

HP NonStop ASAP Client Manual

Abstract

This manual describes use of the HP NonStop™ Availability Statistics and Performance (ASAP) Client to monitor availability, state, and performance statistics that are collected by the ASAP Server.

Product Version

ASAP SE30V3.0

Supported Release Version Updates (RVUs)

This manual supports D43.00 and subsequent D-series RVUs, G06.00 and subsequent G-series RVUs, and H06.03 and subsequent H-series RVUs until otherwise indicated by its replacement publication.

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Table of Contents

HP NonStop ASAP Client Manual	1
Abstract	1
Product Version	1
Supported Release Version Updates (RVUs).....	1
Document History	2
Table of Contents	3
List of Figures and Tables	7
What's New in This Manual	8
New and Changed Information	8
About This Manual	15
Manual Organization	15
Related Resources.....	15
Notation Conventions.....	16
Hypertext Links.....	16
General Syntax Notation	16
Notation for Messages.....	19
Notation for Management Programming Interfaces	21
Section 1: Introduction to ASAP	22
ASAP Architectural Overview.....	26
ASAP Client Component Overview	27
OEM Architectural Overview	29
Section 2: Installing ASAP	31
Installing Monitoring Components	32
Installing the SSG	33
Installing ASAP on the Workstation.....	34
Installing ASAP From a CD	34
Installing ASAP From a NonStop Server	34
Section 3: Starting the ASAP Client	35
Starting ASAP	35
Running the CSG	36
Starting and Configuring the CSG.....	36
Configuring a secure SSGCOM service	38
Configuring CSG to use secure SSGCOM service.....	40
Configuring ASAP Entities	43
Section 4: Using ASAP	45
Browse Window	46
Toolbar Button Summary.....	46
Selecting a Node	47
Selecting a Previous View	48
Selecting an Entity.....	49
Selecting an Object	51
Selecting a Sample.....	51

Selecting Minimum State	52
Status of PC-Host Session	53
Rotate Graph Control	54
Refresh With Latest Data Button	54
Suppress States Toolbar Button.....	55
Thresholds Toolbar Button	55
Properties Toolbar Button.....	55
Download Wizard Toolbar Button	56
Rotate Graph Toolbar Button	56
Save EDL Button	57
Sort View Toolbar Button.....	57
Command Wizard Toolbar Button	57
Object State Change Toolbar Button.....	58
OEM Toolbar Button.....	58
OIL Toolbar Button	58
Selecting Grid Rows and Columns	59
Sizing Grid Rows and Columns	59
Sizing Sort View Columns	60
Browse Window Pop-Up Menus	60
Browse Window Pull-Down Menus.....	61
OSC Window	68
OSC Window Toolbar Button Summary	69
OSC Window Functions	69
OSC Find Related	69
OSC Graph Related	70
OSC Graph Selected.....	70
OSC Ack Selected.....	71
OSC Remove Selected	71
OSC Tile.....	71
OSC Copy	72
OSC Magnify	72
OSC Show Date	72
OSC Show Score Board.....	72
OSC Show Tips.....	73
OSC Show State Counts	73
OSC Thresholds.....	74
OSC Properties	74
OSC Refresh	74
Graph Window	75
Graph Window Status Messages	75
Graph Window Rotate Control.....	75
Graph Window Pop-Up Menus.....	76
Report Window	76
Show Object Details	77
Show Object History.....	77
Graph Object History	77

Show Related Apps	78
Show Related Disks	78
Show Related Processes	78
Show Related Expand Lines	78
Show Related Measurement	79
Show Related Objectives	80
Session Window	80
Session Log.....	80
Session Window Pull-Down Menus	80
Session Window Toolbar Buttons.....	82
Section 5: Configuring ASAP	83
Attribute Property Sheet.....	84
Entity Property Sheet	89
Font Property Sheet.....	91
General Property Sheet	91
Graph Property Sheet	95
Icon Server Control Panel	97
OEM Property Sheet.....	98
OIL Property Sheet	100
Utilization Thresholds Control Panel.....	102
OSC Property Sheet	103
Monitor Object State Changes Check Box	104
Display Log Window Check Box.....	104
State Upgrades Monitored Check Box	104
Notify Button.....	105
State Downgrades Monitored Check Box.....	106
Minimum State Change Monitored List.....	106
Maximum Change History Retained in Log List.....	106
Late Data Integrity Check Drop-Down List	107
Audible Alert State Threshold Drop-Down List	107
Notify Control Panel.....	108
SSG Property Sheet.....	116
SSG/CSG Advanced Control Panel.....	120
Section 6: Entity Definition Language (EDL).....	124
EDL Features and Terminology	125
Factory EDL Files.....	127
Custom EDL Files.....	127
EDL IDE Window	128
EDL - IDE Access.....	129
EDL - IDE Toolbar Buttons	130
EDL - IDE Pull-Down Menus	130
EDL - ENTITY Statement.....	132
Ci - EDL Entity Property	134
Command - EDL Entity Property	134
Dataltems - EDL Entity Property.....	135
Detail - EDL Entity Property.....	136

Enabled - EDL Entity Property.....	136
ErrorStateName - EDL Entity Property.....	137
Help - EDL Entity Property.....	138
History - EDL Entity Property.....	138
KeyForNode - EDL Entity Property.....	139
KeyForObject - EDL Entity Property.....	139
KeyForRow - EDL Entity Property.....	140
MaxObjectives - EDL Entity Property.....	140
Rate - EDL Entity Property.....	140
Reserved - EDL Entity Property.....	141
SGPFile - EDL Entity Property.....	141
SGPManaged - EDL Entity Property.....	142
SGPSuffix - EDL Entity Property.....	142
Version - EDL Entity Property.....	142
EDL - ATTRIBUTE Statement.....	143
Align - EDL Attribute Property.....	145
Format - EDL Attribute Property.....	146
Graph - EDL Attribute Property.....	147
GraphMax - EDL Attribute Property.....	147
Grid - EDL Attribute Property.....	148
Heading - EDL Attribute Property.....	148
HeadPickup - EDL Attribute Property.....	149
Help - EDL Attribute Property.....	150
MetricRule - EDL Attribute Property.....	150
StatePair - EDL Attribute Property.....	151
StatelsOp - EDL Attribute Property.....	152
StateRule - EDL Attribute Property.....	153
TypeData - EDL Attribute Property.....	154
EDL - DATA Statement.....	154
EDL - INCLUDE Statement.....	155
EDL-Relation Statement.....	158
EDL-MAP Statement.....	161

List of Figures and Tables

- Figure 1-1. Sample ASAP Client Screen 24
- Figure 1-2. ASAP Architectural Overview Diagram 27
- Figure 1-3. OEM Architectural Overview Diagram 30
- Figure 2-1. ASAP Installation Overview Diagram 31
- Figure 4-1. Minimum State Menu 52

What's New in This Manual

New and Changed Information

The fifth edition of the ASAP 3.0 Client supports the following features:

- **HP ASAP 3.0 Availability Stats And Performance** data can now be integrated with local/remote websites including optional integration with HP Systems Insight Manager (SIM). To add ASAP statistics to a website, do the following:
 - a) Click the new WEBSITE button on Notify control panel.
 - b) Select desired content: Score, Alerts, Detail, Entity, ..
 - c) Select new customization options: Graphs, Icons, Border, Shade,..
 - d) If SIM website, check new SIM checkbox on the ASAP Notify control panel.
 - e) Click OK or APPLY to commit your website into production.For more info about ASAP website integration see [Notify control panel](#) on page **108**.
- **ASAP 3.0 Client supports all ASAP server versions ASAP 1.n, 2.n, and 3.n.** The client factory EDL includes V1, V2, and V3 EDL files. Asap3Sys.edl provides support for 34 entities, and 1600+ meta-data attributes. For more information see ASAP client EDL files Asap1Sys.edl, Asap2Sys.edl, or **Asap3Sys.edl** files.
- An updated **CPU EDL** entity definition provides 6 new CPU memory statistics in the form of 6 new state pairs. For more info see the **Asap3Sys.edl** file. New CPU entity attributes include:
 - Total Memory Size
 - Swappable physical memory
 - Free physical memory
 - Locked physical memory
 - Maximum memory that can be locked
 - Highest locked memory since last CPU reload
- A new **Swap EDL** entity definition provides 63 new memory and swap file state and statistics attributes. For more info see **Asap3Sys.edl** file.
 -  - new Swap entity icon
- An updated **Spooler EDL** entity definition provides monitoring and goals for Unique batch jobs. For more info see **Asap3Sys.edl** file.
- The **FIND** dialog box for the EDL IDE has two new check boxes labeled Date and Time. These check boxes allow searching and replacing EDL source containing a date or time. For more information see [EDL - IDE Toolbar Buttons](#) on page **130**.

- Seven new **TCP/IP EDL** sub-entity definitions provide additional monitoring and goals for a total of 977 TCP attributes and 111 Telserv attributes. The total TCP/IP/TelServ entities monitored are 19 TCP subsystem entities and 1088 attributes. For more info about TCP/IP entities see the **Asap3Sys.edl** file.
- Summary of current TCP/IP Icons (new ASAP 3.0 entities are in bold).

 - **TCPARP**

 - TCPICMP + **TCPICMP6**

 - **TCPIGMP**

 - TCPIP + **TCPIP6**

 - **TCPLOOP**

 - **TCPMONGQ**

 - TCPPort

 - TCPProcess

 - TCPQIO

 - TCPRoute

 - TCPRTE

 - **TCP SOCK**

 - TCPSubnet

 - TCPUDP

 - Telserv Process

 - TelservService

 - TelservWindow

- New **HTML Entity-Attribute Grid Reports** allow interactive color-encoded grid-graph HTML reports. These reports can be accessed either via the **Current Entity Report** toolbar button that appears directly below the Entity drop-down on the main client window, or via **FILE ... SAVE HTML as ...** menu-items. For more information about interactive HTML reports, see [Selecting an Entity](#) on page **49**; and the [File... Save HTML as....](#) menu items.
- New **Notify Content Report options** allow HTML reports to be sent via email, web page, or phone. The ASAP Notify control panel Content tab provides 16 new controls that allow you to provide a wide range of customized ASAP HTML reports. For more information about how to customize ASAP HTML reports, see ASAP Notify Control panel [Notify Content](#) tab on page **109**.
- A new **Notify Root File** and **Shell File fields** on the Notify Content tab of the Notify control panel allow ASAP HTML reports to be automatically included and dynamically updated into a local or remote proxy web site. The ASAP Notify control panel **Content** tab has two new fields labeled **Shell File** and **Root File** which allow ASAP HTML Reports to either be integrated into local websites, to create a standalone ASAP website, or to be integrated with remote proxy websites. For more information about how to use ASAP Shell and Root files see ASAP Notify Control panel [Notify Content](#) tab on page **109**.
- A new **HP ASAP-SIM Systems Insight Manager** interface allows ASAP real-time reports to be dynamically displayed in HP-SIM. The ASAP Notify control panel includes a new **SIM** check box that allows integration with HP SIM. For more information about how to use ASAP with HP SIM, see ASAP Notify Control panel [Notify Content](#) tab on page **109**.
- An new description of the procedure for configuring a secure SSGCOM service that eliminates any requirement for userid's or passwords is now provided in this manual. For more information about how to configure a secure CSG/SSG communications link, see [Configuring a secure SSGCOM service](#) on page **38**.

The forth edition of this manual contained these changes:

- A new browse window popup menu item **Show Related Measurement** allows you to measure various ASAP objects on demand. For more detail, see [Browse Window Pop-Up Menus](#) on page **60**.
- A new Show Related Measurement control panel allows quick point-and-click configuration of Measure on Demand. Measurements are automatically correlated

and formatted in ASAP report windows. This new feature allows users to determine which files and processes are causing a disk, file, process, or processor to be busy. For details, see [Show Related Measurement](#) on page [79](#).

- Sort View columns are now auto-sized to the maximum heading and/or context size. For more details, see new section [Sizing Sort View Columns](#) on page [60](#) preceding the Browse Window Popup menus section.
- Sort View is now persistent from one update to the next, automatically sorting data after each host update. For more details, see [Sort View Toolbar Button](#) on page [57](#) and the View... Sort-Grid View menu item described in [Sizing Sort View Columns](#) on page [60](#).
- A new State Filter Toolbar allows single-click object state filtering and viewing. For more details, see [Selecting Minimum State](#) on page [52](#).
- A new Copy Special report window function allows copying the window text, without header, trailer, carriage-return, or line-feed characters. For more details, see [Report Window](#) on page [76](#).
- The Show Removed Objects check box and the Delete Removed Objects drop-down on the General property tab allow you to configure how removed objects should be handled. Removed objects can now be retained indefinitely or alternately can be automatically deleted after a user configured number of minutes or hours. For more details, see [Show Removed Objects Check Box](#) on page [94](#).
- A new OEM Context drop-down on the OEM property tab allows you to control whether standard OEM context is passed to the OEM, or whether full XML or CSV OEM context is passed to the OEM. For more details, see [OEM Property Sheet](#) on page [98](#).
- The X1 toolbar button now provides dual functions for ease of use. Clicking X1 the first time sets the samples count to 1, subsequent clicks increment samples+10 until Max Rows/Object is reached, and then clicking X1 sets the samples count back to 1. For more details, see [Selecting a Sample](#) on page [51](#).
- The EDL language has been enhanced to allow relationships to be defined between ASAP entities. Two new RELATION and MAP statements have been added to the EDL language. This aspect of the ASAP EDL language is called the relation definition language or RDL for short. For more details, see table for [Section 6: Entity Definition Language \(EDL\)](#) and the [EDL-Relation Statement](#) on page [158](#).

The ASAP 2.5 version of the client contains these changes:

- A new Notify control panel allows you to configure sending of automatic alerts and reports. Notifications can be sent automatically via e-mail, wireless phone, pager, or Internet browser. For more detail, see [Notify Control Panel](#) on page [108](#).
- Notifications can be configured to be sent in either color-coded HTML format for use with e-mail or Internet servers and browsers or as plain text messages for use with wireless phones or pagers. See [Notify Control Panel](#) on page [108](#).
- Notifications can be configured to occur when objects change state, scheduled to report at various times of the day, or can be automatically stored on disk for use as web content at the end of each ASAP analysis sample. See [Notify Content](#) on page [109](#).
- A new Notify button has been added to the OSC tab of the ASAP Properties window. This button displays the new Notify control panel. See [Notify Button](#) on page [105](#).
- A new Set Password button has been added to the General tab of the ASAP Properties window. This button displays a dialog that allows you to password protect various property sheets (and lock functions) in the ASAP environment. See [Set Password Button](#) on page [93](#).
- There are new ways to save or e-mail ASAP data in HTML format. New pull-down menus, FILE SAVE HTML and FILE SAVE HTML AS, allow statistics to be saved, displayed, and mailed in color-coded HTML format.
- A new pull-down menu item, EDIT COPY HTML, allows ASAP statistics to be copied to the clipboard in color-coded HTML format.
- The Client provides several new ways to automatically download and compile server EDL files. In the main client browse window, there is a new pull-down menu item - FILE COMPILE SERVER EDL. In the EDL IDE window, there is a new pull-down menu item - FILE DOWNLOAD SERVER EDL. See Compile Server EDL under [File Menu Items](#) on page [62](#).
- A new EDL synchronization dialog box automatically appears whenever an EDL version mismatch appears, allowing automatic EDL version synchronization.
- There is a new Auto Restart Session check box on the SSG tab of the ASAP Properties window. When checked, the ASAP client now automatically restarts failed host sessions. See [Auto Restart Session Check Box](#) on page [119](#).
- A new Dashboard menu item has been added to the Browse window View menu. This new function allows you to save or display user-defined dashboards. A

dashboard can contain a variety of graphs. As you define more dashboards, this menu grows dynamically, retaining each of your named dashboards. When the client is shut-down, graphic elements and associated properties are retained and upon startup are restored and become active elements once again. See [View Menu Items](#) on page [65](#).

- Graph Type is a new menu item on Dashboard graph windows. To select Graph Type, right-click on an existing dashboard graph and then select the Graph Type menu item to display a list of different graph types. Selecting one of these graph types changes the display accordingly. Upon shutdown, graph type is retained along with other window position, size, samples, minimum state, and dashboard node, entity, and object properties. Different dashboard graphs can have different graph types.

The third edition of the manual contained these changes:

- A new base type was added to [Datatems - EDL Entity Property](#) on page [135](#).
- Clarity was added to [Format - EDL Attribute Property](#) on page [146](#).

The second edition of this manual contained these changes:

- Updated information throughout to indicate support for Windows 2000 and Windows ME in addition to Windows NT, Windows 95, and Windows 98
- Updated information throughout to indicate support for Application, CPU, Disk, Expand, Node, Processbusy, and System entities
- Added information about the new File, Process, RDF, Spooler, Tape, and TMF entities throughout the manual
- Added new Browse Window toolbar buttons to [Toolbar Button Summary](#) on page [46](#).
- Added information about the Entity Definition Language (EDL) and use of EDL files throughout the manual, including [Save EDL Button](#) on page [57](#) and [File Menu Items](#) on page [62](#).
- Added information about the Object State Change (OSC) Window to [OSC Window](#) on page [68](#).
- Added operational status to the downloaded performance attributes for the appropriate entities in [Entity Property Sheet](#) on page [89](#).
- Added information about the Icons button to [General Property Sheet](#) on page [91](#).

- Added information about the [Icon Server Control Panel](#) on page [97](#).
- Added information about trace audits to [SSG Property Sheet](#) on page [116](#).
- Added [Section 6: Entity Definition Language \(EDL\)](#).

About This Manual

This manual describes the Availability Statistics and Performance (ASAP) product, which provides a network-wide system monitoring, statistics collection, and presentation infrastructure for NonStop systems.

Using ASAP, you can monitor the performance and availability objectives of many entities, including Application, CPU, Disk, Expand, File, Node, Process, Processbus, RDF, Spooler, System, Tape, and TMF.

If you install the optional ASAP Extension, ASAP reports application statistics and service-level objectives as well.

This manual is intended for system operators business analysts and system administrators who use ASAP.

ASAP requires the D42 RVU or G06 or later. Knowledge of the NonStop operating system is recommended for system operators and administrators.

Manual Organization

Section	Describes...
<u>Section 1: Introduction to ASAP</u>	ASAP, its architecture, and components.
<u>Section 2: Installing ASAP</u>	Installing the ASAP Server and Client on your systems.
<u>Section 3: Starting the ASAP Client</u>	Starting up the ASAP Server and Client, configuring the Client Server Gateway (CSG), and configuring the entities for ASAP to monitor.
<u>Section 4: Using ASAP</u>	The windows in the ASAP Client interface, their elements, and how to use them to perform various tasks.
<u>Section 5: Configuring ASAP</u>	The ASAP Properties window in the ASAP Client interface and how to use it to customize your ASAP environment.
<u>Section 6: Entity Definition Language (EDL)</u>	Entity Definition Language (EDL), which you can use to define abstract entities and their associated properties.

Related Resources

Additional technical resources including frequently asked questions, example screen shots, softdoc and readme file history, database calculators, Java native interface, and shared wrappers are available at the HP NonStop ASAP technical portal

Notation Conventions

Hypertext Links

Blue underline is used to indicate a hypertext link within text. By clicking a passage of text with a blue underline, you are taken to the location described. For example:

This requirement is described under [Backup DAM Volumes and Physical Disk Drives](#) on page 3-2.

General Syntax Notation

This list summarizes the notation conventions for syntax presentation in this manual.

UPPERCASE LETTERS

Uppercase letters indicate keywords and reserved words. Type these items exactly as shown. Items not enclosed in brackets are required. For example:

MAXATTACH

lowercase italic letters

Lowercase italic letters indicate variable items that you supply. Items not enclosed in brackets are required. For example:

file-name

computer type

Computer type letters within text indicate C and Open System Services (OSS) keywords and reserved words. Type these items exactly as shown. Items not enclosed in brackets are required. For example:

myfile.c

italic computer type

Italic computer type letters within text indicate C and Open System Services (OSS) variable items that you supply. Items not enclosed in brackets are required. For example:

pathname

[] Brackets

Brackets enclose optional syntax items. For example:

```
TERM [\system-name.]$terminal-name
```

```
INT[ERRUPTS]
```

A group of items enclosed in brackets is a list from which you can choose one item or none. The items in the list can be arranged either vertically, with aligned brackets on each side of the list, or horizontally, enclosed in a pair of brackets and separated by vertical lines. For example:

```
FC [ num ]  
   [ -num ]  
   [ text ]
```

```
K [ X | D ] address
```

{ } Braces

A group of items enclosed in braces is a list from which you are required to choose one item. The items in the list can be arranged either vertically, with aligned braces on each side of the list, or horizontally, enclosed in a pair of braces and separated by vertical lines. For example:

```
LISTOPENS PROCESS { $appl-mgr-name }  
                  { $process-name }
```

```
ALLOWSU { ON | OFF }
```

| Vertical Line

A vertical line separates alternatives in a horizontal list that is enclosed in brackets or braces. For example:

```
INSPECT { OFF | ON | SAVEABEND }
```

... Ellipsis

An ellipsis immediately following a pair of brackets or braces indicates that you can repeat the enclosed sequence of syntax items any number of times. For example:

```
M address [ , new-value ]...
```

```
[ - ] {0|1|2|3|4|5|6|7|8|9}...
```

An ellipsis immediately following a single syntax item indicates that you can repeat that syntax item any number of times. For example:

```
"s-char..."
```

Punctuation

Parentheses, commas, semicolons, and other symbols not previously described must be typed as shown. For example:

```
error := NEXTFILENAME ( file-name ) ;  
LISTOPENS SU $process-name.#su-name
```

Quotation marks around a symbol such as a bracket or brace indicate the symbol is a required character that you must type as shown. For example:

```
"[" repetition-constant-list "]"
```

Item Spacing

Spaces shown between items are required unless one of the items is a punctuation symbol such as a parenthesis or a comma. For example:

```
CALL STEPMOM ( process-id ) ;
```

If there is no space between two items, spaces are not permitted. In this example, no spaces are permitted between the period and any other items:

```
$process-name.#su-name
```

Line Spacing

If the syntax of a command is too long to fit on a single line, each continuation line is indented three spaces and is separated from the preceding line by a blank line. This spacing distinguishes items in a continuation line from items in a vertical list of selections. For example:

```
ALTER [ / OUT file-spec / ] LINE  
  
    [ , attribute-spec ]...
```

!i and !o

In procedure calls, the !i notation follows an input parameter (one that passes data to the called procedure); the !o notation follows an output parameter (one that returns data to the calling program). For example:

```
CALL CHECKRESIZESEGMENT ( segment-id                !i  
                        , error                       ) ;    !o
```

!i,o

In procedure calls, the !i,o notation follows an input/output parameter (one that both passes data to the called procedure and returns data to the calling program). For example:

```
error := COMPRESSEDIT ( filename ) ;           !i,o
```

!i:i

In procedure calls, the !i:i notation follows an input string parameter that has a corresponding parameter specifying the length of the string in bytes. For example:

```
error := FILENAME_COMPARE_ ( filename1:length           !i:i  
                             , filename2:length ) ;       !i:i
```

!o:i

In procedure calls, the !o:i notation follows an output buffer parameter that has a corresponding input parameter specifying the maximum length of the output buffer in bytes. For example:

```
error := FILE_GETINFO_ ( filename           !i  
                        , [ filename:maxlen ] ) ;       !o:i
```

Notation for Messages

This list summarizes the notation conventions for the presentation of displayed messages in this manual.

Bold Text

Bold text in an example indicates user input typed at the terminal. For example:

```
ENTER RUN CODE
```

```
?123
```

```
CODE RECEIVED:      123.00
```

The user must press the Return key after typing the input.

Nonitalic text

Nonitalic letters, numbers, and punctuation indicate text that is displayed or returned exactly as shown. For example:

```
Backup Up.
```

lowercase italic letters

Lowercase italic letters indicate variable items whose values are displayed or returned. For example:

```
p-register  
process-name
```

[] Brackets

Brackets enclose items that are sometimes, but not always, displayed. For example:

```
Event number = number [ Subject = first-subject-value ]
```

A group of items enclosed in brackets is a list of all possible items that can be displayed, of which one or none might actually be displayed. The items in the list can be arranged either vertically, with aligned brackets on each side of the list, or horizontally, enclosed in a pair of brackets and separated by vertical lines. For example:

```
proc-name trapped [ in SQL | in SQL file system ]
```

{ } Braces

A group of items enclosed in braces is a list of all possible items that can be displayed, of which one is actually displayed. The items in the list can be arranged either vertically, with aligned braces on each side of the list, or horizontally, enclosed in a pair of braces and separated by vertical lines. For example:

```
obj-type obj-name state changed to state, caused by  
{ Object | Operator | Service }  
  
process-name State changed from old-objstate to objstate  
{ Operator Request. }  
{ Unknown. }
```

| Vertical Line

A vertical line separates alternatives in a horizontal list that is enclosed in brackets or braces. For example:

```
Transfer status: { OK | Failed }
```

% Percent Sign

A percent sign precedes a number that is not in decimal notation. The % notation precedes an octal number. The %B notation precedes a binary number. The %H notation precedes a hexadecimal number. For example:

%005400

%B101111

%H2F

P=%p-register E=%e-register

Notation for Management Programming Interfaces

This list summarizes the notation conventions used in the boxed descriptions of programmatic commands, event messages, and error lists in this manual.

UPPERCASE LETTERS

Uppercase letters indicate names from definition files. Type these names exactly as shown. For example:

ZCOM-TKN-SUBJ-SERV

lowercase letters

Words in lowercase letters are words that are part of the notation, including Data Definition Language (DDL) keywords. For example:

token-type

!r

The !r notation following a token or field name indicates that the token or field is required. For example:

ZCOM-TKN-OBJNAME token-type ZSPI-TYP-STRING. !r

!o

The !o notation following a token or field name indicates that the token or field is optional. For example:

ZSPI-TKN-MANAGER token-type ZSPI-TYP-FNAME32. !o

Section 1: Introduction to ASAP

This section provides an overview of the ASAP product:

HP Availability Statistics and Performance (ASAP) software product provides an infrastructure for monitoring the availability and performance of system and application objects:

- System object information includes the operational status and performance of NonStop servers.
- Application information includes user-defined application domain availability statistics.

ASAP consists of monitoring components that together provides a performance and availability monitoring infrastructure:

- **ASAP Client** is an analysis client that runs on Microsoft Windows Vista, 2003 Server, XP, 2000, NT, ME, or Windows 98, and provides both graphical user interface (GUI) and intelligent agent functions to a wide range of enterprise management solutions including HP Systems Insight Manager, HP OpenView Operations, and HP Web Viewpoint. The ASAP Client continuously communicates with the ASAP Server running on the Nonstop servers, and communications with wireless phones, pagers, e-mail servers, and HTML browsers.
- **ASAP Server** is the ASAP server that monitors, gathers, and analyzes availability, state, and performance statistics throughout a network of HP NonStop servers. The ASAP product includes monitoring agents that monitor system components such as CPUs, Comm lines, Disks, Expand, Files, Memory, Nodes, Processes, Business Processes, RDF, Spooler, Swapfiles, Systems, Tape, Tcp/IP, TMF, as well as application processes. The ASAP Server also includes fully automated Goals and Actions integrated into the base product.
- **ASAP Server plug-ins** provide in-depth statistics and availability monitoring of a particular subsystem. For example, the TCP/IP plug-in provides an additional 12 new entities along with 600 additional performance and availability statistical attributes associated with the TCP/IP subsystem.
- **ASAP extension** provides an application programmer interface (API) so you can monitor the availability and performance of your application domains. The API lets Application domain statistics become fully integrated with ASAP Client/Server functions.
- **ASAP Hybrid** extends the capabilities of ASAP application monitoring to remote systems running the Linux OS. Application metrics from remote Linux systems are

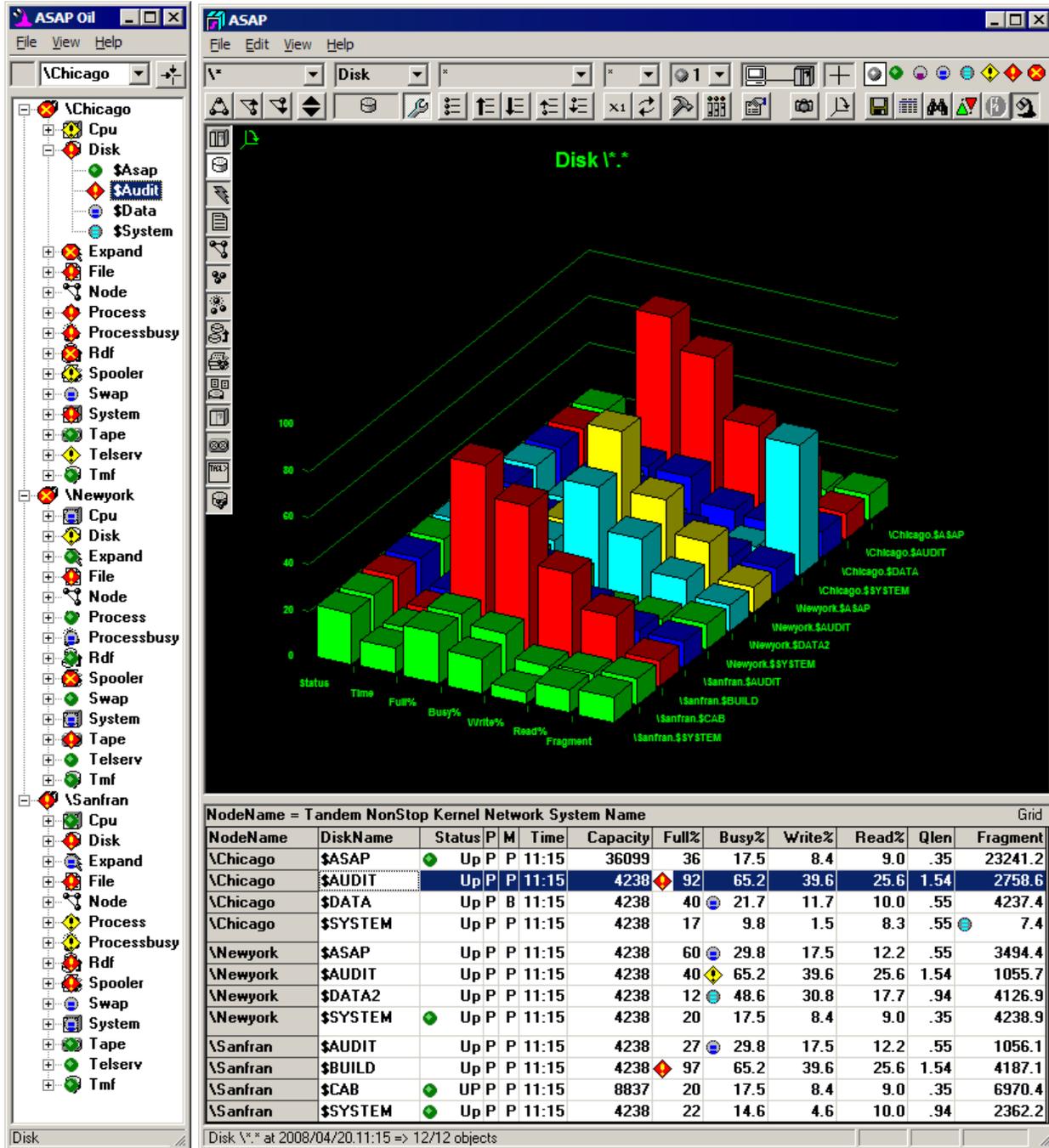
integrated in ASAP on one or more NonStop servers providing an overall view of entire application sets as they span one or more remote NonStop And Linux servers.

