalk_SET

The ADD DECtalk_SET command adds a DECtalk set to the profile.

Format

ADD DECtalk_SET set_name /qualifier...

Parameters

set_name

Name of the DECtalk set to be added.

Qualifiers

/DIALING_TYPE=TONE | PULSE (D)

Specifies the dialing type. The default is PULSE.

/KEYSTROKE_TRIALS=*number*

Specifies the number of times the Watchdog Manager repeats the prompt "Hello, this is DECtalk ... Dial any number to get my message." The user must dial a digit to receive the welcome message before the number of trials expires. A value of zero (/KEYSTROKE_TRIALS=0) inhibits the DECtalk prompt message and the first message sent is the welcome text. The range is 0 to 999. The default is 0.

/LINE=port

Required
Specifies the physical line, such as TXA0: or LTA100 that is connected to the DECtalk unit.

/MESSAGE_TYPE=BRIEF | FULL (D)

FULL specifies that the full event message text is to be sent. BRIEF specifies that a simplified message is to be sent, for example,"Node has a disk near full." The default is FULL.

/REPEAT_COUNT=*number*

Specifies the number of times the list of event messages repeats when the call is answered. The range is 0 to 999. The default is 3.

/SPEECH_SPEED=*number*

Specifies the speech speed in words per minute. The range is 120 to 350. The default is 120.

/TYPE=DTC01 | DTC03 (D)

Specifies the connected DECtalk unit type. The default is DTC03.

/VOICE=voice_type

Valid voice types are FEMALE, CHILD, DEEP_MALE, DEEP_FEMALE, OLDER_MALE, LIGHT_FEMALE, ALL_VOICES, or MALE. The default is CHILD.

/WELCOME_TEXT="message text"

Message introducing the list of event messages when the call is answered. This message is spoken after the DECtalk prompt message. The default is an empty string.

Description

The ADD DECtalk_SET command adds a DECtalk set to the profile with most of the required parameters. The MODIFY DECtalk_SET command provides an additional set of qualifiers for customizing the DECtalk set.

Example

The following command adds the DECtalk set CALL_HOME to the profile:

```
SNS$EDIT> ADD DECtalk_SET CALL_HOME /LINE=LTA100:
```

ADD EXTERNAL_MESSAGE_CLASS

The ADD EXTERNAL_MESSAGE_CLASS command adds an external message class to the profile.

Format

ADD EXTERNAL_MESSAGE_CLASS ext_class_name

Parameters

ext_class_*name*

Name of the external message class to be added.

Description

The ADD EXTERNAL_MESSAGE_CLASS command adds an external message class to the profile. The MODIFY EXTERNAL_MESSAGE_CLASS command must then be used to customize the class parameters.

Example

The following command adds the external message class APPLICATION for nodes running software applications:

```
SNS$EDIT> ADD EXTERNAL_MESSAGE_CLASS APPLICATION
```

ADD MAILBOX_SET

The ADD MAILBOX_SET adds a mailbox set to the profile.

Format

ADD MAILBOX_SET set_name /qualifier

Parameters

set_name

Name of the mailbox set to be added.

Qualifiers

/MAILBOX=name

Physical or logical name of the OpenVMS mailbox to which event the messages are to be sent. This qualifier is required.

Description

The ADD MAILBOX_SET command adds a mailbox set to the profile and specifies the physical or logical name of the OpenVMS mailbox to receive the event messages.

Note: The mailbox reader program must create the OpenVMS mailbox and wait for event messages to be sent. Otherwise, the Watchdog Manager cannot send the event record to the OpenVMS mailbox and writes an error message to the log file if logging is enabled.

Example

The following command creates the mailbox set TO_OPERATOR for sending event messages to the OpenVMS mailbox assigned to the logical name OPER_MAILBOX:

```
SNS$EDIT> ADD MAILBOX_SET TO_OPERATOR /MAILBOX=OPER_MAILBOX
```

ADD NODE

The ADD NODE command adds a node to be polled to the profile.

Format

ADD NODE node_name [/qualifier...]

Parameters

node_name

Name of the node to be polled. Each node must be added separately. The cluster alias cannot be used.

Qualifiers

/CLASS=class_name

Name of the event class under which the node is to be monitored. The default event class is DEFAULT.

/DFS=(event_code,...)

/NODFS (D)

Specifies whether DFS disks are covered by the specified event code. Valid event codes are SWL (software write locked) and DSS (disk state problem). If the qualifier is not specified, the default is NODFS.

/EXTERNAL_MESSAGE_CLASS=ext_class_name

Name of the class to be used for external messages. The default external message class is DEFAULT.

/TIME_DIFFERENCE=time

Time difference between the polled node and the node running the Watchdog Manager. Time can be expressed as plus or minus, up to 23:59:59. The default is 0:0:0.

/TRANSPORT=TCPIP | DECnet (D)

Specifies the network transport for the Watchdog Manager to access the Watchdog Agent running on the polled node. The default is DECnet.

Description

The ADD NODE command adds a node to be polled to the profile with all required parameters.

Example

The following command adds MODEA to the class CRITICAL with DFS disks included in the notification of software write-locked events:

```
SNS$EDIT> ADD NODE NODEA /CLASS=CRITICAL /DFS=SWL
```

ADD NODE node_object

The Add NODE node_object command adds a node-related object to the profile.

Format

ADD NODE node_name node_object [name2 [name3 [name4]]] [/qualifier...]

Parameters

name2

Name of the node object being added for coverage. Each name must be added separately for each node object, except for LOGINS, which can only be added once for the node.

name3, name4

Parameters name3 and name4 have different uses for each node object (see the following description).

node_name

Name of the node to which the node object is being added. Each node object must be added separately for each node. The cluster alias cannot be used.

node_object

Each node object must be added separately. Valid node objects are BATCHJOB, FREE_BLOCKS, LOGINS, PRINTER_QUEUE, PROCESS, SHADOW_SET, and EXCLUSION.

Qualifiers

/INTERVAL=hh:mm:ss

Sets the polling interval for the node object being added. Applies to all node objects except EXCLUSION. The default is 00:10:00 (10 minutes) for all node objects, except SHADOW_SET, which is 01:00:00 (1 hour).

The polling interval for the node object does not cause polling to occur more frequently than normal Watchdog Manager polling of the Watchdog Agent nodes. For example, a value less than the Watchdog Manager polling interval, or a value of 0, causes the node object to be polled at every Watchdog Manager poll. A value 3 times longer than the Watchdog Manager polling interval causes the node object to be polled on every third Watchdog Manager poll.

Description

The ADD NODE node_object command adds an object to the specified node with all required parameters. Each node object must be added separately for each node. Valid node objects are:

- BATCHJOB
- name2 is the batch job name.

  name3 is the user name (the default is SYSTEM).

  name4 is the batch queue name (the default is SYS$BATCH).
- FREE_BLOCKS

  name2 is the disk name.

  Additional qualifiers:

  Either /PERCENT=percent or /BLOCKS=number is required.
- LOGINS

  Additional qualifiers:

  /LIMIT=n where n is the login limit comparison value.
- PRINTER_QUEUE

  name2 is the printer queue name (the default is SYS$PRINT).
- PROCESS

  name2 is the process name.

  name3 is the UIC. The UIC has the syntax of [m,n], [group,name], or [name] where m,n is the numeric group and user codes, group is the group name, and name is the user name. The UIC must be enclosed in brackets ([ ]) as shown. The [m,n] or [group,name] syntax must be in quotes because of the comma. The default UIC is [1,4].
- SHADOW_SET

  name2 is the shadow set name.

  Additional qualifiers:

  /FULL_COPY (D) | /NOFULL_COPY

  /MERGE_COPY | /NOMERGE_COPY (D)

  /MEMBERS=number (default is 2)

  For explanations of these qualifiers, see the Shadow Set Problem event description in the “Event Descriptions” chapter.

- EXCLUSION

  name2 is the event code.

  name3 is the item to be excluded, such as a disk name or queue name, which can be specified with the wildcard (*). The default is the wildcard (*), which excludes all items. For events supporting exclusions, see the chapter "Event Descriptions."

Examples

The following command specifies that no software write-locked events will be reported on NODEA for disks with names beginning with DAD:

```
SNS$EDIT> ADD NODE NODEA EXCLUSION SWL DAD*
```

The following command sets shadow set DSA111 to be polled every 5 minutes, and to return an event message if there are zero, one, or more than two disks in the shadow set or if a full shadow copy is in progress. If there are two members, and a merge copy is in progress, no event messages are generated.

```
SNS$EDIT> ADD NODE NODEB SHADOW_SET DSA111 /MEMBERS=2 -
_SNS$EDIT> /FULL_COPY /NOMERGE_COPY /INTERVAL=0:5:0
```

COPY Commands

The COPY commands copy the attributes of an existing entry to a new entry in the profile.

Format

COPY entry

Entries

- ACTION_ROUTINE_SET
- CLASS
- DECtalk_SET
- EXTERNAL_MESSAGE_CLASS
- MAILBOX_SET
- NODE

Description

The COPY command copies an existing profile entry to a new entry with the same attributes. The new entry can then be customized with the MODIFY command.

Related Commands

- ADD
- DELETE
- MODIFY
- SHOW

COPY CLASS

The COPY CLASS command copies the attributes of an existing event class to a new event class.

Format

COPY CLASS class_name1 class_name2

Parameters

class_name1

Name of the event class to be copied.

class_name2

Name of the new event class to be created.

Description

The COPY CLASS command creates a new event class in the profile with the same attributes as an existing event class.

Example

The following command creates a new class MED_PRIORITY with the same attributes as class CRITICAL:

```
SNS$EDIT> COPY CLASS CRITICAL MED_PRIORITY
```

COPY DECtalk_SET

The COPY DECtalk_SET copies the attributes of an existing DECtalk set to a new DECtalk set.

Format

COPY DECtalk_SET set_name1 set_name2

Parameters

set_name1

Name of the DECtalk set to be copied.

set_name2

Name of the new DECtalk set to be created.

Description

The COPY DECtalk_SET command creates a new DECtalk set in the profile with the same attributes as an existing DECtalk set.

Example

The following command creates a new DECtalk set CALL_SUPPORT with the same attributes as DECtalk set CALL_HOME:

```
SNS$EDIT> COPY DECtalk_SET CALL_HOME CALL_SUPPORT
```

COPY EXTERNAL_MESSAGE_CLASS

The COPY EXTERNAL_MESSAGE_CLASS command copies the attributes of an existing external message class to a new external message class.

Format

COPY EXTERNAL_MESSAGE_CLASS ext_class_name1 ext_class_name2

Parameters

ext_class_name1

Name of the external message class to be copied.

ext_class_name2

Name of the external message class to be created.

Description

The COPY EXTERNAL_MESSAGE_CLASS command creates a new external message class in the profile with the same attributes as an existing external message class.

Example

The following command creates a new external message class DISTRIBUTION with the same attributes as external message class APPLICATION:

```
SNS$EDIT> COPY EXTERNAL_MESSAGE_CLASS APPLICATION DISTRIBUTION
```

COPY MAILBOX_SET

The COPY MAILBOX_SET command copies the attributes of an existing mailbox set to a new mailbox set.

Format

COPY MAILBOX_SET set_name1 set_name2

Parameters

set_name1

Name of the mailbox set to be copied.

set_name2

Name of the mailbox set to be created.

Description

The COPY MAILBOX_SET command creates a new mailbox set in the profile with the same attributes as an existing mailbox set.

Example

```
SNS$EDIT> COPY MAILBOX_SET TO_OPERATOR TO_SUPPORT
```

The following command creates a new mailbox set TO_SUPPORT with the same attributes as mailbox set TO_OPERATOR.

COPY NODE

The COPY NODE command copies selected attributes of an existing node to a new node.

Format

COPY NODE node_name1 node_name2 [/qualifier...]

Parameters

node_name1

Name of the node entry to be copied. The node entry must be copied separately. The cluster alias cannot be used.

node_name2

Name of the node entry to be created.

Qualifiers

/ALL

Enables copying of all of the above object and exclusion information.

/BATCHJOB

/NOBATCHJOB (D)

Enables and disables copying of the node's BATCHJOB objects. The default is /NOBATCHJOB.

EXCLUSION

/NOEXCLUSION (D)

Enables and disables copying of the node's lists of exclusions. The default is /NOEXCLUSION.

/FREE_BLOCKS

/NOFREE_BLOCKS (D)

Enables and disables copying of the node's FREE_BLOCKS objects. The default is /NOFREE_BLOCKS.

/LOGINS

/NOLOGINS (D)

Enables and disables copying of the node's login limit object. The default is /NOLOGINS.

/PRINTER_QUEUE

/NOPRINTER_QUEUE (D)

Enables and disables copying of the node's PRINTER_QUEUE objects. The default is /NOPRINTER_QUEUE.

/PROCESS

/NOPROCESS (D)

Enables and disables copying of the node's PROCESS objects. The default is /NOPROCESS.

/SHADOW_SET

/NOSHADOW_SET (D)

Enables and disables copying of the node's SHADOW_SET objects. The default is /NOSHADOW_SET.

Description

The COPY NODE command creates a new node entry in the profile from an existing node entry. You must select the attributes you want for the new entry.

Example

The following command creates a new entry for NODEB with the same attributes as the entry for NODEA:

```
SNS$EDIT> COPY NODE NODEA NODEB
```

COPY ACTION_ROUTINE_SET

The COPY ACTION_ROUTINE_SET command copies the attributes of an existing action routine set to a new action routine set.

Format

COPY ACTION_ROUTINE_SET set_name1 set_name2

Parameters

set_name1

Name of the action routine set to be copied.

set_name2

Name of the new action routine set to be created.

Description

The COPY ACTION_ROUTINE_SET command creates a new action routine set in the profile with the same attributes as an existing action routine set.

Example

The following command creates a new action routine set PURGE_DISK3 with the same attributes as action routine set PURGE_DISK2:

```
SNS$EDIT> COPY ACTION_ROUTINE_SET PURGE_DISK2 PURGE_DISK3
```

DELETE Commands

The DELETE commands delete an entry from the profile.

Format

DELETE entry

Entries

- ACTION_ROUTINE_SET
- CLASS
- DECtalk_SET
- EXTERNAL_MESSAGE_CLASS
- MAILBOX_SET
- NODE
- NODE node_object

Description

The DELETE command removes the specified entry from the profile.

Related Commands

- ADD
- COPY
- MODIFY
- SHOW

DELETE ACTION_ROUTINE_SET

The DELETE ACTION_ROUTINE_SET command deletes an action routine set from the profile.

Format

DELETE ACTION_ROUTINE_SET set_name

Parameters

set_name

Name of the action routine set to be deleted.

Description

The DELETE ACTION_ROUTINE_SET command deletes the specified action routine set from the profile.

Example

The following command deletes action routine set PURGE_DISK4 from the profile:

```
SNS$EDIT> DELETE ACTION_ROUTINE_SET PURGE_DISK4
```

DELETE CLASS

The DELETE CLASS command deletes an event class from the profile.

Format

DELETE CLASS class_name

Parameters

class_name

Name of the event class to be deleted.

Description

The DELETE CLASS command deletes the specified event class from the profile.

Example

The following command deletes event class LOW_PRIORITY from the profile:

```
SNS$EDIT> DELETE CLASS LOW_PRIORITY
```

DELETE DECtalk_SET

The DELETE DECtalk_SET command deletes a DECtalk set from the profile.

Format

DELETE DECtalk_SET set_name

Parameters

set_name

Name of the DECtalk set to be deleted.

Description

The DELETE DECtalk_SET command deletes the specified DECtalk set from the profile.

Example

The following command deletes DECtalk set CALL_Manager from the profile:

```
SNS$EDIT> DELETE DECtalk_SET CALL_MANAGER
```

DELETE EXTERNAL_MESSAGE_CLASS

The DELETE EXTERNAL_MESSAGE_CLASS command deletes an external message class from the profile.

Format

DELETE EXTERNAL_MESSAGE_CLASS ext_class_name

Parameters

ext_class_name

Name of the external message class to be deleted.

Description

The DELETE EXTERNAL_MESSAGE_CLASS command deletes the specified external message class or match string from the profile.

Example

The following command deletes external message class DISTRIBUTION from the profile:

```
SNS$EDIT> DELETE EXTERNAL_MESSAGE_CLASS DISTRIBUTION
```

DELETE MAILBOX_SET

The DELETE MAILBOX_SET command deletes a mailbox set from the profile.

Format

DELETE MAILBOX_SET set_name

Parameters

set_name

Name of the mailbox set to be deleted.

Description

The DELETE MAILBOX_SET command deletes the specified mailbox set from the profile.

Example

The following command deletes mailbox set TO_MANAGER from the profile:

```
SNS$EDIT> DELETE MAILBOX_SET TO_MANAGER
```

DELETE NODE

The DELETE NODE command deletes a node from the profile.

Format

DELETE NODE node_name [/qualifier]

Parameters

node_name

Name of the node entry to be deleted. Each node entry must be deleted separately. The cluster alias cannot be used.

Qualifiers

/ALL

If any node object information exists for the node, the /ALL qualifier deletes the node and any node object information that applies to the node.

Description

The DELETE NODE command deletes the specified node from the profile. If the node does not have node object information, the node is removed from the profile. To remove a node which has node object information, you must first use the DELETE NODE node_object command, or you may use DELETE NODE /ALL to remove the node and all node objects with a single command.

Example

The following command deletes node NODEX and all related node object information from the profile:

```
SNS$EDIT> DELETE NODE NODEX /ALL
```

DELETE NODE node_object

The DELETE NODE node_object command deletes a node-related object from the profile.

