



Cisco Configuration Assurance Solution Reference Documentation Guide

Software Release 11.5

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*Cisco Configuration Assurance Solution
Reference*

Documentation Guide

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Copyright

Document Copyright

Document Title: Documentation Guide
Document Part Number: D00237
Version: 9

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Software Copyright

Product Name: IT Sentinel
Product Release: 11.5

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Documentation Conventions

OPNET documentation uses specific formatting and typographic conventions to present the following types of information:

- Objects, examples, and system I/O
- Object hierarchies, notes, and warnings
- Computer commands
- Lists and procedures

Objects, Examples, and System I/O

- Directory paths and file names are in plain Courier typeface:

```
opnet\release\models\std\ip
```

- Function names in body text are in italics:

```
op_dist_outcome()
```

- The names of functions of interest in example code are in bolded Courier typeface:

```
/* determine the object ID of packet's creation module */  
src_mod_objid = op_pk_creation_mod_get (pkptr);
```

- Variables are enclosed in angle brackets (< >):

```
<opnet_user_home>/op_admin/err_log
```

Object Hierarchies, Notes, and Warnings

Menu hierarchies are indicated by right angle brackets (>); for example:

```
Open File > Print Setup > Properties...
```

Attribute hierarchies are represented by angled arrows (▲) that indicate that you must drill down to a lower level of the hierarchy:

Attribute level 1 ▶ Attribute level 2 ▶ Attribute level 3

Note—Notes are indicated by text with the word Note at the beginning of the paragraph. Notes advise you of important supplementary information.

WARNING—Warnings are indicated by text with the word WARNING at the beginning of the paragraph. Warnings advise you of vital information about an operation or system behavior.

Computer Commands

These conventions apply to Windows systems and navigation methods that use the standard graphical-user-interface (GUI) terminology such as click, drag, and dialog box.

- Key combinations appear in the form “press <button>+x”; this means press the <button> and x keys *at the same time* to do the operation.
- The mouse operations *left-click* (or *click*) and *right-click* indicate that you should press the left mouse button or right mouse button, respectively.

Lists and Procedures

Information is often itemized in bulleted (unordered) or numbered (ordered) lists:

- In bulleted lists, the sequence of items is not important.
- In numbered lists, the sequence of items is important.

Procedures are contained within procedure headings and footings that indicate the start and end of the procedure. Each step of a procedure is numbered to indicate the sequence in which you should do the steps. A step may be followed by a description of the results of that step; such descriptions are preceded by an arrow.

Procedure FM-1 Sample Procedure Format

- 1 Procedure step.
 - ➔ Result of the procedure step.

- 2 Procedure step.

End of Procedure FM-1

For more information about using and maintaining OPNET documentation, see the OPNET IT Sentinel Documentation Guide.

Document Revision History

Release Date	Product Version	Chapter	Description of Change
August 2004	11.0	Using the Documentation Effectively	<ul style="list-style-type: none">• Added menu/toolbar references to Adobe Reader 6.x• Added Preferences information about sizing Adobe Reader for the working environment and setting the Search results parameter to better accommodate global searches
	11.0	New Book	Added the Animation Viewers Reference Manual to the document set. This book replaces the Utility Programs Reference Manual in the Modeler and ODK sets.
March 2004	10.5 PL1	Document Set	Added the Report Server User Guide to the document set
Sept 2003	10.0	Revision History	Section added to this manual.

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1 Document Set

The IT Sentinel document set contains all the user guides and reference manuals that apply to the product. The number of books that are relevant to your working environment depends on the optional product modules that you purchase.

Although optional product modules have separate documentation, all the documentation comes with the product. See on page DG-1-1 for a list of books that apply to the baseline IT Sentinel installation, and a list of additional books that are specific to the optional product modules that you can purchase for IT Sentinel.

The document set is contained on a documentation CD that is one of the product installation CDs. The product documentation is in PDF (Portable Document File) format and requires the Adobe Acrobat Reader to view it.