Topic	Page
<u>Feature Summary</u>	<u>24</u>
<u>ASAP Architectural Overview</u>	<u>26</u>
<u>ASAP Client Component Overview</u>	<u>27</u>
<u>OEM Architectural Overview</u>	<u>29</u>

The ASAP Client graphical user interface (GUI), the primary data analysis interface to ASAP displays NonStop OS performance and state information, as well as customer application availability statistics. Using the ASAP Client, you can view and analyze real-time or historical network-wide views of Application, Comm, CPU, Disk, Expand, File, Node, Process, ProcessBusy, Query, RDF, Spooler, System, Tape, TCP/IP, Telnet Server, and TMF entities. Informational views can encompass all of your NonStop OS nodes, reflect a selected set of nodes, or focus on a single node, entity, or object.

The ASAP Client also has built-in agent functions that run on Windows 2003 Server, XP, 2000, NT, ME, or Windows 98. ASAP Client automatically retrieves and analyzes statistics from the ASAP Server. ASAP Client services can be configured to forward object statistics and state information to wireless phones, pagers, SMTP e-mail servers, HTML browser, or to enterprise management frameworks such as HP OpenView.

Figure 1-1. Sample ASAP Client Screen



Feature Summary

The ASAP Client includes a powerful set of graphics, controls, and toolbars that help you browse, report, and analyze application and system statistics. ASAP runs on Windows Vista, Windows XP, Windows 2000, Windows ME, and Windows NT

workstations connected by TCP/IP or asynchronous communications links to one or more NonStop systems.

The ASAP Client provides:

- Windows XP context sensitive interface
- Windows XP, Windows 2000, Windows ME, Windows NT, Windows 95, and Windows 98 compatibility
- High-speed hierarchical object cache of statistics
- Real-time, network-wide state and performance views
- True 3-D graphical views of all ASAP statistical entities
- Browse windows for detailed entity analysis and reporting
- Graph windows for multiple real-time views of host objects
- Report windows for customized reporting of selected objects
- Performance and State icons propagated upward through tree view
- Automatic host communication using the Client Server Gateway (CSG)
- Context-sensitive menus on all graphs and grids for data mining
- Full customization of displays including entity and attribute specification
- Encapsulated interface to Open Enterprise Management (OEM) Gateway
- Reporting of Application, CPU, Disk, Expand, File, Node, Process, Processbusy, RDF, Spooler, System, Tape, and TMF entities
- Internationalization and user-customization of objects, states, icons, and colors
- Hierarchical Object Integration Layer (OIL) tree view of NonStop OS nodes, entities, and objects
- Entity Definition Language for external definition of entities and associated attributes

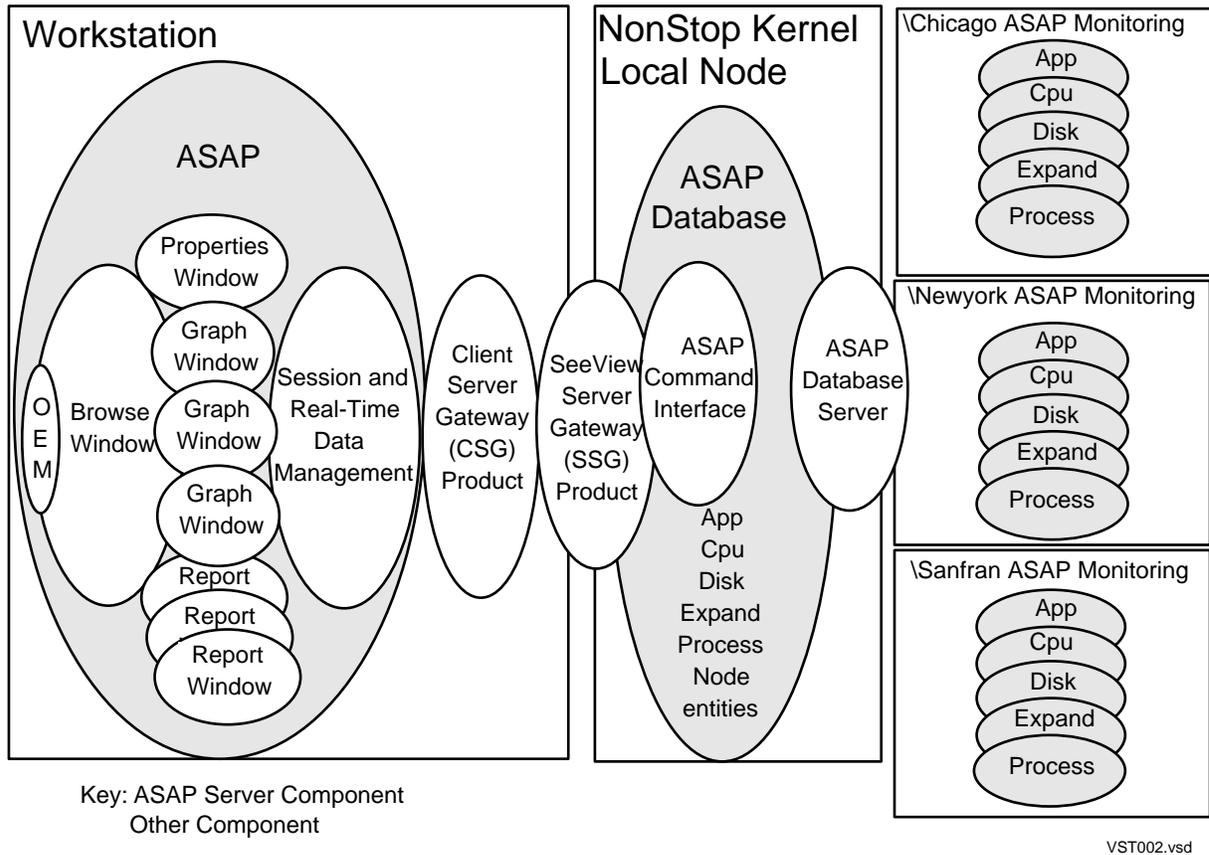
- Automated alerts and detailed notification reports that can be sent via wireless phone, pager, e-mail, or internet browser
- Reports that can be sent when objects change state, scheduled to report at various times of the day or stored for use in web content at the end of each analysis sample
- Dashboard views that can be named, saved, and displayed to provide unique sets of user-defined graphical views
- Reports can be obtained by selecting a busy object such as a disk, and then selecting Show Related Measurement to obtain highly detailed Measure reports on the busiest files and process openers for a selected CPU, Disk, File, or Process.

ASAP Architectural Overview

ASAP consists of these functional layers:

- The ASAP Server includes remote-node statistics-gathering processes (SGPs) that run throughout an Expand network of NonStop systems. These intelligent SGPs gather and analyze Application, CPU, Disk, Expand, File, Node, Process, Processbusy, RDF, Spooler, System, Tape, and TMF entity information and report this information to a local-node ASAP database server.
- The ASAP database server collects and normalizes network-wide application and system availability data and stores this information in the ASAP database. The ASAP local-node server includes command interpreters and database servers acting on behalf of ASAP workstation clients.
- The ASAP Client includes GUI and agent functions to help you view and analyze system and application statistics. Using ASAP, you can view the overall state of your applications and systems, as well as performance information. You can also focus on specific nodes, entities, or objects. The ASAP Client runs on workstations running Windows XP, Windows 2000, Windows ME, Windows NT, Windows 95, or Windows 98.

Figure 1-2. ASAP Architectural Overview Diagram



- The ASAP Client communicates object information to the Open Enterprise Management Gateway (OEM). State information is also reported, letting enterprise management frameworks supported by OEM adapters display objects and their operational states.

ASAP Client Component Overview

Browse Window

Use the Browse window to view statistics; to browse and analyze nodes, entities, and objects; and to control the ASAP environment. This window updates in real-time to reflect the nodes, entities, and objects you select. For more information, see [Browse Window](#) on page [46](#).

Graph Window

You can create one or more Graph windows from a Browse window. Graph windows are useful for maintaining multiple views of specific node-entity-object combinations. These windows update in real-time to reflect the nodes, entities, and objects you select. For more information, see [Graph Window](#) on page [75](#).

Report Window

You can get detailed reports about a selected node, entity, or object in Browse or Graph windows from context-sensitive pop-up menus. Report windows update in real-time to reflect customized reports about the nodes, entities, and objects that you select. For more information, see [Report Window](#) on page [76](#).

ASAP Properties Window

Use the ASAP Properties window to customize your ASAP view, including the entities to retrieve from the NonStop OS host systems, the attributes of each entity to display, the font to use, and the options to use for graphing and maintaining your Host Session. For more information, see [Section 5: Configuring ASAP](#).

Session Window

ASAP can retrieve both real-time and historic statistics information. Through the Session window, you can view, start, stop, and track the progress of your Host Session. You can start and stop your Host Session using the Session window's menus and toolbar. For more information, see [Session Window](#) on page [80](#).

Real-time Data Management

ASAP maintains a real-time hierarchical cache memory of statistics to improve performance. This performance data cache minimizes the amount of host I/O required for standard real-time displays and provides fast response times for specific interactive data browsing queries. For more information on real-time data retrieval, see [Entity Property Sheet](#) on page [89](#).

OEM and OIL Views

You can use the Open Enterprise Management Gateway (OEM) or Object Integration Layer (OIL) to obtain high-level views of NonStop OS nodes, entities, and objects. Select an object in the OEM or OIL to generate an ASAP report on that object. Statistics and state information can also be automatically propagated upward through the OIL tree view on a priority basis. The algorithm ensures that even when you collapse the OIL tree view, the relative utilization and state of nodes, entities, or objects are visible. For more information, see [OEM Property Sheet](#) on page [98](#) and [OIL Property Sheet](#) on page [100](#).

OSC View

You can use the Object State Change (OSC) view to obtain a history of object state changes. The OSC view provides both a high-level graphical overview and a detailed log of object state changes. The OSC scoreboard displays an annotated matrix summarizing the number and type of state changes that have occurred. The scoreboard contains a row for each entity type monitored and a column for each state monitored. When you select a cell in the scoreboard, the OSC log is searched for all Object State Changes that match the selected entity type and state. For example, if you click a cell that intersects the Disk row, the Down column automatically locates all Down Disk state changes that have occurred. For more information, see [OSC Window](#) on page [68](#).

Notifications - Overview

You can use the Notify control panel to configure automatic alerts and report notifications. ASAP alerts and report notifications can be sent via phone, pager, e-mail, or Internet browser. Notifications can be sent when objects change state, or can be scheduled to occur at various times of the day, or they can occur at the end of each analysis sample for inclusion in web site content. Notification reports can include high-level object state summaries, object state change alerts, or lists of critical sorted object state information. Reports can be formatted either in color-coded HTML format or in short text format for use with short text message devices such as wireless phones or pagers. For more information, see [Notify Control Panel](#) on page [108](#).

Icon Server

You can customize icons and colors that appear in your ASAP environment and in the OEM and OIL views to allow for internationalization. Use the Icons button on the General tab of the ASAP Properties window. For more information on the Icon Server, see [Icon Server Control Panel](#) on page [97](#).

EDL ADE

The ASAP Client includes an Entity Definition Language application development environment (EDL ADE). The EDL lets you define system entities, customer application domains, and third-party entities, and dynamically add them to the ASAP client environment. For more information, see [Section 6: Entity Definition Language \(EDL\)](#).

OEM Architectural Overview

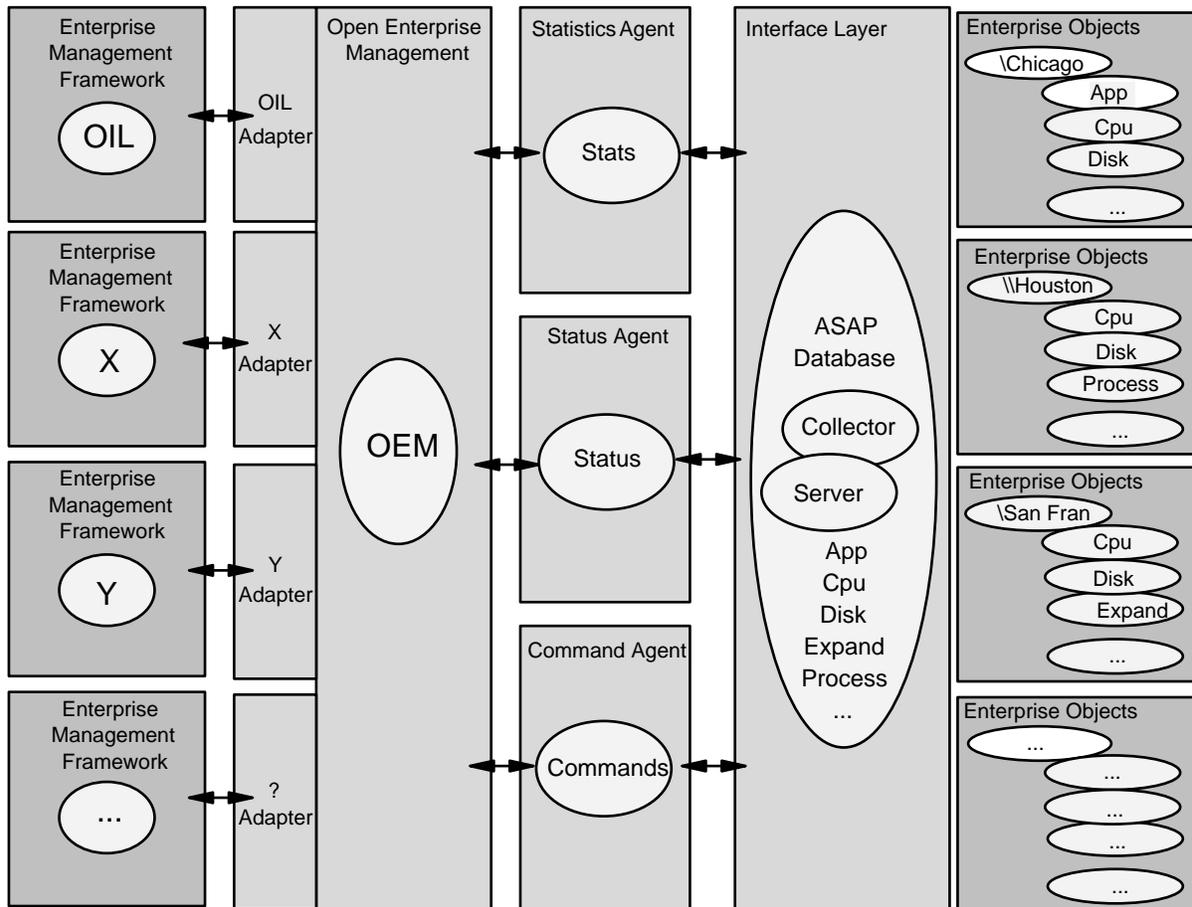
The Open Enterprise Management (OEM) Gateway provides customer applications with an optional encapsulated interface layer to enterprise management frameworks.

The ASAP subsystem communicates node, entity, and object information to the OEM Gateway. It reports object state information, so objects and their operational states are displayed in Enterprise Management Frameworks supported by OEM Gateway adapters.

The OEM consists of a Server component and one or more Adapter components. Statistics agents such as the ASAP Client communicate with the OEM Server component. The Server communicates with an OEM Adapter or Adapters on behalf of the client's agents, while the Adapters handle communication to and from enterprise management frameworks.

The OEM layer handles all details of the interface to enterprise management frameworks. As a result, ASAP can communicate statistics information in a uniform and consistent manner so that various enterprise management frameworks can display these object statistics.

Figure 1-3. OEM Architectural Overview Diagram



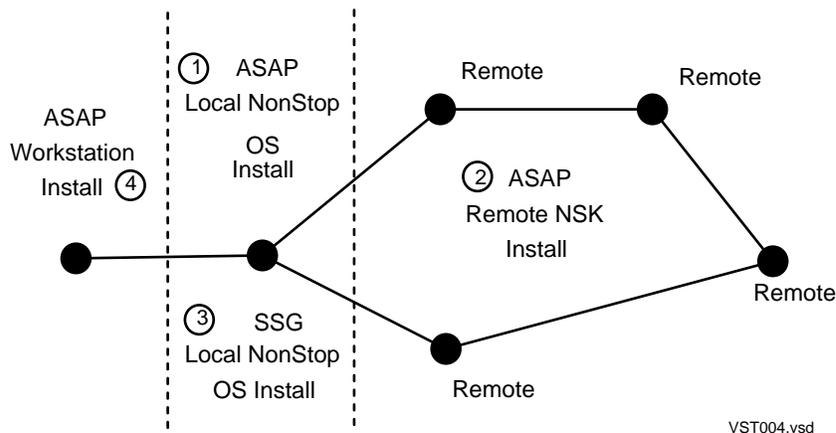
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Section 2: Installing ASAP

Topic	Page
Installing Monitoring Components	32
Installing the SSG	33
Installing ASAP on the Workstation	34

The ASAP GUI and Agent components running on your Windows workstation communicate with NonStop servers. ASAP uses the SeeView Server Gateway (SSG) to communicate with your NonStop OS node.

Figure 2-1. ASAP Installation Overview Diagram



To install ASAP:

1. Verify that the ASAP host subsystem is installed on your NonStop systems. This lets ASAP receive performance data from your NonStop servers.
2. Verify that the SSG is installed on your local NonStop OS node. SSG is normally already installed on NonStop servers.
3. Install the ASAP Server on your local NonStop system.
4. Install the ASAP Server on one or more remote NonStop systems.
5. Install the SSG Server on your local NonStop system.
6. Install the ASAP Client on your Windows workstation.

For abbreviated instructions for using these scripts, see [Installing Monitoring Components](#) on page [32](#). For detailed instructions about installing these products, see the specific product manual.

Installing Monitoring Components

For a detailed description of how to install ASAP host components on local and remote NonStop servers, see the ASAP Server Manual and the ASAP Extension Manual.

To install ASAP Server on the host:

1. Upload the ASAP Server files from the ASAP Server CD.
2. `TACL 1 > LOGON network-group.userid`
3. `TACL 2 > VOLUME $ASAP-ISV-Volume.ZASAP`
4. `TACL 3 > OBEY INSTALL`
5. Follow the directions for “Full Install on this node” in the online help.
6. Follow the directions for “Remote Monitor Install” in the online help.
7. When ASAP host installation is complete, start the ASAP subsystem by using the ASAP command interpreter `START COLLECT` and `START MONITOR` commands. For example:

```
TACL 1 > ASAP
+ START COLLECT
+ START \CHICAGO
+ START \NEWYORK
+ START \SANFRAN
```

Installing the SSG

For a detailed description of how to install the SSG on NonStop servers, see the SeeView Server Gateway (SSG) Manual.

For D43 and later, the SSG is normally already installed on NonStop systems. If SSG is already installed, you do not need to reinstall it.

To see if the SSG is installed on your local host node:

```
TACL 1 > SSGCOM
```

If START or STATUS commands are available from within SSGCOM, the SSG command interpreter, the SSG is installed on your system.

If SSG is not installed on your system, you need to perform a SSG Local Node Install before you can use ASAP. ASAP does not require Remote Server Call (RSC), so you do not need to install RSC before using ASAP.

To install the SSG on your local node:

1. TACL 1 > LOGON *network-group.userid*
2. TACL 2 > VOLUME *\$SSG-ISV-Volume.ZNOWSSG*
3. TACL 3 > OBEY INSTALL
4. Follow the Local Node Install directions in the online help.
5. When SSG installation is complete, start the SSG by using the SSGCOM command interpreter START command. For example:

```
TACL 1 > SSGCOM  
+ START
```

Installing ASAP on the Workstation

How you install ASAP on your Windows workstation depends on whether you are installing from a CD or from a NonStop server.

Installing ASAP From a CD

ASAP is normally distributed on an HP Independent Product CD.

To install ASAP from CD:

1. Insert the CD into your PC.
2. Run **Setup.EXE**. **Setup** runs automatically if the Windows AutoRun feature is enabled on your system. If AutoRun is not enabled, manually run **Setup.EXE** from the CD.
3. Follow the directions in **Setup**.

Consideration:

ASAP **Setup** does not replace preexisting files such as DLL, EXE, and OCX files if the preexisting files on your workstation are newer or a later version than those in the ASAP distribution file.

Installing ASAP From a NonStop Server

The ASAP workstation installation file is normally distributed on an HP Independent Product CD. However, if it is on your NonStop server, you can install it from the NonStop OS host.

To install ASAP from the NonStop OS host:

1. Download the ASAP **SETUPEXE** file from your NonStop OS host system to a temporary directory on your workstation. Use a temporary name such as C:\AsapTemp.
2. Name the downloaded file **Setup.EXE**.
3. Run **Setup.EXE**.
4. Follow the directions in **Setup**.

Section 3: Starting the ASAP Client

Before running the ASAP Client, start the ASAP Server subsystem on your NonStop OS host systems by using the ASAP Server command interpreter START MONITOR and START COLLECT commands. For detailed information about installing and starting ASAP on the host, see the ASAP Server Manual.

Topic	Page
Starting ASAP	35
Starting and Configuring the CSG	36
Configuring ASAP Entities	43

Starting ASAP

To start the ASAP Client, from the Start menu on your PC, select:

Start > Programs > ASAP

When started, ASAP displays a startup dialog box with these buttons:

Button	Use to...
Setup	<p>Configure ASAP or experiment with ASAP without a host connection.</p> <p>Because ASAP displays statistical information defined in EDL DATA statements, not information in your host database, selecting Setup lets you run the ASAP Client without a host connection. This approach is useful for analyzing existing EDL files and for education and demonstration.</p> <p>EDL DATA statements appear in the Asap2 Factory.EDL and Asap2 Custom.EDL files. The factory EDL file is shipped with the ASAP Client and should never be modified. The custom EDL file contains your customized settings. DATA statements let you experiment with the ASAP Client environment without a host connection. When you start the ASAP Client, EDL files are associated with your ASAP environment. EDL file contents define the entities and data that the client displays. For more information, see Section 6: Entity Definition Language (EDL).</p>
Connect	<p>Connect to your NonStop OS host system and view current availability and performance information.</p> <p>When you select Connect, ASAP accesses your host computer through an ActiveX server called the Client Server Gateway (CSG) on your workstation. The CSG is installed as part of the standard ASAP setup.</p>
Cancel	Stop the ASAP launch.

Running the CSG

You can start the CSG in two ways:

- Manually: Double-click the CSG.EXE file.
- Automatically: ASAP starts the CSG through ActiveX OLE automation.

Either method is acceptable, but to fully understand the process you might want to manually start and configure the CSG the first time.

Starting and Configuring the CSG

Once the CSG is installed successfully, launch and configure it. The first time you click the Connect button, you need to configure the CSG for your workstation. For detailed information about how to set up and use the CSG, see the Csguser.doc file in the Program Files\Tandem\CSG workstation directory.

To start and configure the CSG:

1. Run the CSG in any of these ways:
 - Double-click **CSG.EXE** to start it manually.
 - Click **Connect** at ASAP startup.
 - Click the **Start Session** toolbar button in the ASAP Session window.
2. From the CSG **View** menu, select **Options** to open the CSG.CSG Options window.

If you are running the CSG for the first time, it displays: "The CSG has not been configured. You must configure the CSG before continuing." Click **OK** to open the CSG Options window. You can reconfigure the CSG later by selecting **Options** from the CSG **View** menu.

3. When the CSG.CSG Options window opens, click the **Defaults** tab if it is not already selected. The Defaults property sheet appears.
4. In the Active Transport frame, select the **TCP/IP** or **Async** option to specify the active transport.

If you use a TCP/IP connection to your NonStop OS host, select the **TCP/IP** property sheet; then specify the **TCP/IP address** of your NonStop OS host. For example:

```
TCP/IP Address: 168.87.8.20
TelNet Port: 23
Host Service Name: TAOL
```

If you use an asynchronous connection to your host, select the **Async** property sheet; then specify the attributes for your connection. For example:

```
Com Port: Com1
Baud Rate: 19200
Date Bits: 7
Stop Bits: 1
Parity: Even
Flow Control: None
Echo: Host
Connection Type: Modem (Hayes Compatible)
Phone Number: 555-1234 (if you are using a modem)
```

5. Select the **Session** property sheet to specify host connection options. For example:

```
[x] Auto Logon
[ ] Auto Logoff
[x] Auto Start Session
Host SSGCOM File Name: $SYSTEM.SYSTEM.SSGCOM
```

6. Click **OK** at the bottom of the CSG Options window.
7. Click the CSG **Start Session** toolbar button, or select the **Start Session** menu item from the CSG **File** menu.

Configuring a secure SSGCOM service

This section describes the steps involved in configuring a secure, Telnet-based communication link for use by the ASAP Client. This section would be of interest if you are concerned about the possibility of user ID and password information being transmitted in clear text across the local network. By following the steps below, CSG and SSG can be configured in such a way that no logon userid or password information are required to the NonStop server. Further, the TelServ process used by ASAP can be set up so that it cannot be used for any purpose other than serving as a communication pipe for ASAP.

Configuring NonStop server SSGCOM service

Configuration of the NonStop server SSGCOM service involves three separate steps: starting the TelServ process, configuring the SSGCOM Telnet service, and specifying SSG security settings in the SSGCONF file:

1. Start TelServ Process

This step starts a “secure” TelServ process. This includes starting the process itself on a TCP/IP port other than the standard default of port 23, specifying that it should not display a banner or menu, and specifying that it should not allow access to TACL.

For the purposes of this example, we’re starting a TelServ process named \$TLSV on port 8423 of TCP/IP process \$ZTC04:

```
TACL 1> PARAM ZTNT^TRANSPORT^PROCESS^NAME $ZTC04
TACL 2> TELSERV/NAME $TLSV, TERM $ZHOME, PRI 170, NOWAIT/8423 -
nobanner -nomenu -notacl
```

In the above, “8423” defines the port number on which TelServ will accept connections, the “-nobanner” option prevents TelServ from displaying a banner or welcome message, the “-nomenu” option prevents TelServ from displaying a service menu, and the “-notacl” option prevents users from accessing a TACL command shell via this TelServ. Together, these options essentially deliver a TelServ process that cannot be used for doing anything on the system when it is started. Even if a user with a Telnet client connects to port 8423, they cannot access any resources on the system regardless of whether they have a user ID and password or not.

2. Configure TelServ Process In SCF

This step adds an SSGCOM service to the TelServ created in step 1. This service is what the ASAP Client will use to access ASAP data. Our recommendation would be to define this as the default service for the TelServ process. By doing so, any user who connects to the port will be immediately presented with an SSGCOM prompt.

To continue the example above, the following SCF commands would add the SSGCOM service to the TelServ process created in step 1 above:

```
TACL 3> SCF
1-> ASSUME PROCESS $TL5V
2-> ADD SERVICE ssgcom, PROGRAM $system.system.ssgcom, ACCESS
ALL, SUBTYPE DYNAMIC, TYPE CONVERSATION, DISPLAY OFF, DEFAULT ON
```

There is no requirement that the service name be "SSGCOM". You can call the service whatever you'd like. Also, as mentioned above, by specifying "DEFAULT ON", any user who connects to the port will be presented with an SSGCOM prompt. Since SSGCOM will be configured to only allow access to ASAP data, this configuration does not pose any security issues. However, if you would prefer to force the user to "guess" the correct service name, you can set DEFAULT to OFF. In this case, a user connecting interactively from a Telnet client will be presented with the standard TelServ "Enter Choice>" prompt and nothing more. At that point they'd have to enter "SSGCOM" to even get the SSGCOM prompt, and even then there's nothing they can do in terms of compromising system security.

3. Set SSG Security Parameters

The last step on the NonStop system is to define SSG security settings. This is done by editing the \$SYSTEM.SYSTEM.SSGCONF file and adding the following lines:

```
SET SECURE DEFAULT USER
SET SECURE TACL NONE
SET SECURE ASAP ANY
SET SECURE MEASCOM ANY
SET VERIFYUSER OFF
```

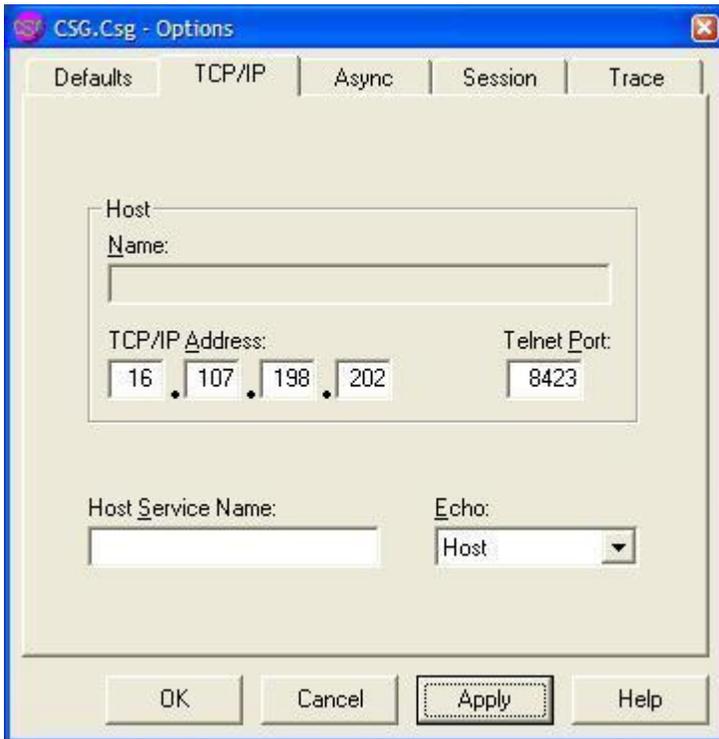
The various "SET SECURE" statements limit which server resources can be accessed by SSGCOM. Specifically, only access to ASAP and MEASCOM are permitted (the latter is used by the ASAP Client's "Show Related Measurement" capability). Thus the SSG subsystem itself will only be able to supply ASAP data, and nothing else.

The "SET VERIFYUSER OFF" statement configures SSGCOM to bypass its internal user ID/password verification step, which means that anyone is able to utilize SSG services as no user ID and password are required or transmitted. But since the other security settings have limited the SSG to only supplying ASAP data, this access does not pose a threat. Furthermore, in many ways this type of configuration is actually more secure than those requiring a logon, because not every user who needs to access ASAP data is required to have a valid logon to the NonStop server. They only need to be able to access the SSGCOM service across the network in order to obtain ASAP data; they do not need to have any logon information for the NonStop itself.