Format

DELETE NODE node_name node_object name2 [name3 [name4]]

Parameters

node_name

Name of the node from which the node object is being deleted. Each node object must be deleted separately from each node. The cluster alias cannot be used.

node_object

Each node object must be deleted separately. Valid node objects are BATCHJOB, FREE_BLOCKS, LOGINS, PRINTER_QUEUE, PROCESS, SHADOW_SET, and EXCLUSION.

name2

Name of the node object being deleted from coverage. Each name must be deleted separately from each node object.

name3, name4

Parameters name3 and name4 have different uses for each node object (see the following description).

Description

The DELETE NODE node_object command deletes the specified node object from the specified node. Each node object must be deleted separately from each node. Valid node objects are:

- BATCHJOB
- name2 is the batch job name.

  name3 is the user name.

  name4 is the batch queue name.
- FREE_BLOCKS

  name2 is the disk name.

- LOGINS
- PRINTER_QUEUE

  name2 is the printer queue name.
- PROCESS

  name2 is the process name.

  name3 is the UIC. The UIC has the syntax of [m,n], [group,name], or [name] where m,n is the numeric group and user codes, group is the group name, andname is the user name. The UIC must be enclosed in brackets ([ ]) as shown. The [m,n] or [group,name] syntax must be in quotes because of the comma. The default UIC is [1,4].
- SHADOW_SET

  name2 is the shadow set name.
- EXCLUSION

  name2 is the event code.

  name3 is the exclusion text.

Example

The following command deletes coverage for shadow set DSB111 from the NODEX profile:

```
SNS$EDIT> DELETE NODE NODEX SHADOW_SET DSB111
```

EXIT

The EXIT command verifies and closes the profile, then terminates the profile editor program.

Format

EXIT

Description

The EXIT command verifies the profile contents and updates the profile, then terminates the editing session and returns to the DCL prompt.

Example

The following command updates the profile and leaves the editing session:

```
SNS$EDIT> EXIT
$
```

HELP

The HELP command provides command line information about the profile editor commands.

Format

HELP [command [option [option]]]

Parameters

command

The command for which you are requesting help.

option

Any parameter, option, or qualifier invoked by the command.

Description

The HELP command implements the standard OpenVMS Help protocol to provide command line information about the profile editor commands during a profile editing session.

Examples

The following command invokes Help at the top menu:

```
SNS$EDIT> HELP
```

The following command invokes Help on the ADD command:

```
SNS$EDIT> HELP ADD
```

The following command invokes Help on the ADD CLASS command:

```
SNS$EDIT> HELP ADD CLASS
```

MODIFY Commands

The MODIFY commands modify the attributes of an existing entry in the profile.

Format

MODIFY entry

Entries

- ACTION_ROUTINE_SET
- CLASS
- DECtalk_SET
- EXTERNAL_MESSAGE_CLASS
- MAILBOX_SET
- NODE
- NODE node_object

Description

The MODIFY command modifies the existing attributes of the specified entry in the profile.

Related Commands

- ADD
- COPY
- DELETE
- SHOW

MODIFY ACTION_ROUTINE_SET

The MODIFY ACTION_ROUTINE_SET command modifies the attributes of an action routine set.

Format

MODIFY ACTION_ROUTINE_SET set_name /qualifier...

Parameters

set_name

Name of the action routine set to be modified.

Qualifiers

/COMMAND=command

The DCL command string to be executed by the spawned subprocess. Only applies, and is required, when /MODE=SPAWN. See the "User Programming" chapter for more information.

/LOG_FILE

/NOLOG_FILE

Enables and disables writing to a batch or spawn mode output file.

/MODE=SPAWN | BATCH

BATCH submits a command procedure to a batch queue. SPAWN executes a DCL command by a spawned subprocess.

/OUTPUT=filename

Specifies an output file to write the information written to SYS$OUTPUT by the spawned DCL command. Only applies when /MODE=SPAWN.

/PROCEDURE=proc_name

Name of the command procedure to be submitted as a batch job. The full path name with file extension must be specified. Only applies, and is required, when /MODE=BATCH. See the "User Programming" chapter for more information on command procedures.

/QUEUE=queue_name

Name of the batch queue to which the procedure is to be submitted. Applies only when /MODE=BATCH.

/USERNAME=username

User name under which the Watchdog Manager submits the action routine as a batch job. Applies only when /MODE=BATCH.

Description

The MODIFY ACTION_ROUTINE_SET command modifies the attributes of an existing action routine set entry in the profile.

Example

The following command changes action routine set PURGE_DISK3 to execute the command procedure GO_BAT in batch mode:

```
SNS$EDIT> MODIFY ACTION_ROUTINE_SET PURGE_DISK3 -
_SNS$EDIT> /MODE=BATCH /PROCEDURE=$DISK1:[S4T]GO_BAT.COM
```

MODIFY CLASS

The MODIFY CLASS command modifies the attributes of an event class.

Format

MODIFY CLASS class_name /qualifier...

Parameters

class_name

Name of the event class to be modified.

Qualifiers

/EVENT=(event_code,...) or /EVENT=ALL

Specifies the event codes to be added. Can also specify event codes for which the attributes are to be added or updated. The "Event Descriptions" chapter provides a list of the event codes and their meanings.

The following qualifiers set the priority level and notification options for the specified event codes and must be used with the /EVENT qualifier:

/PRIORITY=level

Valid priority levels are HIGH, LOW, NOT_CHECKED, and NOT_DISPLAYED.

/ACTION_ROUTINE_SET=set_name

/NOACTION_ROUTINE_SET

Name of the action routine set to be added.

/DECtalk_SET=set_name

/NODECtalk_SET

Name of the DECtalk routine set to be added.

/MAILBOX_SET=set_name

/NOMAILBOX_SET

Name of the mailbox set to be added.

/SEVERITY=level

Valid mailbox set severity levels are INFORMATION, SUCCESS, ERROR, WARNING, or FATAL.

Description

The MODIFY CLASS command modifies the attributes of an existing event class entry in the profile.

Example

The following command modifies the event class CRITICAL so the Disk Queue Problems (DQP) event has HIGH priority:

```
SNS$EDIT> MODIFY CLASS CRITICAL /EVENT=DQP /PRIORITY=HIGH
```

MODIFY DECtalk_SET

The MODIFY DECtalk_SET command modifies the attributes of a DECtalk set.

Format

MODIFY DECtalk_SET set_name /qualifier...

Parameters

set_name

Name of the DECtalk set to be modified.

Qualifiers

/SCHEDULE=string /DAY=(day,...)

The /DAY qualifier is required.

The /SCHEDULE qualifier provides a 24-character string that represents each hour of a 24-hour day. Each character of the string specifies one of the following:

- 0 - Inhibit DECtalk during that hour.
- 1 - Use /OPERATOR=1 phone number and delay time during that hour.
- 2 - Use /OPERATOR=2 phone number and delay time during that hour.

If less than 24 characters are given, the rest of the string is filled with zeros.

The /DAY qualifier specifies the days of the week for which the /SCHEDULE string is in effect. Valid day values are SUNDAY, MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, and SATURDAY, plus the following:

- WEEKDAYS - Specifies MONDAY through FRIDAY.
- WEEKENDS - Specifies SATURDAY and SUNDAY.
- EVERYDAY - Specifies all seven days of the week.

You can also specify part of a week, for example:

```
/DAY=(WEEKDAYS,NOMONDAY,NOTUESDAY)
```

/PHONE_NUMBER=string /OPERATOR=oper /DAY=(day,...)

The /OPERATOR and /DAY qualifiers are required.

The /PHONE_NUMBER qualifier specifies the phone number for the specified operator on specified days. The maximum length is 20 characters. If the DECtalk device supports an internal speaker, a blank string causes the DECtalk device to speak the messages rather than dialing the telephone number.

Valid /OPERATOR values are 1 or 2 for the existing /SCHEDULE string.

Valid /DAY values are the same as for the /SCHEDULE qualifier.

You can use the ampersand (&) as the twentieth character in the Operator 1 phone number string as a continuation character to enable the following:

- For Operator 1 hours, the Watchdog Manager uses the delay time specified for Operator 1, then initiates a DECtalk call using the number specified for Operator 1, concatenated with the number specified for Operator 2.
- For Operator 2 hours, the Watchdog Manager uses the delay time specified for Operator 2, then initiates the DECtalk device to use an internal speaker without calling the number.

/DELAY=hh:mm:ss /OPERATOR=oper /DAY=(day,...)

The /OPERATOR and /DAY qualifiers are required.

The /DELAY qualifier specifies the time in hours and minutes that the Watchdog Manager waits before initiating a DECtalk call after an event message is added or updated.

Valid /OPERATOR values are 1 or 2 for the existing /SCHEDULE string.

Valid /DAY values are the same as for the /SCHEDULE qualifier.

/LINE=port

Specifies the physical line, such as TXA0: or LTA100:, that is connected to the DECtalk unit.

/TYPE=DTC01 | DTC03

Specifies the connected DECtalk unit type.

/SPEECH_SPEED=number

Specifies the speech speed in words per minute. The range is 120 to 350.

/VOICE=voice_type

Valid voice types are FEMALE, CHILD, DEEP_MALE, DEEP_FEMALE, OLDER_MALE, LIGHT_FEMALE, ALL_VOICES, or MALE.

/DIALING_TYPE=TONE | PULSE

Specifies the dialing type.

/REPEAT_COUNT=number

Specifies the number of times the list of event messages is repeated when the call is answered. The range is 0 to 999.

/MESSAGE_TYPE=FULL | BRIEF

FULL specifies that the full event message text is to be sent. BRIEF specifies a simplified message is to be sent, for example, "Node has a disk near full."

/KEYSTROKE_TRIALS=number

Specifies the number of times the Watchdog Manager repeats the prompt"Hello, this is DECtalk ... Dial any number to get my message."The user must dial a digit to receive the welcome message before the number of trials expires. A value of zero (/KEYSTROKE_TRIALS=0) inhibits the DECtalk prompt message and the first message is the welcome text. The range is 0 to 999.

/WELCOME_TEXT="message text"

Message introducing the list of event messages when the call is answered. This message is spoken after the DECtalk prompt message.

Description

The MODIFY DECtalk_SET command modifies the attributes of an existing DECtalk set entry in the profile. The command provides an additional set of attributes for customizing an existing DECtalk set.

Example

The following command sets the attributes for the CALL_OPERATOR DECtalk set:

```
SNS$EDIT> MODIFY DECtalk_SET CALL_OPERATOR /DAY=WEEKDAYS -
_SNS$EDIT> /OPERATOR=1 /PHONE_NUMBER=15556789
```

MODIFY EXTERNAL_MESSAGE_CLASS

The MODIFY EXTERNAL_MESSAGE_CLASS command modifies the attributes of an external message class or inserts or modifies a match string.

Format

MODIFY EXTERNAL_MESSAGE_CLASS ext_class_name /qualifier...

Parameters

ext_class_name

Name of the external message class to be modified.

Qualifiers

/TEXT="message text"

External message match string to be inserted or modified.

/POSITION=number

Specifies a position in the numeric range of 1 to 64 in which to insert, modify, or delete the match string.

/DELETE

Deletes the match string at the position specified by the /POSITION qualifier. Match strings at the higher positions are each moved to the next lower position.

/INSERT

Specifies insertion of the match string at the position specified by the /POSITION qualifier. If you insert a message when 64 messages are already defined, the new message replaces the message in position 64.

If the /DELETE or /INSERT qualifier is not given, the default replaces the match string at the position specified by the /POSITION qualifier.

The following qualifiers set the priority level and notification options for the external message:

/PRIORITY=level

Valid priority levels are HIGH, LOW, NOT_CHECKED, and NOT_DISPLAYED.

/ACTION_ROUTINE_SET=set_name

/NOACTION_ROUTINE_SET

Name of the action routine set to be added.

/DECtalk_SET=set_name

/NODECtalk_SET

Name of the DECtalk set to be added.

/MAILBOX_SET=set_name

/NOMAILBOX_SET

Name of the mailbox set to be added.

/SEVERITY=level

Valid mailbox set severity levels are INFORMATION, SUCCESS, ERROR, WARNING, or FATAL.

Description

The MODIFY EXTERNAL_MESSAGE_CLASS command modifies the attributes of an existing external message class entry in the profile, or inserts or modifies a match string.

Example

The following command modifies the attributes for the TIMEOUTS external message class by replacing the third match string with the text "CLOCK-*":

```
SNS$EDIT> MODIFY EXTERNAL_MESSAGE_CLASS TIMEOUTS /POSITION=3 -
_SNS$EDIT> /TEXT="CLOCK-*"
```

MODIFY MAILBOX_SET

The MODIFY MAILBOX_SET command modifies the attributes of a mailbox set.

Format

MODIFY MAILBOX_SET set_name /qualifier

Parameters

set_name

Name of the mailbox set to be changed.

Qualifiers

/MAILBOX=name

Physical or logical name of the OpenVMS mailbox to which event messages are to be sent. This qualifier is required.

Description

The MODIFY MAILBOX_SET command modifies the physical or logical name of the OpenVMS mailbox to receive event messages.

Note: The mailbox reader program must create the OpenVMS mailbox and wait for event messages to be sent.

Example

The following command sets the OpenVMS mailbox logical name to SYS_MNGR:

```
SNS$EDIT> MODIFY MAILBOX_SET /MAILBOX=SYS_MNGR:
```

MODIFY NODE

The MODIFY NODE command modifies the attributes of a node entry.

Format

MODIFY NODE node_name /qualifier...

Parameters

node_name

Name of the node entry to be modified. Each node must be modified separately. The cluster alias cannot be used.

Qualifiers

/CLASS=class_name

Specifies the new event class under which the node is to be monitored.

/EXTERNAL_MESSAGE_CLASS=ext_class_name

New name of the class to be used for external messages.

/TIME_DIFFERENCE=time

New time difference between the polled node and the node running the Watchdog Manager. Time can be expressed as plus or minus, up to 23:59:59.

/DFS=(event_code,...)

/NODFS=event_code

Enable or disable DFS disks covered by the specified event code. Valid event codes are SWL (software write locked) and DSS (disk state problem).

/TRANSPORT=TCPIP | DECnet

Specifies the network transport for the Watchdog Manager to access the Watchdog Agent running on the polled node.

Description

The MODIFY NODE command modifies the polling attributes for an existing node in the profile. If a qualifier is not given, the value is not changed.

Example

The following command sets node NODEX for LOW_PRIORITY event class:

```
SNS$EDIT> MODIFY NODE NODEX /CLASS=LOW_PRIORITY
```

MODIFY NODE node_object

The MODIFY NODE node_object command modifies the attributes of a node object entry.

Format

MODIFY NODE node_name node_object [name2 [name3 [name4]]] /qualifier...

Parameters

node_name

Name of the node for which the node object is being modified. Each node object must be modified separately for each node. The cluster alias cannot be used.

node_object

Each node object must be changed separately. Valid node objects are BATCHJOB, FREE_BLOCKS, LOGINS, PRINTER_QUEUE, PROCESS, SHADOW_SET, and EXCLUSION.

name2

Name of the node object being changed for coverage. Each name must be changed separately for each node object, except for LOGINS, which can only be set once for the node.

name3,name4

Parameters name3 and name4 have different uses for each node object (see the following description).

Qualifiers

/INTERVAL=hh:mm:ss

Sets the polling interval for the specified node object. Applies to all node objects except EXCLUSION.

The polling interval for the node object does not cause polling to occur more frequently than normal Watchdog Manager polling of the Watchdog Agent nodes. For example, a value less than the Watchdog Manager polling interval, or a value of 0, causes the node object to be polled at every Watchdog Manager poll. A value 3 times longer than the Watchdog Manager polling interval causes the node object to be polled on every third Watchdog Manager poll.

Description

The MODIFY NODE node_object command modifies the attributes of an existing node object in the profile. Each node object must be changed separately for each node. Valid node objects are:

- BATCHJOB
- name2 is the batch job name.

  name3 is the user name.

  name4 is the batch queue name.

  Wildcards can be included in the parameter names.
- FREE_BLOCKS

  name2 is the disk name.

  Additional qualifiers:

  /PERCENT=percent or /BLOCKS=number
- LOGINS

  Additional qualifiers:

  /LIMIT=n where n is the login limit comparison value.
- PRINTER_QUEUE

  name2 is the printer queue name (the default is SYS$PRINT).
- PROCESS

  name2 is the process name.

  name3 is the UIC. The UIC has the syntax of [m,n], [group,name], or [name] where m,n is the numeric group and user codes, group is the group name, and name is the user name. The UIC must be enclosed in brackets ([ ]) as shown. The [m,n] or [group,name] syntax must be in quotes because of the comma. The default UIC is [1,4].

  Wildcards can be included in the name2 and name3 parameters. Correct syntactical forms for wildcarded UICs are [*], [*,n], [m,*], [*,name], [group,*] where m,n is the numeric group and user codes, group is the group name, and name is the user name.
- SHADOW_SET

  name2 is the shadow set name.

  Additional qualifiers:

  /FULL_COPY (D) | /NOFULL_COPY

/MERGE_COPY | /NOMERGE_COPY (D)

/MEMBERS=number (default is 2)

For explanations of these qualifiers, see the Shadow Set Problem event description in the "Event Descriptions" chapter.

- EXCLUSION

  name2 is the event code.

  name3 is the currently excluded item. See the "Event Descriptions" chapter for events supporting exclusions.

  Required additional qualifier:

  /NEW_TEXT=item

  Excluded item replacing the item specified in name3.

Example

The following command modifies the software write-lock event on node NODEX so that all DAD disks are excluded, where only DAD7 had been excluded:

```
SNS$EDIT> MODIFY NODE NODEX EXCLUSION SWL DAD7 /NEW_TEXT=DAD*)
```

QUIT

The QUIT command terminates the profile editing session without verifying or updating the profile.

Format

QUIT

Description

The QUIT command terminates the profile editing session without verifying or updating the profile. It returns to the command prompt from which you entered the profile editor.