After you install the OPNET software, model library, and product documentation—and the free Adobe Acrobat Reader that comes on the documentation CD if you do not already have Acrobat Reader installed on your system—you can gain access to the documentation as follows:

- From the OPNET Help > Product Documentation menu
- From the Start > Programs > OPNET menu (Windows only)

The access methods above link to menus that enable you to access books, tutorials, and search resources. There are also several menu items in the OPNET software that enable you to link directly to documentation related to specific tasks or features.

Page Numbering Format

The format for page numbers is **Book-Chapter-Page** (for example, **DG-1-2** means Documentation Guide-Chapter 1-Page 2. Page numbers are derived using the following conventions.

Book Abbreviations

The book abbreviations are listed with the book titles in on page DG-1-1.

Chapter Designators

Chapter designators in page numbers can be numeric or alphabetic characters, or abbreviations that indicate the type of information the chapter contains. Table 1-1 lists the chapter designators.

Table 1-1 Chapter Designators in OPNET Product Documentation

Designator	Meaning	Description
FM	Front Matter	Applies to pages in the following sections: <ul style="list-style-type: none"> • Title and Copyright • Table of Contents • List of Figures • List of Tables • List of Procedures
1 – n	Chapter	Chapter designation (numeric)
A – Z	Appendix	Appendix designation (alphabetic)
IX	Index	Index designation (abbreviation)
GLOS	Glossary	Glossary designation (abbreviation)
End of Table 1-1		

Page Numbers

There are two conventions for page numbers:

- Page numbers in the front matter (FM) of the book are lowercase roman numerals; numbering begins on the title page of the book and continues to the end of the last list in the Table of Contents (usually the List of Procedures).
- Page numbers in the body of the book—chapters, appendixes, and indexes—are arabic numbers; page numbering restarts at the beginning of each chapter, appendix, and index.

Book Conventions

Each book has the following sections:

- Front Matter
- Index

Front Matter

The front matter (FM) of each book contains the following information.

Title and Copyright Pages

The title and copyright pages list the full title of the book, the name of the product and product release for which the book was prepared, and the OPNET part number and version number of the book.

This section also contains contact information, OPNET software copyright information, and third-party trademarks and copyright information.

Table of Contents

The Table of Contents (TOC) indicates how the book is organized and contains a list of chapters and section headings. The entries in the TOC are hyperlinks when you view the documentation in Adobe Acrobat Reader; you can click on any TOC entry to jump to the corresponding item in the body of the documentation.

Each TOC entry lists the page on which the item appears; see Page Numbering Format on page DG-1-2 for more information.

List of Figures

If a book contains flowcharts, diagrams, photographs, screen captures, or other graphical representations, the figure titles appear in the List of Figures.

Note—If there are no figures in a book, there is no List of Figures in the front matter.

Each entry in the List of Figures contains the caption and location information of the figure, as follows:

- Caption prefix—consists of the word Figure followed by the chapter number and the sequence of the figure in the chapter (for example, **Figure 1-2** indicates that the figure is the second figure in Chapter 1.)
- Caption Text
- Page number on which the figure appears; see Page Numbering Format on page DG-1-2 for more information.

When you view the documentation in Adobe Acrobat Reader, the entries in the List of Figures are hyperlinks; you can click on any entry in the List of Figures to jump to the corresponding item in the body of the documentation.

List of Tables

If the book contains tables of information, the table titles appear in the List of Tables.

Note—If there are no tables in a book, there is no List of Tables in the front matter.

Each entry in the List of Tables contains the caption and location information of the tables in the book, as follows:

- Caption prefix—consists of the word Table followed by the chapter number and the sequence of the table in the chapter (for example, **Table 2-1** indicates that the table is the first table in Chapter 2.)
- Caption Text
- Page number on which the table appears; see Page Numbering Format on page DG-1-2 for more information.

When you view the documentation in Adobe Acrobat Reader, the entries in the List of Tables are hyperlinks; you can click on any entry in the List of Tables to jump to the corresponding item in the body of the documentation.