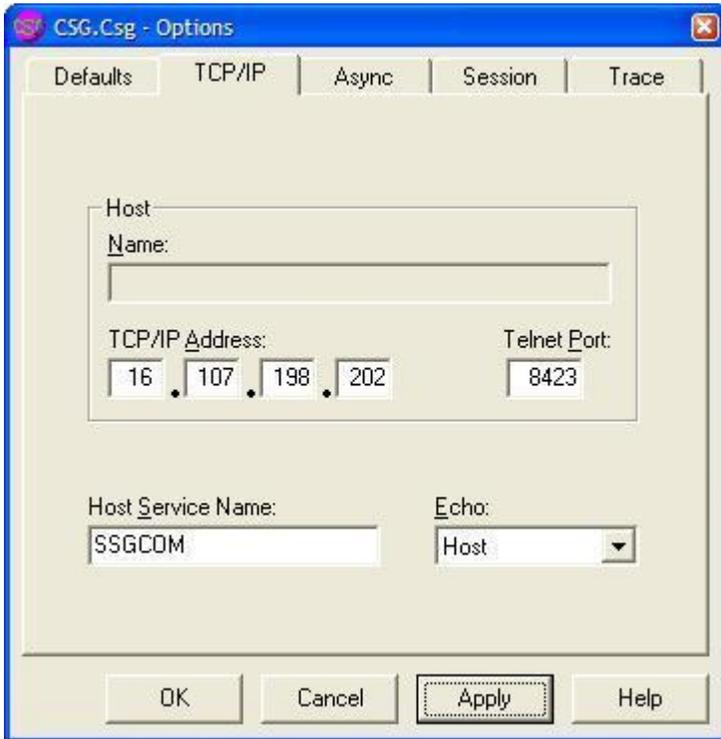
Configuring CSG to use secure SSGCOM service

If the NonStop server has been configured with an SSGCOM service as described in the prior section, you can configure the CSG to use the SSGCOM service to completely eliminate the need for userid's and/or passwords. To do this perform the following steps:

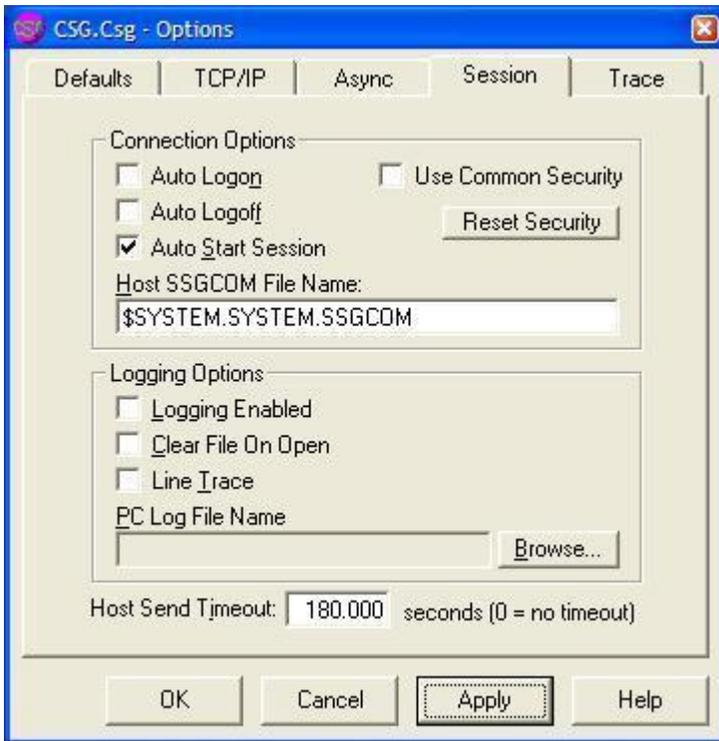
1. From the CSG main window, click on View...Options from the CSG main menu to bring up the CSG Options dialog, and click on the "TCP/IP" tab.
2. Supply the TCP/IP host name or address and the Telnet port number on the server (this is the port number specified in step 1 of "Configuring The NonStop Server" above).
3. If you configured the SSGCOM service with DEFAULT set to ON (i.e. SSGCOM is the default service), then clear the "Host Service Name" field on the CSG's TCP/IP tab. So the entire tab should look something like this:



4. If you configured the SSGCOM service with DEFAULT set to OFF (i.e. SSGCOM is not the default service), then set the “Host Service Name” field to “SSGCOM” (or whatever value you specified for the service name in step 2 of “Configuring NonStop server SSGCOM service” above). So the entire tab should look something like this:



5. Finally, you can disable all logon/security-related settings on the Session tab of the CSG Options dialog. These settings are no longer needed. In addition, if the PC you are configuring has previously been running the ASAP Client and CSG, you may want to click on the “Reset Security” button to clear saved ID and password information from the CSG. The Session tab should look something like this when you are done:



You can now start the ASAP Client as you would normally. It will start a CSG/SSG session using the new CSG settings and new TelServ on the server. At no point will you be prompted for logon information because no component requires it. Startup and shutdown should also be a bit faster since the steps of starting TACL, logging onto TACL, loading macros, etc. are bypassed.

Configuring ASAP Entities

Once you establish a host connection through the CSG and the ASAP Host Session is enabled, ASAP automatically retrieves availability and performance information periodically. The ASAP update interval is based on the ASAP SET RATE configured on the host. For example, if the host sample rate is five minutes, the ASAP Client refreshes itself with host information every five minutes. The actual time of the ASAP Client update is automatically synchronized with the host update time.

At each sample interval, ASAP retrieves information for the entities configured in the ASAP Properties window.

To change the selected entities:

1. From the **View** menu in a Browse or Session window, select **Options** to open the ASAP Properties window.
2. Select the Entity property sheet.
3. Select the entities that you want to view. For example:

```
[ ] App
[x] Cpu
[x] Disk
[ ] Expand
[ ] File
[ ] Node
[x] Process
[ ] Processbusy
[ ] RDF
[ ] Spooler
[ ] System
[ ] Tape
[ ] TMF
```

Any entities you select must be enabled in your ASAP host configuration. If you select an entity that is not enabled, ASAP cannot receive information for that entity.

4. At the bottom of the ASAP Properties window, click **OK**.

Considerations

- For selected entities to appear in the ASAP Client, you must enable the entities in your ASAP Server configuration. This lets system managers on various host systems control which entities are enabled.

For example, if you select Disk in your Client configuration but your ASAP host configuration does not have the Disk entity enabled with an ASAP SET DISK ON command, the Client cannot display disk information.

- You do not need to select an entity to get detailed reports about it. The Entity property sheet controls which entities are automatically downloaded and cached in the ASAP hierarchical cache memory.

For example, if you enable the CPU entity, you can still get detailed reports for related entities using the Show Related Apps, Show Related Disks, Show Related Processes, and Show Related Expand Lines popup menus.

If you try to monitor all entities on all nodes from a single ASAP Client, you might significantly increase the amount of data downloaded at each sample interval, but not receive significantly more data. Download performance depends on the number of nodes and objects you monitor. Try enabling only one or two entities, such as CPU and Disk, to see if they provide enough information.

If the time to download statistics is excessive, try configuring multiple ASAP Clients on different workstations with each Client monitoring different sets of entities or nodes. You can also significantly reduce the amount of data downloaded at each sample interval by customizing an entity's Command definition in EDL. For more information, see [Section 6: Entity Definition Language \(EDL\)](#).

Section 4: Using ASAP

Using ASAP, you can obtain real-time and historic views of your NonStop OS to see everything from generalized overviews of availability and performance for system and application objects to detailed customized views of specific node-entity-object-attribute combinations.

ASAP also provides a consistent viewing paradigm for all application domain and NonStop OS objects: Application, CPU, Disk, Expand, File, Node, Process, ProcessBusy, RDF, Spooler, System, Tape, and TMF. Regardless of the entity type, you can use context-sensitive pop-up menus to get detailed reports about an entity by clicking graph and grid elements.

You see these interface components while using ASAP:

Component	Description	Page
Browse window	Provides a way to browse and analyze node-entity-object availability and performance statistics. You see both data grid and graph views of the specified area. The window updates automatically in real-time based on selected nodes, entities, and objects.	46
OSC window	Provides a high-level graphical overview of object state changes and a detailed log of state changes. You can obtain both high-level and detailed state change information.	68
Graph window	Shows information in a compact graphical form useful for maintaining multiple views of nodes, entities, and objects. You can create many Graph windows from a single Browse window. Graph windows are tiled automatically and update in real-time based on the selected node, entity, and objects.	75
Report window	Shows detailed reports about a selected node, entity, or object in a Browse or Graph window. You can open Report windows from a Browse or Graph window using context-sensitive pop-up menus.	76
Session window	Controls your Host Session. You can start and stop Host Sessions using the window's menus or toolbar, and monitor Host Session progress through the window's Session log. The Session log contains information about host communications and software versions.	80
ASAP Properties window	Lets you customize which entities and attributes the Browse and Graph windows display.	Section 5: Configuring ASAP

OIL tree
view

Provides a hierarchical view of host nodes, entities, and objects so that you can view the overall availability and performance of many nodes, entities, and objects.

100

Availability and Performance icons are displayed in the OIL, guiding you to the nodes, entities, and objects with the highest alerts.

Browse Window

Use the Browse window to:

- View system and application statistics
- Browse and analyze nodes, entities, and objects status and performance:
 - a. Select a node-entity-object combination.

Both the grid and the graph in the Browse window update in real-time based on the combinations you choose.
 - b. Select an item in the graph.

The corresponding data in the grid is automatically selected and highlighted. This coupling lets you work in either the graph or the grid and have both a graphical and a numerical view of the entity at the same time.
- Control the ASAP environment, using the:
 - File, Edit, View, and Help menus to control the ASAP environment.
 - Drop-down controls to select node, entity, object, and sample interval and to access NonStop OS nodes, entities, and objects.
 - Toolbar to navigate quickly through various nodes, entities, and objects.

Toolbar Button Summary

-  Select information for all nodes in the Node drop-down list
-  Select the previous node in the Node drop-down list
-  Select the next node in the Node drop-down list
-  View Back (up arrow) and View Next (down arrow)
-  Display Entity Toolbar
-  Display Application entity information
-  Display CPU entity information

	Display Disk entity information
	Display Expand entity information
	Display File entity information
	Display Process entity information
	Display ProcessBusy entity information
	Display RDF entity information
	Display Spooler entity information
	Display System entity information
	Display Tape entity information
	Display TMF entity information
	Select All objects for the current node-entity
	Select First object in the Object drop-down list
	Select Last object in the Object drop-down list
	Select Previous object in the Object drop-down list
	Select Next object in the Object drop-down list
	Set Samples count to one, then +10 until max rows/object, then back to 1
	Refresh Client with Server data
	Suppress State reporting for selected objects
	Display Utilization Thresholds dialog box
	Display ASAP Properties window
	Display Download Wizard dialog box
	Rotate 3D Graph
	Save ASAP environment in EDL file
	Switch between Sort and Grid view
	Display Command Wizard dialog box
	Display Object State Change (OSC) window
	Disable or Enable OEM Gateway
	Disable or Enable Object Integration Layer (OIL)
	Display ASAP Properties window
	Display Client-Server Session window

Selecting a Node

To change the NonStop OS host nodes displayed in the Browse window, use the Node drop-down list or the toolbar.

The names in the Node drop-down list depend on which host nodes your ASAP host configuration monitors. For example, if AsapMon processes are running on the nodes

\Chicago, \Newyork, and \Sanfran, these node names appear in the ASAP Node drop-down list.

To select a node using the Node drop-down list:

1. Click the arrow in the **Node** drop-down list.
2. Select the **desired node** from the list, or choose all items in the list by selecting the asterisk (*).

To select a node using the toolbar:

Click one of these buttons:

-  Selects all nodes in the Browse window
-  Selects the previous node in the Node drop-down list
-  Selects the next node in the Node drop-down list

When you monitor large NonStop OS networks, HP does not recommend selecting the all nodes (*) option because it could demand the analysis of performance information for thousands of objects. Slow workstation responsiveness might indicate that you are trying to browse too much information.

If your workstation does not respond in a reasonable amount of time, look at data one node at a time or create individual Graph windows for each node. For more information, see [Browse Window Pop-Up Menus](#) on page [60](#).

Selecting a Previous View

The Browse window retains the last two dozen view settings for the window.

To change view settings, select items in the drop-down lists that appear along the top of the Browse window. Each time you select a different view, ASAP retains the node, entity, object, samples, and minimum state settings for that view.

To browse backward or forward through the view history, use the Browse window View... Back and View... Next menu items or the View Back/Next toolbar button.

To select a different view using the toolbar button:

Click the View Back/Next button.

- To select the previous view, click the up arrow of the button.
- To select the next view in the history, click the down arrow of the button.

To select a different view using the View menu:

Select the Browse window View... menu.

- To see the previous view, select View... Back.
- To see the next view in the history, select View... Next.

Selecting an Entity

Entities include classes of objects such as CPUs, Disks, Expand lines, and Processes. You can change the entity displayed in the Browse window using the Entity drop-down list or the Entity toolbar buttons.

The Entity drop-down list contains only entities that are enabled. For example, if only CPU and Process entities are enabled, only these entities appear in the ASAP Entity drop-down list.

To select an entity using the Entity drop-down list:

1. Click the arrow in the **Entity** drop-down list.
2. Select an entity from the list.

To display the Entity toolbar:

Click the  Display Entity Toolbar button.

To change an entity using the Entity toolbar buttons:

Click one of these buttons:

-  Application entity information
-  CPU entity information
-  Disk entity information
-  Expand entity information
-  File entity information
-  Process entity information
-  ProcessBusy entity information
-  RDF entity information
-  Spooler entity information
-  System entity information
-  Tape entity information
-  TMF entity information

Note a complete list of entities appears on the Entity Tab of the ASAP Property sheet

Considerations

You can add or remove entities from the ASAP environment using the EDL language. For more information, see [Section 6: Entity Definition Language \(EDL\)](#).

You can dynamically configure icons using the Icon Server. For more information, see [Icon Server Control Panel](#) on page [97](#).

To obtain HTML Entity-Attribute Grid reports:

1. Click the **Current Entity** toolbar button to generate HTML Reports for either the current entity or for all enabled entities. The Current Entity button is located immediately below the Entity drop-down and is just to the left of the "**wrench**" toolbar button. HTML Report detail is a function of whether the wrench button is depressed. If the wrench is depressed then all enabled entities appear in the toolbar and consequently all enabled entities appear in the HTML Report. If the wrench is not depressed then the HTML Report is only for the current entity.
2. HTML Report column display is controlled with the **Show In Grid** property on the **Attribute** tab of the ASAP Property sheet.
3. HTML Report column graphs are controlled with the **Show In Graph** property on the **Attribute** tab of the ASAP Property sheet.
4. HTML Report object selection is controlled via the drop-downs that appear along the top of the main ASAP client window. These functions include:
 - **Node** drop-down selects node/nodes to be analyzed
 - **Entity** drop-down selects entity, note all entities if the wrench depressed
 - **Object** drop-down selects objects to be analyzed, note wildcards are allowed
 - **Samples** drop-down selects the depth of history to be analyzed
 - **State** drop-down selects the minimum state of objects to be analyzed
5. ASAP HTML Reports have several useful applications including copying/pasting ASAP reports into documents and/or e-mailing ASAP reports to others.
6. **To COPY** an ASAP HTML Report once the report is displayed in IE, select:
 - EDIT ... Select ALL...
 - EDIT ... COPY
 - Paste copied data into your document
7. **To E-mail** reports via IE, select:
 - FILE...
 - SEND...
 - PAGE by e-mail

Selecting an Object

To change the object or objects displayed in the Browse window, use the Object drop-down list. The object names in the Object drop-down list depend on which host entities your ASAP host configuration monitors. For example, if AsapMon processes are running on a node but do not have the currently selected entity enabled on the host node, the Object drop-down list is empty for that entity because the host systems are not configured to report on objects under this entity.

To select an object using the Object drop-down list:

1. Click the arrow in the **Object** drop-down list.
2. Select the desired **object** from the list, or choose **all items** in the list by selecting the asterisk (*).

To select an object using the Object toolbar buttons:

Click one of these buttons:

-  All objects for the current node-entity
-  First object in the Object drop-down list
-  Last object in the Object drop-down list
-  Previous object in the Object drop-down list
-  Next object in the Object drop-down list

Selecting a Sample

To change the amount of sample history displayed in the Browse window, use the Samples drop-down list. The number of samples selected in the Samples drop-down controls the amount of history displayed in the Browse window. For example, if you select Samples x 3, a history of the last three performance samples for the current node-entity-object combination appears.

To specify a sample interval:

1. Click the arrow in the **Samples** drop-down list.
2. Select a samples value from the list, choose the asterisk (*) to specify the most recent sample, or click the **Samples x 1** toolbar button **X1** to display the most recent sample. Subsequent clicking of the X1 toolbar button increases Samples count by +10 until Max Rows/Object is reached and then the count “wraps” back to samples x 1. You can configure the value of Max Rows/Object on the SSG tab of the ASAP Properties window

Do not select the all nodes option (*) when viewing more than one sample interval. It could require the analysis of performance information for thousands of objects.

Slow workstation responsiveness might indicate that you are trying to display too many samples. When your workstation does not respond in a reasonable amount of time, try looking at data one node at a time or creating individual Graph windows for each node. For more information, see [Browse Window Pop-Up Menus](#) on page 60.

Selecting Minimum State

Figure 4-1. Minimum State Menu



VST005.vsd

To control whether objects of a particular state appear in the Browse window, use either the State Filter Toolbar or the Minimum State drop-down menu as shown in figure 4–1. The state selected is the Minimum State to be displayed, and controls which objects appear in the Browse window. When you select a minimum state, ASAP displays only objects with a state equal to or greater than the state you selected.

For example, if you select minimum state Warning, the Browse window displays only objects with a state equal to or greater than Warning. In this case, objects with a state less than Warning (Exists, Up, Low, Medium, or High) do not appear in the Browse window.

Minimum State is useful for:

- Selectively limiting the display to exception data only
- Reducing the total number of objects displayed in the Browse window

To remind you that not all objects can be displayed, the Browse window status bar (at the bottom of the Browse window) displays the number of objects shown and found as a pair of numbers. For example, => 3/16 displayed in the status bar indicates the number of objects shown with state equal to or greater than the minimum state is 3 out of 16 total objects found. This reminds you that more objects might be found than actually displayed when Minimum State filtering is enabled.

Note

You can also display the Minimum State menu by selecting States... from the View menu in the Browse window. Also, you can use the Minimum State drop-down as a “tear-off” menu so you can keep it visible and place it where you want on the screen.

ASAP determines the state of objects based on control settings in the Attribute Tab of the ASAP Properties window. An attribute has a state assigned to it if its Show in Graph property is enabled. To control how ASAP determines the state, select the State Determination algorithm.

Status of PC-Host Session



The Browse window has a PC-Host Session Status display that consists of PC and Host icons connected by a communications link.

 The PC icon is a shortcut to the ASAP Properties window. To open the ASAP Properties window so you can change ASAP properties, click the PC icon.

 The Host icon is a shortcut to the ASAP Session window. To open the Session window so you can check the status of the Host Session and view the Session log, click the Host icon.

Health Indicators

The PC-Host Status window provides an overall indication of the health of the Client-Server session. The PC-Host Status window can contain these visual health indicators:

 The **Host Icon Green with slow blink** indicates that the Host Session is up and no errors were encountered on the last host I/O. To view the Session window and a summary of session status messages, click the Green icon.

 The **Host Icon Gray with slow blink** indicates that the Host Session has been manually disabled. To display the Session window and a summary of session status messages, click the Gray icon.

 The **Host Icon Red X with fast blink** indicates that the ASAP Host Session was activated but communication to the host server via the Client-Server Gateway is down. To view the Session error log, click the Red X icon. After reading the session log, stop and restart the Host Session via the CSG, then via ASAP. If this does not correct the problem, check your workstation for cabling errors.

 The **Host Icon Red ? with fast blink** indicates that the last client/server I/O operation had an error. To view the Session error log, click the Red ? icon. This type of error is typically transient, and ASAP usually recovers automatically. Monitor the Session

window for a few minutes to see if ASAP recovers automatically. If it does not, stop and restart your Host Session.

The **communications link** between the PC and host shows actual data movement when the ASAP Client is communicating with the ASAP Server. An explanation of the ASAP Client health indicators appears when you click the Communications Link icon between the PC and Host icons.

Rotate Graph Control



Use the Rotate Graph control or the Rotate Graph toolbar button to change the rotation and elevation angles of the graphs in the Browse window.

To use the Rotate Graph control:

1. Click the control, keeping the mouse button pressed.
2. Drag in the direction you want to rotate the graph.

Change the rotation of a graph by dragging the mouse to the left or right.

Change the elevation of a graph by dragging the mouse up or down.

To use the Rotate Graph toolbar button:

Click the Rotate Graph toolbar button to rotate the viewing angle of the Graph in the Browse window slightly each time it is clicked. Click this button repeatedly to show the graph at a variety of angles, retracing prior viewing angles at the end of each complete rotation.

To permanently save Browse window graph rotation or elevation changes, select the Save Rotate Angles check box on the Graph property sheet.

Refresh With Latest Data Button



Click the Refresh with Latest Data toolbar button to retrieve a fresh copy of data from the host. Because the ASAP Client automatically fetches data from the host whenever the host is scheduled to receive new data, forced refreshes typically do not result in any changes to the ASAP display.

Suppress States Toolbar Button



Use the Suppress States toolbar button to suppress state reporting for selected objects.

- To select a single object, click the row associated with the object in the data grid or graph portion of the Browse window.
- To select a range of objects, click and drag the range of rows in the data grid; the range is highlighted.

Once you select the objects for state suppression, click the **Suppress States** toolbar button. You can also select **Suppress States** from the **View** menu. The **State Suppression** dialog box appears.

To add the selected objects to the Suppressed Object State List, click **Add**.

To remove the selected objects from the Suppressed Object State List, click **Remove**.

To remove all objects from the Suppressed Object State List, click **Clear All**.

To save the Suppressed Object State List, click **Save**. This list is reapplied to existing objects when you restart the ASAP client. If you do not click Save after changing your Suppressed Object State List, your changes are only temporary.

To close the State Suppression dialog box, click **Close**.

To get help for the State Suppression dialog box, click **Help**.

Thresholds Toolbar Button



To display the Utilization Thresholds control panel, click the Thresholds toolbar button. For more information on this panel, see [Utilization Thresholds Control Panel](#) on page [102](#).

Properties Toolbar Button



Click the Properties toolbar button to open the ASAP Properties window. For more information on this window, see [Section 5: Configuring ASAP](#).

Download Wizard Toolbar Button



For help downloading statistics for analysis, use the Download Wizard. The Download Wizard lets you download data for a selected date, time, and sample interval.

Normally, ASAP retrieves the most recent data in your host database. The Download Wizard lets you analyze data in the NonStop OS database for a different time or day, provided the database contains data for the specified time and date.

To download data for a different date or time:

1. Click the **Download** toolbar button labeled with the Camera icon.
2. Use the **ASAP Download Wizard** dialog box to specify the date, time, sample interval, and download options.
3. Use the **Date** tab to specify the date that you want to analyze. The database must contain data for the specified date.
4. Use the **Time** tab to specify the ending time that you want to analyze.
5. Use the **Samples** tab to specify the total number of samples to download.
6. Use the **Options** tab to specify download options:
 - Check the **Clear Data Cache** check box to have ASAP clear its cache before performing the download. If you do not check this, download data is mixed with existing data in ASAP.
 - Check the **Stop Automatic Updates** check box to suspend automatic host updates while you are analyzing performance for the specified analysis interval. When you close the Download Wizard dialog box, ASAP asks whether you want to resume automatic updates.
7. Click the **Download** button to start the download. The download time depends on the size of your NonStop OS network, the number of samples you specified, and the number of entities enabled under the Entity property sheet in the ASAP Properties window.

Rotate Graph Toolbar Button



Click the Rotate Graph toolbar button to rotate the viewing angle of the Graph in the Browse window slightly each time you click it. Repeatedly click this button to show the graph at a variety of angles, retracing prior viewing angles at the end of each complete rotation.

Save EDL Button



Click the Save EDL toolbar button to save your current environment in an EDL file.

When you click the Save EDL button, entity, attribute, and data statements that describe your environment are saved in an ASAP Custom EDL file.

You can exchange EDL files between different copies of the ASAP Client. Thus, you can copy a saved EDL file to another workstation so others can see the information displayed in your ASAP environment.

To view information contained in an EDL file, double-click the EDL file from Microsoft Explorer. For more information on EDL, see [Section 6: Entity Definition Language \(EDL\)](#).

Sort View Toolbar Button



Use the Sort View toolbar button to obtain sorted views of ASAP performance information. In Sort View, you can sort nodes, entities, objects, and their property attribute values by clicking a heading for that attribute column.

Normally ASAP displays Browse window information in Grid View. You can tell which mode you are in because the word Grid or Sort always appears in the upper-right corner of the Browse window data area. In Sort View, to obtain sorted reports, click on column headings. In Grid View, right-click to display pop-up menus containing context-sensitive reports on selected objects.

To toggle between the Sort and Grid views, click the Sort ListView toolbar button. You can toggle Sort View on and off by clicking on Grid or Sort in the upper-right corner of the Browse window.

Use Sort View to determine which nodes, entities, and objects in your NonStop server network are the most or least busy. To do so, select Sort View and the All Nodes toolbar buttons. You can then display the most or least used node-entity attributes by clicking attribute column headings.

Command Wizard Toolbar Button



Use the Command Wizard to obtain detailed host reports:

1. Click the **Command Wizard** button labeled with the Binoculars icon.
2. From the **Command To Execute** drop-down list, choose the command to execute.
3. From the **Node** drop-down list, change the node.

4. From the **Font** drop-down list, specify the font.
5. Use the **Log** command to display a list of recent performance monitor host log events for the specified node.
6. Use the **Status Monitor** command to display the status of the ASAP subsystems on the specified node.
7. Click the **Save As** toolbar button on the Command Wizard window to save the contents of the window to disk.

To display help for the command wizard window, use the **Help** toolbar.

Object State Change Toolbar Button



You can use the Object State Change (OSC) window to obtain a history of object state changes. The OSC view provides both a high-level graphical overview of object state changes, as well as a detailed log of state changes. The OSC window provides two areas for both high-level and detailed state change information. For more information on this window, see [OSC Window](#) on page [68](#).

OEM Toolbar Button



Click the OEM toolbar button to enable or disable ASAP access to the Open Enterprise Management (OEM) gateway. This is a two-state button. When the button is clicked, ASAP access to the OEM is enabled. When the button is not clicked, ASAP access to the OEM is disabled.

The OEM and OIL buttons are mutually exclusive. When one is enabled, the other is disabled. Therefore, when the OEM is enabled, the OEM adapter interface can use the OIL.

To specify additional options that control how ASAP accesses the OEM, use the OEM property sheet in the ASAP Properties window.

OIL Toolbar Button



Click the OIL toolbar button to enable or disable ASAP access to the Object Integration Layer (OIL). When the button is clicked, ASAP access to OIL is enabled. When the button is not clicked, ASAP access to OIL is disabled.

The OIL and OEM buttons are mutually exclusive. When one is enabled, the other is disabled. When the OIL is enabled, the OEM does not mix objects from other clients with the OIL via the OEM adapter interface.

To specify additional options that control how ASAP accesses the OIL, use the OIL property sheet in the ASAP Properties window.

Selecting Grid Rows and Columns

You can select grid rows, columns, or cells in a Browse window. You can graph or copy selected cells to the clipboard using context-sensitive pop-up menus.

- To select a grid row, click the first element of the row; the entire row is highlighted.
- To select a grid column, click the heading of the column; the entire column is highlighted.
- To select a grid cell, click the cell of interest; the cell is outlined.
- To select a range of cells, click and drag the range of cells, rows, or columns; the range is highlighted.

Sizing Grid Rows and Columns

You can manually resize grid rows or columns in the Browse window.

To resize a grid column:

1. Move the cursor over the column heading dividing line that you want to resize.
2. Click and drag the line until the column is the preferred width.

To resize a grid row:

1. Move the cursor over the row label dividing line that you want to resize.
2. Click and drag the line until the row is the preferred height.

Sizing Grid Height

You can resize the height of the entire grid portion of the Browse window.

To resize the grid height:

1. Move the cursor over the area between the grid and graph portions of the Browse window. The cursor changes to a resize up and down cursor.
2. Click and drag until the height of the grid is the preferred size.

Sizing Sort View Columns

Sort View column widths are automatically sized. To change the column sizing algorithm:

1. Select Sort View by selecting the View... Sort-Grid View menu item in the Browse window.
2. Move the mouse cursor over the area above the column headings and single-click.
3. A popup menu appears with these options:
 - **Size Columns To Contents + Headings**—width is max of heading + contents
 - **Size Columns To Contents Only**— sizes width to text width of contents only
 - **Size Columns To Window**—stretches/shrinks columns to fit within window
 - **Size Columns To Default**—sizes column width based on best fit algorithm

Browse Window Pop-Up Menus

You can display context-sensitive pop-up menus in the Browse window graph and grid areas.

To open a context-sensitive pop-up menu in a Browse window:

1. Right-click a grid row, column, or cell.
2. Left-click a function from the menu to select it.

To open a context-sensitive pop-up menu for a Browse window graph element:

1. Click a graph element.
2. Click the graph element label.
3. Choose the function from the pop-up menu.

Browse window pop-up menus include these common functions:

Show Object Details	Displays a graph and a list of object details, or opens a report window with detail information. The EDL Entity statement Detail property controls the behavior of this menu item. For more information, see Detail - EDL Entity Property on page 136 .
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Show Object History	Displays the recent history of object performance. The EDL Entity statement History property controls the behavior of this menu item. For more information, see History - EDL Entity Property on page 138 .
Graph Object History	Graphs recent history of selected object
Show Related Apps	Shows applications related to the selected object
Show Related Disks	Shows disks related to the selected object
Show Related Processes	Shows processes related to the selected object
Show Related Expand Lines	Shows Expand lines related to the selected object
Show Related Measurement	Starts a measurement and provides in-depth reports about the busiest files and processes associated with the selected object. For example, if you select a disk volume, and then select Show Related Measurement, a report will appear showing the busiest files and processes associated with the selected disk.
Show Related Objectives	Shows objectives for selected application domain. This menu cascades to allow display of either objectives from the ASAP Objectives Database, or from the ASAP Statistics Gathering Processes.
Refresh	Refreshes the current Browse window
Properties	Opens the ASAP Properties window

Grid pop-up menus also include these menu items:

Copy	Copies selected grid cells to the clipboard
New Graph	Creates a new Graph window for selected rows
Graph Row/Column	Graphs the selected grid row or column in the graph area of the Browse window
States	Displays a legend showing ASAP state icons and their meanings
Suppress States	Suppresses state reporting for selected objects

Browse Window Pull-Down Menus

The Browse window includes various pull-down menu functions.

You can use pull-down menus to:

- Create new instances of the Browse windows

- Save grid data to a file in comma-separated-values format
- Copy grid data to the clipboard
- Clear the history for a particular object
- View the Host Session window
- Open the ASAP Properties window
- Create new instances of graphs for each node
- Arrange and tile Graph windows
- Minimize and restore Graph windows
- Open Help

File Menu Items

Menu Items	Description
New	Creates a new instance of a Browse window. The new Browse window is created with node, entity, and object settings that match the current window. Once the new window is created, you can change node, entity, and object settings, and the new window provides an independent view that updates automatically in real time.
Export EDL	Exports the entity, attribute, and data settings for your current ASAP environment. A dialog box prompts you for the environment properties you want to export. When you click OK, ASAP generates EDL source for your current environment and displays that source in the EDL ADE window. You can then save the EDL so you or another person on another workstation can use it later. For more information, see Section 6: Entity Definition Language (EDL) .
Compile Server EDL	Downloads and compiles server EDL files. When you select Compile Server EDL, a dialog box prompts you to download and compile various EDL files from your server. This menu item is enabled by default unless the Enable FILE... Compile Server EDL... menu item check box on the EDL Properties window is not checked. To download and compile EDL from the server: 1. Select File... Compile Server EDL... from the ASAP Browse window 2. Select the file to download, and click the Download button to initiate download and compile files such as the ASAPnSYS, ASAPnAPP, and ASAPUSER EDLs. If your primary interest is to download only USER

entity definitions, you can select the file ASAPUSER in the dialog box, and then only user-defined EDL files will be downloaded. The EDL file name input field in the EDL download dialog box is a drop-down list of file names.