Example

The following command shows a return to the Watchdog Manager controller prompt:

```
SNS$EDIT> QUIT
SNS>
```

SHOW

The SHOW command lists the current contents of the profile.

Format

SHOW entry [/qualifier...]

Entries

ALL

Lists all information contained in the profile.

CLASS class_name

Lists information for the specified event class.

CONSOLIDATOR

Lists Watchdog Manager process-related parameters.

DISPLAY

Lists display-related parameters.

NODE node_name

Lists information for the specified node.

ACTION_ROUTINE_SET set_name

Lists information for the specified action routine set.

DECtalk_SET set_name

Lists information for the specified DECtalk set.

EXTERNAL_MESSAGE_CLASS ext_class_name

Lists information for the specified external message class.

MAILBOX_SET set_name

Lists information for the specified mailbox set.

All names, such as node_name, set_name, or class_name, can be specified with a wildcard (*).

Qualifiers

/ALL

Lists all node parameters, node objects, and exclusion information for the specified node.

Valid only for the SHOW NODE command.

/OUTPUT=filename

Specifies an OpenVMS file to write the SHOW command information to. The default is SYS$OUTPUT.

/FORMAT=COMMANDS | LIST (D)

Specifies the output format. /FORMAT=LIST produces a list (text) output of the entry you choose to show. /FORMAT=COMMANDS produces command file output. The default is /FORMAT=LIST.

When used with an entry, the command file output produced by /FORMAT=COMMANDS shows which commands you can use to add that entry to a profile. This is useful if you need to add an entry, and have forgotten how to do so, but an entry of that type already exists in the profile. For example, if you need to create a node that is similar to a sample node I64BOX, the following command might produce the ADD NODE command lines. The command lines can be edited and then used to create another node in the profile:

```
SNS$EDIT> SHOW NODE I64BOX /FORMAT=COMMANDS

ADD NODE I64BOX -
 /CLASS=DEFAULT -
 /EXTERNAL_CLASS=DEFAULT -
 /TIME_DIFFERENCE="+00:00:00" -
 /TRANSPORT=TCPIP
```

When used with the ALL entry and the /OUTPUT qualifier, the command file output produced by /FORMAT=COMMANDS lists the commands used to create the entire profile. The resulting command file can be edited as needed and executed with the @ command to create a new profile.

/BATCHJOB

/NOBATCHJOB (D)

Enables or disables the list of the node's BATCHJOB objects. The default is /NOBATCHJOB.

Valid only for the SHOW NODE command.

/EXCLUSION

/NOEXCLUSION (D)

Enables or disables the list of the node's exclusion lists. The default is /NOEXCLUSIONS.

Valid only for the SHOW NODE command.

/FREE_BLOCKS

/NOFREE_BLOCKS (D)

Enables or disables the list of the node's FREE_BLOCKS objects. The default is /NOFREE_BLOCKS.

Valid only for the SHOW NODE command.

/LOGINS

/NOLOGINS (D)

Enables or disables the list of the node's login limit object. The default is /NOLOGINS.

Valid only for the SHOW NODE command.

/PRINTER_QUEUE

/NOPRINTER_QUEUE (D)

Enables or disables the list of the node's PRINTER_QUEUE objects. The default is /NOPRINTER_QUEUE.

Valid only for the SHOW NODE command.

/PROCESS

/NOPROCESS (D)

Enables or disables the list of the node's PROCESS objects. The default is /NOPROCESS.

Valid only for the SHOW NODE command.

/SHADOW_SET

/NOSHADOW_SET (D)

Enables or disables the list of the node's SHADOW_SET objects. The default is /NOSHADOW_SET.

Valid only for the SHOW NODE command.

Description

The SHOW command generates a list of the current profile contents.

Related Commands

SET

Example

The following command generates a list of profile contents and stores it in the file WORLD.TXT in your default directory:

```
SNS$EDIT> SHOW ALL /OUTPUT=WORLD.TXT
```

SET Commands

The SET command set Watchdog Manager or display parameters in the profile.

Format

SET option

Options

- CONSOLIDATOR
- DISPLAY

Description

The SET command sets parameters in the profile for the Watchdog Manager or display process.

Related Commands

SHOW

SET CONSOLIDATOR

The SET CONSOLIDATOR command sets Watchdog Manager process-related parameters.

Format

SET CONSOLIDATOR /qualifier...

Qualifiers

/POLLING_INTERVAL=seconds

Specifies the number of seconds to wait after the end of one polling sequence before beginning the next polling sequence.

/ENABLE=(option,...), /DISABLE=(option,...)

Enables and disables notification options. Valid options are DECtalk, MAILBOX, and ACTION_ROUTINE.

Description

The SET CONSOLIDATOR command sets the polling interval and notification options in the profile which can be overridden by controller commands issued at the SNS$EDIT> prompt.

Example

The following command sets the polling interval for five minutes and enables the process for sending OpenVMS mailbox and DECtalk messages:

```
SNS$EDIT> SET CONSOLIDATOR /POLLING_INTERVAL=300 /ENABLE=(MAILBOX,DECtalk)
```

SET DISPLAY

The SET DISPLAY command sets display-related parameters.

Format

SET DISPLAY /qualifier...

Qualifiers

/PRIORITY=HIGH | LOW | BOTH (D)

Selects the display of high or low priority messages, or messages of both priorities. The default is BOTH.

/HIGHLIGHT_TIME=hh:mm:ss

Sets the highlight time for new or updated continuous display messages.

/ENABLE=SCROLLING, /DISABLE=SCROLLING

Enables or disables scrolling for continuous display messages.

Description

The SET DISPLAY command sets display parameters in the profile, which can be overridden by qualifiers, used with the SHOW EVENTS and SHOW EVENTS/CONTINUOUS commands.

Example

The following command enables event message scrolling in the continuous event display process:

```
SNS$EDIT> SET DISPLAY /ENABLE=SCROLLING
```

SPAWN

The SPAWN command spawns a subprocess from the current profile editing session.

Format

SPAWN [command]

Parameters

Command

DCL command string to be executed in the subprocess.

Description

The SPAWN command creates a subprocess that suspends but does not terminate the current profile editing session. If a DCL command string is given, SPAWN returns to the SNS$EDIT> prompt and deletes the subprocess when it completes. If a DCL command string is not given, the subprocess accepts DCL commands at the $ prompt until you enter the LOGOUT command, which terminates the subprocess and returns to the SNS$EDIT> prompt.

Examples

The following command copies the contents of FILE1. to FILE2. in the default directory and returns to the profile editor prompt:

```
SNS$EDIT> SPAWN COPY FILE1. FILE2.
 SNS$EDIT>
```

The following command enters a spawned process that processes DCL commands until you enter the LOGOUT command:

```
SNS$EDIT> SPAWN
$
$
$ LOGOUT
SNS$EDIT>
```

Chapter 6: Motif Profile Editor

This chapter provides guidelines for invoking the Watchdog Manager Motif profile editor and selecting commands from the pull-down menus.

You can invoke the Motif Profile Editor from either the DCL prompt or Watchdog Manager controller prompt:

```
$ SENSE WATCHDOGS EDIT PROFILE /INTERFACE=DECwindows

$ SENSE WATCHDOGS
SNS> EDIT PROFILE /INTERFACE=DECwindows
```

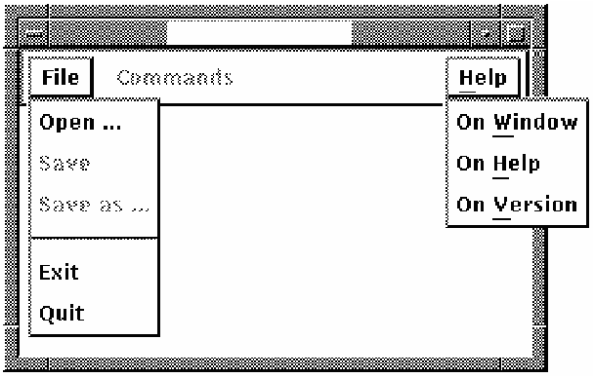
The chapter "Profile Management" provides guidelines for collecting the information you need to create or update a profile. The tasks for editing a profile are the same whether you use the command line profile editor or the Motif profile editor.

This section contains the following topics:

Motif Profile Editor

The Motif Profile Editor contains the File, Commands, and Help menus in the dialog bar, as you can see in the following example where the pull-down menus are active:

Motif Profile Editor Main Window



The File and Help menus are active when you invoke the Motif profile editor. The Commands menu is activated when you open a profile.

Mouse button one (MB1) selects the menus and menu items in Motif. To select a menu item, you can pull down the menu with MB1 and release on the item, or you can click the menu, and then click the item.

The Profile Editor menus do the following:

Menu Item	Action
File menu	Opens and saves profiles.
Commands menu	Selects the command menus and opens the window for the entry.
Help menu	Displays online Help about Motif profile editor and topics: On Window: Displays information about the Motif profile editor commands. On Help: Displays information about the Motif Help system. On Version: Displays information about the Watchdog Manager product version.

If you do not open a profile, you can select Exit or Quit to leave the session.

Open a Profile

The Select Profile window uses your main directory as the default for opening a profile, or you can click a subdirectory in the Directories list box.

Use any of the following methods to open a profile:

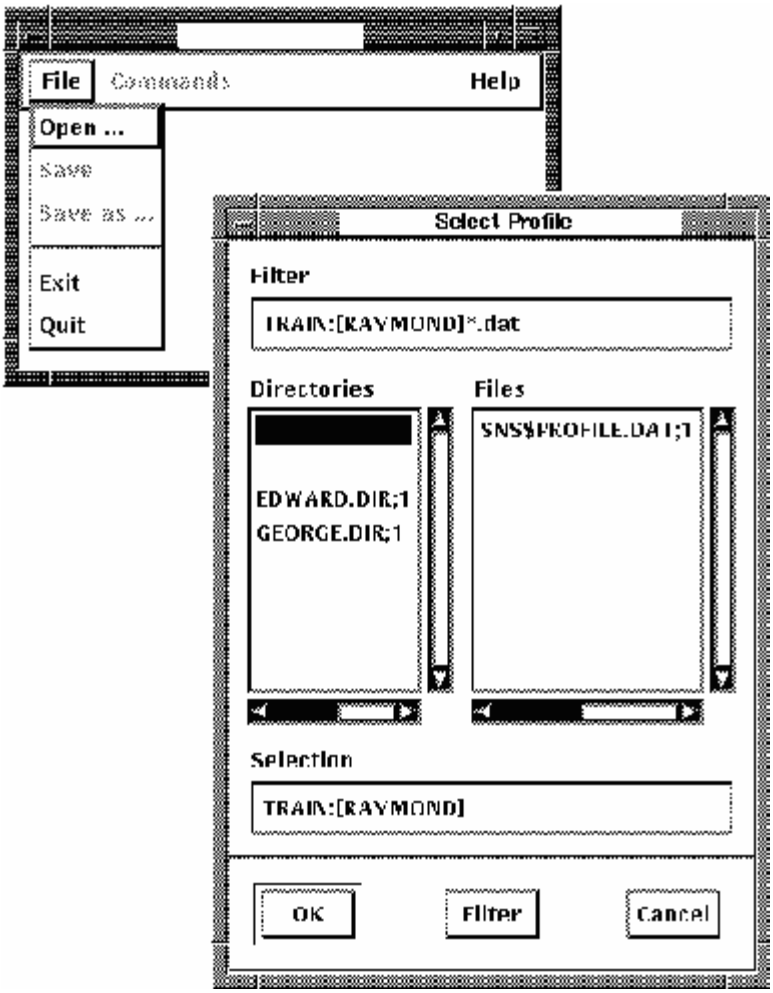
- Double-click an existing profile in the Files list box.
- Click an existing profile in the Files list box, and then press Return or click OK.
- Click the Selection box, enter the name of a new or existing profile from the keyboard with the .DAT file extension, and then press Return or click OK.

The default profile name is SNS$PROFILE.DAT

Filter Profiles

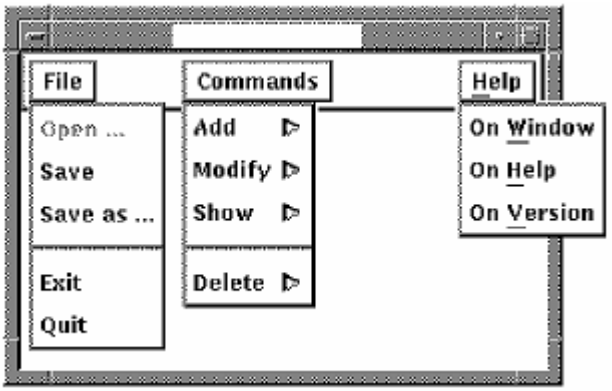
The Filter button enables you to select a subdirectory, display a single profile, or to display a set of profiles using the wildcard (* or %) characters. You can click the Files or Selection box, edit the file specification, and then click Filter. The list of profiles appears in the Files list box.

To open a profile, select Open from the File menu. This opens the Select Profile window where you can enter the filter parameters and select a file, as shown in the following example:



Pull-Down Menus for an Open Profile

The following figure shows the Profile Editor pull-down menus that are active when you open a profile for an editing session:



If you open a profile and do not make changes, you can select Exit or Quit to leave the session without saving an updated version of the same profile.

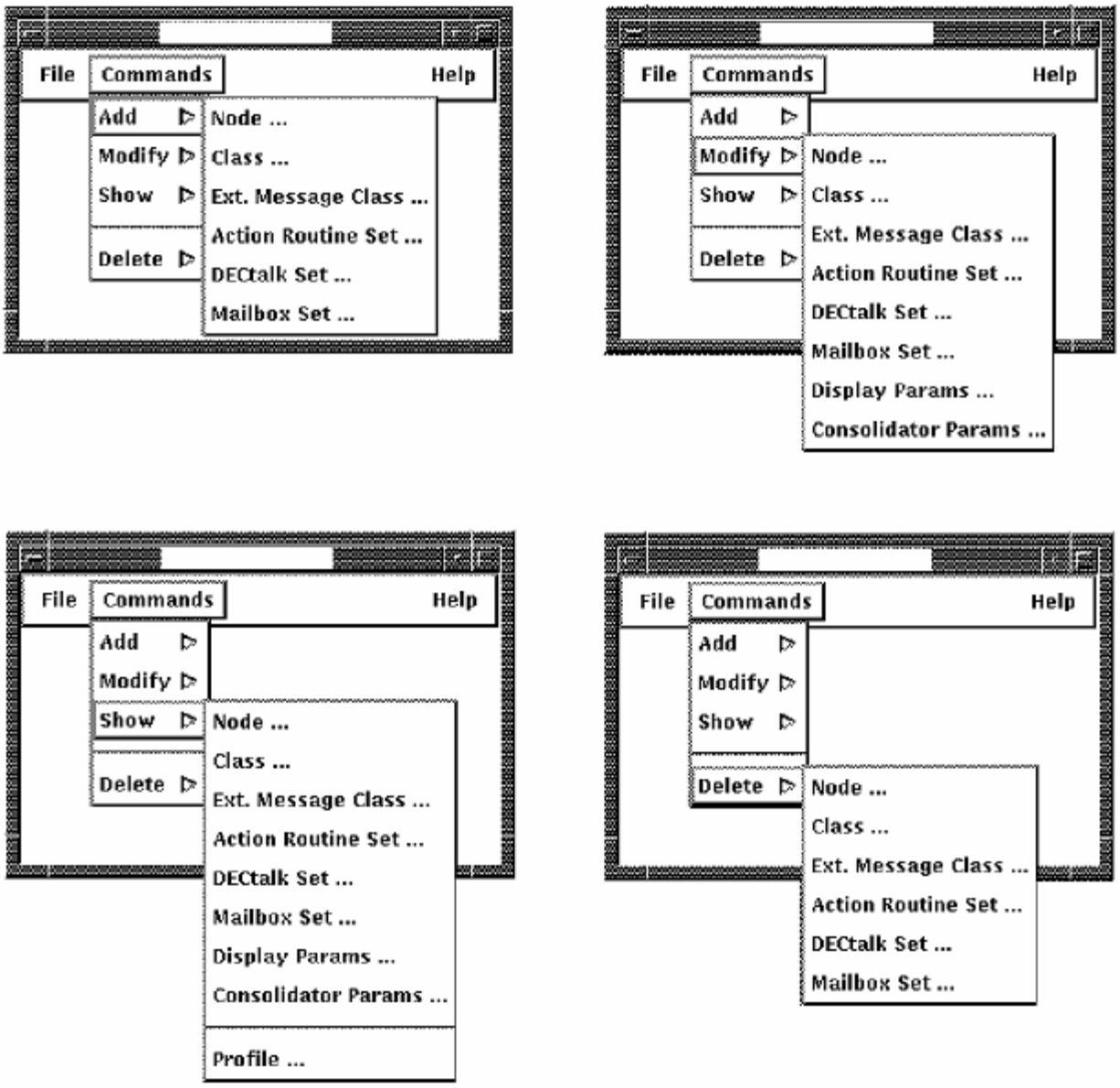
If you make changes, you can select Exit to save the updated profile and leave the session. If you select Quit, an information box tells you that the profile has not been saved and asks if you want to save it before quitting:

- Click YES to leave the session without saving the profile.
- Click NO to return to the Motif Profile Editor, and then you can perform more editing or save the profile.

You can select Save or Save as... to save a profile. Save saves the profile with the current values and the session remains open so you can create another profile. You can edit the values for an existing profile, and then use Save as... to store the profile under another file name.

Command Pull-Down Menus

The Commands menu activates when you open a profile. It provides the Add, Modify, Show, and Delete pull-down menus as shown in the following :



The Add, Modify, Show, and Delete menus each provide the following entries:

- Node...
- Class...
- Ext. Message Class...

- Action Routine Set...
- DECtalk Set...
- Mailbox Set...