List of Procedures

If a book contains procedures, the procedure titles appear in the List of Procedures.

Note—If there are no procedures in a book, there is no List of Procedures in the front matter.

Each entry in the List of Procedures contains the caption and location information of the procedure in the book, as follows:

- Caption prefix—consists of the word Procedure followed by the chapter number and the sequence of the procedure in the chapter (for example, **Procedure 7-1** indicates that the procedure is the first procedure in Chapter 7.)
- Caption Text
- Page number on which the procedure appears; see Page Numbering Format on page DG-1-2 for more information.

When you view the documentation in Adobe Acrobat Reader, the entries in the List of Procedures are hyperlinks; you can click on any entry in the List of Procedures to jump to the corresponding item in the body of the documentation.

Index

Most books have a book index that you can browse to search for terms or concepts contained in the book. The indexed items from all books in the document set are captured in the product-specific Global Index; this enables you to locate terms and concepts that appear in different books throughout the document set.

In all indexes—book or global—the page numbers are hyperlinks that you can click to jump to the item in the body of the documentation.

Note—In addition to browsing the book and global indexes to locate specific information, you can also use the Find and Search functions in Adobe Acrobat to locate information. See *Locating Information* on page DG-3-3 for more information.

2 Documentation Conventions

OPNET documentation uses specific formatting and typographic conventions to present the following types of information:

- Objects, examples, and system I/O
- Object hierarchies, notes, and warnings
- Computer commands
- Lists and procedures

Objects, Examples, and System I/O

- Directory paths and file names are in plain Courier typeface:

```
opnet\release\models\std\ip
```

- Function names in body text are in italics:

```
op_dist_outcome()
```

- The names of functions of interest in example code are in bolded Courier typeface:

```
/* determine the object ID of packet's creation module */  
src_mod_objid = op_pk_creation_mod_get (pkptr);
```

- Variables are enclosed in angle brackets (< >):

```
<opnet_user_home>/op_admin/err_log
```

Object Hierarchies, Notes, and Warnings

Menu hierarchies are indicated by right angle brackets (>); for example:

```
Open File > Print Setup > Properties...
```

Attribute hierarchies are represented by angled arrows (▶) that indicate that you must drill down to a lower level of the hierarchy:

```
Attribute level 1 ▶ Attribute level 2 ▶ Attribute level 3
```

Note—Notes are indicated by text with the word Note at the beginning of the paragraph. Notes advise you of important supplementary information.

WARNING—Warnings are indicated by text with the word WARNING at the beginning of the paragraph. Warnings advise you of vital information about an operation or system behavior.

Computer Commands

These conventions apply to Windows systems and navigation methods that use the standard graphical-user-interface (GUI) terminology such as click, drag, and dialog box.

- Key combinations appear in the form “press <button>+x”; this means press the <button> and x keys *at the same time* to do the operation.
- The mouse operations *left-click* (or *click*) and *right-click* indicate that you should press the left mouse button or right mouse button, respectively.

Lists and Procedures

Information is often itemized in bulleted (unordered) or numbered (ordered) lists:

- In bulleted lists, the sequence of items is not important.
- In numbered lists, the sequence of items is important.

Procedures are contained within procedure headings and footings that indicate the start and end of the procedure. Each step of a procedure is numbered to indicate the sequence in which you should do the steps. A step may be followed by a description of the results of that step; such descriptions are preceded by an arrow.

Procedure 2-1 Sample Procedure Format

- 1 Procedure step.
 ➔ Result of the procedure step.
- 2 Procedure step.

End of Procedure 2-1

3 Using the Documentation Effectively

This chapter describes techniques for using OPNET documentation effectively:

- Navigating the Document Set on page DG-3-2
- Locating Information on page DG-3-3
- Copying Information on page DG-3-7
- Optimizing Preferences on page DG-3-8

OPNET documentation uses Acrobat Reader software from Adobe Systems Incorporated. Acrobat Reader provides a toolbar with buttons for moving forward and backward through a file, retracing your path through the documentation, and searching for specific text.