- Import EDL** Imports additional entity and attribute settings from an EDL file.
- When you select this menu item, the EDL ADE source window appears. You then use this window to browse various EDL files. For more information, see [Section 6: Entity Definition Language \(EDL\)](#).
- Save EDL and Save EDL As** Saves entity, attribute, and data settings for the current ASAP environment.
- You can exchange EDL files between different copies of the ASAP Client. Thus, you can copy a saved EDL file to another workstation so others can see the information displayed in your ASAP environment.
- To view information contained in an EDL file, double-click the EDL file from Microsoft Explorer. For more information on EDL, see [Section 6: Entity Definition Language \(EDL\)](#).
- Save Data and Save Data As** Select **Save Data** or **Save Data As** to save all of the grid data or list view for the current window to a disk file in a comma-separated-values (CSV) file format.
- Once the file is saved, the contents of the file are displayed in a text viewer such as Note Pad.
- If you want to remove the comma delimiters, select **Search... Replace...** enter comma, and click **Replace**. All CSV delimiters will be removed. CSV format is suitable for analysis with Microsoft Excel. The **Save HTML** menu item can also be used with Excel.
- Save HTML or Save HTML As** Select **Save HTML** or **Save HTML As** to save just the grid or list view data for the current window to a disk file in HTML file format.
- Save HTML as Entity Icon-Graph** Select **Save HTML as Entity Icon-Graph**, or **Save HTML as Multi-Entity Icon-Graph** to save the data, icons, and graphs to a disk file in HTML format. To control report format, see Notify control panel [Notify Content](#).
- Save HTML as Multi-Entity Icon-Graph** Once the file is saved, the contents of the file are displayed in your Internet browser. To copy plain text HTML to the clipboard, select **Edit... Copy HTML**.
- To e-mail saved HTML using your browser, select **Send ... Page by e-mail**.
- Print** Prints the Browse window.
- Exit** Leaves the current Browse window. If the current Browse window is the last one, a dialog box asks whether you want to shut down ASAP. To shut down ASAP, click **OK**. To continue using ASAP and leave the view unchanged, click **Cancel**.

Edit Menu Items

Menu Items	Description
Copy	<p>Copies selected grid rows, columns, or cells to the clipboard. Copy delimits data columns with commas. You can then paste clipboard information into a text window.</p> <p>From the File menu, select Save Data to save all of the information in the grid to a disk file.</p>
Copy HTML	<p>Select Copy to copy selected grid rows, columns, or cells to the clipboard in HTML text format. Copy HTML delimits data with color-coded state information. Data is also formatted in HTML table format. Clipboard information can then be pasted into a window. This function deliberately does not declare the text as HTML. See Save HTML and Save HTML As... for WYSIWYG treatment of HTML.</p> <p>Select Save Data from the File menu to save all of the information in the grid to a disk file and display it in an internet browser. (You can have ASAP data automatically update web pages. For more information, see Notify control panel File property.</p>
Copy Special	<p>Copies data from selected grid rows, columns, or cells to the clipboard. Copy Special delimits data columns with tab characters.</p> <p>You can paste Copy Special clipboard information into a Microsoft Excel spreadsheet.</p>
Select All	<p>Selects all data grid rows and columns. To copy selected cells to the clipboard, select Copy or Copy Special from the Edit menu.</p> <p>You can also select Save Data or Save Data As from the File menu to save all of the information in the grid to a disk file.</p>
Clear Object History	<p>Clears the history in the ASAP data cache for the selected object. Selecting this item clears the history only for the selected object. The most recent data sample is retained.</p> <p>Use this option when you want to clear a series of backfilled graphs that you generated using the Graph Related function in the Object State Change view.</p>
Clear Data	<p>Clears all ASAP data. When you select this menu item, a dialog box asks if you are sure you want to clear all ASAP data. To clear all data, click OK. To continue using ASAP and leave the view unchanged, click Cancel.</p> <p>Use this command to clear ASAP data prior to downloading data for a different time of day. For more information on how to download data, see Download Wizard Toolbar Button on page 56.</p>

Test Data Generates a set of random test data for the ASAP Client. When you select this menu item, a dialog box asks if you are sure you want to clear all ASAP data and generate a set of pseudo-data. To clear all data and generate a set of pseudo-data, click OK. To continue using ASAP leaving the view unchanged, click Cancel. Test data is defined by the EDL DATA statement. For more information, see [EDL - DATA Statement](#) on page [154](#).

View Menu Items

Menu Items	Description
Session	Opens the ASAP Host Session window.
Graph Nodes	<p>Creates a new Graph window for each host node monitored. Each Graph window then updates in real time as data is received from your host system.</p> <p>Use this menu item to view the overall performance of your network. If you monitor a small number of nodes, you can repeatedly select an entity and then select Graph Nodes to obtain a mixed set of Graphs on different entities. You can also create a node graph manually for selected nodes in your network by using the New Graph menu item in menus for the grid portion of the Browse window.</p>
Dashboard	<p>Select Dashboard from the View menu in the Browse window to save or display a user-defined dashboard consisting of one or more graphics representing various aspects of your system. This menu item allows you to name, save, and display graphic dashboards consisting of a variety of graphic types representing various nodes, entity, and object information. Dashboard allows you to name and save Application, CPU, Disk, Expand, File, Process, ProcessBusy, RDF, Spooler, Tape, TMF, and related graphics. You can name, save, and redisplay dashboards whenever you want to graphically review particular areas of your system. As you define more dashboards, this cascading menu grows dynamically, retaining each of your named dashboards.</p> <p>You can create and add new graphs to the dashboard in a variety of ways. One sequence follows:</p> <ol style="list-style-type: none"> 1. Compose the view you want to create in the Browse window using the Node, Entity, Object, Samples, and MinState menus. 2. Optionally use Graph Object History to define the amount of history desired. For example, if you want history on CPU 0, right-click CPU 0 in the grid portion of the browse window and then select Graph Object History from the menu. 3. Double-click the NodeName column heading in the grid area of browse window to create a new graph window. 4. Repeat Steps 1 through 3 for each element you want to add to the dashboard.

Dashboard graphic properties are all saved whenever you select Save Dashboard As... or when the client is shutdown. Properties saved include Node, Entity, Object, Samples, and MinState, as well as each window location, size, and Graph Type. When the client is started, all graphic elements and associated properties are restored and become active once again.

Graph Type is a new cascade menu item on Dashboard graphic windows. To select Graph Type, right mouse an existing dashboard graph and then select Graph Type to display a list of different graph types. Selecting one of these graph types changes the display accordingly. Graph type is then retained along with all other dashboard node, entity, and object properties. Different dashboard graphs can have different graph types.

Tile Graph Windows	<p>Automatically tiles the region to the right of the Browse window with the existing Graph windows.</p> <p>The Tile Graph Windows function automatically resizes the Graph windows to fit equally into the area to the right of the Browse window. The Arrange Graph Windows function arranges Graph windows based on the size of the last Graph window that you resized.</p> <p>By comparison, the Arrange Graph Windows function resizes Graph windows based on the size of the last Graph window that you resized.</p>
Delete Graph Windows	Deletes all Graph windows.
Arrange Graph Windows	<p>Arranges all existing Graph windows so they appear to the right of the Browse window. Arrangement is based on the size of the last Graph window that you resized. To control the appearance of the Graph windows, repeatedly resize a Graph window and then select Arrange Graph Windows.</p> <p>By comparison, the Tile Graph Windows function resizes the Graph windows to fit equally into the area to the right of the Browse window.</p>
Minimize Graphs	Minimizes all Graph windows.
Restore Graphs	Select Restore Graphs to restore all Graph windows that you minimized.
Tile Grid Windows	Tiles the screen with Browse windows. This function is enabled only when more than one Browse window exists. If the OIL tree view currently appears, the area to the right of the OIL is tiled with Browse windows.
Tile Report Windows	Automatically tiles the region to the right of the Browse window with the current Report windows. This function is enabled only when more than one Report window exists.
Delete Report Windows	Deletes all Report windows.

Download Wizard	<p>Downloads statistics for analysis. The Download Wizard lets you download data for a selected date, time, and sample interval.</p> <p>Normally, ASAP retrieves the most recent data in your host database. The Download Wizard lets you analyze data in the database for a different time or day, provided the database contains data for the specified date and time.</p>
Command Wizard	Displays the Command Wizard window. Use the Command Wizard to display host logs and subsystem status.
Sort-Grid View	Toggles the viewing mode displayed in the data area of the Browse window. In Sort View, you can sort nodes, entities, objects, and their property attribute values by clicking a heading for that attribute column. In Grid View, you can click a graph element to display a menu for generating context-sensitive reports on the selected object.
Thresholds	Displays the Utilization Thresholds control panel.
States	Displays the Minimum State menu for the Browse window. The state you select in the Minimum State menu determines which objects appear in the Browse window. When you select a minimum state, the only objects displayed have a state equal to or greater than the state you selected in the Minimum State menu.
State Changes	Displays the Object State Change window. You can also access this function via the State Change toolbar button. For more information on the OSC view, see OSC Window on page 68 .
Suppress States	<p>Suppresses state reporting for the selected objects. To select a single object, click any cell in the row associated with the object. To select a range of objects, click and drag a range of rows; the range is highlighted.</p> <p>Once you select the objects for state suppression, click the Suppress States toolbar button. You can also select Suppress States from the View menu. The State Suppression dialog box appears.</p> <p>To add Selected Objects to the Suppressed Object State List, click Add.</p> <p>To remove Selected Objects from the Suppressed Object State List, click Remove.</p> <p>To remove all objects from the Suppressed Object State List, click Clear All.</p> <p>To save the Suppressed Object State List, click Save. This list is reapplied to existing objects when the ASAP client is started. If you do not click Save after changing your Suppressed Object State List, your changes are only temporary.</p> <p>To close the State Suppression dialog box, click Close.</p> <p>To get help for the State Suppression dialog box, click Help.</p>
Back <<	<p>Browses backward through the view history.</p> <p>The Browse window retains the last two dozen view settings. You change these settings by selecting items in the drop-down lists along the top of the Browse window. Each time you select a different view, ASAP retains the</p>

node, entity, object, samples, and minimum state settings for that view.

This menu item serves the same purpose as the up arrow on the View Back/Next toolbar button.

Next >> Browsing forward through the view history.

The Browse window retains the last two dozen view settings. You change these settings by selecting items in the drop-down lists along the top of the Browse window. Each time you select a different view, ASAP retains the node, entity, object, samples, and minimum state settings for that view.

This menu item serves the same purpose as the down arrow on the View Back/Next toolbar button.

Refresh Updates the Browse window grid and graph.

Options Opens the ASAP Properties window.

Help Menu Items

Menu Items	Description
Contents	Displays the Help Contents for the ASAP product.
Read Me	Displays the ReadMe softdoc for the ASAP product.
Architecture	Displays an architectural overview discussion of the ASAP products.
Change History	Displays a summary of internal changes made to ASAP.
About	Displays product release version and copyright information about ASAP.

OSC Window

You can use the Object State Change (OSC) window to obtain a history of object state changes. The OSC view provides both a high-level graphical overview of object state changes and a detailed log of state changes. The OSC window consists of two areas, so you can obtain both high-level and detailed state change information.

The upper portion of the OSC window provides a scoreboard with an annotated matrix of the number and type of state changes that have occurred.

Each row of the scoreboard represents the different entity types monitored; for example CPU, Disk, and Expand entities.

Each column of the scoreboard represents different possible object states; for example Up, Down, and Warning states.

Selecting a cell in the scoreboard causes an analysis of the OSC log in the lower part of the window. All object state changes that match the selected entity and state are selected. For example, clicking the cell for the Disk row, and the Down column selects all Down Disk items in the OSC log.

OSC Window Toolbar Button Summary

	Find all items in change log related to the currently selected object
	Graph all items in change log related to the currently selected object
	Graph the most recently selected item in the log
	Acknowledge selected items in log
	Remove selected items from log
	Tile or dock window with Browse window
	Copy scoreboard and log information to clipboard
	Magnify or shrink scoreboard
	Display or hide date in state change log
	Show or hide scoreboard
	Show or hide statistics tips
	Show or hide current object state counts
	Show State thresholds dialog box
	Show ASAP properties window
	Refresh OSC window

OSC Window Functions

The Object State Change window provides functions that allow you to analyze object state changes. The upper part of the window provides a summary of state changes, and the lower part of the window provides a detailed log of each object state change. The OSC tab of the ASAP Properties window lets you configure which states are monitored in the OSC view, and which states generate audible alerts.

You can analyze state changes using functions provided by the OSC window. You can access the functions in any of these ways:

- Choose *View... menu-item*.
- Right-click various objects in the OSC window.
- Click a Toolbar button.

To analyze state changes, select any of these functions:

OSC Find Related



Use the Find Related function to find all items in the change log related to the currently selected object.

When you select a log item in the OSC change log and select Find Related, ASAP finds all state change instances in the OSC log for the object you selected. Each of these state changes is then also selected. You can then examine all state changes related to a given object and perform other operations on these items such as Acknowledge or Remove.

OSC Graph Related



Use the Graph Related function to analyze state changes related to the currently selected object.

When you select a log item in the OSC change log and select Graph Related, ASAP finds all state changes in the OSC log for the object you selected. Each of these state changes is selected in the OSC log, and these selected items are analyzed and graphed in the ASAP Browse window.

The Graph Related function lets you examine all state changes related to a given object, then perform subsequent operations on these selected log items such as Acknowledge or Remove.

You can use the Graph Related function to automatically perform all necessary analysis and client server I/O to locate all details related to the history of an object's state changes. For example, sometimes information for an object state change might be in the ASAP Client cache, and sometimes it is no longer in cache. In either case, ASAP retrieves the information and displays it in the ASAP browse window. If the object's statistics are no longer in cache, the graph backfills with information as additional queries complete the picture of the object's state change history.

OSC Graph Selected



Use the Graph Selected function to obtain a detailed graphical history of selected log items in the state change log.

You can manually select a series of log items. For example, if these ProcessBusy log entries exist in the state change log:

```
11:00 \Chicago\ProcessBusy\0 Low > High Busy 85.5%
11:10 \Chicago\ProcessBusy\0 Low > High Busy 87.8%
11:20 \Chicago\ProcessBusy\0 Low > High Busy 81.2%
11:30 \Chicago\ProcessBusy\0 Low > High Busy 89.3%
11:40 \Chicago\ProcessBusy\0 Low > High Busy 89.3%
11:50 \Chicago\ProcessBusy\0 Low > High Busy 89.3%
```

To manually select multiple log items, for example the first three above at 11:00, 11:10, and 11:20, control-click them. To control-click multiple items in the log, hold down the control key while you click the log items you want to add to the selection list. To graph these items, select the Graph Selected menu item or toolbar button.

If you select multiple log items and use the Graph Selected function, the selected items should all be log items for the same object. Otherwise, confusing nonorthogonal graphical information is generated. To avoid confusion if you accidentally select multiple items for different objects, the Graph Selected function automatically graphs selected log items for the last selected object in the log.

You can also use the Graph Selected function for a single log item by double-clicking the item in the OSC log. This is useful when you want to quickly obtain statistics information for a single log item that appears in the OSC log.

OSC Ack Selected



Use the Ack Selected function to acknowledge items you have selected in the log.

When you select one or more items on the OSC log and select Ack Selected, each selected log item is marked as having been acknowledged. Acknowledged items are marked so that when you leave your workstation and return, you can tell which items are new in the OSC view.

You can also mark positions of interest in the log without acknowledging log items. For example, if you select the last log entry in the log, when you return to your workstation, you can see which log items were added to the log while you were away. Even when new items are added to the log, ASAP remembers which log items you selected.

OSC Remove Selected



Use the Remove Selected function to remove items you have selected from the log.

When you select one or more items on the OSC log and select Remove Selected, each selected log item is permanently removed from the OSC log. Removed items no longer appear in the OSC log, or in the scoreboard portion of the OSC window. Removing log items let you perform housekeeping on state changes that are no longer relevant. OSC removal lets you leave your workstation and focus only on new items that appear in the OSC view when you return.

OSC Tile



Use the Tile OSC function to tile or dock the OSC window with Browse window. This is useful for placing the Browse and OSC windows in a side-by-side arrangement.

OSC Copy



Use the Copy OSC function to copy scoreboard and log information to clipboard. This function is useful when you want to include information from the OSC view in a Microsoft Word document or Excel spreadsheet. Copied information is delimited with tabs and carriage-return line-feeds so that you can paste it into an Excel spreadsheet.

OSC Magnify



Use the Magnify OSC function to magnify or shrink OSC window contents. This function is useful when you want information displayed with larger or smaller fonts and icons.

OSC Show Date



Use the Date function to display or hide the date in the object state change log. When you initially start ASAP, date information in the OSC log is redundant. However, after several days, depending on how you use the OSC view, you might want to display both the date and time of state changes.

OSC Show Score Board



Use the Show Scoreboard function to display or hide the scoreboard in the OSC window.

This view helps you track the number of state changes that occur over long periods of time. You can clear selected state change counts for selected object types and states by using the Remove Selected, Remove Above, or Remove All functions.

When the scoreboard is enabled, an annotated matrix summarizes the number of state changes that have occurred for each entity type and state. If Show Tips is enabled, color-coded hypertext appears as you move your mouse over various regions of the scoreboard.

The scoreboard contains a row for each type of entity monitored and a column for each state monitored. The minimum state monitored in the OSC scoreboard is controlled by the Minimum State Change Monitored option on the OSC tab of the ASAP Properties window. The Entity Tab of the ASAP Properties window controls entities that appear in the OSC scoreboard.

When you select an element in the scoreboard, the OSC log is searched for all Object State Changes that match the selected Entity type and state. For example, if you click

the cell that intersects the Disk row and the Down column, ASAP automatically selects all Down object state changes that have occurred on all disk drives.

To select all state changes for a given entity, click the entity icon in the first column of the scoreboard. For example, if you click the CPU icon, all state changes for the CPU entity are selected. You can then use the Ack and Remove functions on the selected items.

To select all items in the OSC log for a given type of state change, click the state-heading name in the scoreboard. For example, if you click the heading labeled Down, all log items are selected that represent down state changes.

OSC Show Tips



Use the Show Tips function to show or hide tips that appear as you move your mouse over elements of the scoreboard and state change log.

As you move your mouse over elements in the scoreboard, color-coded statistical tips appear describing both the number of state changes, and the total number of objects in a given state.

As you move your mouse over state change entries in the log, ASAP continuously searches for other items in the log that match the object under the mouse. If more items are in the log for the object under the mouse, a tip appears indicating the number of times that object appears in the log. For example, if "17 x" appears as you move your mouse over a log item, there are 17 items in the log for that object. You can use this feature to quickly determine which objects occur frequently in the log. Another way to do this is by sorting items in the log. You can sort items in the log by clicking log headings. For example, to sort by object name, click the heading labeled Domain Name.

OSC Show State Counts



Use the Show State Counts function to display or hide current object state counts in the state change scoreboard.

Normally, only state change counts appear in the scoreboard. However, when Show State Counts is enabled, the number of objects currently in each state also appears in parentheses to the right of the number of state changes. If no state changes have occurred, only the current object state count appears in parentheses.

For example, if (3) appears in the CPU Down cell of the scoreboard, no CPU state changes occurred since you started your monitoring session. But the (3) indicates that three CPUs are currently down. The implication is that these CPUs were already down when you started monitoring, so these are less likely to be of interest. Cells that have no state changes are not annotated with state icons. Typically you are less interested

in entity-state cells that do not represent state changes. As a result, only cells that represent state changes are annotated with colored state icons.

When Show State Counts is enabled, and you click a cell in the scoreboard, the ASAP Browse window displays all objects that have a state greater than or equal to the selected state and entity. If you click a row icon in the scoreboard, all objects for that entity type appear regardless of their state.

If "3 (1)" appears in the CPU Down cell in the scoreboard, three CPU Down state changes occurred since you started your monitoring session, and one (1) CPU is currently down. Because three state changes occurred, the same CPU might have gone down multiple times, or three separate CPUs might have gone down. In either case, multiple CPU reloads were performed. Clicking the CPU Down cell automatically selects and displays all CPU Down log entries so you can determine which sequence occurred. Also, when Show State Counts is enabled and you click the CPU Down cell, the current down CPU is also displayed in the Browse window.

When Show State Counts is enabled and you click a cell in the scoreboard:

- All objects that have a state greater than or equal to the state you clicked appear in the Browse window
- All log entries for the entity-state combination you clicked are automatically selected

When Show State Counts is not enabled and you click a cell in the scoreboard, only log entries are selected.

OSC Thresholds



Use the Thresholds function to display the Utilization Thresholds control panel.

OSC Properties



Use the Properties function to open the ASAP Properties window.

OSC Refresh



Use the Refresh function to refresh the scoreboard and log in the OSC window.

Graph Window

A Graph window provides a compact graphical performance view that is useful for maintaining multiple status-orientated views of various node-entity-object combinations. Each Graph window contains only one graph and can be made small enough to maintain numerous views at once.

Graph windows update in real-time. Many Graph windows can be created from a Browse window, and can be automatically tiled or arranged.

To create a Graph window:

- From the **View** menu of the main Browse window, choose **Graph Nodes**, or
- In the main Browse window, double-click the **Grid NodeName** column heading, or
- In the main Browse window, select a **range** of grid rows, right-click on the selected row or rows to open the pop-up menu, then choose **New Graph**.

Graph Window Status Messages

The Status bar at the base of a Graph window shows the date, time, and number of samples displayed in the Graph window. Graph windows update in real time, so this information helps you determine the timeliness of the data in the graph. When multiple samples are displayed in the Graph window, status messages end with an $x N$ notation, where N indicates the number of samples.

Graph Window Rotate Control

The Graph window includes a Rotate Graph Control to change the rotation and elevation angles of a graph for optimal viewing.

To use the Rotate Graph control:

1. Click the control, and hold down the mouse button.
2. Drag in the direction you want to rotate the graph.

Change the rotation of the graph by dragging the mouse to the left or right.

Change the elevation of a graph by dragging the mouse up or down.

Graph Window Pop-Up Menus

Function	Description
Show Object Details	Displays a graph and a list view of object details or opens a report window with detail information
Show Object History	Displays the recent history of object performance
Graph Object History	Displays recent object history of selected object
Show Related Apps	Shows applications related to the selected object
Show Related Disks	Shows disks related to the selected object
Show Related Processes	Shows processes related to the selected object
Show Related Expand Lines	Shows Expand lines related to the selected object
Refresh	Refreshes the current Browse window
Properties	Opens the ASAP Properties window
Graph Type	Displays a list of graph types such as 2D-Bar, 3D-Bar, Surface, Tape and so on.

To open a context-sensitive pop-up menu in a Graph window:

1. Click a graph element.
2. Click the graph element label.
3. Choose the function in the pop-up menu.

Report Window

You can get detailed reports about selected nodes, entities, and objects in Browse or Graph windows through pop-up menus.

To view context-sensitive reports for grid elements:

1. Select the graph element by clicking the mouse.
2. Right-click the highlighted text to display the pop-up menu.
3. Select the report type.

To view context-sensitive reports for graph elements:

1. Select the element.
2. Click the label to display the pop-up menu.
3. Select the report type.

To copy and paste report window contents:

1. Select either no text to imply all text, or select only the desired text.
2. Select either the **Copy** menu item from the popup menu to copy all text.
3. Select the **Copy Special** menu item to copy text without headings and carriage returns.

This subsection describes the available reports.

Report windows contain reports that are either static or updated automatically over time. For more information, see [Reports Auto Refresh Check Box](#) on page [93](#).

Show Object Details

To display all performance properties and values for the selected object, or to open a detail report window for the selected object, select Show Object Details. The Report window displays a graph of the user-defined graph attributes. Below the graph is a scrollable list view of all ASAP performance properties for that object and their values. The EDL Entity statement Detail property controls the behavior of this menu item.

If the EDL DETAIL option is not used, the detail report window displays a graph of the user-defined graph attributes. Below the graph is a scrollable list view of all ASAP performance properties for that object and their values. If the EDL DETAIL option is used, the report window displays the object with detail information. For more information, see [Detail - EDL Entity Property](#) on page [136](#).

Show Object History

To display a detailed recent history report for the selected object, select Show Object History. This report is generated by posting a query to your host system, then displaying the response in a scrollable history view of information for the selected object. When the entity type is a Process, the report is a Busiest Process History report for the selected CPU. The EDL Entity statement History property controls the behavior of this menu item. For more information, see [History - EDL Entity Property](#) on page [138](#).

Graph Object History

To display a graph of recent history for the selected object, select Graph Object History. This graph is generated by making the view in the Browse window match the object name of the selected object, then posting a query to your host system for more history about that object. When the query completes, the query response is automatically displayed in that Browse window.

This function lets you extend the history information for any object that appears in the Browse window. Select the object, then select Graph Object History in the popup menu. ASAP automatically back fills the object history in the Browse window.

Show Related Apps

To display a report of applications related to the selected object, select Show Related Apps. When this report is generated, a query is first posted to your host system, and then the response appears in a scrollable view of application statistics information related to the selected object.

If the selected object is a CPU or a Process, the report shows the application processes running in that CPU. If the selected object is not a CPU or a Process, the report covers all applications on the specified system.

Show Related Disks

To display a report of disk volumes related to the selected object, select Show Related Disks. When this report is generated, a query is first posted to your host system, and then the response appears in a scrollable view of disk volume performance information related to the selected object.

If the selected object is a CPU or a Process, the report shows the disk processes running in that CPU and a detailed listing of related performance statistics. If the selected object is not a CPU or a Process, the report covers all disks on the specified system.

Show Related Processes

Select Show Related Processes to display a report of processes related to the selected object. When this report is generated, a query is first posted to your host system, and then the response appears in a scrollable view of busiest process performance information related to the selected object.

If the selected object is a CPU or a Process, the report shows the busiest processes running in that object's CPU. If the selected object is not a CPU or a Process, the report is a Busiest Process report for all CPUs on the specified system.

Show Related Expand Lines

To display a report of Expand lines related to the selected object, select Show Related Expand Lines. When this report is generated, a query is first posted to your host system, and then the response appears in a scrollable view of Expand performance information related to the selected object.

For example, if the selected object is a CPU or a Process, the report contains a report on the Expand line handlers running in that CPU. If the selected object is not a CPU or a Process, the report is an Expand Line statistics report for all Expand lines on the specified system.

Show Related Measurement

Select Show Related Measurement to configure and display detailed measurement on demand reports.

When you select an object in a grid or graph and then select Show Related Measurement, an ASAP Measurement control panel is displayed with the options shown below. This allows a detailed measurement to be configured and started. Upon completion, it provides a series of in-depth reports that are automatically displayed in a report window. An explanation of the Show Related Measurement control panel options follows:

Node dropdown controls the Node name to be analyzed.

Entity dropdown controls the Entity to be analyzed.

Object dropdown controls the Object to be analyzed. The initial node, entity, object values are for the object you initially selected.

TopN dropdown controls the number of busiest components displayed for the selected object. For example, if you select a value of 10 for the TopN dropdown and the object is a disk, the 10 busiest files on that volume and the 10 busiest processes for that volume are displayed in sorted order from most busy to least busy.

Seconds dropdown controls the measurement interval in seconds. If you are comparing data to ASAP you should use the same sample interval as ASAP, which is the default. Otherwise you can pick a shorter or longer interval. (You are limited to one measurement at a time to protect use of system resources).

Sync checkbox synchronizes the measurement to start-stop in sync with the ASAP sample interval. This option can be used for comparative analysis of stats.

Raw checkbox displays raw output, most likely not desired.

Start button starts the measurement and analysis.

Cancel cancels the Show Related Measurement dialog.

Help button displays online help

To display advanced options select the down arrow. It is strongly recommended you not change any of the values for the advanced ASAP Measure settings.

Reports appear in a normal ASAP report window, which are tiled along with other report windows. The progress bar at the bottom shows measurement status and details.

Correlate as... you can click on the Status Bar portion of a Show Related Measurement report window and menu items named... Correlate as... . Select one of these to display a correlation analysis between the measurement and ASAP data. Correlate as... is an advanced feature primarily intended for ASAP quality assurance and development purposes.

Show Related Objectives

To display a report of high and low objectives for the selected application domain, select Show Related Objectives. When this report is generated, a query is posted to your host system, then the response appears in a scrollable view of Application domain objectives related to the selected object.

Session Window

ASAP obtains object status and performance information via an active Host session to a NonStop Server. Using the Session window, you can view, start, stop, and track the progress of your Host Session. You can also synchronize the time and date between your workstation and the server.

To open the Session window, choose Session from the View menu of the Browse window, or click the Host icon in the PC-Host Session Status display.

Session Log

You can view the progress of your ASAP Host Session from the Session window. All Host Session establishment and I/O activities appear in the log area of the Session window.

The Session log is useful for checking the status of your Host Session. If you are having difficulty with your Host Session, view the Session log to determine the cause. The log always contains the latest information about your host dialog, including version information about the CSG, SSG, and SeeView products.

To save the Session log to disk, select Save from the File menu of the Session window.

Session Window Pull-Down Menus

File Menu Items

Menu Item	Description
Start Session	Starts your Host Session and enables the state of the Client Server Gateway check box on the SSG property sheet
Stop Session	Stops your Host Session and disables the state of the Client Server Gateway check box on the SSG property sheet
Save Log and Save Log As	Saves the current Session log to disk. Choose Save Log As to specify the name of the log file before saving the disk file.
Close	Closes the Session window. This does not stop your Host Session.

View Menu Items

Menu Item	Description
Statistics	Displays host I/O statistics for your session. These statistics are used primarily for diagnostic purposes.
Clear Log	Clears the contents of the Session log. This is used primarily for diagnostic purposes.
Version Info	Displays version information for the CSGDLL, CSG, SSG, and SeeView products. This is used primarily for diagnostic purposes.
Data Window	Opens or gives focus to a Browse window.
Time Sync	<p>Displays the Time Sync window, which lets you determine the time difference between your workstation and your NonStop server, and lets you synchronize the date and time between them to within one second of each other.</p> <p>You can either synchronize your workstation to your NonStop server session, or vice versa if you have super group access:</p> <ol style="list-style-type: none">1. Select Set PC time from HOST time (to synchronize your workstation to your NonStop server) or Set HOST time from PC time (to synchronize your NonStop server to your workstation).2. To view the time difference between your workstation and the server, click Check Times. ASAP displays the date and time of the host and the PC in real time.3. Click the down-arrow button to display the log window. Click the up-arrow button to hide the log window.4. To eliminate a time difference between the PC and Host, check the Set Time check box. The Check Times button changes to SET PC TIME or SET HOST TIME.5. To initiate the time sync operation, click that button.6. To confirm the new time difference between the PC and Host, uncheck the Set Time button, then click the Check Times button.7. To temporarily suspend normal ASAP data collection between the ASAP client and server, check the Suspend I/O check box. This is useful when data collection causes excessive queuing that could interfere with time synchronization (if you see messages "Round Trip too long...", select it).8. To close the Time Sync window, select the Close button. When you close the Time Sync window, ASAP sampling automatically resumes if the Suspend I/O check box is checked.
Options	Opens the ASAP Properties window, where you can customize your environment by specifying which entities and performance attributes the Browse and Graph windows display.

Session Window Toolbar Buttons

Start/Stop Session Toolbar Button



Click the Start/Stop Session toolbar button to start and stop your Host Session. To start or stop your Host Session, click the button with the Tandem logo on it.

The Start/Stop Session button appears pressed when ASAP is in session, and not pressed when ASAP is not in session.

Save Session Log Toolbar Button

Click the Save Session Log toolbar button to save the current Session log to disk.

Clear Session Log Toolbar Button



Click the Clear Session Log toolbar button to delete the contents of the current Session log.

Time Synchronization Toolbar Button



For details, see Time Sync under [View Menu Items](#) on page [81](#).

Properties Window Toolbar Button



Click the Properties Window toolbar button to display the ASAP Properties window. Use the ASAP Properties window to customize your environment by specifying which entities and performance attributes appear in the Browse and Graph windows, and to specify session properties.