The Modify menu also provides these options:

- Display Params...
- Consolidator Params...

The Show menu also provides these options:

- Display Params...
- Consolidator Params...
- Profile...

Command Select Windows

The Add command opens a separate window for each entry to be added to the profile. For example, you can open the Add Mailbox Set window and add a mailbox set as described in the section Adding a Mailbox Set.

The Modify, Show, and Delete commands each open a Select window first.

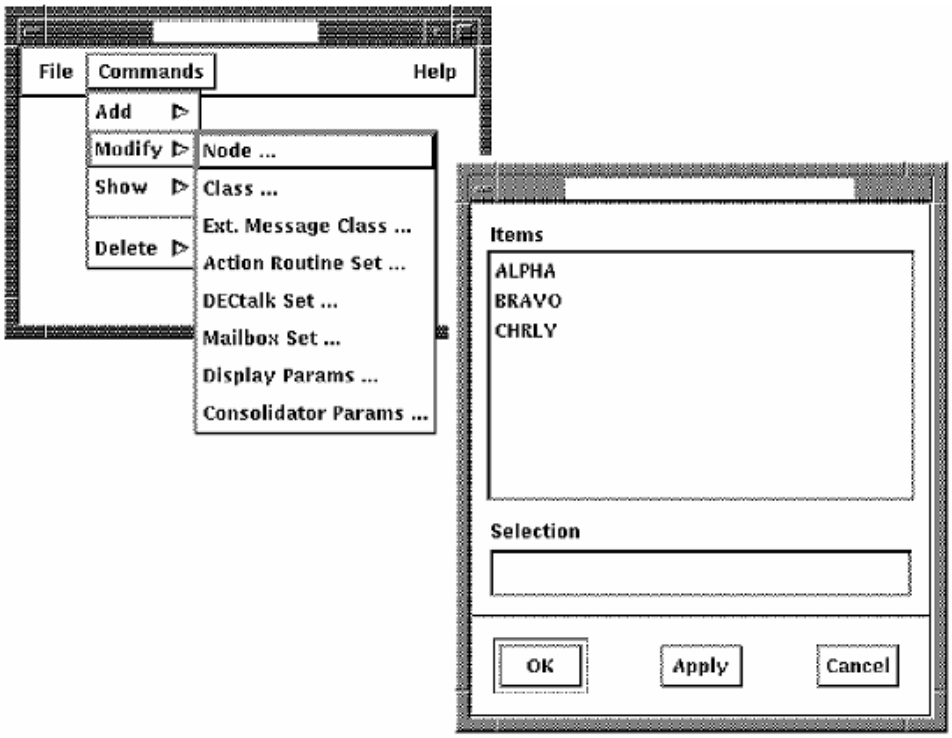
The Select Node Window for the Modify Node Command figure shows the Select Node window for the Modify Node command as an example.

You can use one of the following methods to select an entry in a Select window:

- Double-click an existing entry in the Items list box.
- Click an entry in the Items list box, and then press Return, click OK, or click Apply.
- Click the Selection box and enter the entry name from the keyboard, and then press Return, click OK, or click Apply.
- Click Cancel to dismiss the window after clicking on Apply or to dismiss the window without selecting an entry.

The Modify and Show command windows are identical to the Add command windows and display the current settings for the entry. However, the Modify command windows enable you to make changes to the entry.

The Delete command deletes an entry and does not open a command window.



Create a Profile

This section describes how to use the Motif profile editor to simplify your profile editing tasks. There are examples of the steps you can use to simplify your editing tasks. If you are a new user, you may want to refer to these examples as you gain experience.

To create a profile

1. Invoke the Motif profile editor.
2. Add the mailbox sets.
3. Add the action routine sets.
4. Add the DECtalk sets.
5. Add the event classes (other than DEFAULT), including any notification options.
6. Add the external message classes (other than DEFAULT), including any notification options.
7. Add the nodes to be polled, including any node objects.
8. Show the display parameters and modify if necessary.

9. Show Watchdog Manager parameters and modify if necessary.
10. Show and verify the profile contents.
11. Save the profile.

The profile editor software verifies each entry and returns an error message if a required, previous entry is missing. For example, you must add a mailbox set to the profile before you can add the mailbox set name to an event class or external message class. You must also add any event class or external message class (other than DEFAULT) before you can add a node for that class.

Profile Editor Function Buttons

The function buttons at the bottom of the dialog box window are used for the following tasks:

Button	Function
OK	Completes the operation and dismisses the window.
Apply	Completes the operation without dismissing the window. In the Select window, you can select entries for another operation without dismissing either the command window or Select window. In the Profile Editor main window, you can change the command window function from the Commands menu without dismissing either the command window or Select window.
Cancel	Dismisses a Select window without affecting the command window. Dismisses a command or node object window without entering or saving changes. Any changes are lost unless you save them first with Apply.

Command Windows Navigation

Use the following methods to navigate through a command window or node object window:

- MB1 selects boxes, buttons, and other items in the window.

- Tab and Shift/Tab scroll forward and backward through the window elements.
- MB1 also selects buttons that change the window mode or select a window option. For example, you can set batch mode or spawn mode in an Add Action Routine Set window, or select Operator 0, 1, or 2 in an Add DECtalk Set window.

  The right and left arrow keys or the up and down arrow keys step you through the button options. The Spacebar selects the option.

Add Entries of the Same Type

When creating a profile, it is necessary to add multiple entries of the same type. The following steps show how to add multiple entries, such as mailbox sets, to the profile.

To add entries of the same type

1. From the Profile Editor main window, click the File menu and select Open.
2. From the Select Profile window, select or enter the name of the profile to be edited.
3. Click the Commands menu and select Add Mailbox Set.
4. Enter both the mailbox set name and OpenVMS mailbox name, and then click Apply to enter the mailbox set.
5. Change the mailbox set name and OpenVMS mailbox name as necessary, and then click Apply to enter the new mailbox set.

   Repeat this step to enter the remaining mailbox sets. On the last set, you can click OK.
6. In the Profile Editor main window, select the next set of entries to add. For example, click the Commands menu and select Add Action Routine Set.

Add Multiple Node Entries

Node entries can be added as described in the previous section with some additional features. A node must be defined in the profile before you can add node objects or exclusions. In the following procedure, steps 1-3 have you define a node, and steps 4-6 have you add the node objects and exclusions.

To add multiple node entries

1. From the Profile Editor main window, click the Commands menu and select Add Node.
2. Enter the Node Name, Class, and External Message Class. Click any option buttons that apply, and then click Apply to enter the node.

3. From the Add Node window, change the Node Name and any option settings, and then click Apply to enter the node.

   Repeat this step to enter the remaining nodes.

4. From the Add Node window, enter the Node Name, Class, and External Message Class. Click any option buttons that apply, and then click Apply to enter the node.

5. On the last add node, click OK.

6. From the Profile Editor main window, click the Commands menu and select Modify Node.

7. From the Modify Node window, click a node object button or exclusion entries button. For example:

   a. In the Modify Node window, click the Missing Batchjobs button.

   b. In the Missing Batchjobs window, add the first missing batchjob to be covered, and then click Apply.

   c. Add each missing batchjob to be covered. Change the Missing Batchjob Name and any other information, and then click Apply.

      The node object and exclusion entries windows have Add, Modify, and Delete buttons so you can change the node object window mode, regardless of the command window mode (Add, Modify, or Show).

   d. In the Modify Node window, click the next node object to be added. Add the node object items to be covered, and then click Apply.

      Use these steps to add the remaining node objects or exclusions. In the Modify Node window, click Apply to enter the node entry with the node object or exclusion entries.

Copy Nodes with Node Objects

The Modify Node command can be used to copy an existing node, with its node objects or exclusions.

To copy a new node object entry

1. Add the node and any node objects or exclusions as described in the Add Multiple Node Entries section.

2. From the Profile Editor main window, click the Commands menu and select Modify Node.

3. From the Select Node window, click a node name in the Items list box, and then click Apply.

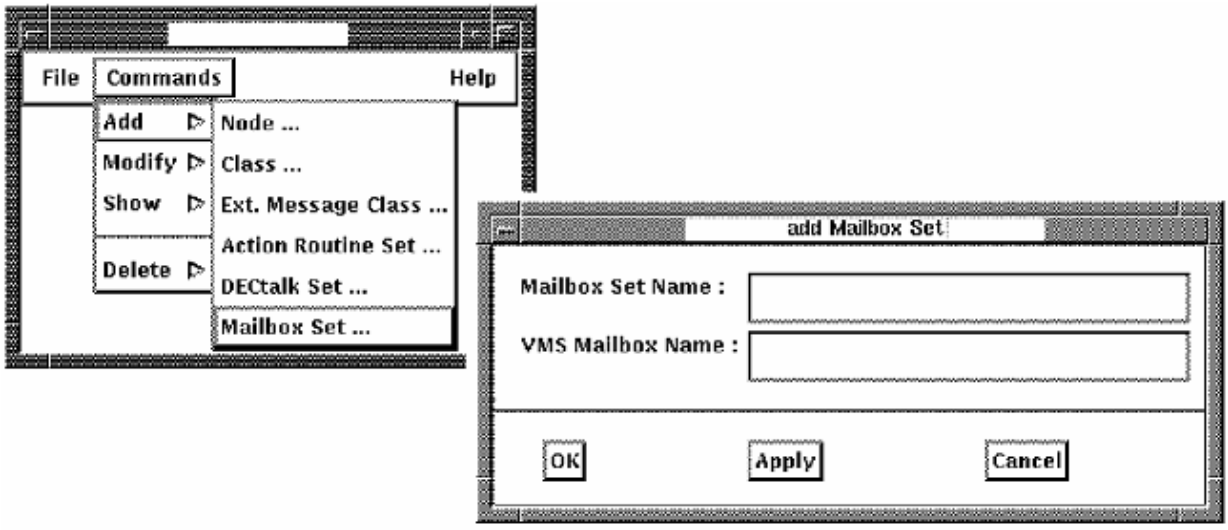
4. From the Modify Node window, click the Commands menu and select Copy.
5. From the Copy Node window, enter the New Node Name. Click the "Copy node itself" button, and then click the button for any node objects or exclusions to be copied.

   Click OK to enter the new node and dismiss the Copy Node window. You can also click Apply and create other node entries to be copied. You can use the current node in the Modify Node window or you can specify any node shown in the Select Node window in the Old Node Name box.

Add a Mailbox Set

The following shows the Add Mailbox Set window. Select the window as follows:

1. Click Commands.
2. Click Add.
3. Click Mailbox Set...



4. Click the following fields to enter the necessary values:

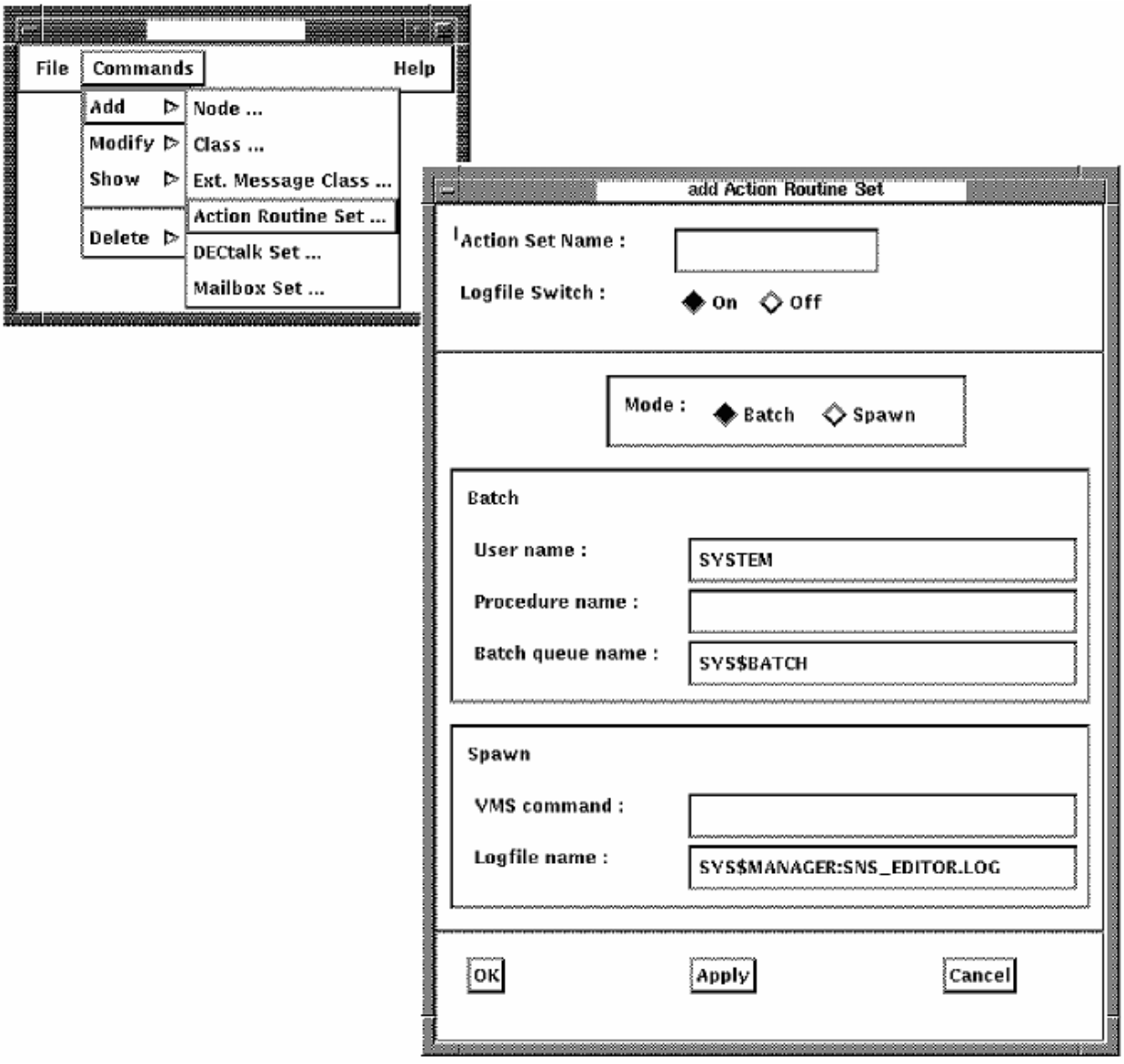
Field	Action
Mailbox Set Name:	Enter the name of the mailbox set.
OpenVMS Mailbox Name:	Enter the physical or logical name of the OpenVMS mailbox to which the event messages are to be sent.

Add an Action Routine Set

The following steps show the Add Action Routine Set window.

To select the window

1. Click Commands
2. Click Add
3. Click Action Routine Set...



4. Click the following boxes or fields to enter or change the necessary values:

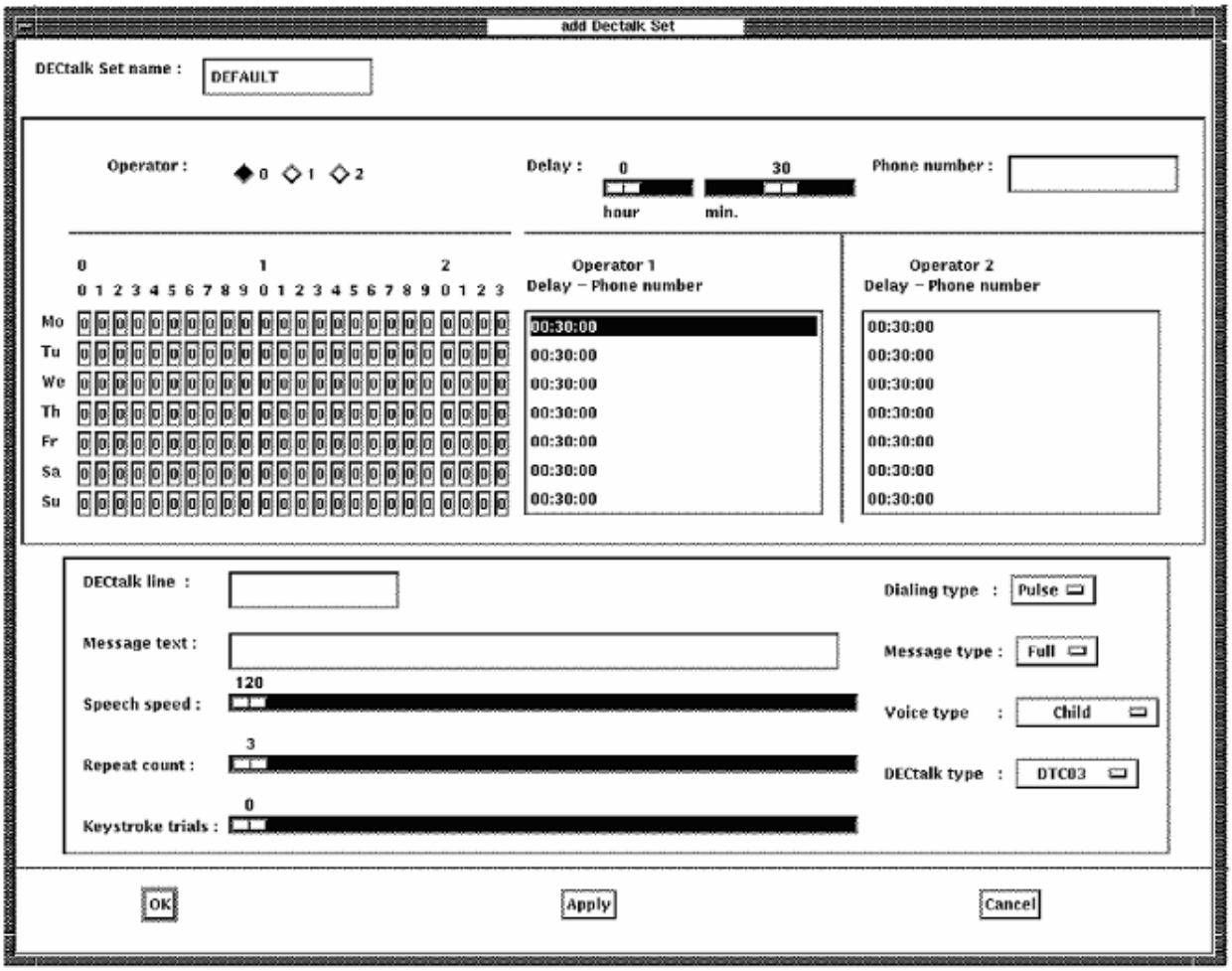
Box/Field	Action
Action Set Name:	Enter the name of the action routine set.
Logfile Switch:	On (enabled) is the default. Enables or disables batch mode writing to a log file.
Mode:	Batch is the default. Sets the mode to Batch or Spawn.
User name:	SYSTEM is the default. User name under which the action routine is to be submitted as a batch job.
Procedure name:	Enter the name of the command procedure to be submitted as a batch job. The full path name with file extension is required.
Batch queue name:	SYS$BATCH is the default. Name of the batch queue to which the procedure is to be submitted.
OpenVMS command:	Enter the DCL command string to be executed by the spawned subprocess.
Logfile name:	SYS$MANAGER:SNS_EDITOR.LOG is the default. Output file for writing the information written to SYS$OUTPUT by the spawned DCL command.