Section 5: Configuring ASAP

The ASAP Properties window gives you many options for customizing the ASAP environment, including the ability to specify which entities are retrieved from NonStop OS host systems, the attributes to display for each entity, the state determination algorithm for each attribute, and the font, graphing options, and host retrieval options to use.

1. Open the ASAP Properties window by doing any of:
 - In the Browse window, select **View>Options**.
 - In the Session window, select **View>Options**.
 - In the Browse window, click the **Properties** toolbar button.
 - In the Session window, click the **Properties** toolbar button.
 - In the PC-Host Status icon area of the Browse window, select the **PC** icon.
 - In a Browse or Graph window, select **Properties** from a context-sensitive pop-up menu.

The ASAP Properties window appears.

2. Click a property sheet tab to bring it to the front. (This section describes all the property sheets and their functions.)
3. Change the settings on the sheet.

To discard your changes and leave the Properties window at any time, click **Cancel**.

4. Click **OK** or **Apply**.

The changes you made are permanently saved and applied to your environment.

Property Sheet	Controls	Page
Attribute	Which entity attributes are displayed in grids and graphs	84
Entity	Which entities are retrieved from the host	89
Font	Name, size, and style of font in the Browse window	91
General	General ASAP properties	91
Graph	Graph properties for Browse and Graph windows	95
OEM	Open Enterprise Management properties	98
OIL	Object Integration Layer properties	100

OSC	Object State Change properties	103
SSG	Host Session properties for the Client Server and SeeView Server	116

Attribute Property Sheet

The Attribute property sheet controls which entity attributes are displayed in grids and graphs, and their state determination algorithm. Entity attributes are the properties of an entity such as status, date, time, and busy.

Use this dialog to:

- Control which attributes are displayed in the data grid of Browse windows
- Control which attributes are displayed in the graphs of Browse and Graph windows
- Set the normalization value for attributes
- Set the state determination algorithm for attributes
- Find the exact meaning of a specific entity attribute

1. Change the current entity properties displayed in the Attribute property sheet:
 - a. Click the Entity down arrow.
 - b. Select the entity you want.

The attributes of the selected entity appear in the list box below the entity name.

2. Select an attribute from the Attributes list.

A technical description of the selected performance attribute appears in the Selected Attribute text area to the right of the Attributes list.

Getting Help for an Entity Attribute

To find information about a specific performance attribute:

1. Scroll through the Attributes list.
2. Select the name of the attribute.

Show Attribute in Grid Check Box

To display or suppress an attribute in the data grid of the Browse window:

1. Select the attribute from the Attribute property sheet.

2. Check the **Show Attribute in Grid** check box, or double-click the first column of the selected attribute.

Show Attribute in Graph Check Box

To display or suppress an attribute in the graph portion of Graph and Browse windows:

1. Select the attribute from the Attribute property sheet.
2. Click the **Show in Graph** check box, or double-click the second column of the selected attribute.

When an object's data attribute has its Show in Graph Check Box enabled, ASAP analyzes the attribute and assigns a state to the attribute.

When the Show in Graph property of an attribute is enabled, the attribute state appears in the form of color-coded graph elements and in annotated-state icons in the OIL, OEM, and data grids.

The rule used to determine the state of a data attribute is based on the State Determination setting for the attribute. For more information, see [State Determination](#), below.

When an object's time attribute has its Show in Graph Check Box and Use Thresholds options selected, ASAP performs a series of automatic timestamp checks to ensure that the time has a reasonable value. If the time is not reasonable, ASAP raises the state of the time to an alert level.

To disable Late Data time checks for all entities, select the No Check option of the Late Data Integrity Check drop-down menu in the OSC Property Sheet. For example, to disable Late Time time checking for a specific entity, uncheck Show in Graph for its Time property from the Attribute property sheet. To disable Late Data time checks for all entities, select the No Check option from the OSC Property Sheet.

Graph-Max Field

When an attribute has its Show in Graph property set, you can specify the Graph-Max normalization value for that attribute. The Graph-Max field is the unlabeled field immediately to the right of the Show in Graph check box. This value determines the maximum graph amplitude or normalization value for the attribute.

For example, if the attribute Queue has a Graph-Max value of 10, and the value of the Queue attribute is 5, the Queue value appears in the graph at one-half of the maximum graph height.

Graph-Max values are used when the Graph Percent check box is selected on the Graph property sheet.

State Determination

You can specify how the state of each attribute is determined when an attribute has its Show in Graph property set. For more information, see [StateRule - EDL Attribute Property](#) on page [153](#).

In ASAP, each data attribute has a state associated with it when the attribute has its Show in Graph property set. ASAP assigns the state to that attribute based on the State Determination Option for each attribute. If more than one attribute has its Show in Graph property enabled for a given object, the attribute with the highest state is said to be the state of the object. Thus each object can have a state associated with it.

When an object has a state associated with it, the graph for each object is color-coded according to the state of the object, and the corresponding data value in the grid portion of the ASAP Browse window is annotated with the state icon. The Browse window lets you selectively display objects based on their states. To selectively display objects in the browse window based on their states, select the States menu item from the Browse window View menu. This table summarizes ASAP states and their associated icons:

Icon	State	Description
	Existence	Object exists.
	Up or OK	Object is up or meets objectives.
	Low	Object utilization is low.
	Medium	Object utilization is medium.
	High	Object utilization is high.
	Warning	Object is at Warning level.
	Critical	Object is at Critical level.
	Down	Object is down or not operational.
	Questionable	Object state is Questionable.

To customize object and state icons, use the Icon Server Control Panel. If you do, state icons in your ASAP environment might appear different than shown here. For more information, see [Icons Button](#) on page [92](#).

State Determination ALL Button

The State Determination ALL button is an advanced feature that selects a range of attributes from the first attribute that has a state attribute associated with it, through the last attribute for the current entity.

This button lets you quickly select a range of attributes starting with the first attribute that has a state associated with it, also known as a *value,state* StatePair. Once you select these attributes using the ALL button, you can set the State Determination rule for all StatePair attributes all at once, rather than individually.

For example, to set the State Determination rule for all StatePairs to UseStateGraphState, click the ALL button, then select the State Determination Rule labelled Use State...Graph State.

Conversely, to set the State Determination rule for all StatePairs to UseThresholds, click the ALL button, then select the State Determination Rule labelled Use Thresholds. The Status attribute for the entity is not set to UseThresholds. By definition, its state determination rule is UseStateGraphState.

State Determination Options

Icon	Option	Description
	Use Thresholds	The state of an attribute is determined by the values specified in the ASAP Utilization Thresholds dialog box.
	Use Value Graph Value	Attribute state information is determined directly by the value of that attribute.
	Use State Graph Value	Attribute state information is determined by the state variable associated with that attribute. The attribute value is graphed.
	Use State Graph State	Attribute state information is determined by the state variable associated with that attribute. The state value is graphed.

Use Thresholds Option



The Use Thresholds option indicates that the state of an attribute is determined by the values specified in the ASAP Utilization Thresholds dialog box. When you set this property for a given attribute, state determination for the attribute is based entirely on ASAP utilization thresholds. For more information, see [Utilization Thresholds Control Panel](#) on page [102](#).

When an object's Time attribute has its Show in Graph Check Box and Use Thresholds options selected, ASAP performs a series of automatic time checks to ensure that the time has a reasonable value. If the time is not reasonable, ASAP raises the state of the time to an alert level.

For example, if the time for statistics received from ASAP is not recent, the Time state for that object is reported as down and a Red or Yellow Icon appears next to the time. You should enable ASAP time checks because this mechanism helps in the analysis of a variety of problems, including: server and database errors, down nodes, down communication paths, and incorrect system time settings. To disable Late Data time checks for all entities, select the No Check option of the Late Data Integrity Check drop-down menu on the OSC Property Sheet.

Use Value Graph Value Option



The Use Value Graph Value option indicates that attribute state information is determined directly by the value of that attribute. This value is graphed.

Entities such as App have user-defined metrics that provide both value and state information in ordered pairs of numbers; for example, Busy and BusyState. The metric portion is the actual value of the attribute, and the state portion is the entity agent's state determination objective associated with the metric. When you select the Use Value Graph Value option, the metric value is graphed, and that value is also used to directly specify the state of the object. The state variable associated with the metric is ignored.

This option lets applications using the ASAP Extension directly set the state of an attribute from their application program.

Use State Graph Value Option



The Use State Graph Value option indicates that attribute state information is determined by the state variable associated with that attribute. The attribute value is graphed.

Entities such as App have user-defined metrics that provide both value and state information in ordered pairs of numbers; for example, Busy and BusyState. The metric portion is the actual value of the attribute, and the state portion is the entity agent's state determination objective associated with the metric. When you select the Use State Graph Value option, the actual metric value is graphed, but the objective state of the value is determined by the state variable associated with the metric value.

This option lets you use the ASAP Extension to configure host-defined performance state objectives and to see a graphical representation of these states in the ASAP Client GUI, the OEM/OIL, and any OEM adapter-enabled Enterprise Management framework.

Use State Graph State Option



The Use State Graph State option indicates that attribute state information is determined by the state variable associated with that attribute, and that state value should also be graphed. Because larger state values indicate higher alert levels, this option is useful for graphically drawing your attention to the most significant alerts.

Entities such as App have user-defined metrics that provide value and state information in ordered pairs of numbers; for example, Busy and BusyState. The metric

portion is the actual value of the performance attribute. The state portion is the entity agent's state determination objective associated with the metric. When you select the Use State Graph State option, the state value is graphed and used to determine the state of the metric.

When you choose this option, although the value of the state is graphed, the actual metric value appears in all numeric fields such as the grid portion of the Browse window, pop-up captions in the graph, and the OEM context fields. This option is useful if you want the relative size of graph elements to indicate alert levels. For example, larger graph elements can indicate larger or higher alert levels.

You can use this option in several ways:

- It lets system and application entities associate host-defined availability objectives with metrics, and see a graphical representation of these states in the ASAP Client, the OEM/OIL, and any OEM adapter-enabled Enterprise Management framework.
- It can display the state of an attribute as determined by the ASAP RANK command. When you specify Use State Graph State, the state of the attribute is determined by the RANK command. All StatePair attributes for entities such as App, CPU, Disk, Expand, File, Node, Process, Processbusy, RDF, Spooler, System, Tape, and TMF can have availability objectives defined using the ASAP RANK command.
- It is used for System entities that have a Status attribute representing the operational state of the object. Each Status attribute has a state named Op associated with it. The value of Op represents the numeric state of the object; for example, 2 (up), 6 (warning), 7 (critical), and 8 (down). When the Status attribute is graphed and the Use State Graph State option is chosen, the operational state of the object is graphed and that state icon appears next to the Status attribute in the data grid.

Entity Property Sheet

Use the Entity property sheet to control which entities have their availability information analyzed. The ASAP Client automatically retrieves the selected entities from your host systems for real-time analysis and display.

The list of entities that appears in the Entity property sheet is determined by the entities defined in the Entity Definition Language (EDL) file. For more information about adding entities, see [Section 6: Entity Definition Language \(EDL\)](#).

You do not need to enable all of the entities on the Entity property sheet to obtain context-sensitive menu reports about these entities. This dialog controls which entities are retrieved from the host and displayed in various grids and graphs. Try setting only one entity, such as the CPU entity, to see if this setting provides enough data.

The time required for data retrieval depends on the size of your NonStop OS network, the number of entities you select, the number of application objects, and the speed of your host connection:

- For a medium-size network (5 to 10-node), data retrieval for a few key entities takes up to 15 seconds.
- Retrieving the data for a 30-node network with many entities enabled can take several minutes.

When only a few entities are enabled, the download interval is typically less than 15 seconds, and you still get detailed progressive reports on CPU, Disk, Expand, and Process entities.

To enable information retrieval for an entity, check the check box for that entity on the Entity property sheet:

Check Box Downloaded Status and Performance Attributes

App	Application domain name, date, time, CPU, PIN, user-defined metric count, error number, total downtime, number of no acknowledgements (NAKs), undefined metrics, and all application-defined metrics
CPU	CPU number, date, time, busy, queue, dispatch, disk I/O, cache hits, swaps, memory queue, and pages locked
Disk	Disk name, operational status, date, time, CPU, PIN, capacity, space used, requests, overall busy, write busy, read busy, cache hits, swaps, queue, and input and output kilobytes per second
Expand	Line name, operational status, date, time, next system, time factor, pool use, fail, no buffer, BCC, modem errors, packets, NAKs, and passthrough packets sent and received
File	File name, date, time, operational status, errors, percent full, file code, TMF audit state, format, file type, SQL type, partitions, last open, and last modification
Node	Source node, destination node, date, time, hops, links, and packets sent and received
Process	CPU number, date, time, rank, busy, PIN, program filename, name, priority, security group.user, receive queue, messages sent and received, and pages used
Process Busy	CPU number, date, time, rank, busy, PIN, program filename, name, priority, security group.user, receive queue, messages sent and received, and pages used
RDF	Date, time, op status of extractor, monitor, purger, receiver, and updater components, round trip delay time, primary and backup CPUs, execution priority, audit, sequence number, and relative byte address information

Spooler	Date, time, operational status of collectors, devices, print processes, supervisor processes, jobs, fonts, full, and primary and backup CPUs
System	Date, time, busy, queue, dispatch, disk I/O, cache hits, swaps, memory queue, and pages locked
Tape	Date, time, operational status of tape drive, drive subtype, label processing status, mount status, mount wait time, status of physical tape, tape label; process name, user ID, program filename of process using tape drive, and primary and backup CPU numbers
TMF	Date, time, operational status audit dump, audit trail, audit hold, audit errors, percent audit trail full, transactions, transactions per second, hung transactions, and duration of transactions

Font Property Sheet

The Font property sheet controls the grid font name, size, and style properties for Browse windows.

Changing Font Name

1. Select the font name in the Font Name list box.
2. Click **Apply**. You see the results immediately.

Changing Font Style

1. Click the **Font Style** down arrow.
2. Select a style from the list.
3. Click **Apply**. You see the results immediately.

Changing Font Size

1. Click the **Font Size** down arrow.
2. Select a style from the list.
3. Click **Apply**. You see the results immediately.

General Property Sheet

The General property sheet controls the display of toolbars, object and state icons, default double-click actions, and automatic grid formatting.

Annotate Grid With States Check Box

To display state icons in the grid portion of all Browse Windows, check the Annotate Grid with States check box.

When this check box is checked, a state icon appears next to the attribute with the highest alert state for each object graphed in the Browse window.

The state icon that appears in the Browse window is the same icon that appears in the OEM, OIL, and any optional Enterprise Management Frameworks.

Clear Registry Button

To clear all of your registry settings, click the Clear Registry button. Because all existing settings are lost, a confirmation dialog box appears. Your custom EDL settings are also lost, and ASAP reverts to factory EDL settings. If you click Yes, all settings are cleared, the ASAP Client terminates, and you must restart your ASAP session. You can configure your new settings when the session is restarted. Click No to close the confirmation dialog box and leave your settings unchanged.

Data Query Tool Bar Enable Check Box

To display the toolbar in the main Browse window, check the Data Query Tool Bar Enable check box.

Icons Button

Click the Icons button on the General property sheet to configure the icons and colors you want to represent objects and states in ASAP, OIL, and OEM windows.

When you click the Icons button, the Icon Server control panel appears. The Icon Server lets you configure your icons and colors. For information on using this control panel, see [Icon Server Control Panel](#) on page [97](#).

New Graph on Data Grid Double Click Check Box

To change the default double-click behavior in the grid portion of the main Browse window, select the New Graph on Data Grid Double Click check box.

When you select this check box, double-clicking selected rows in the grid portion of a Browse window opens a new Graph window view of the selected object or objects.

When this check box is not selected, double-clicking the grid portion causes the selected row or column to be graphed in the same window as the grid. Use this option to isolate the graphic properties of the selected row or column.

You can also access these functions through the grid menu by right-clicking a grid row, column, or cell and then selecting either New Graph to display a new graph in a new

window or Graph Row/Column to display the selected row or column in the graph portion of the same window.

Reports Auto Refresh Check Box

To automatically refresh the contents of Report windows whenever ASAP performs a host sample update, select the Reports Auto Refresh check box.

When this check box is not selected, Report windows are static, displaying data for the specific request that initially created the Report window. This data is not updated.

Clicking the Auto Refresh Indicator in the lower left corner of a Report window also controls the Auto Refresh property for that window. When you click the Auto Refresh Indicator, a menu appears so that you can specify the setting of the Auto Refresh property. You can also manually update the window using the menu.

Set Password Button

Click the Set Password button to protect ASAP property sheets with a password. The Set Password dialog is used to protect settings for your environment with a password. Click the Set Password button on the General property sheet to display the Set Password dialog box.

When the Set Password dialog box appears, you can protect property sheets by selecting check boxes for each property sheet that you want protected. Once you enter a password and click the Set Password button, the property sheets you selected are protected. You can set a Password Reminder, which is provided if someone cannot remember the password.

To access protected property sheets:

1. Display the ASAP properties window, and select property sheets as you would normally.
2. You will be prompted for a password to unlock the protected property sheet. If you do not have the password, you will be unable to modify protected property sheets.
3. If you enter the correct password, all property sheets will be unlocked until the ASAP Properties window is closed. If someone opens the ASAP Properties window at a later time, they will be prompted once again for the password. This approach allows you to protect your property sheet settings in environments that are not physically secure.

Considerations

If you specify a password with no property sheets protected, then you "own" the Set Password dialog box even though no tabs are protected. Thus other users can have access to all property sheet settings, but they are prevented from setting the property sheet password.

If you specify no password and no property sheets are protected, then you have reset property sheet protection. Other users can then enable property sheet protection.

If you select the **ALL** checkbox, all property are selected. If you clear the ALL checkbox, all property sheets will be cleared.

Show Help in Grid Check Box

To display context-sensitive definitions of attributes when you move the mouse over data in the grid portion of the Browse window, select the Show Help in Grid check box. If you do not want definitions displayed, do not select this check box.

Show Splash Screen Check Box

To display the splash screen at startup, select the Show Splash Screen check box. Clear the check box to suppress display at startup.

Show Removed Objects Check Box

Select the Show Removed Objects check box to display objects that have been removed. Some entities such as the App, Disk, File, or Process entity can have transient objects, where a transient object is an object that previously existed but has been removed. For example, application objects or processes are added when an application is started. When a program shuts down, monitored objects may be removed. By selecting this option, you can monitor the completion status of objects that have been removed. The Delete Removed drop-down controls how long removed objects are displayed.

Delete Removed Drop-Down

Select the Delete Removed drop-down to control when removed objects are deleted. These options are available:

Never—Select this option if you want removed objects to be indefinitely retained by your client session. This setting means the client will never delete removed objects from the client data cache. You can, however, manually delete objects in cache using the Edit... Clear Data menu item on the main browse window.

Immediately—Select this option if you want to always immediately delete removed objects from cache. This setting causes the client to immediately delete removed objects from the client data cache. When this option is set, removed objects will never appear.

After N minutes—Select this option to control how long objects will be displayed after they are removed. For example, if you select Delete Removed After 5 minutes, the client displays an object that has been removed for 5 minutes and then the removed object is deleted from the client. The value of N controls how long an object is displayed in the client. It is not necessarily the time since was removed.

Depending on server behavior, a removed object may reappear after it has been removed because some server entities continue to redisplay a removed object, or because the object may actually be re-created (for example, a process \$name that comes back). If so, the object reappears in the client.

If After N minutes is specified, and if the EDL Command associated with an entity supports an AGE N option, the value of N in the Delete Removed After N minutes dropdown should be greater than the value of AGE N.

Stretch/Compress Grid Columns to Fit Window Check Box

Select the Stretch/Compress Grid Columns to Fit Window check box to automatically stretch or compress the grid column width automatically.

When this check box is selected and the Browse window is resized, the grid column width for each column is apportioned automatically based on its relative width. Columns with more text are wider, and columns with less text are narrower.

When this check box is not selected and the Browse window is resized, the grid column width for each column remains a constant width unless the window size is too small. In that case, the column width is sized automatically according to the apportionment method.

Graph Property Sheet

The Graph property sheet in the ASAP Properties window controls various Graph properties. Graph properties include graph type or style, format, label positioning, and whether graph rotation angles are saved.

You can use this dialog to control:

- Whether a Graph appears in the Browse window
- Whether Graph rotation angles are saved in the registry
- Whether Graph rows are labeled with corresponding objects
- Which Graph normalization method is used
- Whether Graph colors are synchronized to thresholds

Graph Type Drop-Down List

To change the type of graph displayed in Browse and Graph windows, click the Graph Type down arrow and then select a graph type.

Graph Color Sync Check Box

To synchronize the color of graph elements to ASAP Utilization Threshold colors, select the Graph Color Sync check box. When you select this check box, graph elements that exceed utilization thresholds match the utilization threshold color for the object. Object colors in ASAP, OEM, and OIL are synchronized, indicating the relative utilization state of each object.

Graph Color Toggle Check Box

To alternate the color of repeating rows of graph colors between a light and dark shade of the same color, select the Graph Color Toggle check box.

Graph in Grid Window Check Box

To display a graph in the Browse window, select the Graph in Grid Window check box. If you do not want the graph displayed in the Browse window, do not check this check box.

When you select an item in the graph, the corresponding data in the grid is automatically selected and highlighted. This tight coupling lets you work in either the graph or the grid and have both a graphical and a numerical view of the entity available simultaneously.

Label Rows with Names Check Box

To have object row labels appear at the base of the graph, check the Label Rows with Names check box. If you prefer the object rows to be identified with a legend, do not check this option.

Label Names Compressed Check Box

To display object row labels in condensed form, select the Label Names Compressed check box. To display the object rows with their fully expanded name, do not check this check box.

Graph Percent Check Box

If you want the data in graphs to be normalized, check the Graph Percent = $\frac{value}{Graph-Max} * 100$ check box. Use the Attribute property sheet tab to set the *Graph-Max* normalization value for each entity attribute.

Pop-up Offset Drop-Down List

The Pop-up Offset controls the horizontal offset of pop-up labels in graphs when you click graph elements.

Max Graph Rows Drop-Down List

The Max Graph Rows property lets you limit the maximum number of rows that appear in the Browse window graph and associated grid or list view.

The primary purpose of this function is to avoid displaying too much information in the Browse window.

Select ALL to remove the limit altogether. However, selecting ALL can lead to performance degradation when you display a large number of objects or rows.

High Contrast Check Box

Select the High Contrast check box if you want to maximize color contrast between graph elements and the graph background. If you prefer more muted contrast, do not check this check box.

Show Wall Check Box

If you want contrast between the graph wall and the graph background, check the Show Wall check box. If you prefer less contrast, do not check this check box.

Save Rotate Angles Check Box

To permanently save graph rotation and elevation angles each time you rotate the graph in the main Browse window, check the Save Rotate Angles check box.

Icon Server Control Panel

The Icon Server control panel lets you configure the icons and colors that appear in ASAP, OIL, and OEM windows.

To display the Icon Server control panel, click the Icons button on the General Property Sheet.

You can also use this control panel to configure your own customized icons and colors for the ASAP environment.

To select a set of icons and colors, select New Icon Directory? to change your icon directory.

OK or Apply buttons are enabled when the directory you select is a valid icon-color directory. To apply the changes to your ASAP environment, click OK or Apply. If you do not want to change anything, click Cancel.

To change the color associated with a state, select the colored state name in the colored states area on the right side of the control panel. A color palette for the selected state appears. Select the color you want to associate with the state. To apply icon and color changes, click OK or Apply.

For more information about configuring your own icons and colors, click the Help button on the Icon Server control panel.

OEM Property Sheet

The OEM property sheet controls how ASAP nodes, entities, and objects are displayed in the Open Enterprise Management (OEM) gateway. Also use this property sheet to control the display of availability and performance icons.

Enable the OEM gateway when you want an enterprise management gateway view of nodes, entities, and objects known to ASAP. When you select an entity or object in the OEM framework, ASAP reports on the selected node, entity, or object.

Performance utilization and alert icons representing the relative state of nodes, entities, and objects can also be displayed in the OEM. Icons are automatically propagated upward through the OEM hierarchy. This propagation algorithm ensures that even when the OEM hierarchy is collapsed, the highest alerts for nodes, entities, or objects are visible.

Open Enterprise Management Check Box

The Open Enterprise Management check box lets you display ASAP node, entity, and object performance information in the OEM gateway.

To enable the ASAP interface to the enterprise management gateway, check the Open Enterprise Management check box. When the OEM interface is active, you can access ASAP information from the OEM framework.

When you request information about an entity or object in the OEM framework, ASAP displays detailed information for the selected entity or object.

Show Context Values as Percentage Check Box

Select the Show Context Values as Percent of Graph-Max check box to display values as a percentage in the OEM Context field.

When this option is selected, statistics are displayed in the OEM Context field as a percent of the Graph-Max value for the most used attribute of each object. You can control Graph-Max values by selecting the Attribute Tab of the ASAP Properties window.

If this check box is not checked, Context values are displayed as raw values.

For example, if the Queue attribute of the CPU entity has a Graph-Max value setting of 10, and a CPU has a Queue of 10, ASAP reports the OEM Context for that CPU as Queue 100% in the OEM Context field. If the Show Context Values as Percent option is not checked, the threshold utilization alert is still reported as 100%, but the value that appears in the OEM Context field is Queue 10 instead of Queue 100%.

The Show Context Values as Percent of Graph-Max option has no effect on the utilization threshold state reported for OEM objects. It simply controls how the value appears in the OEM Context field.

Report on Objects in Related OEM Subdomain Check Box

On the OEM property sheet, the Report on Objects in Related Subdomain check box controls how ASAP behaves when objects are selected in the OEM gateway.

When this check box is checked, a selected object and all objects in the same subdomain are graphed.

If this check box is not checked, only the selected object is graphed.

For example, if the check box is checked and `\Chicago\Cpu\0` is selected in the OEM, all CPUs in `\Chicago` are graphed in the ASAP Browse window. If the check box is not checked, only CPU 0 is graphed.

Show Utilization in OEM Check Box

To display state icons representing alert levels of nodes, entities, and objects in the OEM, check the Show Utilization in OEM check box.

When this check box is checked, icons are automatically propagated upward through the OEM hierarchy based on the state determination algorithms you specify. You can specify utilization thresholds using the Thresholds button on the OEM property sheet. You can also access thresholds through the Browse window Thresholds toolbar button.

You can also specify objectives from your NonStop servers with the ASAP RANK command.

If you do not select this option, performance utilization icons do not appear in the OEM, but you can still get performance information for objects in the OEM by right-clicking the object, then choosing the Performance pop-up menu item.

OEM Full Context Drop-Down List

The OEM Full Context drop-down list controls the amount of object-state information passed to the OEM. *Normal Context* is the default and provides limited information, other options are *Full Context as XML* and *Full Context as CSV* format. The following is an explanation of each OEM context option.

Normal Context –When you select this setting, the ASAP client context string for each object contains only the name and value of the attribute with the highest alert state. This is the default context string.

Full Context as XML –When you select this setting, ASAP client appends XML `<name> <value>` pairs for each entity attribute name and value that has its Show in Graph property enabled. The XML tag `<name>` will be the same as the Attribute

heading property; for example, <busy> 98 <full> 66. Prior to <name> value pairs, a context sting similar to Normal context appears. For example:

```
\Chicago\Cpu\01:6:"Busy% 72 <Status> Up <Time> 10:01 <Busy%> 72  
<Queue> 4 <Disk> 28 <Chit> 85 <Swap> 4",
```

```
\Chicago\Disk\$\Asap:2:"Status Up <Status> Up <Time> 17:17  
<Full%> 36 <Busy%> 17.5 <Write%> 8.4 <Read%> 9 <Fragment>  
23241.2",
```

```
\Chicago\File\Home\Sales\Pricing.db:2:"Status Up <Status> Up  
<Time> 09:10 <Full%> 0 <Owner> 255 <Rwep> nnnn <Files> 1"
```

Full Context as CSV—When you select this setting, ASAP Client appends CSVs (comma separated values) for each entity attribute name and value that has its Show in Graph property enabled. The name will be the same as the attribute heading property.

OEM Thresholds Button

The Thresholds button opens the Utilization Thresholds control panel. Use this control panel to set performance utilization thresholds used by ASAP to alert the OEM framework of node, entity, and object performance.

You can also access the Utilization Thresholds control panel by clicking the Thresholds toolbar button in the Browse window or by choosing the Thresholds menu item from the View menu in the Browse window.

OIL Property Sheet

The OIL property sheet controls whether the Object Integration Layer (OIL) tree view is displayed, how it is populated with ASAP objects, and whether performance utilization thresholds and alert icons are shown in the OIL.

Use the OIL to obtain a hierarchical tree view of nodes, entities, and objects known to ASAP. Selecting an entity or object in the OIL causes the Browse window to report on that entity or object.

Icons representing the relative alert levels of nodes, entities, and objects can be displayed in the OIL. Alert icons are automatically propagated upward through the OIL tree hierarchy. This propagation algorithm assures that even when the OIL tree is collapsed, the highest utilization of nodes, entities, or objects is visible.

Object Integration Layer Check Box

The OIL provides a hierarchical tree view of nodes, entities and, optionally, objects. To display the OIL, check the Object Integration Layer check box. When the OIL is active, you can browse multiple NonStop OS nodes, entities, and objects from a Microsoft Explorer tree view.

When you click an entity or object in the OIL tree, the main Browse window to the right of the OIL displays availability and performance information for the selected object or objects.

When you use ASAP with the OIL, the main ASAP Browse window is positioned to the right of the OIL window and resized to match the OIL window's size. You can then display Graph and Report windows to the right of the main Browse window.

Populate OIL with Objects Check Box

The Populate OIL with Objects check box controls whether the OIL view is populated with the objects known to ASAP.

If you check the Populate OIL with Objects check box, entities in the OIL tree are expanded to display all of the objects under an entity when you double-click an entity in the OIL.

If you do not check this check box, node names and corresponding entity names appear in the OIL, but the objects under an entity do not appear in the OIL when you double-click an entity name.

When you click an entity name in the OIL, the main Browse window displays the performance information for that entity regardless of how this option is set. In very large networks with thousands of objects, the performance of slower workstations improves if you do not select this option.

Report on Objects in Related OIL Subdomain Check Box

On the OIL property sheet, the Report on Objects in Related Subdomain check box controls how ASAP behaves when objects are selected in the OIL.

When this check box is checked, a selected object and all objects in the same subdomain are graphed.

If this check box is not checked, only the selected object is graphed.

For example, if the check box is checked and `\Chicago\Cpu\0` is selected in the OIL, all CPUs in `\Chicago` are graphed in the ASAP Browse window. If the check box is not checked, only CPU 0 is graphed.

Show Utilization in OIL Check Box

To display performance utilization icons representing the performance of nodes, entities, and objects in the OIL, check the Show Utilization in OIL check box. When this check box is checked, performance utilization icons are automatically propagated upward through the OIL tree hierarchy based on the utilization thresholds you specify. You can specify utilization thresholds using the Thresholds button on the OIL property sheet or the Browse window toolbar.

If you do not check this check box, availability and performance utilization icons are not displayed in the OIL.

OIL Thresholds Button

Click the Thresholds button to open the Utilization Thresholds control panel. You can use this control panel to set performance utilization thresholds for your ASAP environment. You can also access the Utilization Thresholds control panel by clicking the Thresholds toolbar button in the Browse window or by selecting Thresholds from the View menu in the Browse window.

Utilization Thresholds Control Panel

Status and performance alerts for nodes, entities, and objects are displayed in:

- Color-coded graphs
- Icon annotated data grids
- The OIL when the Show Utilization in OIL check box is checked
- The OEM when the Show Utilization in OEM check box is checked

Both status and performance icons are propagated upward through the OIL or OEM hierarchy for the highest alert levels. Even when the ASAP OIL or OEM OIL tree view is collapsed, the highest alert level of nodes, entities, or objects is apparent from the color-coded status and performance icons.

For example, if the performance utilization threshold is set to 80 percent and has a red *Critical* alert icon, any object with a graphed performance attribute of 80 percent or more utilization has a red critical alert icon propagated upward through the hierarchy for that object.

Utilization Threshold Sliders

The five Utilization Threshold sliders control the performance utilization thresholds of up to five performance indicator icons. The sliders set the corresponding performance threshold values of icons that are to appear in the OIL or OEM. When a performance attribute reaches a specified utilization threshold, the icon for that threshold appears in the OIL or OEM next to the object.

Threshold values to the right of a slider are always greater than or equal to that slider's value because they represent higher utilization indicators. Threshold values to the left of a slider are always less than or equal to that slider's value because they represent lower performance utilization indicators.

Setting an icon threshold value to 0 (zero) disables the display of an icon and all icons to its left. Setting an icon threshold value exactly equal to the slider on its right nullifies that icon because icons to the right have higher priority.

Each slider controls the percent utilization threshold level where its icon appears in the OIL or OEM. For example, if the performance utilization threshold is set to 80 percent for the red Critical alert icon, any object with a graphed performance attribute at 80 percent or more utilization has the red icon propagated upward through the hierarchy for that object. Thus, the node and entity for that object also appears red.

When ASAP receives new data from the Host Session, each object is analyzed to see if it has any graphed attributes that have alert states or that exceed the configured utilization thresholds. If an object has one or more attributes that exceed thresholds, the highest alert icon is displayed for that object. The alert icon for the object with the highest alert is propagated upward through the object hierarchy so that you can easily see the objects with the highest alerts, even when a collapsed tree view of your system is displayed.

You can control which attributes have utilization thresholds by indicating whether an attribute is graphed. Use the Attribute property sheet. By changing which attributes are graphed, you control which attributes are used to determine when an object exceeds utilization thresholds. Attributes that are not graphed are not used to determine alerts.

To change the utilization threshold percentage for graphed attributes that have Use Thresholds State Determination enabled, move a Utilization Threshold slider. To change the normalization value for a specific attribute, change the Graph-Max value for that attribute on the Attribute property sheet. Attributes with their State Determination property set to a value other than Use Thresholds have their alert state determined by an associated state, and are not affected by the Utilization Thresholds sliders.

Utilization Threshold Preset Buttons

The Utilization Thresholds control panel contains a set of threshold preset buttons so that you can quickly set Utilization Threshold sliders to predetermined values.

OSC Property Sheet

The OSC property sheet controls whether Object State Changes are monitored and how they are displayed. OSC monitoring provides both high-level graphical overviews of object state changes, and a detailed log of state changes.

You can use this dialog to:

- Control whether Object State Change monitoring is enabled
- Control whether the OSC window is displayed

- Specify whether state change upgrades are monitored
- Specify whether state change downgrades are monitored
- Specify the minimum state change monitored
- Specify the maximum number of changes to be retained
- Specify how late data integrity checks are performed
- Specify an audible alert state change threshold
- To configure e-mail, wireless phone, and pager alerts and report notifications

Monitor Object State Changes Check Box

The Monitor Object State Changes check box controls whether ASAP performs object state change monitoring.

When you check this check box and click the Apply button, ASAP monitors object state changes based on the settings of other options in this dialog. If you do not select this check box, no state change monitoring occurs.

Display Log Window Check Box

The Display Log Window check box controls whether the OSC window is displayed.

When you check this check box and click the Apply button, ASAP creates the Object State Change window. You can use the OSC window to monitor and analyze object state changes. If you do not check this check box, the OSC window does not appear, but OSC monitoring can continue in the background, if you checked the Monitor Object State Changes check box.

You can display the OSC window at any time from the Browse window by selecting View... State Changes... or by clicking the State Change toolbar button on the Browse window.

State Upgrades Monitored Check Box

The State Upgrades Monitored check box controls whether to monitor state upgrades.

When you check this check box and click the Apply button, ASAP monitors state upgrades. If you do not check this box, state upgrades are not logged in the OSC log.

State upgrades occur when the state of an object improves. For example, when an object's state changes from Down to Up, the state of the object is said to have

improved. When the state of an object changes from Warning to Up, its state has improved.

For operations management purposes, state upgrades are not always monitored. Operations management functions are typically concerned with tracking when things degrade. Downgrades occur when the state of an object has degraded. For example, when an object's state changes from Up to Down, the state of the object has degraded.

For performance analysis purposes, both state upgrades and downgrades are sometimes monitored. For example, by monitoring both performance state upgrades and downgrades, an analyst can determine not only when an object's utilization increased, but also when it decreased. From a performance perspective, it might be important to know that a disk such as \$DATA, went from the Up state to the High utilization state at 8:05. It might be equally important to know that \$DATA went from High utilization to the Up state at 8:08.

If you want to track state degradation, see State Downgrades Monitored Check Box.

Notify Button

The Notify button displays the Notify Control Panel. This control panel allows you to configure ASAP so that it will notify you either at periodic intervals or when certain conditions occur.

The value of the Minimum State Change drop-down list on the OSC Property sheet determines the minimum state that is monitored for alert notification purposes. For example if the minimum state change monitored is Critical then only objects with state changes to the Critical or Down state will cause alert notifications to occur. The Notify button is located on the OSC property sheet because its actions are directly related to the Minimum State Change setting.

Notifications can occur:

- At regular intervals during the day such as every 1, 2, 3, 4, 8, 12 ... hours
- At specific times such as 7:30, 10:00, 12:45, 15:27 ...
- When objects change state
- When new sampling activity occurs

To control notification rule as well as the content of what is reported, use the Notify control panel.

For details about how to enable ASAP to notify you via e-mail, pager, phone, or an internet browser, see [Notify Control Panel](#) on page [108](#).

State Downgrades Monitored Check Box

The State Downgrades Monitored check box controls whether state downgrades are monitored.

When you select this check box and click the Apply button, ASAP monitors state downgrades. If you do not select this check box, state downgrades are not logged in the OSC log.

State downgrades occur when the state of an object degrades. For example, when an object's state changes from Up to Down, the state of the object is said to have degraded. When the state of an object changes from Warning to Critical, its state has degraded.

Typically, state downgrades are always monitored. Users focus on tracking when things degrade but are not always concerned with when they improve.

If you want to track state improvements, see [State Upgrades Monitored Check Box](#) on page [104](#).

Minimum State Change Monitored List

The Minimum State Change Monitored list specifies the minimum state to be monitored. When you select a minimum state, you are specifying the minimum state change that ASAP monitors.

For example, if you select Warning as the minimum state change monitored, changes into states less significant than Warning are not logged in the OSC log. In this case, state changes to Up, Low, Medium, or High alert are not logged in the OSC log.

Maximum Change History Retained in Log List

The Maximum Change History Retained in Log list specifies the maximum number of state changes that the OSC log retains.

When you select the maximum change history, you specify how much history is retained in the OSC log.

For example, if you select 200 as the maximum, up to 200 of the most recent state changes are retained in the OSC log.

The OSC log is retained in workstation memory for fast access.

Because detailed statistics are stored in the ASAP server, the OSC log is small, and uses little workstation memory.

Late Data Integrity Check Drop-Down List

The Late Data Integrity Check drop-down list controls whether late data integrity checking is performed and, if so, how early or late data can be before it is flagged as a down time.

When you select Automatic, ASAP automatically determines whether data received from each node, entity, and object is arriving in a timely manner. If not, ASAP flags the time for the object as down time.

When you select a Late Data time, ASAP delays its Automatic late data check by that amount. For example, if you select 30 seconds, ASAP delays its late data alert by an additional 30 seconds. During this delay, data might arrive from the nonresponding object. Manually specifying this value lets you account for marginal queuing delays in your system or network.

If you select No Check, late data integrity checks are disabled. This option overrides any Graph Time settings for individual entity Time attributes shown on the Attribute Tab of the ASAP Property sheet. To globally disable late data checks, select this option.

HP does not recommend that you disable this option. Late Data integrity checks performed by the ASAP client are one of the key features performed by ASAP. By checking for late or early data, ASAP can detect many types of serious availability outages. Anomalies detected when Late Data checks are enabled include:

- Excessive queuing delays affecting availability
- Down or nonresponding CPUs
- Down or nonresponding subsystems
- Down or nonresponding network nodes
- Nonresponding or hung devices
- Nonresponding or hung applications

Audible Alert State Threshold Drop-Down List

The Audible Alert State Threshold drop-down list controls whether an audible alert is sounded when a certain state threshold is reached.

When you select No Audio, audible alert thresholds are disabled.

When you select an audible alert state threshold, an audible alert is sounded if an object changes to that state. For example, if you set the audible alert state threshold to the Down state, an audible alert is sounded if any object changes to Down. State

change transitions below that state do not sound an audible alert but are still logged in the OSC log and appear in the OSC scoreboard.

You can configure the audible alert sound. If you select Audible Alert State Threshold, a simple code string of dots and dashes appears. By specifying your own set of dots and dashes, you can create a unique code. For example, you might specify ...---... to sound the morse code for SOS.

Notify Control Panel

The Notify control panel allows you to configure ASAP to automatically generate reports and send them to your e-mail, pager, phone, or an internet browser.

Alerts and reports can be sent either when certain critical conditions occur (for example, a device goes down or becomes busy) or for periodic reporting purposes at certain times of the day. Reports can also be automatically stored for use as web content at the end of each ASAP analysis update.

Report content can vary from short text messages to rich color-coded HTML content. Notifications can contain single or multiple reports.

Notify Profile

The Profile portion of the Notify control panel allows you to customize notification rules.

Profile list - allows you to configure multiple notification profiles (each with different SMTP server, Recipients, Notify Rule, Content, and report styles). To create a new profile, simply type a new profile name in the Profile list, and click Apply, and then fill in the fields as described below.

Profile check box - allows you to enable or disable notify profiles that you have configured. For example, you could disable the Alerts profile while on vacation or enable a Report profile while traveling on business so that you periodically receive reports via e-mail.

The content of a profile can range from color-coded HTML e-mail reports to plain text reports or abbreviated short-text message reports suitable for use with 161 character short messaging wireless devices (cell phones via SMTP to wireless gateway).

Examples

Alerts profile - You can configure a profile named Alerts to send an alert to your wireless phone notifying you whenever Critical or Down object state changes occur.

Report profile - You can configure additional profiles such as the built-in Report profile to periodically send high-level or detailed reports to systems management personnel at various user-defined times of the day. For example, you can specify one profile to report hourly, another to report semi-hourly with a different set of report criteria, and yet another at specific time intervals with varying degrees of report detail. You can also configure a profile to automatically update pages on your Web site.

Test Button - allows you to test the current profile configuration.

Show check box - indicates whether notifications should appear on your workstation. For example, if you select Show, and select a content style of HTML, whenever a notification occurs, a report will also appear on your workstation in an internet browser. If the content style is text, the report appears in a text file viewer; for example, Note Pad. If you select the Show check box, and you specify an SMTP server and recipients, the ASAP Mailer status is also displayed whenever a notification occurs.

Log button - allows you to view a log of notifications. If you do not select the Trace check box, a high-level log of each notification date, time, and recipient list is displayed. If you select the Trace check box and you click the Log button, you are prompted with a list of trace files. Selecting one of these displays the corresponding trace file.

Trace check box - indicates whether a detailed trace file should be created for each e-mail send attempt. If you select the check box, a trace file is created each time an e-mail is sent. If you click the Log button, you can view these trace files. This option is intended for debugging purposes only and should not be enabled unless you are attempting to diagnose a problem with notifications.

Cleanup button - allows you to delete all user-defined profiles except the built-in Alerts and Report profiles.

Website button – sets options on the Profile and Content portions of the Notify control panel suitable to host or proxy a website.

To add ASAP statistics to a website, do the following:

- a) Click the **Website** button on Notify control panel.
- b) Select desired content: **Score, Alerts, Detail, Entity, ..**
- c) Select customization options: **Graphs, Icons, Border, Shade, ..**
- d) If SIM website, check **SIM** checkbox on the ASAP Notify control panel.
- e) Click **OK** or **APPLY** to commit your website into production.

Settings for a **Website** profile can also be used for notifications and when the profile is named "WEBSITE" the settings are also used by the FILE... SAVE HTML as Entity Icon-Graph... menu items and the current Entity HTML toolbar button. ****Note**** the Website button only sets options on the Profile and Content portions of the Notify Control panel, it does not save settings.

Summary, to establish a new Website profile and then save settings, you would first click the **Website** button, then adjust the **Profile** name and **Content** settings as needed, then click **Ok** or **Apply** to save your profile settings.

Notify Content

The Content portion of the Notify control panel defines the notification rule, the type of reports to be included, the amount of detail, the style of the content, and whether short text messages suitable for wireless pagers or phones should be sent.

Notify Rule menu - ASAP determines when to send reports to you based on the Notify Rule setting.

This menu allows you to control what conditions will cause a profile to send a notification. Notifications can occur:

- At periodic time intervals such as **Every 1, 2, 3, 4, 6, 8, 12 ... Hours;**
- At user-defined times such as **6:17, 7:30, 9:45, 11:00, 12:55, 15:05, ...**
- When object-state changes occur - **OnStateChange**
- When new sampling analysis activity occurs - **OnEachSample**

Score Check Box - if selected, a color-coded score-board matrix of object types versus object-state counts is generated whenever a notification occurs for this profile. This report is useful for providing reports about the overall health of system, subsystem, and application objects.

Alerts Drop-Down - if the value selected is zero, this drop-down disables the display of an Alerts report for this profile. If the value selected is not zero, the value indicates the number of color-coded recent object-state changes that should be displayed for the alerts portion of this report. Alerts are reported with most recent state changes listed first, followed by less recent changes.

Detail Drop-Down - if the value selected is zero, this menu disables the display of a Detail report for this profile. If the value selected is not zero, the value defines the number of most critical objects to be displayed in the object-state report. The Detail report shows offending objects sorted from the highest, most-critical state to the lowest, least-critical state.

Entity-Attribute Grid reports Check Box – if this option is checked then email, phone, website notifications will include highly detailed HTML color-encoded entity-attribute grid-graph reports for each enabled entity. Objects that appear in the Entity-attribute grid-graph reports must meet Minimum State Change Monitored drop-down settings on the OSC tab of the ASAP Properties window. Entity-attribute grid-graph reports have a number of additional reporting options including: Graphs, Icons, Border, Color-Gray, Color-Max, Color-Each, Shade, SIM, Style, and Refresh properties. The following is an explanation of each of these options:

Graphs check box - enables color-coded, embedded, scaled, horizontal graphs.

Icons check box - enables display of state icons in entity-attribute grid reports.

Border check box - enables display of borders around entity-attribute grid cells.

Color options - control how graphs are color-coded as explained below.

Color Graph - indicates all graphs should be colored gray.

Color Max - indicates the color of all graphs in each row match the highest attribute state color for that row.

Color Each - indicates the color of each graph for each attribute in a row is set to the state color of each attribute.

Shade check box - alternately shade the background of every other row.

Pages check box - reserved for future use.

Shell Show check box - show shell launch window each time Shell file is shelled. This option is primarily for Shell debugging purposes. It typically should not be turned in your "production" environment.

Shell File - defines an optional file to be executed (shelled) at the end of each notification. If specified, a shell file allows a wide variety of optional post processing. These include custom local/remote website live updates, real-time e-mail, FTP push for website proxy, or post sample analysis code to do post notification processing. Clicking the [...] button after the Shell File name displays a shell file dialog wizard allowing you to create example shell files suitable for updating local or remote web sites. Double clicking the shell file name displays contents of the shell file, for example:

ShellBAT.bat

```
rem
=====
rem = ASAP Created this file 3/11/08 03:54 PM
rem = Example shell FTP PUT <rootfile> to <website>
=====
FTP -s:ShellIN.txt
rem PAUSE to debug
```

ShellIN.txt

```
OPEN <website>.com 21
<username-here>
<password-here>
STATUS
CD Asaplive
PUT Asaplive.htm
CLOSE
QUIT
```

Root File - if this field specifies a valid path and file name, the report content for this profile is stored in the file. If this field is blank, the report notification is not stored on disk. If Style is HTML, the contents (and the extension) of the file are formatted as HTML. This field provides a wide range of uses. For example, if content style is HTML, and the Root File field specifies a valid file, then that file can represent the root

ASAP file in a website directory. This path can be in an ASAP directory, or a customer website directory, or an HP SIM directory.

One use of this option is as a dynamically updating web page. For example:

1. Specify Notify Rule - OnEachSample.
2. Specify desired Alerts, Scoreboard, Detail, Entity, Graphs, Icons, ... reports.
3. Specify Style - HTML. (Do not select Short)
4. Specify File such as .../inetpub/wwwroot/Alerts.
5. Specify Refresh - 30 Seconds.

These settings allow ASAP alert and report analysis to be incorporated into web sites and to dynamically update on each sample (note that meta refresh allows the page to continuously update). Configuring multiple profiles with different Notify Rules and report options allows for a variety of web pages. Also note that you do not necessarily need a web server to view this web page. For example other workstations can refer to network name of Root File, example: <\\ASAP-PC\C\Asap\Website\Root\Asaplive.htm>.

SIM check box - sets the ASAP Root File path to be in the default HP Systems Insight Manager webapps directory allowing you to integrate ASAP reports into SIM. When you check the SIM check box you will be asked whether you want to run the ASAP SIM Install script, if you select **YES**, ASAP will install itself into SIM. Or, if you select **NO**, you can manually install ASAP into SIM.

Steps to manually install ASAP into SIM. If you prefer to install ASAP manually into your SIM environment, select **no** when prompted by ASAP if you want to run its SIM INSTALL script. If you select no, the following manual procedure can be used to install ASAP into SIM. From the main HP SIM screen select the Tools menu as follows:

A) **Tools... Custom Tools... New Custom Tool...** the following prompt should appear:

Step 1: Select the tool to create
Select the CMS Tool option as shown below:

(*) CMS Tool - A tool that runs on the central management server (CMS).

B) The following new custom tool CMS options dialog will appear:

Step 2: Describe how the new custom tool will work.
Tool Parameters:

C) For: Name of tool, enter preferred descriptive text such as ASAP

Name of the tool, e.g. My Custom Tool: [**ASAP**]

Style Short Check Box - indicates reports should be extremely abbreviated. Select this check box if you want only brief Alerts, Score, and Details reports. This is especially useful if you are sending a report to a short text message device (for example, a wireless pager or a cell phone).

Suggestion: To send notifications via a short message service such as an SMTP gateway, create a different profile for each report type, (Alerts, Score, and Detail), each with Short Text selected. That way you will receive three different abbreviated reports when an alert occurs.

Refresh Drop-Down - indicates the HTML refresh rate in seconds. If this field is not zero, the value specifies how often a web browser automatically updates the web page for this profile. That is, the Notify Rule defines when a web page file is updated on the web server, and the Refresh menu defines how often a web browser should pull that page. The web page file is defined in the File text box.

Considerations

The value of the Minimum State Change menu on the OSC Property sheet determines the minimum state that is monitored for alert notification purposes. For example, if the minimum state change monitored is Critical, only objects with state changes to the Critical or Down state will cause alert notifications. The Notify button is located on the OSC property sheet because its actions are directly related to the Minimum State Change menu setting.

Notify Recipients

To, CC, BCC fields - define the recipients who will receive electronic mail (e-mail) notifications. These fields all accept comma-separated lists of e-mail addresses to whom notifications will be mailed, courtesy copied, or blind copied. For example, To field recipients can be specified as:

To: John.Doe@Mye-mail.com, 8885551234@Mobile.Att.Net

If you do not want to receive e-mail notifications but would like notification reports to automatically appear on your workstation when notify rule conditions are satisfied, leave the To, CC, and BCC fields blank.

From field - defines the return e-mail address shown in the e-mail or phone alert. If you are using short messaging, you might want to keep this field short.

Subject field - defines the subject sent with the e-mail or phone alert. If you are using short text messages, you might want to leave this field blank or keep the subject short.

Priority Drop-Down - defines the priority of the notification message. Standard RFC 821 priorities are used: Normal, Urgent, Non-Urgent. If your notification is an alert, you probably will want to set the priority to Urgent. (Urgent can expedite transmission, and mail or wireless viewers might also pay special attention to messages marked Urgent.)

Importance Menu - defines the relative importance of the message. Standard levels of importance are Low, Medium, and High. If your notification is an alert, you probably will want to set the importance to High.

Append check box - if selected, indicates text will be appended to the end of the message. If Style HTML is specified, appended text can be HTML. Otherwise it should be plain text.

Mail Alerts to Wireless Phones and Pagers

There are hundreds of simple mail transfer protocol (SMTP) servers on the internet that provide a variety of text messaging functions for wireless phones, pagers, and e-mail services.

These servers allow you to send e-mail text messages to wireless phones, pagers, Blackberry, PDA, and cellular devices. A short list of some of the more common SMTP servers follows:

AT&T - 10digitPhoneNumber@mobile.att.net
Bell Canada - Phonenumbe@txt.bellmobility.ca
Bell South - Phonenumbe@sms.bellsouth.com
Cellular One - Phonenumbe@cellularone.textmsg.com
MCI - Phonenumbe@pagemci.com
Mobistar Belgium - PhoneNumber@mobistar.be
Mumbai Orange - PhoneNumber@orange-mail.co.in
Nextel - 10digitPhoneNumber@messaging.nextel.com
Qwest - 10digitPhoneNumber@qwestmp.com
SBC Ameritech Paging - 10digitPagerNumber@paging.acswireless.com
Skytel Pagers - 7digitPinNumber@skytel.com
Skytel Pagers - Number@e-mail.skytel.com
T-Mobile - 10digitPhoneNumber@voicestream.net
T-Mobile UK - PhoneNumber@t-mobile.uk.net
Verizon Pagers - 10digitPagerNumber@myairmail.com
Verizon PCS - 10digitPhoneNumber@vtext.com

For current information about text messaging server addresses and conventions, contact your wireless network provider.

Once you determine your wireless provider's SMTP addressing convention, enter that address along with your wireless address in the To, CC, or Bcc field of the Recipients property sheet on the Notify control panel.

Notify Server

The Server portion of the Notify control panel defines what SMTP server is used for notifications. Contact your system administrator for assistance if you are not familiar with how to configure a SMTP server (for outgoing mail) or a POP server (for incoming mail). Many SMTP servers are available for use on the internet, and each has its own specific configuration and user or password rules.

Valid options for configuring access to intranet and or internet mail servers follow. You should contact your system administrator for assistance if you are not familiar with configuring access to e-mail servers. Three configuration possibilities:

1. **POP and SMTP Server fields blank** - leaving both the POP and SMTP fields blank allows you to use the ASAP notification mechanism locally, without sending e-mail or pager notifications. For example, if you select Style HTML and select the Show check box on the Content property sheet, notification reports automatically appears on your workstation web browser whenever the notify rule condition is satisfied (that is, when a critical state change occurs or at periodic intervals).
2. **SMTP field supplied, POP field blank** - leaving a blank POP field in conjunction with a valid SMTP server is allowed in server environments where POP authentication is not required. The SMTP user and password fields might or be required not depending on your server configuration. If you supply a user and optionally a password, you must SELECT the Logon check box.
3. **SMTP and POP fields supplied** - Use this combination when POP authentication is required to use the SMTP server. Some SMTP servers cross-validate that a given user has first logged on to the POP server. If this is the case, you must supply your POP user and password. If you supply a user and optionally a password, you must select the Logon check box.

SMTP and POP fields - can be the name of either an SMTP or POP server. Typically these addresses begin with SMTP or POP. For example:

```
SMTP.SBCGlobal.Net  
POP.SBCGlobal.Net
```

You can also specify server addresses as the IP address of your server.

If you want to send ASAP notifications via e-mail, wireless phone, or pager, you must supply the SMTP field.

User and Pass fields - are required if your POP or SMTP server requires a user or password. If your SMTP or POP servers require a user or optionally a password, you must select the Logon check box of the corresponding POP or SMTP server field.

Send Timeout Drop-Down - indicates the number of minutes that e-mail notifications will be retried if the SMTP server cannot be accessed.

SSG Property Sheet

The SSG property sheet controls Host Session properties. These SSG/CSG properties include session options such as enabling your Host Session, specifying the host retrieval method, and indicating the amount of history to retain in your ASAP hierarchical cache.

Use this dialog to:

- Control whether the Client Server Gateway (CSG) is enabled
- Control the type of host retrieval option
- Control whether session tracing is enabled
- Specify the amount of object history to retain
- Access advanced properties

Client Server Gateway Check Box

The Client Server Gateway check box controls whether ASAP is in session with your host system. If this check box is not checked, there is no Host Session.

When you check this check box and click the Apply button, ASAP starts a session with the NonStop OS host system through the Client Server Gateway (CSG).

When you enable the CSG for the first time, you might need to go to the Client Server Gateway Options window to configure your TCP/IP or Async transport communication settings. For general information, see [Starting and Configuring the CSG](#) on page 36. For detailed information about establishing a Host Session, see the Csguser.doc file in the ASAP install directory.

If you cannot establish a Host Session using the ASAP Client, use the ASAP Session log and the CSG terminal window to inspect your Host Session dialog. Also review your CSG Options to confirm host communication settings.

Retrieval Options

The None, Automatic (recommended), and Fixed Interval retrieval options control the host data retrieval algorithm that ASAP uses.

None

To manually control host data retrieval, select the None option. The None option specifies that ASAP does not automatically retrieve host data on a periodic basis, even when the Host Session is enabled.

This option is useful when you are doing manual specific performance downloads using the Download toolbar button on the main Browse window to view data at a specific time of day.

Automatic

To have ASAP automatically synchronize its hierarchical database cache with the database on your host computer, select the Automatic option. The Automatic option

also specifies that ASAP performs synchronized updates based on the host data arrival rate from your remote host nodes (specified by the ASAP SET RATE command).

When you select Automatic and a Host Session is in progress, the update interval automatically appears in parentheses next to the Automatic option.

Automatic is the recommended setting.

Fixed Interval

To manually specify the ASAP update interval in seconds, select the Fixed Interval option.

This value is used as the periodic update interval instead of the value automatically determined when you select the Automatic option. Use the Automatic option unless you are manually forcing the update interval for a special reason, such as mixed host data arrival times.

Sample Delay Options

The Computed (recommended) and Manual sample delay options control the number of seconds added to the ASAP Client host data retrieval time. This option gives the host network and disk I/O enough time to finish before ASAP starts a new host retrieval sample.

Computed

To automatically determine the ASAP Client host data retrieval time, select the Computed option. HP recommends the Computed option; however, if chronic and spurious queuing is occurring on host servers, you might want to use the Manual option.

Manual

To manually control the number of seconds added to the ASAP Client host data retrieval time, select the Manual option. Use this advanced function only if chronic queuing is occurring on host servers. If you experience excessive host queuing, configure the Manual setting equal to the peak number of seconds that it takes for all host I/O to settle against the host server.

Trace Requests Check Box

To have requests to the host system traced in the ASAP Session window, check the Trace Requests check box. Select Session from the View menu of the Browse window to view this trace. Because ASAP performance is degraded while tracing, you should usually disable tracing.

Trace Replies Check Box

To have replies from the host system traced in the ASAP Session window, check the Trace Replies check box. To view this trace, choose Session from the View menu of the Browse window. Because ASAP performance is degraded while tracing, you should usually disable tracing.

Trace Audits Check Box

To trace each entity sample in the ASAP Session window, check the Trace Audits check box. To view this trace, choose Session from the View menu of the Browse window.

Show CSG Until Connected Check Box

To display the CSG when ASAP requests a connection to your NonStop OS host computer, check the Show CSG Until Connected check box. Once connected, the CSG is minimized. This option lets you view the progress of the connect sequence during ASAP startup.

Auto Connect to CSG at Startup Check Box

To let ASAP automatically connect to your host system during startup, check the Auto Connect to CSG at Startup check box. If you do not check this check box, ASAP prompts you at startup to select what you want to do: Setup, Connect, or Cancel.

If you enable this option then put ASAP in your Windows Startup Folder, ASAP automatically starts when your workstation is powered on, and ASAP automatically connects to your host system.

You can also set up the CSG for automatic operation. For more information, see the CSG Common Logon option in the CSG documentation.

Auto Restart Session Check Box

The Auto Restart Session check box controls client behavior in the event of a host session communications failure.

If this check box has is selected, the ASAP Client automatically attempts to restart failed host session communication. If you do not select this option, the client does not restart failed host sessions. This option is enabled by default and is most effective when the CSG is configured to use SSGCOM as a Host Service Name.

For more information about how to configure a SSGCOM host service, enter SSGCOM HELP SET VERIFYUSER from a TACL prompt.

For more information about how to configure the CSG Host Service Name property, run the CSG, select **View... Options...**, click **Help**, and view information on the Host Service Name field.

Max Rows/Object Field

ASAP maintains a hierarchical real-time data cache to minimize the amount of host I/O required for standard real-time displays and to provide improved response times for specific interactive queries. The Max Rows/Object field specifies the maximum number of data rows that ASAP retains for each host object. Some example host objects are CPUs, Disks, Line handlers, and Processes.

The Max Rows/Object field setting controls the amount of history retained for each object. Too large of a setting, such as 100, can cause too much data to be retained needlessly for each object and a lot of virtual memory cache to be consumed. Too small of a setting, such as two, might not let you view enough history for a given object.

For example, if your ASAP SET RATE is five minutes, setting Max Rows/Object to 12 lets you retain up to one hour's worth of information for each object in the ASAP hierarchical cache.

SSG/CSG Advanced Button

The Advanced button displays the SSG/CSG Advanced control panel. HP recommends that you not change these settings.

SSG/CSG Advanced Control Panel

The SSG/CSG Advanced control panel manages advanced property settings for the ASAP session.

HP recommends that you not change these settings because client/server settings are automatically determined by the ASAP Client. However, advanced users might want to use the ASAP Client to analyze nondefault ASAP configurations.

To open the SSG Advanced control panel:

1. Choose **Options** from the **View** menu or click the **Properties** toolbar button.
The ASAP Properties window appears.
2. Click the **SSG** tab.
The **SSG** property sheet appears.
3. Click the **Advanced** button.
The **SSG/CSG Advanced** dialog box appears.

CI Startup Vol Field

The CI Startup Vol field specifies the default startup volume for the ASAP Server configuration.

The default value when the field is blank is the \$SYSTEM.SYSTEM subvolume. By default, the ASAP Client and Server normally use the configuration settings contained in \$SYSTEM.SYSTEM.ASAPCONF. The default database used by the ASAP Client is specified in the \$SYSTEM.SYSTEM.ASAPCONF file.

If you want your ASAP client/server session to use another ASAPCONF file, specify the subvolume for that ASAPCONF file in this field; for example, \$MYVOL.MYSUBVOL.

CI Object File Field

The CI Object File field specifies the name of the ASAP Server command interpreter object filename.

The default object file is ASAP in the \$SYSTEM.SYSTEM subvolume. The ASAP Client normally uses \$SYSTEM.SYSTEM.ASAP as the ASAP Server.

If you want your ASAP Client Server session to use another ASAP Server command interpreter, specify the name of that command interpreter in this field.

DB Filename Field

The DB Filename field specifies the name of the ASAP database prefix. The database prefix format specifies the volume, subvolume, and DB prefix in the form of *\$Volume.Subvol.DB*.

The default database used by the ASAP Client is the one specified in the ASAPCONF file in the default CI Startup Vol.