Add a DECtalk Set

The following shows the Add DECtalk Set window. Select the window as follows:

1. Click Commands.
2. Click Add.

3. Click DECtalk Set...



4. Click the following boxes or fields to enter or change the necessary values:

Box/Field	Action
DECtalk Set name:	DEFAULT is the default. Name of the DECtalk set.

Box/Field	Action
Operator:	Each day of the week is represented by a row for Operator 1 and 2. Watchdog Manager can specify either operator for each hour of a 24-hour day, and for each day of the week: 0 Inhibit DECtalk during that hour. This is the default setting. 1 Use Operator 1 delay time and phone number during that hour. 2 Use Operator 2 delay time and phone number during that hour. Operator buttons 1 and 2 set the operator. In a week row, click the box for each hour of each day for which that operator applies. You can set the operator for successive days using Tab (forward) or Shift/Tab (reverse). Operator button 0 sets the value to 0.
Delay:	The time in hours and minutes that Watchdog Manager waits before initiating a DECtalk call after an event message is added or updated.

Box/Field	Action
Phone number:	Maximum of 20 characters. The telephone number for the specified operator to use on the specified days. Click a row under the Operator 1 or 2 Delay-Phone number boxes to enter the delay time and phone number for each operator. You can then: Move the Delay sliders with MB1 to change the delay time in the selected operator Delay-Phone number box. The default is 30 minutes. Click MB1 on the Phone number box to enter the telephone number for the operator. The number you enter from the keyboard appears in the selected Delay-Phone number box. You can use the ampersand (&) as the twentieth character in the Operator 1 phone number string as a continuation character to enable the following: For Operator 1 hours, Watchdog Manager uses the delay time specified for Operator 1, and then initiates a DECtalk call using the number specified for Operator 1, concatenated with the number specified for Operator 2. For Operator 2 hours, Watchdog Manager uses the delay time specified for Operator 2, and then initiates the DECtalk device to use an internal speaker without calling the number.
DECtalk line:	The physical line, such as TXA0: or LTA100:, that is connected to the DECtalk unit. This entry is required.
Message text:	The welcome message that introduces the list of event messages. The message is spoken after the DECtalk prompt message when the call is answered. The default is an empty string.
Speech speed:	120 is the default. The speech speed in words per minute. The range is 120 to 350.
Repeat count:	3 is the default. The number of times the list of event messages is repeated when the call is answered. The range is 0 to 999.

Box/Field	Action
Keystroke trials:	0 is the default. The number of times Watchdog Manager repeats the DECtalk prompt message "Hello, this is DECtalk ... Dial any number to get my message." The user must dial a digit to receive the welcome message before the number of trials expires. The range is 0 to 999. A value of 0 inhibits the DECtalk prompt message and the welcome text is the first message sent.
Dialing type:	PULSE is the default. The dialing type is TONE or PULSE.
Message type:	FULL is the default. The type of message to be sent is FULL (full event message) or BRIEF (simplified message).
Voice type:	CHILD is the default. Valid voice types are FEMALE, CHILD, DEEP_MALE, DEEP_FEMALE, OLDER_MALE, LIGHT_FEMALE, ALL_VOICES, and MALE.
DECtalk type:	DTC03 is the default. The connected DECtalk unit type is DTC01 or DTC03.

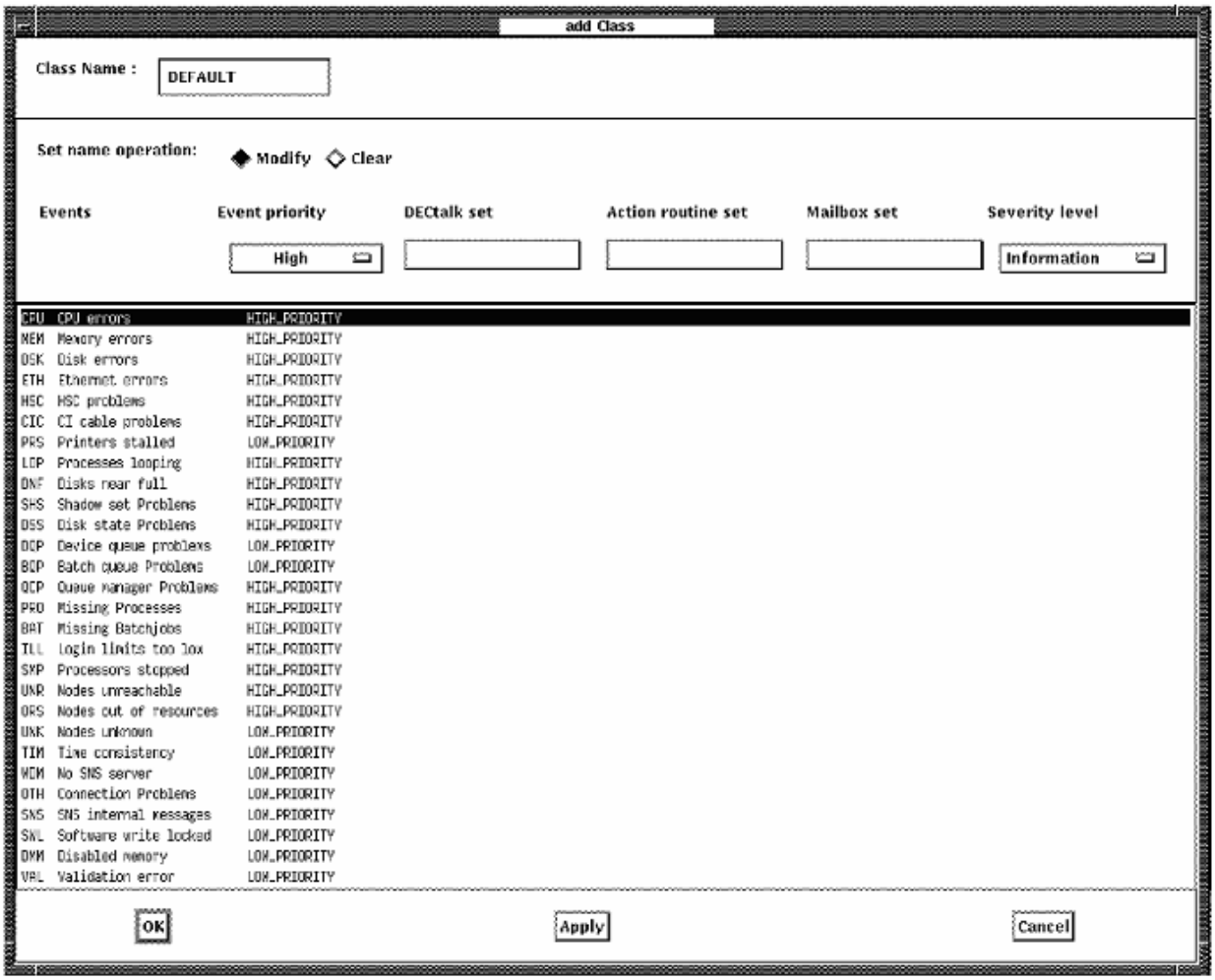
Add an Event Class

The following shows the Add Class window.

To add an event class

1. Click Commands.
2. Click Add

3. Click Class...



4. Click the following boxes or fields to enter or change the necessary values:

Box/Field	Action
Class Name:	DEFAULT is the default. Name of the event class.
Set name operation:	Modify is the default. Sets the mode for the selected row so you can modify or clear the current settings.
Events	Each event is listed on a separate row. Click a row to enable the row for the following operations.
Event priority	High is the default. Select the priority levels for the event. Valid priority levels are High, Low, Not checked, and Not displayed.

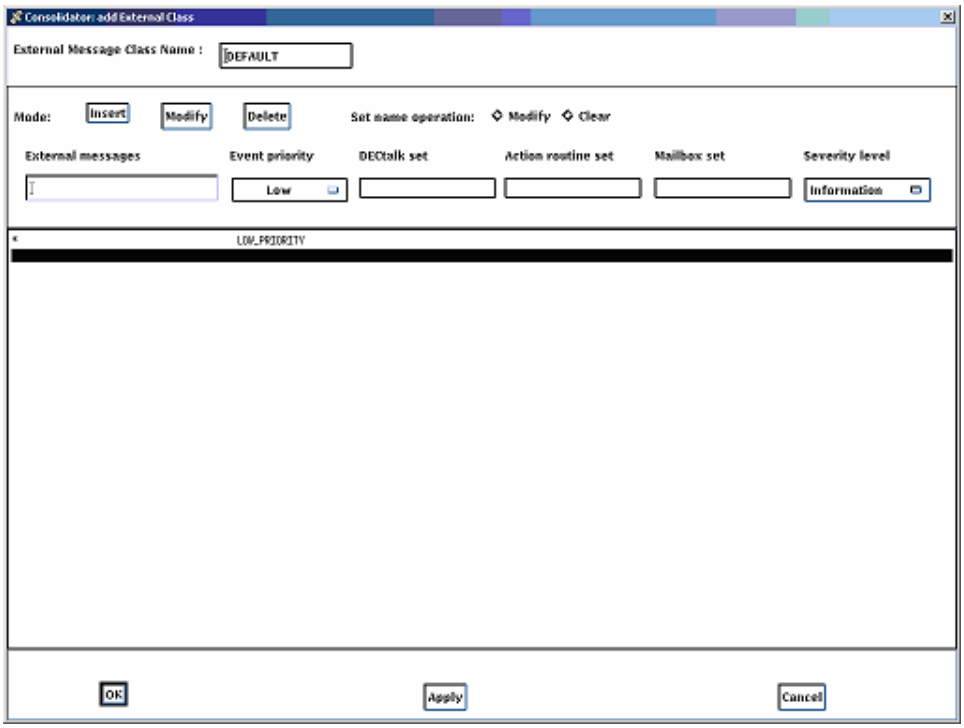
Box/Field	Action
DECtalk set	Enter the name of a defined DECtalk set.
Action routine set	Enter the name of a defined action routine set.
Mailbox set	Enter the name of a defined mailbox set.
Severity level	Information is the default. Select the mailbox set severity level. Valid severity levels are Information, Success, Error, Warning, and Fatal.

Add an External Message Class

The following shows the Add External Message Class window.

To add an external message class

1. Click Commands.
2. Click Add.
3. Click Ext. Message Class...



4. Select a row in the table to edit. The settings will appear in the edit fields, and the fields may be altered. Click on the following boxes or fields to enter or change the necessary values:

Box/Field	Action
External Message Class Name	Name of the external message class. DEFAULT is the default.
Operation	Click on one of the buttons to complete the operation for the selected row: Insert: Inserts a new row using the settings. Modify: Modifies the selected row with the edited settings. Delete: Deletes the selected row.
Set name operation	Selects the mode for the selected row so you can modify or clear the current settings. The default is Modify.
External messages	Click an event message row to activate the row then click the External messages box. You can then add external message text in the selected row.
Event priority	Click Event priority to list the priority levels for the event. Valid priority levels are High, Low, Not checked, and Not displayed. The default is High.
DECtalk set	Click the box, and then double-click the name of a defined DECtalk set in the popup Select DECtalk Set window.
Action routine set	Click the box, and then double-click the name of a defined action routine set in the popup Select Action Routine Set window.
Mailbox set	Click the box, and then double-click the name of a defined mailbox set in the popup Select Mailbox Set window.
Severity level	Click Severity level to list the severity levels for the mailbox set. Valid severity levels are Information, Success, Error, Warning, and Fatal. The default is Information.

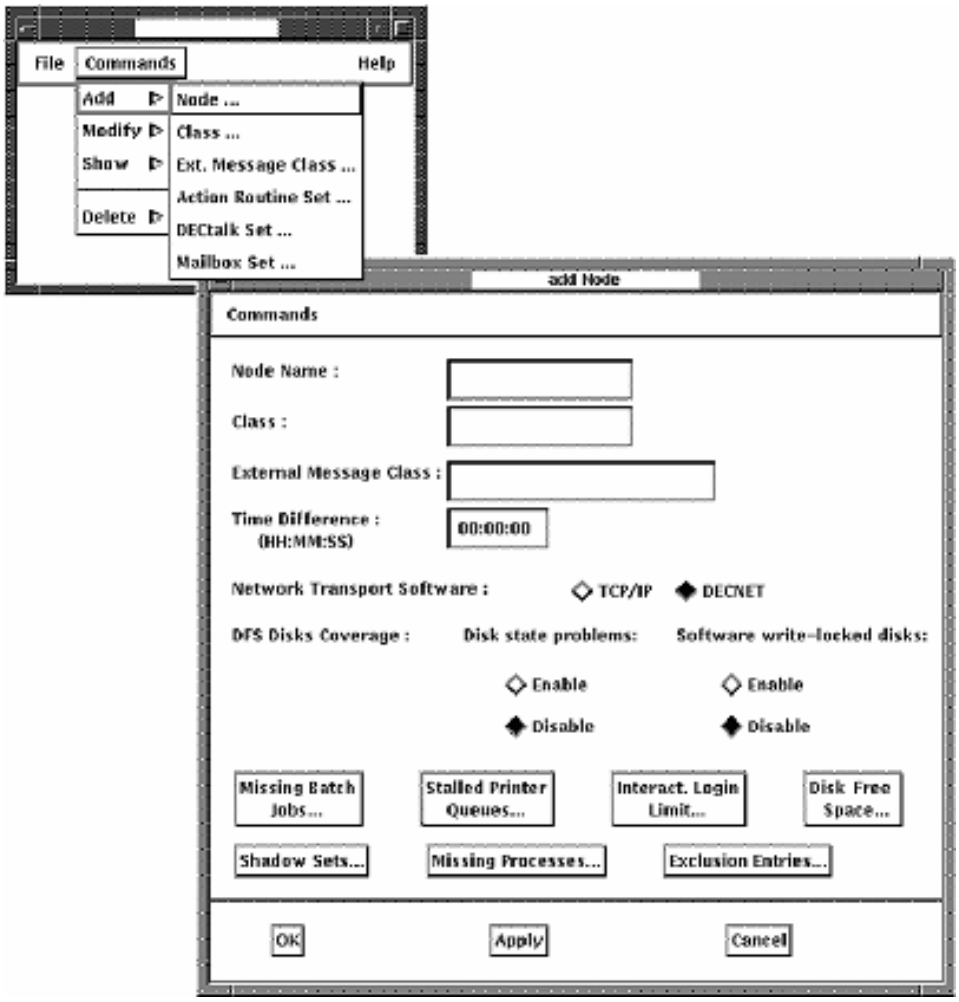
Add a Node

The following shows the Add Node window.

To add a node

1. Click Commands.
2. Click Add.

3. Click Node...


File
Commands
Help
Add
Modify
Show
Delete
Node ...
Class ...
Ext. Message Class ...
Action Routine Set ...
DECtalk Set ...
Mailbox Set ...
add Node
Commands
Node Name :
Class :
External Message Class :
Time Difference :
(HH:MM:SS)
00:00:00
Network Transport Software :
TCP/IP
DECNET
DFS Disks Coverage :
Disk state problems:
Software write-locked disks:
Enable
Disable
Enable
Disable
Missing Batch Jobs...
Stalled Printer Queues...
Interact. Login Limit...
Disk Free Space...
Shadow Sets...
Missing Processes...
Exclusion Entries...
OK
Apply
Cancel

4. Click the following boxes or fields to enter or change the necesssary values:

Box/Field	Action
Commands menu:	Opens the Copy Node window so you can copy all of the information in the current node entry to a new node entry without dismissing the Add Node window. You can open the Copy Node window as follows: 1. Click Commands. 2. Click Copy. In the Copy Node window, you can include existing node objects and exclusions in the copy by clicking on the appropriate button. See the Adding Entries to a Profile section for more information on how to use the Modify windows to copy profile entries.
Node Name:	Enter the name of the node to be polled. The information must be entered separately for each node. The cluster alias cannot be used.
Class:	Enter the name of the event class that the node is to be monitored under. The default class is DEFAULT.
External Message Class:	Enter the name of the class to be used for external messages. The default external message class is DEFAULT.
Time Difference:	Time difference between the polled node and the node running Watchdog Manager. Time can be expressed as plus or minus up to 24:00:00 hours. The default is 0:0:0.
Network Transport Software:	Specifies the network transport for Watchdog Manager to use to access the Watchdog Agent running on the polled node. Valid transports are DECnet and TCP/IP. The default is DECnet.
DFS Disks Coverage:	Specifies whether DFS disks are covered by the event codes Disk state problems (DSS) or Software write-locked disks (SWL).
Node objects:	The valid node objects have corresponding buttons in the Add Node window. Node objects can only be added if the node has been defined in the profile. To add node objects from the Add window, first click Apply to enter the node in the profile. You can then add or modify the node objects as described in Adding Node Objects and Exculsions.