If you want your ASAP Client Server session to use another database, specify the database prefix in this field; for example, \$DATA.ASAPDATA.DB.

Exit Shutdown Check Box

When you check the Exit Shutdown check box, the ASAP Client attempts to exit the command interpreter on the host server whenever the ASAP Client is shut down. If this option is not checked, the Client does not attempt to shut down the server command interpreter when the Client is shut down.

Use this check box to have the ASAP Client clean up the old command interpreter when ASAP is shut down and start a new command interpreter each time you start the Client.

HP recommends that you always check this checkbox because it ensures that the client always cleans up on shutdown and creates a fresh copy of its associated ASAP

server on the host on startup. If you do not check the Exit Shutdown check box, the Client reuses the same command interpreter each time the ASAP client is started.

Data Cache Check Box

When you check the Data Cache check box, the object-state data cache contained in the ASAP Client is cleared when you click OK. Checking this check box erases and reinitializes all object-state data in the OIL, OEM, and ASAP.

If you do not check this check box, all pre-existing object information is retained in the ASAP cache, the OIL, and the OEM.

Check this check box if you do not want object-state information from the previous session to be retained, or combined with object-state information from your new client server session. Do not check this check box if you want to combine object-state information from both the prior session and the new session.

SSG Cache Field

The SSG Cache field specifies the number of cache pages allocated to your ASAP command interpreter in the SeeView Server Gateway. HP does not recommend changing this setting.

Enable Flow Control Option

The Enable Flow Control option specifies the value of the ASAP Server IOCONTROL option for your ASAP Client. This controls the maximum number of output records the ASAP Server outputs before waiting for your ASAP Client to ask for more output.

The I/O Control option controls the maximum amount of system I/O that occurs in each client/server request. If your ASAP Server database contains a large number of system and application objects, you can greatly reduce memory, I/O, and service times in the ASAP Client and Server by enabling this option. If you are experiencing excessive ASAP Server loading, set the Enable Flow control option with IOCONTROL equal to 64. For more information about IOCONTROL, see the ASAP Server HELP SET IOCONTROL.

Disable Flow Control Option

The Disable Flow Control option disables I/O Flow Control for your ASAP Client regardless of your ASAP Server IOCONTROL settings. HP recommends this option only for advanced users. Its purpose is to disable flow control for this client when the ASAP Server might be initiating flow control on behalf of other clients. For more information about IOCONTROL, see the ASAP Server HELP SET IOCONTROL.

Accept Server Initiated Flow Control Option

The Accept Server Initiated Flow Control option lets the ASAP Server initiate I/O Flow Control to your ASAP Client if the ASAP Server SET IOCONTROL option is set. If you add this line to your ASAP Server ASAPCONF file, the ASAP Server globally initiates I/O Flow Control to all clients from the Server:

```
SET IOCONTROL 64
```

For more information about this option, see the ASAP Server HELP SET IOCONTROL documentation.

Term Name Check Box

The Term Name check box controls whether your ASAP client/server session uses your fixed workstation name or a dynamic name. When you check the check box, the session name is the same as your workstation machine name. When you do not check the check box, a dynamic name is created each time a session is started. Avoid dynamic names because they create needless reconnect overhead when a new session is established. HP recommends not changing this setting.

User Name Field

The User Name field displays the user ID currently logged on to the Client Server Gateway. You cannot change this setting.

Defaults Button

The Defaults button resets the SSG/CSG Advanced dialog settings to their default values.

Section 6: Entity Definition Language (EDL)

ASAP provides an Entity Definition Language (EDL) that you can use to define abstract entities and their associated properties. To define entities, use ENTITY, ATTRIBUTE, DATA, and INCLUDE statements.

The EDL lets you define system entities, customer application domains, and third party entities outside of the ASAP environment.

Entities defined using the EDL are those entities for which ASAP provides monitoring services. After an entity is defined to the ASAP Client, you can monitor its availability, statistics, and performance characteristics.

The notion of entity and attribute are somewhat synonymous with the notion of table and column in the SQL data model. You can think of an entity as a table, and an attribute as a column in a table.

Statement	Description	Page
ENTITY	Defines an entity and the properties associated with that entity. Entity property definitions include information such as the command used to retrieve statistics from the host for a given entity.	<u>132</u>
ATTRIBUTE	Associates user-defined attributes with the most recently declared entity. Subsequent attribute statements define additional attributes of an entity. An attribute of an entity is a user-defined property such as a performance or state property.	<u>143</u>
DATA	Facilitates prototyping, testing, and demonstration of entities defined in the EDL. The DATA statement lets data be included as part of the EDL source file for a given entity. The DATA statement lets you associate data with an entity declaration.	<u>154</u>
INCLUDE	Allows inclusion of multiple EDL files. This statement lets you distribute EDL information across multiple files and thus share entity definitions among various organizations.	<u>155</u>
RELATION	Defines relationships between entities defined with ENTITY statements. The RELATION statement allows you to define hierarchical relationships between EDL entities and container names.	<u>158</u>
MAP	Assigns a relationship between an ObjectID and an Entity. An Abstract ObjectID is used as a "handle" to declare hierarchical relationships using the RELATION statement.	<u>161</u>

To get help for EDL source from the EDL Compiler window, position the cursor on a syntactical element and press the F1 key.

EDL Features and Terminology

An EDL file is a text file with an EDL file extension. EDL files contain one or more EDL statements.

EDL files provide a portable container for ASAP Client properties and data representing the client environment. When an ASAP Client is configured, users and developers can decide to share the EDL with other users or workstations. To share files, copy and mail the EDL file to another user or workstation.

The ASAP Browse window FILE menu includes these menu items for exporting, importing, and saving EDL files:

- FILE... EXPORT EDL
- FILE... IMPORT EDL
- FILE... COMPILE SERVER EDL
- FILE... SAVE EDL

These functions allow you to export your environment, to import EDL from your NonStop server, or to open the ASAP EDL IDE (Interactive Development Environment) window and export or import entity definitions and associated data.

The EDL menu items on the ASAP Browse window are not enabled by default. These menu items are disabled since access to the EDL IDE is considered to be a somewhat advanced feature. The EDL IDE is typically used by application and system programmers, not end-users or operators.

You can enable access to EDL menu items from the ASAP Browse window:

1. From the ASAP Browse window, select **View... Options...**
2. Select the **Entity** tab of the ASAP Properties window.
3. Click the EDL file name at the bottom of the Entity Property sheet.
4. Select one of the following Include Data Statements in EDL options to control whether DATA statements appear in Exported EDL:

On Explicit Saves - DATA statements will be included only on explicit SAVE EDL actions.

Never - DATA statements are never be included in an exported EDL file. Consider this option if you are monitoring a large number of objects (for example, more than 1000 objects).

Always - DATA statements will always be included in an exported EDL file. You might not want to select this option if you are monitoring a large number of objects.

5. Check the **Entity Definition Language - Interactive Development Environment** checkbox to enable the EDL menu items that appear under the File menu of the ASAP Browse window.
6. Check the **Enable FILE... Compile Server EDL...** menu item check box to enable server EDL download and compile. If you do not want this feature enabled, uncheck both this check box and the EDL - IDE check box described in the previous step.
7. In the drop-down list labeled On EDL Compile, select either:

- **On EDL Compile - Inherit prior entity enabled property**
- **On EDL Compile - Do not inherit prior entity properties**

These choices indicate whether you want the client to keep previously defined entity-enabled properties, or whether the client should use entity enabled properties as defined in the EDL file. (Inherit prior entity enabled property... is typically preferred).

8. Click **OK**.

The EDL IDE window lets you view EDL source code. The EDL IDE Compiler window also lets you edit EDL source and perform interactive EDL compiles and debugging actions. Use this window to interactively define and compile ENTITY, ATTRIBUTE, and DATA statements.

To get syntactical Help for EDL source from the EDL Compiler window, position the cursor on a syntactical element and either press the F1 key, or click the Help toolbar button.

The ASAP Client setup installs the standard entity definitions for all system entities. EDLs installed include ASAP V1 and V2 EDL files. Because the ASAP Client is driven from EDL files, the ASAP 2.0 Client can connect to an ASAP 1.0 Server using V1 EDL definitions.

An EDL DATA statement lets you prototype and demo ENTITY and ATTRIBUTE definitions using your own custom entity data. The FILE... EXPORT function lets you save the ASAP Client session and the Data retrieved from host servers to an EDL file. You can then mail the EDL file to any other ASAP Client user for viewing.

To view EDL files, double-click the EDL file from Microsoft Explorer. This launches ASAP, which then compiles the EDL file and graphically displays entities, attributes, and data contained in the EDL file.

To extend the scope of the ASAP environment, use the FILE... IMPORT function. You can import HP System, Customer Application, and Third Party entity definitions into the ASAP environment using the FILE... IMPORT function. The IMPORT function lets ASAP integrate disjoint, and disparate entity information.

EDL Term	Description
Entity	Defines a class of objects such as a CPU, Disk, Expand, or Application domain. ENTITY statements are used to define entities to the ASAP environment.
Attribute	Defines a user-defined property of an entity. Use an ATTRIBUTE statement to define an entity attribute in EDL. Attributes include properties such as NodeName, CPU Number, CPU Busy, CPU Queue, and Transactions.
Data statement	Optionally defines a simple table of data to associate with an entity.

Factory EDL Files

The ASAP Client installs factory EDL files when the client is installed. Factory EDL file names have the form:

```
ASAPn Factory.EDL
```

This special EDL file contains the default startup settings for your ASAP environment. The ASAP Client compiles the EDL in this file when you first start the client. You should not modify factory EDL files. To customize your environment, store your custom settings in a custom EDL file. For more information, see [Custom EDL Files](#).

The factory EDL file name includes the ASAP version number. This version number is the ASAP release major version that the EDL represents. For example, in release 2.0 of ASAP, two factory EDL files are included in the installation:

- ASAP1 Factory.EDL
- ASAP2 Factory.EDL

When the ASAP Client connects to the ASAP server, the client determines the version of the server. If the server is ASAP V1, the ASAP1 Factory.EDL file is compiled. If the server is V2.0, V2.1, V2.2 ... the ASAP2 Factory.EDL file is compiled.

Custom EDL Files

The ASAP Client saves your customized entity-attribute settings in EDL files named:

```
ASAPn Custom.EDL
```

This special EDL file contains custom entity attribute definition settings for your ASAP environment. The ASAP Client compiles the EDL statements in a custom EDL file when you first start the client.

The custom EDL file name includes the ASAP version number. This version number is the ASAP release major version that the EDL represents. For example, when you

customize your ASAP environment, your customized settings are stored in file names such as:

- ASAP1 Custom.EDL
- ASAP2 Custom.EDL

If you are communicating with the V1 ASAP server, the custom EDL file is named ASAP1 Custom.EDL. If you are connected to an ASAP V2 server, the EDL is named ASAP2 Custom.EDL.

You can modify (and share) ASAP Custom EDL files. In fact, custom EDL files are automatically modified every time you change any of your property settings on the Entity or Attribute Property sheet Tabs in the ASAP Properties window.

You can copy EDL files among different workstations. Thus the EDL file provides a portable container for ASAP Client properties and data representing the client environment. Once a given ASAP Client is configured as desired, users and developers can share the EDL with other users or workstations. To share, copy or mail the EDL file to another user or workstation, and place it in the EDL directory in the same path as the ASAP executable.

EDL IDE Window

The EDL Interactive Development Environment (IDE) lets you interactively browse, open, design, develop, compile, modify, and save entity definition files for your ASAP environment.

The IDE window is your primary interface for developing entity definitions. It includes a text area for you to work with EDL source. It also has a built-in EDL file browser that lets you quickly open, edit, compile, and save EDL source. The top of the IDE window includes toolbar buttons for the most common IDE functions. Pull-down menus provide more advanced functions.

When you successfully compile an entity definition in the EDL environment, that definition is automatically added immediately to your ASAP Client environment. If your host session is enabled and that same entity was already defined to ASAP Server, data for that entity also appears in your ASAP Client windows. The entity also appears on the Entity Tab of the ASAP Property sheet. All information about the compiled entity is also retained in the ASAP Custom.EDL file so the entity is still there next time you run the ASAP Client.

The ASAP Client, Server, and Extension require EDL files. EDL files let ASAP components know about properties of system and application entities as they relate to the ASAP environment.

Entities are defined to ASAP in EDL source files so that Client, Server, and Extension components can share entity definitions. ASAP server components and EDL files are

distributed across different NonStop servers, and Client components and EDL files are also distributed across different Microsoft Windows workstations.

ASAP Client EDL files do not have to include all entities known to the ASAP Server and Extension. You can choose to not define various entities, or to define only subsets of objects for an entity using the Command Entity property. For more information, see [Command - EDL Entity Property](#) on page [134](#). As a result, you can limit which entities and objects users normally view from their workstations.

EDL - IDE Access

To access the EDL IDE window, select either Import EDL or Export EDL from the File menu in the main ASAP Browse window.

The EDL IDE is an advanced feature of the ASAP environment. The IDE is typically only used by application and system programmers, not end-users or operations personnel.

Because of this, the environment is not enabled by default. To enable the EDL IDE, see [EDL Features and Terminology](#) on page [125](#). Once you enable the IDE, you can open the EDL IDE as described here.

Export EDL

To display the EDL IDE to review or modify the entity, attribute, and data definitions for the current ASAP environment, choose Export EDL from the Browse window File menu. A dialog box appears prompting you for the type of information you want to export into the IDE window.

When you click OK, ASAP generates EDL source for your current environment and displays that source in the EDL IDE window. You can then save or modify EDL files, which can contain data from your ASAP session, for later use. You can also e-mail EDL files to other users for their use on other workstations.

Import EDL

To open, design, develop, modify, or display entity and attribute definitions for an EDL file, choose Import EDL from the Browse window File menu. An empty EDL IDE source window appears, which you can use to create or browse EDL files.

When you import an EDL entity definition, you can edit and compile it. When you successfully compile the definition, it is automatically added immediately to the ASAP Client environment. You do not have to exit the Client.

When you import an EDL entity known to ASAP Server, and your host session is enabled, data for that entity appears in the ASAP Client. An imported entity also appears on the Entity Tab of the ASAP Property sheet, so it can be enabled or disabled later without recompiling the entity.

All information about a compiled entity is saved in the ASAP_n Custom.EDL file. When you later run the ASAP Client, it retains all imported entities and their property settings.

EDL - IDE Toolbar Buttons

The most common EDL IDE functions have toolbar buttons:

-  Save text in IDE window
-  Download EDL from server
-  Print text in IDE window
-  Copy text in IDE window to clipboard
-  Cut text in IDE window and save in clipboard
-  Paste text into IDE window from clipboard
-  Find or Replace text in IDE window
-  Compile EDL source in IDE window
-  Stop EDL compile
-  Step EDL compile one statement at a time
-  Display context sensitive help for selected text in EDL window

Interactive help is available for any EDL statement or reserved word. To get help, select the word or token, then click the Help toolbar button. You can also get help by moving the cursor over the word or token in question, then press the F1 key.

The FIND or REPLACE dialog box Time/Date check boxes allow searching for Time in the form of hh:mm or Date of the form of yyyy/mm/dd. These check boxes allow searching and/or replacing dates and times in EDL source via the EDL IDE window.

EDL - IDE Pull-Down Menus

File Menu

Menu Item	Description
File New	Saves and clears IDE window so you can create a new EDL file
New Window	Creates an additional IDE window
Open	Opens File browse view in IDE window
Download EDL	Download EDL from server
Save	Saves text currently in IDE window
Save As	Displays Save As dialog so you can specify a save file name
Print	Prints contents of IDE window

Exit Closes IDE window.

Edit Menu

Menu Item	Description
Cut	Cut selected text from the IDE window and save it in the clipboard
Copy	Copy selected text from the IDE window and save it in the clipboard
Paste	Paste text into the IDE window from the clipboard
Select All	Select all text in the IDE window
Find	Prompt for target string to search in the IDE window
Replace	Replace selected text in the IDE window
Cut Line	Cut whole line from the IDE window

View Menu

Menu Item	Description
Font	Display font dialog so you can set the default font, style, and size
Browse	If checked, display directory-file view in the IDE window
Control Blocks*	If checked, display EDL control blocks during compile
Control Block to Statement*	If checked, emit source from control blocks during compile
Show All Files	If checked, directory-file view includes all files
Statements	If checked, display statements as they are compiled
StatusBar	If checked, display status bar at bottom of window
ToolBar	If checked, display IDE toolbar

* Expert features reserved for advanced debugging only. They have a negative impact on EDL compiler performance when enabled.

Run Menu

Menu Item	Description
Start	Compiles source text in the EDL window
Step	Single-steps through the EDL source one statement at a time, for debugging. If you step through an EDL file, the entity is not added to the environment until all associated attribute statements are successfully compiled.
End	Stops an EDL compile started by the Start or Step functions

The Start EDL Compile function compiles the source text in the IDE window. As the compile progresses, the blue progress bar shows the status of the compile.

If there are syntax errors, the progress bar turns red and the source statement or token in error is automatically selected. Error messages appear in red below the source text.

When you successfully compile entity definitions in the EDL environment, the progress bar turns green, and the definitions are automatically added to your ASAP Client environment. Once a compile completes, you can use the ASAP Client immediately to analyze data for that entity.

If you set the enabled attribute to true for a compiled entity known to ASAP Server, and your host session is enabled, the ASAP Client displays data for that entity. If the host session is not enabled, and there is a Data statement for that entity in the EDL source, data for that entity is available for analysis in the ASAP Client.

To learn to develop in EDL, experiment with Entity, Attribute, and Data statements from the IDE window.

Successfully compiled entities appear with factory entities on the Entity Tab of the ASAP Property sheet. Information about the compiled entity is also retained in the ASAP_n Custom.EDL file, so your entity and property settings are retained for the next time you start the ASAP Client.

To clear all custom settings and non-factory entities, click the Clear Registry button on the General property sheet of the ASAP Properties window. To delete an individual entity, double-click it on the Entity sheet of the ASAP Properties window and then select Delete Entity from the File menu.

Help Menu

Menu Item	Description
Contents	Displays the online help table of contents
EDL Overview	Displays the online help topic EDL Overview
Syntax	Displays low-level grammar for AsapEDLL.DLL
About	Displays the ASAP About box

EDL - ENTITY Statement

The ASAP EDL Entity statement lets you define entities and the properties associated with an entity. Entity property definitions include information such as the command used to retrieve statistics from the host for that entity.

In ASAP, an entity is a class of objects such as a CPU, Disk, Expand, or Application domain. The purpose of the entity statement is to let HP system entities, customer application domains, and third-party entities be defined without modifying ASAP internally.

```
ENTITY entity-name
```

```
CI
```

```
<String>
```

[134](#)

Command	<String>	134
DataItems	<String>	135
Detail	<String>	136
Enabled	<Boolean>	136
ErrorStateName	<String>	137
Help	<String>	138
History	<String>	138
KeyForNode	<String>	139
KeyForObject	<String>	139
KeyForRow	<String>	140
MaxObjectives	<Number>	140
Rate	<Number>	140
Reserved	<Boolean>	141
SGPFile	<Filename>	141
SGPManaged	<Boolean>	142
SGPSuffix	<Alpha>	142
Version	<Number>	142

Example

This example defines EDL properties of the CPU entity. These properties determine how ASAP retrieves CPU entity information.

```
ENTITY CPU CI ASAP
      COMMAND "CPU\*,RAW,TAB"
      ENABLED YES
      HELP "Central Processor Unit";
```

Entities have different characteristics. For example, the CI property is the Command Interpreter used to retrieve information for that entity. The Command entity property defines the command that is sent to the command interpreter to retrieve statistics for that entity. The Enabled entity property indicates whether the entity is enabled by default. The Help entity property defines the descriptive text that appears next to the entity name on the Entity Tab of the ASAP Properties window.

General Syntax Rules

This list defines general rules of syntax for EDL. To maintain extensibility in the EDL grammar, entity and attribute variant values are limited to these elements:

- <Alpha> ::= Alpha characters, such as ABC
- <AlphaNumeric> ::= AlphaNumeric characters, such as ABC123

- <Boolean> ::= YES | NO | TRUE | FALSE
- <Number> ::= Numeric characters, such as 123
- <Quoted-String> ::= Any Chars between double quotes, such as "Any Text, 123"
- <String> ::= <Alpha> | <AlphaNumeric> | <Numeric> | <Quoted-String>

Ci - EDL Entity Property

Ci string

The Ci entity property defines the name of the command interpreter that provides information for this entity. The default value is ASAP; use of other values is not supported.

Applies to: Client and Server

Default: ASAP

Example

```
CI ASAP
```

Command - EDL Entity Property

Command string

The Command entity property defines one or more commands that are sent to the ASAP Server command interpreter. These commands are used to retrieve statistics for a given entity.

A Command must include the "RAW, TAB" formatting options. In most cases, the ASAP Client requires the data to be formatted in RAW, TAB format. For example, RAW does not zero suppress numeric values, and the TAB option formats output in tab delimited columns. App commands should also include the STATE option; for example, "RAW, TAB, STATE".

Multiple commands can be associated with a given entity. This permits a wide variety of possibilities for abstract domains. For example, these commands let subsets of objects be associated with an abstract domain:

```
ENTITY AtmFacet
  CI          ASAP
  Command    "APP\* ATM\FACET\BEST,RAW,TAB,STATE" -- ATM\FACET\BEST
  Command    "APP\* ATM\FACET\ZEIST,RAW,TAB,STATE" -- ATM\FACET\ZEIST
  ENABLED    YES;
```

```

ENTITY CpuSpecial
  CI      ASAP
  Command "CPU \Chicago,RAW,TAB"  -- Chicago Cpus
  Command "CPU \Newyork,RAW,TAB"  -- Newyork Cpus
  Command "CPU \Tuson.0,RAW,TAB"  -- Tuson.0 Cpus
  Command "CPU \Tuson.1,RAW,TAB"  -- Tuson.1 Cpus
  ENABLED YES;

```

Applies to: Client and Server

Default: COMMAND ""

Examples

```

COMMAND "CPU\*,RAW,TAB"  -- Cpu Command
COMMAND "DISK\*,RAW,TAB" -- Disk Command
COMMAND "LH\*,RAW,TAB"  -- Expand Command

```

Dataltems - EDL Entity Property

Dataltems *string*

The Dataltems entity property applies only to the entities that are derived from the Application Entity. You must define this property for all user-defined application entities.

The Dataltems property defines a list of Dataltem *number base* pairs.

number is a value from 0 through 11. *base* defines the data item base type.

Base type	Description
C	constant
I	integer
S	time units stored as seconds
M	time units stored as milliseconds
U	time units stored as microseconds
T	8-byte ASCII string

For more information, see the *ASAP Extension Manual*.

Applies to: Server

Default: DATAITEMS ""

Example

DATAITEMS "0 I, 1 I, 2 M, 3 C"

Detail - EDL Entity Property

Detail *string*

The Detail entity property controls how the Show Object Details popup menu item behaves. This property is optional.

- When a Detail *string* is not specified, the ASAP Client automatically displays a graph and a list view of object details.
- When a Detail *string* is specified, the contents of *string* are used to form a database query that is sent to the ASAP Server, and the result appears in an ASAP Report Window.

If *string* contains the “^” character, the name of the object you selected in the Grid or Graph area of the ASAP Browse window is substituted.

For example, if the Detail *string* for the CPU entity is specified as:

```
DETAIL "CPU ^, TAB, SAMPLES 12"
```

If you right-click an element in the Browse window graph that corresponds to CPU \Chicago.0, then select Show Object Details, an ASAP Report Window displays:

```
CPU \CHICAGO.0, TAB, SAMPLES 12
```

Applies to: Client and Server

Default: DETAIL "" - null

Examples

```
DETAIL "CPU ^, TAB, SAMPLES, 12"
```

```
DETAIL "DISK ^, AVG, TAB, SAMPLES 12"
```

Enabled - EDL Entity Property

Enabled *Boolean*

The Enabled entity property defines whether the entity is enabled or disabled by default. This property can be set independently within the ASAP Client or Server. The option determines the initial default value for the Enabled property.

Applies to: Client and Server

Default: ENABLED FALSE

Examples

ENABLED TRUE

ENABLED FALSE

ErrorStateName - EDL Entity Property

ErrorStateName *string*

The ErrorStateName entity property defines the name of the attribute that defines the error state for this entity.

Entities are not required to have an error state attribute. But if they do, the error state attribute must have values equal to these OEM state values:

- 1 - Exists
- 2 - Up
- 3 - Low
- 4 - Medium
- 5 - High
- 6 - Warning
- 7 - Critical
- 8 - Down

0 - Remove

If the property defined by ErrorStateName has a value of 0, the object is marked as Removed and does not appear in the ASAP Client unless "Show Removed Objects" is checked on the General tab of the ASAP Properties windows.

Applies to: Client and Server

Default: ErrorStateName "" -- null

Example

```
ERRORSTATENAME ErrorState -- Note Implies user-defined
                           -- attribute named "ErrorState"
                           -- exists for current entity.
```

Help - EDL Entity Property

Help *string*

The Help entity property defines the help text associated with the specified entity. This text appears to the right of the entity name check box on the Entity Tab of the ASAP Properties window.

Applies to: Client

Default: HELP "" -- null

Examples

```
HELP "Central Processor Unit"
```

```
HELP "Disk Volumes"
```

History - EDL Entity Property

History *string*

The History entity property controls how the Show Object History popup menu item behaves. This property is optional.

- When a History *string* is not specified, the ASAP Client automatically tries to display a report window on the object.
- When a History *string* is specified, the contents of *string* are used to form a database query that is sent to the ASAP Server, and the result is displayed in an ASAP Report Window.

If the *string* contains the “^” character, the name of the object you selected in the Grid or Graph area of the ASAP Browse window is substituted.

For example, if the History *string* for the Process entity is specified as:

```
HISTORY "PROCESS ^, TAB, SAMPLE 12"
```

If you right-click an element in the Browse window graph that corresponds to Process \Chicago.\$MyApp and then select Show Object History, an ASAP Report window displays:

```
PROCESS \CHICAGO.$MYAPP, TAB, SAMPLES 12
```

Applies to: Client and Server

Default: HISTORY "" -- null

Examples

```
HISTORY "CPU ^, TAB, SAMPLES 12"  
HISTORY "DISK ^, AVG, TAB, SAMPLES 12"
```

KeyForNode - EDL Entity Property

KeyForNode *string*

The KeyForNode entity property is a string that defines a list of one or more data attribute names representing the column attribute names that define the *node* primary key for each object instance of this entity.

For the CPU entity, the Node Key is the NodeName data attribute. That data attribute contains a string that represents the name of the node for each CPU entity instance.

Applies to: Client

Default: KeyForNode "" -- null

Example

```
KeyForNode "NodeName" -- NodeName contains Node key
```

KeyForObject - EDL Entity Property

KeyForObject *string*

The KeyForObject entity property is a string that defines a list of one or more data attribute names representing the columns that uniquely define the *object* primary key for each object instance of this entity.

For example for the CPU entity, the Object Key is the CPU data attribute. This attribute contains a value that uniquely represents each object instance of this entity.

Applies to: Client

Default: KeyForObject "" -- null

Example

```
KeyForObject "Cpu" -- Cpu is attribute name of object key
```

KeyForRow - EDL Entity Property

KeyForRow *string*

The KeyForRow entity property is a string that defines a list of one or more data attribute names that represent the columns that uniquely define the *row* primary key for each object instance of this entity.

For example for the CPU entity, the Row Key consists of the Date Time data attributes. These attributes contain values that, when concatenated together, uniquely define each row instance of this entity.

Applies to: Client

Default: KeyForRow "" -- null

Example

```
KeyForRow "Date Time" -- Indicates Date and Time
                    -- data attribute contents
                    -- are concatenated together to
                    -- define each data Row's key.
```

MaxObjectives - EDL Entity Property

MaxObjectives *Number*

The MaxObjectives property defines the maximum number of objective records that can be loaded into memory for the entity. ASAP Server uses this to pre-allocate shared memory to hold objective records. The number of objectives varies depending on the type of entity. For example, for CPU expect a maximum of 17 objective records (1 for CPU entity, and 1 each for CPU*n*). For a file, the number could be much larger.

Applies to: Server

Default: MaxObjectives 0

Examples

```
MAXOBJECTIVES 17
```

Rate - EDL Entity Property

Rate *Number*

The Rate entity property defines the update interval expected for a given entity. The interval value is specified in minutes.

If the Rate property is not specified for a given entity, the entity sampling rate is determined by the global ASAP server SET RATE value. The ASAP Client uses a nonzero RATE associated with an entity to determine whether data for that entity is too late (or too early). Late data provides an overall health indicator for a given entity or subsystem because late data can indicate that an entity is down, hung, or that time of day is not synchronized between different nodes.

If the Time attribute property for an entity has state determination enabled for it by setting Graph True, the Rate entity property is used to determine whether data for this entity is late.

If a Rate entity is not specified for a given entity, the global ASAP server SET RATE value is used to determine whether the sample time for an entity is too late or too early. This property is used for early or late detection, but does not affect the client if the time property for an entity is not graphed.

Applies to: Client

Default: RATE 0

Examples

```
SET RATE 1 -- One minute update expected
```

Reserved - EDL Entity Property

Reserved *Boolean*

The Reserved entity property defines whether the entity is treated as a reserved entity. Reserved entities are defined by HP. If reserved is not true, it is assumed to be externally defined by a user or third party application.

Applies to: Client and Server

Default: Reserved FALSE

Example

```
RESERVED FALSE
```

SGPFile - EDL Entity Property

SGPFile *Filename*

The SGPFile entity property defines the object code filename of the SGP program that is responsible for this entity. If the entity's SGPMANAGED property is not TRUE, this property has no meaning.

Applies to: Server

Default: SGPFile ""

Examples

```
SGPFile "$SYSTEM.SYSTEM.ASAPDSK" -- Disk SGP code file
SGPFile "$SYSTEM.SYSTEM.ASAPEXP" -- Expand SGP
SGPFile "$SYSTEM.SYSTEM.ASAPXSGP" -- App SGP
```

SGPManaged - EDL Entity Property

SGPManaged *Boolean*

The SGPManaged entity property indicates whether the Statistics Gathering Process is to be managed by the ASAP subsystem. A managed SGP is one that can be started, get status, and shutdown via the ASAP STARTUP, STATUS, and SHUTDOWN commands.

Applies to: Server

Default: SGPManaged FALSE

Examples

```
SGPMANAGED YES -- YES and TRUE mean the same thing
SGPMANAGED TRUE
```

SGPSuffix - EDL Entity Property

SGPSuffix *Alpha*

The SGPSuffix entity property defines the alpha character that is appended to the end of the ASAP ID suffix in order to form a unique process ID for the given entity SGP. For more information, see the ASAP Server SET ID command.

Applies to: Server

Default: SGPSuffix ""

Examples

```
SGPSUFFIX J -- DISK SGP's process ID would be $ZOOJ
SGPSUFFIX H -- APP SGP's process ID would be $ZOOH
```

Version - EDL Entity Property

Version *number*

The Version entity property defines the version number of the Entity definition.

The version number is used by the ASAP Client and Server to validate that they are both using the same version of the Entity definition. Providing a version number on both the Client and Server lets the ASAP Client verify that the Entity definition on the Client matches the Entity definition on the Server.

Although the Version property is optional, HP recommends that you always specify an entity version.

When a Version number is not defined in either the Client or Server Entity definition, no version checks are performed by either the Client or the Server (in other words, the Entity definitions are assumed to match). This implies that removing the version option from an Entity can force the client to use the current entity definition, even if that definition does not match the server's definition of the entity. For this reason, HP recommends you always provide or update the version number when creating or updating an Entity definition.

When a Version number is associated with both the Client and Server Entity definitions, the ASAP Client validates that the two versions match on every query. If they do not match, the Client issues a warning.

For ASAP System entities, this convention is used for Version numbers:

N.ymdd

Where *N* represents the major version of the Entity, *y* represents the last digit of the year, *mm* represents the month, and *dd* represents the day of the month that the entity definition was last modified. For example, a system entity with a Version 2.01027 was updated on 2000/10/27.

Applies to: Client and Server

Default: VERSION "" - null

Examples

```
VERSION 2.01027
```

```
VERSION 2.001
```

EDL - ATTRIBUTE Statement

The attribute statement associates user-defined attributes with the most recently defined entity. Since attribute statements are associated with an entity they must be preceded by an entity statement. Subsequent attribute statements define additional attributes of an entity.

The notion of entity and attribute are synonymous with table and column in the SQL data model. An entity can be thought of as a table. An attribute can be thought of as a column in a given table.

An attribute is a user-defined property of an entity such as Node Name, or CPU number. An attribute can also be a performance or state property such as a Status string attribute or its associated Operational State property.

The Attribute statement syntax is:

```
ATTRIBUTE attribute-name
```

Align	LEFT RIGHT	145
Format	<String>	146
Graph	<Boolean>	147
GraphMax	<Number>	147
Grid	<Boolean>	148
Heading	<String>	148
HeadPickup	<Boolean>	149
Help	<String>	150
MetricRule	<String>	150
StatePair	<Boolean>	151
StateIsOp	<Boolean>	152
StateRule	<String>	153
TypeData	INT INT32 INT64 REAL64 CHAR nn	154

Attribute definition keywords

These attribute definition keywords are keywords in EDL that define characteristics of user-defined attributes for an entity. These characteristics let ASAP provide specific availability monitoring services for user-defined attributes.

Example

This example shows user-defined attributes for the CPU entity. These attributes determine how the ASAP Client displays and analyzes CPU attribute properties such as CPU Number, Busy, Queue, and Swap rate.

```
ENTITY Cpu
  CI          ASAP
  Command    "CPU \*,RAW,TAB"
  Enabled    YES
  Help       "Central Processor Units"
  KeyForNode NodeName
  KeyForObj  Cpu
  KeyForRow  "Date Time"
  Reserved   YES;
```

```

AT NodeName GRID YES GRAPH NO GRAPHMAX 0 HELP "NSK System Name";
AT Sysnum GRID NO GRAPH NO GRAPHMAX 0 HELP "System Number";
AT Cpu GRID YES GRAPH NO GRAPHMAX 0 HELP "CPU Number";

AT Status GRID YES GRAPH YES GRAPHMAX 0 HELP "Operational Status"
STATEPAIR YES STATEISOP YES
STATERULE UseStateGraphState
TYPE CHAR5;
AT OpState GRID NO GRAPH NO GRAPHMAX 9 HELP "Operational State";

AT Date GRID NO GRAPH NO GRAPHMAX 0 HELP "Date of Stats";
AT Time GRID YES GRAPH YES GRAPHMAX 0 HELP "Time of Stats";
AT Valid GRID NO GRAPH NO GRAPHMAX 0 HELP "Validity Flag";
AT CpuType GRID NO GRAPH NO GRAPHMAX 0 HELP "Processor Type";
AT ET GRID NO GRAPH NO GRAPHMAX 0 HELP "Elapsed Minutes";

AT Busy GRID YES GRAPH YES GRAPHMAX 100 HELP "Percent Cpu Busy"
HEADING "Busy%";
AT Queue GRID YES GRAPH YES GRAPHMAX 10 HELP "Cpu Queue Length";
AT Disp GRID YES GRAPH YES GRAPHMAX 5000 HELP "Dispatch rate";
AT Disk GRID YES GRAPH YES GRAPHMAX 100 HELP "Disk I/O rate";
AT Chit GRID YES GRAPH YES GRAPHMAX 100 HELP "Disk Cache Hit rate";
AT Swap GRID YES GRAPH YES GRAPHMAX 10 HELP "Memory Swap rate";

```

In this example, the NodeName attribute has its Show GRID attribute property set to YES and GRAPH attribute property set to NO. The GRAPH property is not enabled because it does not make sense to graph a node name.

Also, the user-defined CPU attribute defines the CPU number and has HELP text "CPU Number".

The Status attribute has both the GRID and GRAPH properties set to YES. Setting GRAPH to YES implies the status of the CPU entity will be analyzed. In the example, the Status attribute is paired with an attribute called OpState.

When an attribute has a state associated with it, as does the Status attribute, the STATEPAIR YES and STATERULE UseStateGraphState properties are set. In this case, the status property is special in that its associated state is earmarked as the operational state of the object, as indicated by STATEISOP YES.

The user-defined Busy attribute has its GRID and GRAPH properties enabled, so the busy value has a state assigned to it by the ASAP Client. The Busy value is normalized with its GraphMax property. Because Busy is a value from 0 through 100 percent, the correct GraphMax value is 100.

Align - EDL Attribute Property

```
Align Left | Right | ""
```

The Align attribute property defines how the ASAP Client aligns the display of defined attributes. If no align option is specified, the client uses its own set of rules to

determine how best to align attribute data. The Align attribute property might not affect certain user defined attributes.

Align Left causes the Client to left align data for the associated attribute.

Align Right causes the Client to right align data for the associated attribute.

Align "" causes the client to align data based on internal best-fit client rules.

Applies to: Client

Default: ALIGN ""

Examples

```
ALIGN LEFT
ALIGN RIGHT
ALIGN ""
```

Format - EDL Attribute Property

Format *Fw.d* | *lw* | *Sw* | *String*

The Format attribute property defines how the ASAP Server should format a user-defined attribute. The format options are:

Fw.d Display decimal, *w* = total width, and *d* = digits to right of decimal point.

lw Display data as integer, *w* = total width of display right justified.

Sw Display data as string, *w* = total width of display left justified.

String Any other Format option known to the ASAP Command Interpreter, such as *hh:mm:ss*. If format string is not a simple AlphaNumeric token, then it must be enclosed in quotes.

Applies to: Server and Client

This property determines how the ASAP Server formats the attribute value. Although the ASAP Client interprets the data, the Client does not modify the way the Server displays the data.

The FORMAT should match the TYPEDATA of the attribute. For example, you must use a string format ("S8") if TYPEDATA is defined as a character string (CHAR8).

A decimal format, such as "F6.2", is normally used only with a TYPEDATA of REAL64. However, if you define a decimal format and a TYPEDATA of INT, INT32 or INT64, ASAP stores the value using an implied decimal point. For example, a value of 123.45 is stored as 12345 if FORMAT is "F6.2" and TYPEDATA is INT, INT32, or INT64. Implied decimal points are used in both the Process and TMF entities, and they can also be used in any application entity.

Default: Null

Examples

```
Format "F5.2"  -- 12.45
Format I8     -- 12345678
Format S8     -- PathDown
```

Graph - EDL Attribute Property

Graph *Boolean*

The Graph attribute property determines whether a user-defined attribute has state analysis performed on it by the ASAP Client. If the Graph attribute property is enabled (TRUE or YES), the attribute has a state assigned to it (either directly through client numerical analysis, or indirectly through an associated *data, state* pair).

This property controls whether the ASAP Client analyzes an attribute and assigns a state to it. The Client assigns a state to each graphed attribute based on the attribute's StateRule setting. For more details, see the StateRule section.

If more than one attribute has its Graph property enabled, the attribute with the highest state is said to be the state of the object. In this manner, each object has a state assigned to it.

When an object has a state assigned to it, the graph for that object is color-coded according to the state of the object. The corresponding value in the grid portion of the ASAP Client Browse window is also annotated with the state icon.

Applies to: Client

This property appears on the Attribute Tab of the ASAP Client Properties Window and is documented as the Show In Graph property.

Default: False

Examples

```
AT Busy  GRAPH YES GRID YES  GRAPHMAX 100 HELP "Percent Cpu Busy"
        HEADING "Busy%";
AT Status GRAPH YES GRID YES  GRAPHMAX 9  HELP "Operational Status"
        STATEPAIR YES, STATERULE UseStateGraphState, STATEISOP YES;
```

GraphMax - EDL Attribute Property

GraphMax *Number*

The GraphMax attribute property defines the maximum value used to normalize a user-defined attribute. When an attribute has its Graph property enabled (TRUE or YES), the Graph-Max value is used to normalize the value of that attribute.

The Graph-Max value appears in the ASAP Client as the unlabeled field immediately to the right of the Show in Graph check box. This value determines the maximum graph amplitude or normalization value for the attribute. For example, if the attribute Queue has a Graph-Max value of 10, and the value of the Queue attribute is 5, the Queue value appears in the graph at one-half of the maximum graph height.

Graph-Max values are used when StateRule is UseThresholds, and the Graph Percent check box is selected on the Graph property sheet.

Applies to: Client

This property appears on the Attribute tab of the ASAP Client Properties window.

Default: False

Examples

```
AT Busy    GRAPH YES GRID YES    GRAPHMAX 100 HELP "Percent Cpu Busy"
           HEADING "Busy%";
AT Status  GRAPH YES GRID YES    GRAPHMAX 9   HELP "Operational Status"
           STATEPAIR YES, STATERULE UseStateGraphState, STATEISOP YES;
```

Grid - EDL Attribute Property

Grid *Boolean*

The Grid attribute property indicates whether a user-defined attribute is displayed in the Grid portion of the Browse window of the ASAP Client. If the Grid attribute property is enabled (TRUE or YES), the attribute value appears in the Grid.

Applies to: Client

This property appears on the Attribute tab of the ASAP Client Properties window and is documented as the Show In Grid property.

Default: False

Examples

```
AT NodeName GRID YES   GRAPH NO   GRAPHMAX 0   HELP "NSK System Name";
AT Sysnum   GRID NO    GRAPH NO    GRAPHMAX 0   HELP "System Number";
AT Cpu      GRID YES   GRAPH NO    GRAPHMAX 0   HELP "CPU Number";
```

Heading - EDL Attribute Property

Heading *String*

The Heading attribute property defines the *string* of text that appears in the heading for a user-defined attribute.

If the Heading is not specified then it defaults to the *attribute-name*.

If heading is specified it appears in the heading instead of the *attribute-name*.

Applies to: Client and Server

This property appears in the ASAP Client Properties window as the Attribute name.

Default: *attribute-name*

Example

```
AT Busy GRID YES GRAPH YES GRAPHMAX 100 HELP "Percent Cpu Busy"  
HEADING "Busy%";
```

HeadPickup - EDL Attribute Property

HeadPickup *Boolean*

The HeadPickup attribute property indicates whether the heading associated with a user-defined attribute is fixed or dynamically derived from the heading the ASAP Server displays.

If HeadPickup is enabled (TRUE or YES), then the heading defined by the ASAP Server appears, rather than the Heading property associated with the attribute.

If HeadPickup is not enabled, the heading is the defined by the Heading *string*.

Applies to: Client

Default: False

Examples

```
AT Metric01 GRAPH YES GRID YES HEADPICKUP YES; - use server  
AT Metric02 GRAPH YES GRID YES HEADPICKUP NO; - use client
```

Help - EDL Attribute Property

Help *String*

The Help *string* attribute property defines the Help text displayed by the ASAP Client when you move the mouse over a user-defined attribute in the grid portion of the ASAP Client Browse window. This help text also appears on the Attribute tab of the ASAP Client Properties window.

Applies to: Client

Default: "" - null

Examples

```
ENTITY CPU CI      ASAP,
           COMMAND "CPU\*,RAW,TAB" ,
           NodeKey  nodeName,
           ObjectKey Cpu,
           RowKey   "Date Time",
           ENABLED  YES,
           HELP     "Central Processor Unit";
AT nodeName GRID YES GRAPH NO  GRAPHMAX 0  HELP "NSK System Name";
AT Sysnum  GRID NO  GRAPH NO  GRAPHMAX 0  HELP "System Number";
AT Cpu     GRID YES GRAPH NO  GRAPHMAX 0  HELP "CPU Number";

AT Status  GRID YES GRAPH YES  GRAPHMAX 0  HELP "Operational Status"
           STATEPAIR YES, STATERULE UseStateGraphState, STATEISOP YES;
AT OpState GRID NO  GRAPH NO  GRAPHMAX 9  HELP "Operational State";

AT Date    GRID NO  GRAPH NO  GRAPHMAX 0  HELP "Date of Stats";
AT Time    GRID YES GRAPH YES  GRAPHMAX 0  HELP "Time of Stats";
AT Valid   GRID NO  GRAPH NO  GRAPHMAX 0  HELP "Validity Flag";
AT CpuType GRID NO  GRAPH NO  GRAPHMAX 0  HELP "Processor Type";
AT ET      GRID NO  GRAPH NO  GRAPHMAX 0  HELP "Elapsed Time Mins";

AT Busy    GRID YES GRAPH YES  GRAPHMAX 100 HELP "Percent Cpu Busy"
           HEADING "Busy%";
AT Queue   GRID YES GRAPH YES  GRAPHMAX 10  HELP "Queue Length";
```

MetricRule - EDL Attribute Property

MetricRule *String*

The MetricRule attribute property applies to the Application entity.

The MetricRule property defines how the metric value is to be produced using a formula consisting of various Application entity DATAITEMs, constants, and time intervals.

User-defined Application attributes must have a metric rule or formula associated with them. For complete details, see the ASAP Extension Manual.

The MetricRule *string* contains a formula in ASAP extension format for the metric so that its value can be properly computed. See [Format - EDL Attribute Property](#) on page [146](#).

Applies to: Server

Default: null

Examples

```
AT TranCount METRICRULE "#1";
```

```
AT TranRate METRICRULE "#1/S" FORMAT F10.2;
```

```
AT OkPercent METRICRULE "#1/(#0+#1)*C100" FORMAT F6.2
```

StatePair - EDL Attribute Property

StatePair *Boolean*

The StatePair attribute property indicates whether a user-defined attribute has a state associated with it in the form of a *data, state* pair.

When the StatePair property is TRUE for a user defined attribute, this implies the attribute must be immediately followed by another attribute whose value represents the OEM state of the data attribute.

In the ASAP Client, attributes can be assigned a state according to the StateRule property. Certain attributes can have a state value specifically associated with them. When they do, the StatePair property should be TRUE for those attributes.

The ASAP Client performs state analysis of a user-defined attribute whenever the Graph property is enabled for that attribute.

When you define an attribute, you can have the ASAP Client perform state determination for that property by setting the Graph attribute property TRUE. The state is assigned to the attribute using the StateRule attribute property.

When the StatePair attribute is enabled, and StateRule is UseStateGraphState or UseStateGraphValue, the state of the attribute is derived directly from the associated state in the *data, state* pair.

Notes

The Client assigns a state to each graphed attribute based on the attribute's StateRule setting for that data attribute. For more information, see [StateRule - EDL Attribute Property](#) on page [153](#).

When StatePair is specified for a user-defined attribute, that attribute must have its TypeData property defined. Specifying TypeData lets ASAP determine how to treat the

user-defined attribute; for example, what type of number the attribute represents. For more information, see [TypeData - EDL Attribute Property](#) on page [154](#).

Applies to: Client and Server

This property appears in the Attribute tab of the ASAP Client Properties window.

Default: False

Examples

```
AT Status  GRID YES  GRAPH YES  GRAPHMAX 0
           STATEPAIR YES -- Implies Status has associated state
           STATEISOP YES -- Implies State is operational state of obj
           STATERULE UseStateGraphState
           HELP "Operational Status";
AT OpState  GRID NO   GRAPH NO   GRAPHMAX 9
           HELP "Operational State of object";
```

StatelsOp - EDL Attribute Property

StatelsOp *Boolean*

The StatelsOp attribute property indicates whether the state of an attribute represents the overall Operational State of the object.

When the StatelsOp attribute is TRUE, the attribute is flagged as having an important distinction between it and all other attributes. The attribute flagged as StatelsOp indicates the overall operational state of the object.

If the state associated with a StatelsOp attribute is warning, the operational state of the overall object is said to be in a warning state. Contrast this with a performance attribute such as busy when its state reaches a warning level, the utilization of the object has exceeded a warning level but is not necessarily in a warning state.

Considerations

When StatelsOp is TRUE, StatePair is typically also TRUE.

Usually, only one attribute for an entity has its StatelsOp attribute property set to TRUE.

Applies to: Client and Server

Default: False

Example

```
AT Status  GRID YES  GRAPH YES  GRAPHMAX 0
           STATEPAIR YES -- Implies Status has associated state
           STATEISOP YES -- Implies State is operational state of obj
           STATERULE UseStateGraphState
           HELP "Operational Status";
AT OpState GRID NO   GRAPH NO   GRAPHMAX 9
           HELP "Operational State of object";
```

StateRule - EDL Attribute Property

StateRule *String*

The StateRule attribute property defines how the ASAP Client determines the state of an attribute.

Where *String* must be one of:

```
UseThresholds
UseValueGraphValue
UseStateGraphValue
UseStateGraphState
```

Applies to: Client

Default: UseThresholds

State Determination Rule Value	Attribute State Information Determined	More Information
UseThresholds	By the ASAP Client using the percentage thresholds specified with the Utilization Thresholds sliders.	87
UseValueGraphValue	Directly by the value of the attribute.	88
UseStateGraphValue	By the state variable associated with that attribute. The attribute's value is graphed.	88
UseStateGraphState	By the state variable associated with that attribute. The state value is graphed.	88

For detailed descriptions, see [State Determination Options](#) on page [87](#).

Examples

```
AT Status  GRID YES  GRAPH YES  GRAPHMAX 0  HELP "Operational Status"
           STATEPAIR YES STATERULE UseStateGraphState STATEISOP YES;

AT TranCount METRICRULE "#1"
            STATEPAIR YES STATERULE UseStateGraphState;

AT TranRate  METRICRULE "#1/S"  FORMAT F10.2
```

```
STATEPAIR YES STATERULE UseStateGraphState;
```

TypeData - EDL Attribute Property

TypeData *String*

The TypeData attribute property defines the data type of a user-defined attribute. Possible data types are:

```
INT | INT32 | INT64 | REAL64 | CHARnn
```

Applies to: Server

Default: NULL

Example

```
AT TranCount METRICRULE "#1"  
    STATEPAIR YES STATERULE UseStateGraphState  
    TYPEDATA REAL64;  
AT TranRate METRICRULE "#1/S" FORMAT F10.2  
    STATEPAIR YES STATERULE UseStateGraphState  
    TYPEDATA REAL64;
```

EDL - DATA Statement

The EDL includes a DATA statement that facilitates entity prototyping, testing, and demonstration. The DATA statement lets you associate data with an entity declaration.

The DATA statement lets availability, statistics, and performance information be included as part of the EDL source file for an entity. DATA statements can be automatically generated along with entity definitions when the FILE... EXPORT EDL function is selected from the ASAP Browse window. This capability is useful for saving the environment, as well as prototyping what if scenarios. The DATA statement lets any type of data be imported into the ASAP Client.

The layout of the DATA statement syntax is a what-you-see-is-what-you-get composition that mirrors the desired result:

```
DATA entity-name  
heading1 heading2 heading3 ...  
-----  
\col1dat col2data col3data ...  
\col1dat col2data col3data ...  
...  
..  
; -- semicolon terminates statement
```

Considerations

- Each record after the DATA statement is stored in the ASAP object cache for the entity specified as *entity-name*.
- The DATA statement must be terminated with a semicolon after the first record that does not begin with a backslash.
- Column widths are determined by the number of dashes in the heading for each column.
- Data record attribute properties must align with the corresponding dashes character underlining headings. Data records represent the contents of attribute data columns. If columns are not aligned, data is truncated to fit under the column definitions.

Applies to: Client

Default: Null

Example

```
DATA CPU
Node      Num Cpu Stats Op Dateymd      Time  CpuType Et  Bsy QL Disp
-----
\CENTDIV  051 00  Up    2 1999/12/21 20:48 K10000 1  3  0  51
\CENTDIV  051 01  Up    2 1999/12/21 20:48 K10000 1  5  0  97
\CHITOWN  153 00  Up    2 1999/12/21 20:47 K1000  1  3  0  22
\CHITOWN  153 01  Up    2 1999/12/21 20:47 K1000  1  2  0  19
\WINE     242 00  Up    2 1999/12/21 20:48 K1000  1  2  0  18
\WINE     242 01  Up    2 1999/12/21 20:48 K1000  1  1  0   8
\DOME     245 00  Up    2 1999/12/21 20:48 S70000 1  2  0 158
\DOME     245 01  Up    2 1999/12/21 20:48 S70000 1  1  0  57
\ISLAND   249 01  Up    2 1999/12/21 20:47 K2000  1  2  0  22
\ISLAND   249 02  Up    2 1999/12/21 20:47 K2000  1  1  0  12
\ISLAND   249 03  Up    2 1999/12/21 20:47 K2000  1  0  0   3
;
```

EDL - INCLUDE Statement

The INCLUDE statement lets you include multiple EDL files. This statement lets you distribute EDL information across multiple files, thus letting you separate entity definitions among various organizations and companies.

```
INCLUDE filename ;
```

Applies to: Client and Server

Example

HP developers must be able to define system entities in one EDL file, perhaps named *AsapSys*.

Users must be able to define application entities in EDL files of your own, perhaps one of which is named *AsapApp*.

Using this approach, INCLUDE statements let you modify application entity definitions in *AsapApp*, and lets development organizations contain their system entity definitions in *AsapSys*, without either group having to edit files belonging to the other.

These notions can be extended to include third parties.

Files can be brought together via wrapper EDL files:

```
$System.System.AsapEDL:
```

```
INCLUDE AsapSys;
```

```
INCLUDE AsapApp;
```

Include - Spanning Considerations

Two restrictions relate to INCLUDE statements:

Statement Spanning Restriction #1:

No single EDL statement can span multiple EDL files. You cannot begin a statement in one file and complete it in another file. Any single EDL statement must be entirely contained within a single EDL file.

Entity-Attribute Spanning Restriction #2:

No single Entity definition can span multiple EDL files. A specific Entity definition must be entirely contained within a single file. This restriction refers not only to the Entity statement but to all associated Attribute statements.

Thus both an Entity statement and all associated Attributes must be entirely contained within one EDL file.

You cannot begin an entity definition in one file, and complete it in another file.

Include - Default Path/Subvol

The INCLUDE *filename* can either a fully qualified file name, or it can be a partially qualified file name.

Examples

```
INCLUDE "C:\My Projects\ASAP\EDL\Asap2 Factory";
```

```
INCLUDE Asap2App;  
INCLUDE Asap2Sys;
```

```
INCLUDE $SYSTEM.SYSTEM.ASAPEDL;  
INCLUDE Asap2App;  
INCLUDE Asap2Sys;
```

When *filename* is partially qualified, the default path or subvolume for that file is the same as the path or subvolume of the parent file that included the INCLUDE statement. For example, if a file \$SYSTEM.SYSTEM.ASAPEDL contains INCLUDE statements with simple file names, those INCLUDE files have a default subvolume of \$SYSTEM.SYSTEM, which is the same as the parent EDL file name.

```
INCLUDE $SYSTEM.SYSTEM.ASAPEDL;  
INCLUDE Asap2Sys;  
INCLUDE Asap2App;
```

Path or subvolume inheritance lets related INCLUDE files be grouped or moved together without embedding fully qualified file names.

File Names With Special Characters, or Embedded Blanks

If a *filename* includes special characters or blanks, it must be enclosed in double quotes. For example: INCLUDE "C:\My Projects\ASAP\EDL\Asap2 Factory";

Included EDL file names do not have to have the .EDL extension in the INCLUDE statement.

File Names Limited to 40 Characters

An include *filename* is limited to a total of 40 characters in length.

Statement Termination

INCLUDE statements, like any other EDL statements, must be terminated with a semicolon.

This example shows how to use the INCLUDE statement to distribute entity definitions across multiple files:

```
$System.System.AsapEDL:  
INCLUDE AsapSys;  
INCLUDE AsapApp;
```

```
$System.System.AsapSys:  
INCLUDE AsapCpu;  
INCLUDE AsapDisk;  
INCLUDE AsapExpand;
```

```
$System.System.AsapApp:
```

```
INCLUDE Atm;
INCLUDE Funds;
INCLUDE Teller;
INCLUDE $DATA.THIRD.PARTY;
```

```
$Data.THIRD.PARTY:
INCLUDE ACI;
INCLUDE EDS;
INCLUDE DATX;
```

EDL-Relation Statement

The RELATION statement allows you to define hierarchical relationships between EDL entities and container names. This aspect of EDL is sometimes referred to as RDL.

The following describes the Relation statement syntax:

```
RELATION      OBJECT <ObjectID>
              PARENT <Parent-ObjectID> | NULL
              CAPTION <Container-Name> | INSTANCE
```

<ObjectID> is an alpha-numeric symbol used as an abstract "handle" to declare hierarchical relationships between entities and containers. A container name can be declared with the CAPTION option. A container can be used to "contain" other entities and/or containers. An ObjectID's parent ObjectID can be declared using the PARENT option.

PARENT defines the relationship between the ObjectID in the current Relation statement and the ObjectID in the next higher level of the hierarchy. NULL means you are at the top of the hierarchy.

CAPTION defines either a fixed <container-name> such as CAPTION "TCP/IP". Or, a <container-name> can also be specified as CAPTION "*" to indicate any text can appear at that level of the hierarchy. If a Caption is declared then INSTANCE should not be declared for that Relation statement.

INSTANCE indicates that the ObjectID in the current Relation statement is the name of an EDL Entity previously declared.

Considerations

ObjectID container and instance associations for an entity can be further specified with the **EDL MAP <ObjectID> TO <EntityName>** statements shown below.

Entity Relationships defined with EDL RELATION statements must match the actual domain names used by all components of ASAP. For example, system entity object names and containers cannot be modified using Relation statements.

Applies To: Client

Example

```
-----  
--          RELATIONS                                     --  
-----  
  
RELATION OBJECT *                                     PARENT NULL; -- clears all  
----- Node container                                \Nodename  
RELATION OBJECT NodeClass                           PARENT NULL      Caption *;  
----- TCPIP container                               \Nodename\Tcpip  
RELATION OBJECT TcpipClass                           PARENT NodeClass Caption "Tcpip";  
----- ICMP                                           \Nodename\Tcpip\Icmp\%Ztc01  
RELATION OBJECT IcmpClass                            PARENT TcpipClass Caption "Icmp";  
RELATION OBJECT TcpICMP                             PARENT IcmpClass INSTANCE;  
----- IP                                             \Nodename\Tcpip\Ip\%Ztc01  
RELATION OBJECT IPClass                             PARENT TcpipClass Caption "Ip";  
RELATION OBJECT TcpIP                               PARENT IPClass   INSTANCE;  
----- QIO                                           \Nodename\Tcpip\Qio\%Ztc01  
RELATION OBJECT QioClass                            PARENT TcpipClass Caption "Qio";  
RELATION OBJECT TcpQIO                              PARENT QIOClass  INSTANCE;  
----- ROUTE                                         \Nodename\Tcpip\Route\%Ztc01\#Rt1  
RELATION OBJECT RouteClass                           PARENT TcpipClass Caption "Route";  
RELATION OBJECT RoutePidClass                       PARENT RouteClass Caption *;  
RELATION OBJECT TcpROUTE                            PARENT RoutePidClass INSTANCE;  
----- RTE                                           \Nodename\Tcpip\Rte\%Ztc01  
RELATION OBJECT RteClass                             PARENT TcpipClass Caption "Rte";  
RELATION OBJECT TcpRTE                              PARENT RteClass  INSTANCE;  
----- SUBNET                                       \Nodename\Tcpip\Subnet\%Ztc01\#Loop  
RELATION OBJECT SubnetClass                          PARENT TcpipClass Caption "Subnet";  
RELATION OBJECT SubnetPidClass                      PARENT SubnetClass Caption *;  
RELATION OBJECT TcpSUBNET                           PARENT SubnetPidClass INSTANCE;  
----- TcpProcess                                    \Nodename\Tcpip\Tcp\%Ztc01  
RELATION OBJECT TcpClass                             PARENT TcpipClass Caption "Tcp";  
RELATION OBJECT TcpProcess                           PARENT TcpClass  INSTANCE;  
----- PORT                                         \Nodename\Tcpip\Port\00021\%Ztc01\%Znes\1  
RELATION OBJECT PortClass                           PARENT TcpipClass  Caption "Port";
```

```

RELATION OBJECT      PortNumClass      PARENT PortClass      Caption      *;
RELATION OBJECT      PortPid1Class     PARENT PortNumClass   Caption      *;
RELATION OBJECT      PortPid2Class     PARENT PortPid1Class  Caption      *;
RELATION OBJECT      TcpPORT           PARENT PortPid2Class  INSTANCE;
----- UDP
\Nodename\Tcpip\Udp\$Ztc01
RELATION OBJECT      UDPClass          PARENT TcpipClass     Caption      "Udp";
RELATION OBJECT      TcpUdp            PARENT UDPClass       INSTANCE;
----- TELSERV
\Nodename\Telserv
RELATION OBJECT      TelservClass      PARENT NodeClass      Caption      "Telserv";
----- TelservProcess
\Nodename\Telserv\Process\$Ztn00
RELATION OBJECT      ProcessClass      PARENT TelservClass   Caption      "Process";
RELATION OBJECT      TelservProcess    PARENT ProcessClass   INSTANCE
----- TelservService
\Nodename\Telserv\Service\$Ztn00\mmsw
RELATION OBJECT      ServiceClass      PARENT TelservClass   Caption      "Service";
RELATION OBJECT      ServicePidClass   PARENT ServiceClass   Caption      *;
RELATION OBJECT      TelservService    PARENT ServicePidClass INSTANCE;
----- TelservWindow
\Nodename\Telserv\Window\$Ztn00\#Pt6bbzt
RELATION OBJECT      WindowClass       PARENT TelservClass   Caption      "Window";
RELATION OBJECT      WindowPidClass    PARENT WindowClass    Caption      *;
RELATION OBJECT      TelservWindow     PARENT WindowPidClass INSTANCE;

MAP TcpipClass      TO TcpProcess;
MAP IcmpClass       TO TcpIcmp;
MAP IPClass         TO TcpIP;
MAP QioClass        TO TcpQio;
MAP RoutePidClass   TO TcpRoute;
MAP RouteClass      TO TcpRoute;
MAP RteClass        TO TcpRte;
MAP SubnetClass     TO TcpSubnet;
MAP SubnetPidClass  TO TcpSubnet;
MAP TcpClass        TO TcpProcess;
MAP PortClass       TO TcpPort;
MAP PortNumClass    TO TcpPort;
MAP PortPid1Class   TO TcpPort;
MAP PortPid2Class   TO TcpPort;

```

```

MAP UdpClass          TO TcpUdp;
MAP TelservClass     TO TelservProcess;
MAP ServiceClass     TO TelservService;
MAP ServicePidClass  TO TelservService;
MAP WindowClass      TO TelservWindow;
MAP WindowPidClass   TO TelservWindow;
MAP ProcessClass     TO TelservProcess;

```

EDL-MAP Statement

The MAP statement allows you to assign a relationship between an ObjectID and an Entity. An abstract ObjectID is used as a "handle" to declare hierarchical relationships using the Relation statement.

The following describes the MAP statement syntax:

```
MAP <ObjectID> TO <Entity-Name>
```

<ObjectID> is a symbolic ID used to define hierarchical relationships between entities and containers using the RELATION statement.

TO <entity-name> indicates an ObjectID is associated with a specific entity name. Selecting a "mapped" ObjectID in its hierarchy selects the associated entity.

Applies To: Client

Example—See RELATION statement