Node Objects and Exclusions Windows

To add node objects or exclusions, the node must first be defined in the profile as described in the Add Node section. To open a node object or exclusions window, click the button in the Add Node window.

The valid node object buttons shown in the Add Node window are:

- Missing Batch Jobs
- Stalled Printer Queues
- Interactive Login Limit
- Disk Free Space
- Shadow Sets
- Missing Processes
- Exclusion Entries

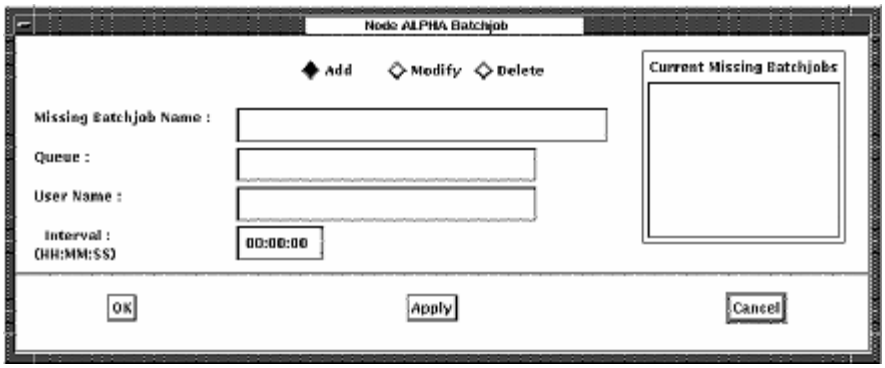
The section Add Entries to a Profile provides guidelines for using the Modify command to add or copy multiple nodes or multiple nodes with node objects.

The mode buttons in the node object and exclusions windows enable the operating mode to be applied to the selected object. The modes enable the following:

Activity	Action
Add	Add is the default. Add a new item for coverage. Enter the item from the keyboard then click OK to add the item to the Current items list box.
Modify	Select an item in the Current items list box. You can click the button first, and then the item, or you can click the item first, and then the button. You can change the item or its attributes from the keyboard, and then click OK to enter the changes.
Delete	Delete an item in the Current items list box. You can click the button first, and then the item, or click the item first, and then the button. Click OK to delete the item.

Missing Batch Jobs window

The following graphic shows the Missing Batch Jobs window:

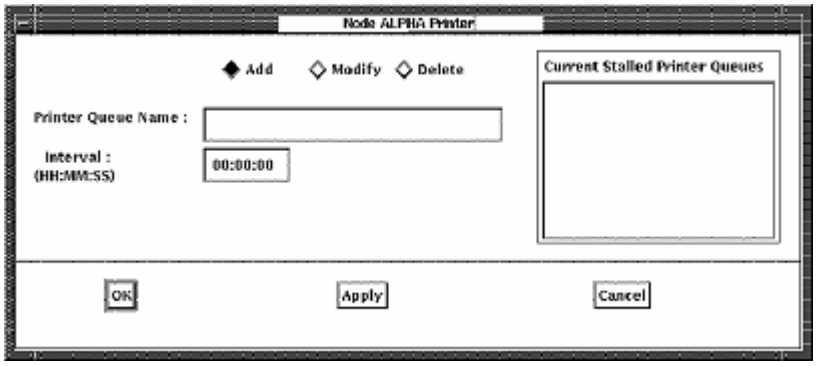


Click the following boxes or fields to enter the necessary values:

Box/Field	Action
Add	Add is the default Add mode enables you to enter a batch job for coverage.
Modify	Modify mode enables you to modify a batch job in the Current Missing Batchjobs list box.
Delete	Delete mode enables you to delete a batch job from the Current Missing Batchjobs list box.
Missing Batchjob Name:	Enter the name of the batch job to be covered.
Queue:	SYS$BATCH is the default. Batch queue name under which the batch job is to be submitted.
User Name:	SYSTEM is the default. User name under which the batch job is to be submitted.
Interval:	Set the polling interval for the missing batch jobs object. The typical value is 00:10:00 (10 minutes).

Stalled Printer Queues window

The following graphic shows the Stalled Printer Queues window:

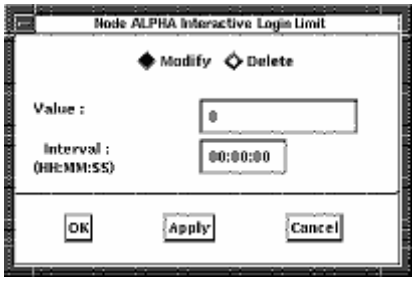


Click the following boxes or fields to enter the necessary values:

Box/Field	Action
Add	Add is the default. Add mode enables you to enter a printer queue for coverage.
Modify	Modify mode enables you to modify a printer queue in the Current Stalled Printer Queues list box.
Delete	Delete mode enables you to delete a printer queue from the Current Stalled Printer Queues list box.
Printer Queue Name:	SYS$PRINT is the default. Print queue name under which the print job is to be submitted.
Interval:	Set the polling interval for the stalled printer queues object. The typical value is 00:10:00 (10 minutes).

Interactive Login Limit window

The following graphic shows the Interactive Login Limit window:

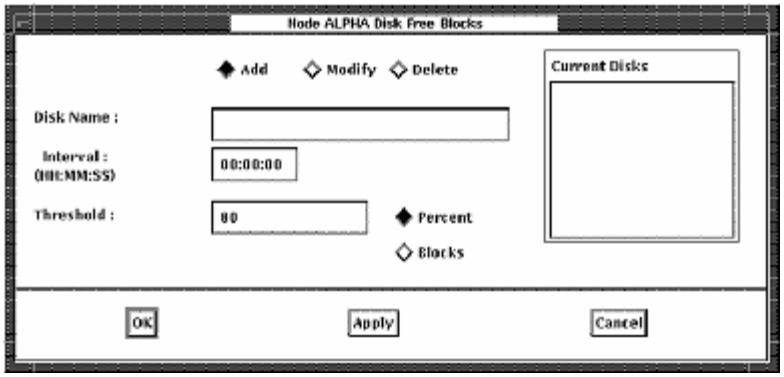


Click the following boxes or fields to enter the necessary values:

Box/Field	Action
Modify	The Modify button enables you to set or change the interactive login limit value or interval. Click OK to enter the value. The default is Modify.
Delete	The Delete button enables you to set the selected value to 0 (zero).
Value:	0 is the default. Enter the login limit comparison value.
Interval:	Set the polling interval for the interactive login limit object. A typical value is 00:10:00 (10 minutes).

Disk Free Space window

The following graphic shows the Disk Free Space window:



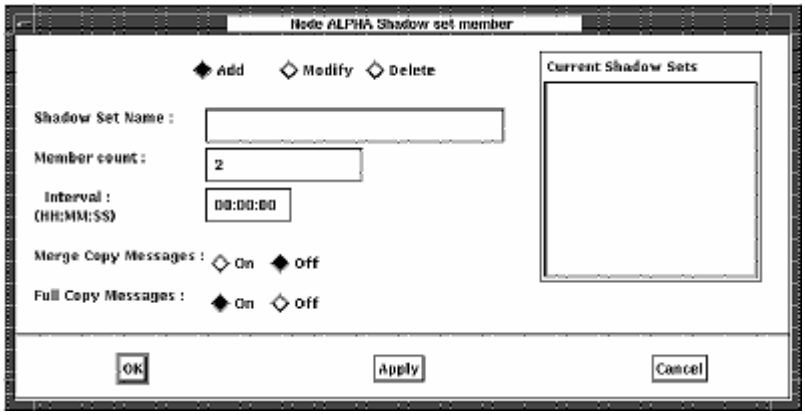
Click the following boxes or fields to enter the necessary values:

Box/Field	Action
Add	Add is the default Add mode enables you to enter a disk for free space coverage.
Modify	Modify mode enables you to modify a disk in the Current Disks list box.
Delete	Delete mode enables you to delete a disk from the Current Disks list box.
Disk Name:	Enter the name of the disk to be added for free space coverage.

Box/Field	Action
Interval:	Set the polling interval for the disk free space object. A typical value is 00:10:00 (10 minutes).
Threshold:	Free space remaining on disk. Click the Threshold box to change the remaining free disk space threshold. The default is 80 percent. To set the threshold in number of blocks, click Blocks then click the Threshold box to set the number value.

Shadow Sets window

The following graphic shows the Shadow Sets window:



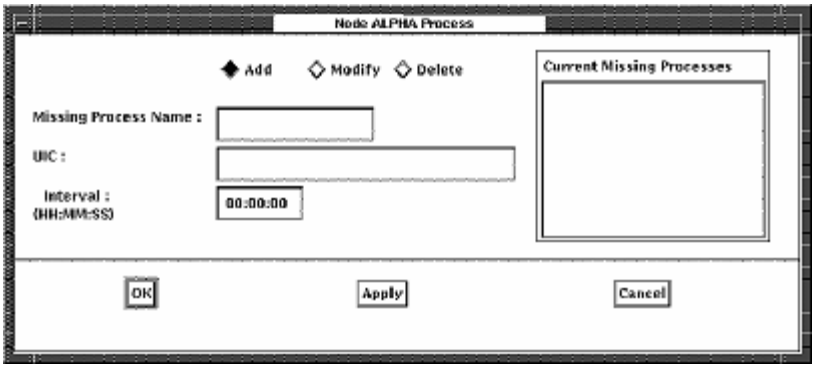
Click the following boxes or fields to enter the necessary values:

Box/Field	Action
Add	Add is the default Add mode enables you to enter a shadow set for coverage.
Modify	Modify mode enables you to modify a shadow set in the Current Shadow Sets list box.
Delete	Delete mode enables you to delete a shadow set from the Current Shadow Sets list box.
Shadow Set Name:	Enter the name of the shadow set to be covered.
Member count:	2 is the default. Number of members in the shadow set.
Interval:	Set the polling interval for the shadow sets object. A typical value is 01:00:00 (1 hour).

Merge Copy Messages:	Off is the default. Click On to merge the shadow set copy messages into one file.
Full Copy Messages:	On (full message text) is the default. Click Off to output simplifed copy messages.

Missing Processes window

The following graphic shows the Missing Processes window.

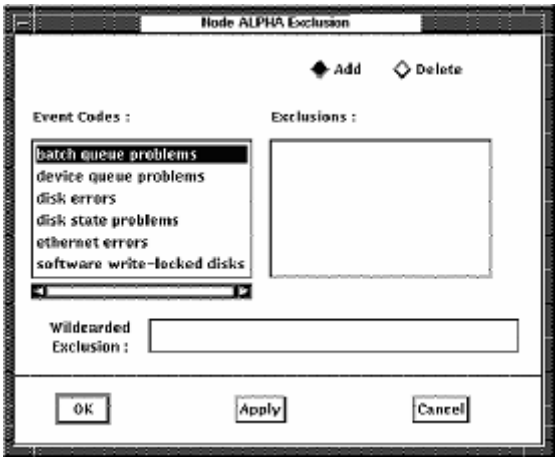


Click the following boxes or fields to enter the necessary values:

Box/Field	Action
Add	Add is the default Add mode enables you to enter a process for coverage.
Modify	Modify mode enables you to modify a process in the Current Missing Processes list box.
Delete	Delete mode enables you to delete a process from the Current Missing Processes list box.
Missing Process Name:	Enter the name of the process to be added for coverage.
UIC:	Set the user identification code for the process. A typical value is [1,4].
Interval:	Set the polling interval for the missing processes object. A typical value is 00:10:00 (10 minutes).

Exclusion Entries window

The following graphic shows the Exclusions Entries window:



Click the following boxes or fields to enter the necessary values:

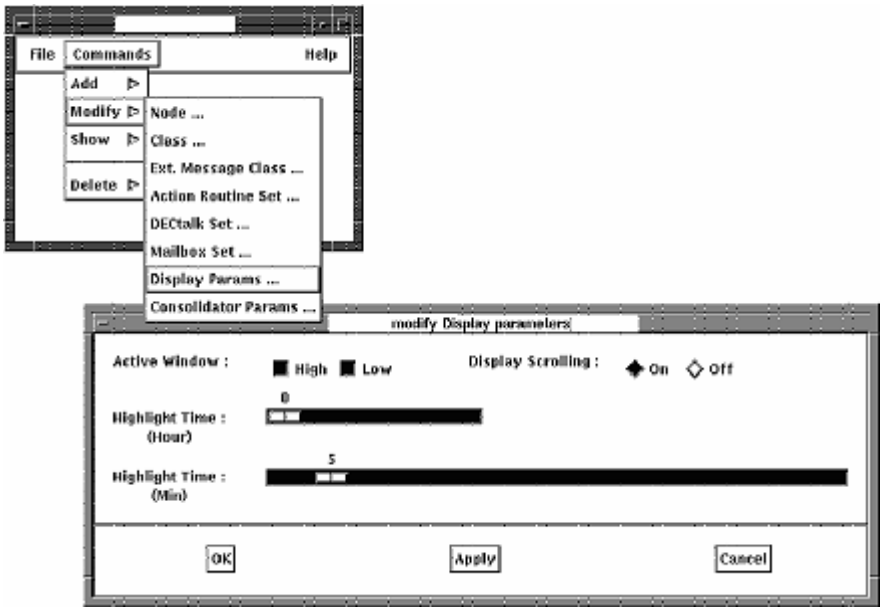
Box/Field	Action
Add	Add is the default Add mode enables you to enter exclusions for coverage.
Delete	Delete mode enables you to delete an exclusion from the Exclusions list box.
Event Codes:	List of event codes supporting exclusions. Click an event in the Event Codes list box, and then click the Wildcarded Exclusion box and enter an exclusion from the keyboard.
Exclusions:	Displays a list of the currently excluded items.
Wildcarded Exclusion:	Click the Wildcarded Exclusion box then enter an exclusion device from the keyboard. You can enter a single device, such as DUA01: or DUB05:, or use the wildcard character (*)to exclude all devices of one type. DUA*: and 1DUB*: are examples of disks excluded with the wildcard. The colon (:) is required.

Verify Display Parameters

The Modify Display Parameters window shows the default parameters for your display terminal.

To verify display parameters

1. Click Commands.
2. Click Modify.
3. Click Display Params...



4. Click the following boxes or fields to change the necessary values:

Box/Field	Action
Active Window:	Both enabled (High and Low) is the default The High and Low buttons enable and disable the display of either High or Low priority event messages or both.
Display Scrolling:	On (enabled) is the default The On and Off buttons enable or disable scrolling of the continuous event messages screen.
Highlight Time: (Hour)	0 is the default The number of hours that an added or updated event message is to be highlighted. Use the slider to set the hour value. The range is 0 to 23 hours.

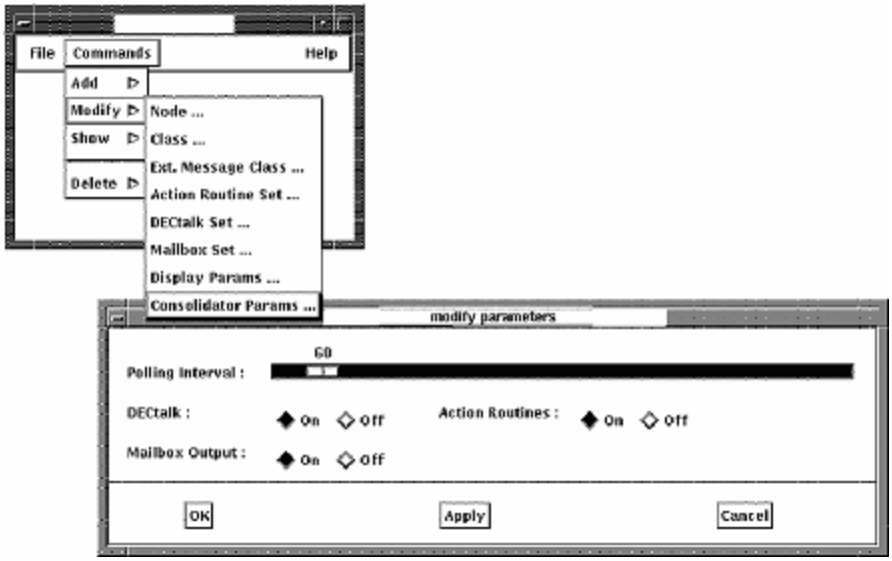
Box/Field	Action
Highlight Time: (Min)	5 is the default. The number of minutes that an added or updated event message is to be highlighted. Use the slider to set the minute value. The range is 0 to 59 minutes.

Verify Watchdog Manager Parameters

The Modify Consolidator Parameters window shows the default polling interval and notification options for Watchdog processes using the profile.

To show the Modify Consolidator Parameters window

1. Click Commands.
2. Click Modify.
3. Click Consolidator Params...



4. Use the following boxes or fields to change the necessary values:

Box/Field	Action
Polling Interval:	60 is the default. The interval in seconds between poll requests that Watchdog Manager sends to the active Watchdog agents. The range is 0 to 65535.

Box/Field	Action
DECtalk:	On (enabled) is the default. The On and Off buttons enable or disable the use of the DECtalk sets defined in the profile.
Action Routines:	On (enabled) is the default. The On and Off buttons enable or disable the use of the action routine sets defined in the profile.
Mailbox Output:	On (enabled) is the default. The On and Off buttons enable or disable the use of the mailbox sets defined in the profile.

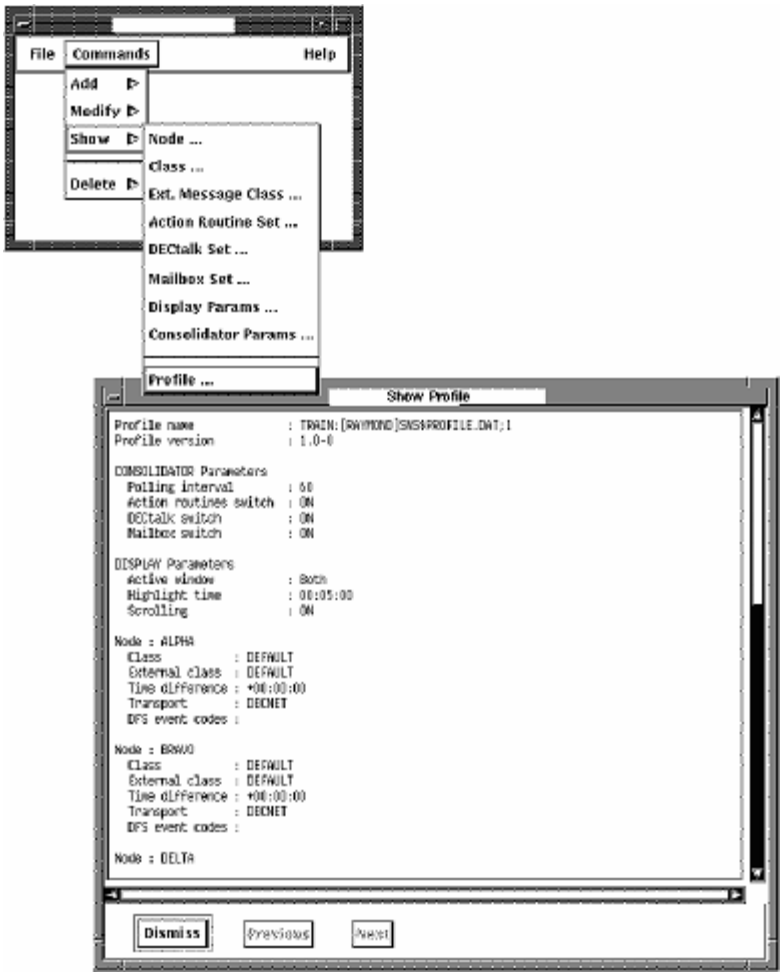
Verify the Profile Contents

The Show Profile window shows the contents of the currently open profile.

To open the Show Profile window

1. Click Commands.
2. Click Show.

3. Click Profile...



4. To see the remaining profile contents, you can resize the screen or use the scroll bar on the right side of the screen. For an extended profile, the Previous and Next buttons are activated so you can step through the display one screen at a time.

   The Dismiss button cancels the window.

Chapter 7: User Programming

This chapter provides guidelines for developing action routines and OpenVMS mailbox reader programs. For information on programming using the System Watchdog SDK, see the appendix System Watchdog SDK (page 235).

This section contains the following topics:

Action Routines

Action routines are used to correct detected problems, leaving operations personnel free to perform more complex tasks. An action routine is executed in one of the following two modes as defined by the action routine set in the profile:

- Batch mode
- Spawn mode

Batch Mode

The batch mode uses a DCL command procedure that is specified by the action routine set. The command procedure contains a set of DCL commands which can perform a number of functions that include writing to the display or sending message in the following format:

```
$!
$!Write the event message (P1 to the batch log file:
$!
$      WRITE SYS$OUTPUT P1
$!

$!Write "*** " then SNS_C_NEW/UPD/REM (P7) information to the batch log file:
$!
$      WRITE SYS$OUTPUT "*** ",P7
$!
$!If the event is new, send mail to the operator:
$!
$      IF ( P7 .eqs. "SNS_C_NEW" ) THEN -
MAIL/SUBJ="FROM SNS: ''P1'" NL: OPERATOR
$!)
```

Spawn Mode

The spawn mode uses a DCL command that is specified by the action routine set. The command format depends on the following:

- If the first character is @, the command has the following format:

  ```
  @DCL_command P1 P2 P3 P4 P5 P6 P7 P8
  ```

- If the first character is not @, the parameters are substituted wherever the vertical bar parameter (|) appears in the command string (where n is a value of 1 to 8). The total string length is 255 characters, beyond which the parameters are truncated. For example, the following command uses the P1 parameter to pass mail message text to the user in the subject field:

  ```
  MAIL/SUBJECT="FROM SNS: |P1" NL: OPERATOR
  ```

Action Routine Parameters

The Watchdog Manager passes a set of parameters to the batch job or spawned subprocess as defined by the action routine set. The following are the action routine parameters:

- P1-Event message text as displayed on the screen (132 characters)
- P2-Complete event message date and time-stamp (23 characters)
- P3-Event code describing the type of message (9 characters)
- P4-Node name (16 characters)
- P5-Cluster name (16 characters, can be blank depending on the type of message)
- P6-Action routine set name (16 characters)
- P7-New/Update/Removed message flag (12 characters)
- P8-Match string data substituted in the event message fields, separated by vertical bars (|) (132 characters).

The parameter values are as follows:

- Parameter P1 includes the vertical bar (|) character for external messages.
- Parameter P5 can be blank, depending on the type of message.
- Parameter P7 can have one of the following values:
  - SNS_C_NEW (for new messages)
  - SNS_C_UPD (for updated messages)
  - SNS_C_REM (for removed messages)
  - Unsupported

An unsupported message only appears if:

- You add an event entry to an action routine set in the profile for a currently active event message.
- You reconfigure the Watchdog Manager using the updated profile.
- At the end of the next scan, if the event remains active, the Watchdog Manager triggers the action routine. Because the Watchdog Manager cannot evaluate the event as NEW, REM, or UPD, the Watchdog Manager reports the P7 value as unsupported.

- Parameter P8 is a fill-in string from the event message, separated by vertical bars. For example, if the P1 message text is "Disk DUA0 has less than 6% (21242) free blocks," the P8 string values are"DUA0|6|21242."

Mailbox Reader Programs

Mailbox sets can be used to write messages to an OpenVMS mailbox for further processing by a user-supplied program. The mailbox reader program must perform the following:

1. Open an OpenVMS mailbox to receive Watchdog Manager mailbox notifications.
2. Assign a logical name to the mailbox.
3. Post a READ and wait for mailbox input from the Watchdog Manager.
4. Process the record.
5. Perform the necessary actions.
6. Go back and post another READ.

Please see the file SNS$EXAMPLES:SNS$READ_MAILBOX.COM for a sample mailbox reader.

The profile used by the Watchdog Manager must have a mailbox set with the logical name of the program's mailbox. The following items apply to the mailbox:

- The mailbox must be a permanent mailbox so that the logical name is created in the system table
- The minimum mailbox buffer size is 65535
- The maximum mailbox message size is at least 512

OpenVMS Mailbox Fields

When triggered by an event, the Watchdog Manager sends a record to the mailbox reader program in the following format:

- F1-Event message text as displayed on the screen (132 characters)
- F2-Complete event message date and time-stamp (23 characters)
- F3-Event code describing the type of message (9 characters)
- F4-Node name (16 characters)
- F5-Cluster name (16 characters)
- F6-Mailbox set name (16 characters)
- F7-New/Update/Removed message flag (12 characters)
- F8-Severity level (12 characters)
- F9-Match string data substituted in the event message fields, separated by vertical bars (|) (132 characters).

The field values are as follows:

- Field F1 includes the vertical bar (|) character for external messages.
- Field F5 can be blank, depending on the type of message.
- Field F7 can have one of the following values:
  - SNS_C_NEW (for new messages)
  - SNS_C_UPD (for updated messages)
  - SNS_C_REM (for removed messages)
  - Unsupported

    An unsupported message only displays under the following conditions:

    - When you add an event entry to a mailbox set in the profile for a currently active event message.
    - When you reconfigure the Watchdog Manager using the updated profile.
    - At the end of the next scan, if the event remains active, the Watchdog Manager triggers the mailbox set. Because the Watchdog Manager cannot evaluate the event as NEW, REM, or UPD, the Watchdog Manager reports the F7 value as unsupported.
- Field F8 can have one of the following values:
  - Information
  - Error
  - Fatal
  - Warning
  - Success
- Field F9 is a fill-in string from the event message, separated by vertical bars. For example, if the F1 message text is "Disk DUA0 has less than 6% (~21242) free blocks," the F9 string values are "DUA0|6|21242."

Appendix A: Controller Command Summary

The appendix contains a summary of the Watchdog Manager controller commands. For detailed descriptions of all commands and qualifiers, see the chapter Controller Commands (page 59).

The ADD MESSAGE and DELETE MESSAGE commands are also used by the Watchdog Agent.

Controller Command List

The commands are as follows:

ADD MESSAGE "Message text" [/qualifier...]

Qualifiers:

/NODE=name

/TRANSPORT=TCPIP | DECnet (D)

/LOG | /NOLOG (D)

DELETE MESSAGE "Message text" [/qualifier...]

Qualifiers:

/NODE=name

/TRANSPORT=TCPIP | DECnet (D)

/LOG | /NOLOG (D)

DISABLE LOG

DISABLE NODE [name,...] [/CLASS=(class_name,...)]

DISABLE NOTIFICATION [MAILBOX,DECtalk,ACTION_ROUTINE]

EDIT PROFILE [filename] [/qualifier]

Qualifiers:

/OUTPUT=filename | /INTERFACE=DECwindows

ENABLE LOG

ENABLE NODE [name,...] [/CLASS=(class_name,...)]

ENABLE NOTIFICATION [MAILBOX,DECtalk,ACTION_ROUTINE]

EXIT

HELP [command [option [option]]]

HIDE MESSAGE "node_name message text" [/qualifier]

Qualifiers:

/LOG | /NOLOG (D)

POLL [/RESET_LAST_SCAN]

RECONFIGURE [/qualifier...]

Qualifiers:

/PROFILE=filenamne

/FIRST_SCAN=([NO]MAILBOX,[NO]DECtalk,
[NO]ACTION_ROUTINE) (Default is all items enabled.)

/INFORMATION="information text"

/DISCARD=(MESSAGES,DISABLED_NODES) | ALL

/WAIT | /NOWAIT (D)

SET COLLECTING [/qualifier...]

Qualifiers:

/SINCE=time

/BEFORE=time

SET CONSOLIDATOR [nnnn]

SET LOG filename

SET POLLING_INTERVAL seconds

SHOW CONSOLIDATOR [nnnn] [/qualifier...]

Qualifiers:

/ALL

/FULL | /BRIEF (D)

/OUTPUT=filename

SHOW EVENTS [/qualifier...]

Qualifiers:

/PRIORITY=HIGH | LOW | BOTH (D)

/HIDDEN | /NOHIDDEN (D)

/EVENT_CODES=(code,...)

/NODES=(name,...)

/SINCE=time

/BEFORE=time

/OUTPUT=filename

SHOW EVENTS /CONTINUOUS [/qualifier...]

Qualifiers:

/PRIORITY=HIGH | LOW | BOTH (D)

/HIDDEN | /NOHIDDEN (D)

/EVENT_CODES=(code,...)

/NODES=(name,...)

/SINCE=time

/BEFORE=time

/HIGHLIGHT_TIME=hh:mm:ss

/ENABLE=SCROLLING

/DISABLE=SCROLLING

SHOW LOG [filename] [/qualifier...]

Qualifiers:

/OUTPUT=filename

/SINCE=time

/BEFORE=time

/EVENT_CODES=(code,...)

/NODES=(name,...)

/RECORD_TYPE=(START_STOP,MESSAGE,DECtalk,
ACTION_ROUTINE,MAILBOX)

SHOW MESSAGE "node_name message text" [/qualifier]

Qualifiers:

/LOG | /NOLOG (D)

START CONSOLIDATOR [/qualifier...]

Qualifiers:

/PROFILE=filename

/FIRST_SCAN=([NO]MAILBOX,[NO]DECtalk,[NO]ACTION_ROUTINE)
(Default is all items enabled.)

/INFORMATION="information text"

/ACCESS=([NO]WORLD,[NO]GROUP,[NO]SYSTEM)

/UIC=[m,n] | [name] | [group,name]

/OUTPUT=filename

/ERROR=filename

/[NO]WAIT

STOP CONSOLIDATOR [nnnn] [/ALL]

Appendix B: Profile Editor Command Summary

The appendix contains a list of the Watchdog Manager profile editor commands. For detailed descriptions of all commands and qualifiers, see the chapter Profile Editor Commands (page 115).

Profile Editor Command List

The commands are as follows:

@filename

ADD ACTION_ROUTINE_SET set_name /qualifier...

Qualifiers:

/MODE=SPAWN | BATCH (D)

/USERNAME=username (Applies when /MODE=BATCH. Default is SYSTEM.)

/PROCEDURE=proc_name (Required, applies when /MODE=BATCH.)

/QUEUE=queue_name (Applies when /MODE=BATCH. Default is SYS$BATCH.)

/COMMAND=command (Required, applies when /MODE=SPAWN.)

/OUTPUT=filename (Applies when /MODE=SPAWN.)

/LOG_FILE | /NOLOG_FILE (D) (Applies when /MODE=BATCH or SPAWN.)

ADD CLASS class_name

ADD DECtalk_SET set_name /qualifier...

Qualifiers:

/LINE=port (Required. For example, TXA0: or LTA100:)

/TYPE=DTC01 | DTC03 (D)

/SPEECH_SPEED=number (Default is 120.)

/VOICE=voice_type (Default is CHILD.)

/DIALING_TYPE=TONE | PULSE (D)

/REPEAT_COUNT=number (Default is 3.)

/MESSAGE_TYPE=BRIEF | FULL (D)

/KEYSTROKE_TRIALS=number (Default is 0.)

/WELCOME_TEXT="message text" (Default is empty string.)

ADD EXTERNAL_MESSAGE_CLASS ext_class_name

ADD MAILBOX_SET set_name /MAILBOX=name

ADD NODE node_name /qualifier...

Qualifiers:

/CLASS=class_name (Default is DEFAULT.)

/EXTERNAL_MESSAGE_CLASS=ext_class_name (Default is DEFAULT.)

/TIME_DIFFERENCE=time (Default is 0:0:0.)

/DFS=event_code | /NODFS (D) (SWL, DSS valid.)

/TRANSPORT=TCPIP | DECnet (D)

ADD NODE node_name node_object name2 [name3 [name4]] [/qualifier]

Qualifier:

/INTERVAL=hh:mm:ss (Default is 00:10:00. Applies to all node objects except EXCLUSION.)

Valid node_objects:

BATCHJOB name2 [name3] [name4] (Defaults are SYSTEM, SYS$BATCH.)

FREE_BLOCKS name2 /qualifier
/PERCENT=number | /BLOCKS=number

LOGINS /LIMIT=number

PRINTER_QUEUE [name2] (Default is SYS$PRINT.)

PROCESS name2 [name3] (Default is [1,4].)

SHADOW_SET name2 /qualifier...
/FULL_COPY (D) | /NOFULL_COPY
/MERGE_COPY | /NOMERGE_COPY (D)
/MEMBERS=number (Default is 2.)

EXCLUSION event_code name3

COPY ACTION_ROUTINE_SET set_name new_set_name

COPY CLASS class_name new_class_name

COPY DECtalk_SET set_name new_set_name

COPY EXTERNAL_MESSAGE_CLASS ext_class_name new_ext_class_name

COPY MAILBOX_SET set_name new_set_name

COPY NODE node_name1 node_name2 [/qualifier...]

Qualifiers:

/PROCESS | /NOPROCESS (D)

/BATCHJOB | /NOBATCHJOB (D)

/FREE_BLOCKS | /NOFREE_BLOCKS (D)

/LOGINS | /NOLOGINS (D)

/PRINTER_QUEUE | /NOPRINTER_QUEUE (D)

/SHADOW_SET | /NOSHADOW_SET (D)

/EXCLUSION | /NOEXCLUSION (D)

/ALL

DELETE ACTION_ROUTINE_SET set_name

DELETE CLASS class_name

DELETE DECtalk_SET set_name

DELETE EXTERNAL_MESSAGE_CLASS ext_class_name

DELETE MAILBOX_SET set_name

DELETE NODE node_name [/ALL]

DELETE NODE node_name node_object name2 [name3 [name4]]

Valid node_objects:

BATCHJOB name2 [name [name4]]

FREE_BLOCKS name2

LOGINS

PRINTER_QUEUE [name2]

PROCESS name2 [name3]

SHADOW_SET name2

EXCLUSION event_code name3

EXIT

HELP [command [option [option]]]

MODIFY ACTION_ROUTINE_SET set_name /qualifier...

Qualifiers:

/MODE=SPAWN | BATCH

/LOG_FILE | /NOLOG_FILE (D) (Applies when /MODE=BATCH or SPAWN.)

/PROCEDURE=proc_name (Applies when /MODE=BATCH.)

/USERNAME=username (Applies when /MODE=BATCH.)

/QUEUE=queue_name (Applies when /MODE=BATCH.)

/COMMAND=command (Applies when /MODE=SPAWN.)

/OUTPUT=filename (Applies when /MODE=SPAWN.)

MODIFY CLASS class_name /qualifier...

Qualifiers:

/EVENT=(event_code,...)

/PRIORITY=HIGH | LOW | NOT_CHECKED | NOT_DISPLAYED

/NOACTION_ROUTINE_SET | /ACTION_ROUTINE_SET=set_name

/NODECtalk_SET | /DECtalk_SET=set_name

/NOMAILBOX_SET | /MAILBOX_SET=set_name

/SEVERITY=INFORMATION | SUCCESS | ERROR | WARNING | FATAL

MODIFY DECtalk_SET set_name /qualifier...

Qualifiers:

/SCHEDULE=string /DAY=(day,...)

/PHONE_NUMBER=string /OPERATOR=1 | 2 /DAY=(day,...)
where day can be MONDAY, ..., SUNDAY | EVERYDAY | WEEKDAYS | WEEKENDS

/DELAY=hh:mm:ss /OPERATOR=oper /DAY=(day,...)

/LINE=port (For example: TXA0: or LTA100:)

/TYPE=DTC01 | DTC03

/SPEECH_SPEED=number

/VOICE=voice_type

/DIALING_TYPE=TONE | PULSE

/REPEAT_COUNT=number

/MESSAGE_TYPE=FULL | BRIEF

/KEYSTROKE_TRIALS=number

/WELCOME_TEXT="message text"

MODIFY EXTERNAL_MESSAGE_CLASS ext_class_name /qualifier...

Qualifiers:

/TEXT="message text"

/POSITION=number

/DELETE

/INSERT

/PRIORITY=HIGH | LOW | NOT_CHECKED | NOT_DISPLAYED

/ACTION_ROUTINE_SET=set_name | /NOACTION_ROUTINE_SET

/DECtalk_SET=set_name | /NODECtalk_SET

/MAILBOX_SET=set_name | /NOMAILBOX_SET

/SEVERITY=INFORMATION | SUCCESS | ERROR | WARNING | FATAL

MODIFY MAILBOX_SET set_name /MAILBOX=name

MODIFY NODE node_name /qualifier...

Qualifiers:

/CLASS=class_name

/EXTERNAL_MESSAGE_CLASS=ext_class_name

/TIME_DIFFERENCE=time

/NODFS | /DFS=(SWL,DSS)

/TRANSPORT=TCPIP | DECnet

MODIFY NODE node_name node_object name2 [name3 [name4]] [/qualifier]

Qualifier:

/INTERVAL=hh:mm:ss

Valid node_objects:

BATCHJOB name2 [name [name4]]

FREE_BLOCKS name2 /qualifier
/PERCENT=number | /BLOCKS=number

LOGINS /LIMIT=number

PRINTER_QUEUE [name2]

PROCESS name2 [name3]

SHADOW_SET name2 /qualifier...
/FULL_COPY | /NOFULL_COPY
/MERGE_COPY | /NOMERGE_COPY
/MEMBERS=number

EXCLUSION event_code name3
/NEW_TEXT=item (Replaces name3-specified item.)

QUIT

SET CONSOLIDATOR /qualifier...

Qualifiers:

/POLLING_INTERVAL=seconds

/ENABLE=(DECtalk, MAILBOX, ACTION_ROUTINE)

/DISABLE=(DECtalk, MAILBOX, ACTION_ROUTINE)

SET DISPLAY /qualifier...

Qualifiers:

/PRIORITY=HIGH | LOW | BOTH (D)

/HIGHLIGHT_TIME=hh:mm:ss

/ENABLE=SCROLLING | /DISABLE=SCROLLING

SHOW entry [/qualifier...]

Entries:

ALL

CLASS wildcarded_class_name

CONSOLIDATOR

DISPLAY

NODE wildcarded_node_name

ACTION_ROUTINE_SET set_name

DECtalk_SET set_name

EXTERNAL_MESSAGE_CLASS ext_class_name

MAILBOX_SET set_name

Qualifiers:

/ALL (SHOW NODE only)

/OUTPUT=filename (Default is SYS$OUTPUT.)

/FORMAT=COMMANDS | LIST (D)

/BATCHJOB | /NOBATCHJOB (D)

/EXCLUSION | /NOEXCLUSION (D)

/FREE_BLOCKS | /NOFREE_BLOCKS (D)

/LOGIN_LIMIT | /NOLOGIN_LIMIT (D)

/PRINTER_QUEUE | /NOPRINTER_QUEUE (D)

/PROCESS | /NOPROCESS (D)

/SHADOW_SET | /NOSHADOW_SET (D)

Appendix C: Logical Names Used by System Watchdog

There are a number of logical names that change the behavior of the System Watchdog software. Each logical name must be defined in the system table.

Logical Names

The following table contains the logical names used by the System Watchdog:

Name	Meaning
SNS$ADD_CI_PORT_TYPE	Adds CI port types to the list built in to the agent. The built-in list is "2, 4, 11, 14, 15". The logical name definition is in the same format as the built-in list.
SNS$ADD_ETHERNET_DEVNAME	Adds Ethernet device names to the list built in to the agent. The built-in list is "XQ, XE, ET, ES, EX". The logical name definition is in the same format as the built-in list.
SNS$ADD_RO_DISK_DEVTYPE	Adds read-only disk device types to the list built in to the agent .The built-in list is "34,52,53,72,139,140". The logical name definition is in the same format as the built-in list.
SNS$CLUSTER_NAME	Defines the cluster name to use when sys$cluster_node can not be used. If sns$cluster_name is defined at Watchdog Agent startup, sys$cluster_node is ignored.
SNS$CONSOLIDATOR_EXE	Defines the new location of the CONSOLIDATOR executable file. If not defined the default is SYS$SYSTEM.
SNS$CONSOLIDATOR_ID	The ID number of the Watchdog Manager. Read only.

Name	Meaning
SNS$DECNET_IO_RETRY	Defines the maximum number of retries when a READ/WRITE command is done on a bad DECnet connection. The default value is 50.
SNS$DECNET_OBJECT_NAME	Defines a new name for the Watchdog Agent DECnet object name. The default is SNS$WATCHDOG.
SNS$DECNET_OBJECT_NUMBER	Defines a new value for the Watchdog Agent DECnet object number. The default is 0.
SNS$DECW_EDITOR_EXE	Defines the new location of the Motif Profile Editor executable file. If not defined the default is SYS$SYSTEM.
SNS$DECW_MAIN_UID	Defines the new location of UID files, used by the Motif Profile Editor. If not defined the default is SYS$SYSTEM.
SNS$DSK_FILTER_OFF	When defined to anything, disables the filtering of disk error counts, i.e. with sns$dsk_filter_off defined, the Watchdog Agent reports every increase in a disk error count.
SNS$EDITOR_EXE	Defines the new location the CLI editor executable file. If not defined the default is SYS$SYSTEM.
SNS$EXAMPLES	Defines the location of System Watchdog examples. The default is SYS$COMMON:[SYSHLP.EXAMPLES .SNS].
SNS$SHOW_EVENT_WAITING_DELAY	Defines the maximum amount of time to wait (during a 'show event') for a node to respond to a poll (no answer has been received from a node during this time) before aborting the connection. The default value is 60 seconds. This time has to be set in seconds.

Name	Meaning
SNS$TCP_NUMBER	Defines the tcp port number to be used in communicating with Watchdog Agent. The default tcp port number is 251.
SNS$TIME_DIFFERENCE_DELTA	Defines the delta time differences between two nodes. The format must be "HH:MM:SS". in case of a wrong format, the default value "00:05:00" is used.
SNS$TITLE	Defines the title displayed at the top of the SHOW EVENTS/CONTINUOUS display. The default title is "Watchdog Manager:". The string should include a trailing space. Including the trailing space, the string can be up to 21 characters for displaying on an 80-column terminal without truncation.
SNS$WAIT_TIME	Defines the wait time from the end of a scan sequence to the beginning of the next scan sequence. The entry is an integral number of seconds. The default is 120 seconds.

Appendix D: Hints and Tips for Using System Watchdog

This appendix contains a number of hints and tips to help you customize and use System Watchdog.

Hints and Tips

1. **Avoid DCL ASSIGN and DEFINE commands**

   Use SET CONSOLIDATOR rather than the DCL commands ASSIGN and DEFINE. SET CONSOLIDATOR verifies the existence of the Watchdog Manager before assigning the logical name SNS$CONSOLIDATOR_ID. Using ASSIGN or DEFINE may cause problems when the Watchdog Manager deassigns SNS$CONSOLIDATOR_ID when stopping a Watchdog Manager.

2. **Editing a Profile on a Remote Node**

   Both the command line profile editor and the Motif profile editor terminate with an RTB (Record Too Big) exception when editing a Profile on another node if the System Network Block Count on the local node is less than 12. You can display this block count with the following command:

   ```
   $ SHOW RMS_DEFAULT
   ```

   On the system on which you wish to run the editor, the following command will allow editing of profiles on remote nodes:

   ```
   $ SET RMS_DEFAULT/SYSTEM/NETWORK=12
   ```

3. **SET LOG File Creation**

   The SENSE WATCHDOGS SET LOG command does not create a new log file if a file by the same name already exists. In this case, the Watchdog Manager appends logging entries to the existing file.

   You can rename an existing log file before issuing the SENSE WATCHDOGS SET LOG command in order to force the creation of a new log file. Also, you can direct the Watchdog Manager to create a new log file by using SET LOG log_file.type;n where n is one higher than the version of the current log file.

4. **Command line profile Editor SHOW /FORMAT=COMMANDS**

   When using the output of SHOW NODE /FORMAT=COMMANDS, the SWL exclusion for CSA* (console disks) is in the resulting profile when it was not in the source profile. The SWL exclusion for CSA* is a default exclusion that is included when a node is added to a profile. Use a profile editor to delete this exclusion, if it is not wanted. The command line profile editor command is:

   ```
   SNS$EDIT> DELETE NODE node_name EXCLUSION SWL CSA*
   ```

5. **SHOW CONSOLIDATOR/FULL may not display the OpenVMS Version**

   SHOW CONSOLIDATOR/FULL will not display the OpenVMS version on a node being polled when the polled node's SYSGEN parameter SCSNODE is not the same as SYS$NODE. The fix is to set SCSNODE to be the same as SYS$NODE on the polled node using SYSGEN. The change will become effective only after the polled node reboots.

6. **Watchdog Agent Output and Error Files**

   USW$AGENT$STARTUP.COM starts the Watchdog Agent with the process name SNS$WATCHDOG. The watchdog output file is SNS$WATCHDOG_OUTPUT_node.LOG in SYS$SYSDEVICE:[SNS$WATCHDOG] where node is the DECnet node name (extracted from the logical name SYS$NODE). The watchdog error file is SNS$WATCHDOG_ERROR_*node*.LOG in SYS$SYSDEVICE:[SNS$WATCHDOG] where *node* is the DECnet node name (extracted from the logical name SYS$NODE). SNS$WATCHDOG_ERROR_*node*.LOG contains information on terminations due to an error condition. For example, in the error file you might find an error message stating that a licensing failure occurred when starting the Watchdog Agent.

7. **DECnet Object Behavior, Preventing Spurious Security Intrusions**

   The Watchdog Manager uses the named DECnet object SNS$WATCHDOG. The following list describes the behavior of the Watchdog Manager in various combinations of circumstances:

   – Polled node runs OpenVMS V6.2, or a later, supported version of OpenVMS: Watchdog Agent is supported providing the conditions in the product's description are fulfilled.

     Watchdog Agent is installed and is running. Polling gives "real" event messages:

     Comments: This is normal operation

     Watchdog Agent is installed and the Watchdog Agent is not running Polling gives the SHOW EVENTS message:

     ```
     SNS$WATCHDOG process is not running
     ```

Comments: For each poll, an entry is made in the file NETSERVER.LOG in SYS$SYSDEVICE:[SNS$WATCHDOG].

Watchdog Agent is not installed. Polling gives the SHOW EVENTS message:

```
Connection status: login information invalid at remote node
```

Comments: a security intrusion occurs on the remote node for each poll. The operator log may fill with intrusion records. Use SNS$REJECT_ALWAYS to avoid this undesirable condition.

SNS$REJECT_ALWAYS is running (Watchdog Agent may or may not be installed). Polling gives the SHOW EVENTS message:

```
SNS$WATCHDOG process is not running
```

Comments: no intrusions, no entries in a NETSERVER.LOG. SNS$REJECT_ALWAYS must be stopped before starting SNS$WATCHDOG.EXE because SNS$REJECT_ALWAYS declares itself as the SNS$WATCHDOG DECnet object.

SNS$REJECT_ALWAYS.EXE is placed in SNS$EXAMPLES during the installation of the Watchdog Manager. It can be run to cause a polling consolidator to report "SNS$WATCHDOG process is not running" without writing entries to a NETSERVER.LOG file. SNS$REJECT_ALWAYS will not successfully start if the Watchdog Agent SNS$WATCHDOG is running. Similarly, the Watchdog Agent will not start successfully if SNS$REJECT_ALWAYS is running.

Appendix E: System Watchdog SDK

This chapter provides guidelines for using the application programming interface SDK within System Watchdog for external message notifications. Use it in conjunction with the information available throughout this guide.

The shareable image file SNS$SHR.EXE provides the callable interface for adding and deleting external messages. The file contains the SNS$ADD_MESSAGE and SNS$DELETE_MESSAGE routines.

When you have successfully compiled, link the user programs using the following functions:

```
$ LINK USER_PROGRAM_NAME, SYS$INPUT/OPTIONS
SYS$SHARE:SNS$SHR/SHARE
^Z
$
```

This section contains the following topics:

Required Privileges

Your process requires OPER, SYSPRV, or SETPRV privileges to use the SNS$ADD_MESSAGE or SNS$DELETE_MESSAGE routines. The routine formats are described in the following sections.

SDK Functions

This section describes the Watchdog Manager supported SDK functions, but does not cover the lower-level routines that are called by these supported routines. Your programs should not have to call these lower-level routines directly.

Each routine description includes the following:

- Routine name
- Format
- Arguments
- Possible return values

The following table briefly describes the System Watchdog API functions:

Routine	Description
SNS$ADD_MESSAGE	Adds or updates an external message in the list of messages maintained by a local or remote Watchdog Agent process.
SNS$DELETE_MESSAGE	Removes one or more messages from the list of messages maintained by a local or remote Watchdog Agent process:

SNS$ADD_MESSAGE

The SNS$ADD_MESSAGE routine adds or updates an external message in the list of messages maintained by a local or remote Watchdog Agent process.

Format

SNS$ADD_MESSAGE message_text, target_node_name, transport

Arguments

message_text-The message_text parameter is the text of the message to be added or updated. The character string can contain a vertical bar (|) character specifying the search length to be used for comparison with existing messages:

OpenVMS Usage	char_string

type	character string
access	read-only
mechanism	by descriptor

target_node_name-The target_node_name parameter is the node to which the request is sent. If you leave target_node_name blank, it defaults to the node on which the call is made:

OpenVMS Usage	char_string
type	character string
access	read-only
mechanism	by descriptor

transport-The transport parameter is the network transport to use in accessing target_node_name. The valid selections are DECnet and TCPIP. If you leave transport blank, it defaults to DECnet:

OpenVMS Usage	char_string
type	character string
access	read-only
mechanism	by descriptor

Possible Return Values

OpenVMS Usage	cond_value
type	unsigned longword
access	write-only
mechanism	by value

SNS$DELETE_MESSAGE

The SNS$DELETE_MESSAGE routine removes one or more messages from the list of messages maintained by a local or remote Watchdog Agent process.

Format

SNS$DELETE_MESSAGE message_text, target_node_name, transport

Arguments

message_text-The message_text parameter indicates the message text to be removed. All external messages containing with the same character string are removed:

OpenVMS Usage	char_string
type	character string
access	read-only
mechanism	by descriptor

target_node_name-The target_node_name parameter is the node to which the request is sent. If you leave target_node_name blank, it defaults to the node on which the call is made:

OpenVMS Usage	char_string
type	character string
access	read-only
mechanism	by descriptor

transport-The transport parameter is the network transport to use in accessing target_node_name. The valid selections are DECnet and TCPIP. If you leave transport blank, it defaults to DECnet:

OpenVMS Usage	char_string
type	character string
access	read-only
mechanism	by descriptor

Possible Return Values

OpenVMS Usage	cond_value
type	unsigned longword

access	write-only
mechanism	by value

Return Codes

The following table lists message codes for SNS$DELETE_MESSAGE and SNS$ADD_MESSAGE:

Status	Code	Text
0DF08641	144 ADDED	Message successfully added
0DF08659	147 REMOVED	Message(s) successfully deleted
0DF08780	188 MSGTOOLONG	Message text is too long
0DF08788	189 NO_MATCH	No matching messages have been found
0DF087FA	205 ACCESSTIMEOUT	Connection attempt to remote node timed out
0DF088A2	226 NOT_REMOVED	Only external and other deletable messages may be deleted
0DF088AA	227 NOT_ADDED	Failed to add message
0DF088DA	233 REJECT	The SNS$WATCHDOG process rejected your request
0DF088F2	236 TCPNOTSUP	TCP/IP transport not available

Glossary

action routine

An *action routine* is procedure that can be invoked by a Watchdog Manager process whenever a specified event occurs. An action routine can generate corrective actions to fix a problem flagged by the software.

class

A *class* is defined set of events with associated notification priorities.

DECtalk set

DECtalk set is a function that can be invoked by the Watchdog Manager process whenever a specified event occurs. A DECtalk set can generate a voice message through DTC01 or DTC03 DECtalk hardware.

event

An *event* us a problem that the Watchdog Manager software is able to detect such as an increase in the number of CPU errors or an unreachable node.

external message

An *external message* is an event or message not caused by an event detected by the Watchdog Manager software but which comes from an outside user application or DCL procedure. External messages can also invoke corrective actions.

external message class

An *external message class* defines a set of external messages (described by their layouts) with specified notification priorities.

mailbox set

Event messages can be sent to an OpenVMS mailbox so any user, application, or tool can retrieve and process messages without affecting the action routines. This is a *mailbox set*.

node name

For OpenVMS cluster systems, a *node name* is a polled node specified in the Watchdog Manager profile is a member name and never an OpenVMS cluster alias.

profile

A *profile* is a data file that stores all parameters used by the Watchdog Manager for monitoring systems. An empty default profile is created when the software is installed. You can create other profiles for different purposes and share the profiles among several users.

TCP/IP

TCP/IP is the Transmission Control Program/Internet Protocol. An internet communications program.

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