Note—Adobe Reader 6.x (Windows only) is organized differently from previous versions of Acrobat Reader. Where the differences are significant, this chapter describes Acrobat Reader (4.x-5.x) and Adobe Reader (6.x) separately.

Figure 3-1 Acrobat Reader Toolbar (Pre-Version 6)

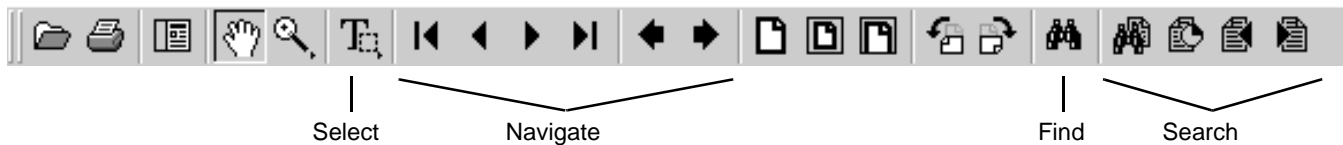


Figure 3-2 Adobe Reader Toolbar (Version 6 and Later)









Bookmarks in the navigation pane (left side) of the Acrobat Reader window let you jump directly to corresponding headings in the current document, to other documents, and to menus. You can also jump through the documentation by clicking on underlined cross-references in the text, on headings in a manual's table of contents, or on page numbers in an index.

For more information about Acrobat Reader capabilities, including the features described here, see the Acrobat Reader user guide (from the menu bar of Acrobat Reader, choose Help > Reader Guide).

Navigating the Document Set

You can move through the OPNET documentation using Acrobat Reader navigation commands and by clicking on hyperlinks built into the documentation.

Table 3-1 Navigation Commands¹

Description	Toolbar	Menu Bar
Go to the first or last page of the current document	 	Document > First Page Document > Last Page
Go to the previous or next page of the current document	 	Document > Previous Page Document > Next Page
Go back or forward through previously viewed pages	 	Document > Go Back Document > Go Forward
Go back or forward through previously viewed documents	none	Document > Go Back Doc Document > Go Forward Doc
End of Table 3-1		

1. The commands and buttons in this table appear in the toolbar of Acrobat Reader 4.x and 5.x. The equivalent navigation buttons appear in Adobe Reader 6, however they are always available at the bottom of the Reader window.

Within documents you can use the hyperlinks listed in the table below to navigate to other sections of the document or to other documents, as indicated.

Table 3-2 Hyperlinks

To...	From...	Click on...
Jump to a chapter or section heading	body text	underlined blue text
Jump to a heading	Table of Contents	heading name
Jump to a figure	List of Figures	figure caption
Jump to a table	List of Tables	table caption
Jump to a procedure	List of Procedures	procedure caption
Jump to indexed information	index	page number
Jump to a named destination	bookmarks	bookmark
Jump to a named destination	menus	destination name
End of Table 3-2		

Locating Information

With Acrobat Reader, you can search two ways:

- Within the current document (chapter)
- Across the documentation set


Searches Using Acrobat Readers 4.x and 5.x

In Acrobat Reader (4.x and 5.x), you use different commands according to the scope of your search:

- To search within the current document, you use the Find command
- To search multiple documents across the document set, you use the Search command

Searching Within the Current Document (Find)

Table 3-3 Find Commands¹

Description	Toolbar	Menu Bar
Find a word in the current document		Edit > Find
Repeat the previous find command	none	Edit > Find Again
End of Table 3-3		

1. Edit > Find and Edit > Find Again are available only in previous versions of Acrobat Reader; starting with Adobe Reader 6, Edit > Search is used to find terms in the current document or the document set according to the search parameter you set. See Searching Across the Document Set (Search) on page DG-3-4 for more information.

The Find command—available in Acrobat Reader versions 4.x and 5.x only—enables you to locate a whole or partial word anywhere in the current document. You can search forward or backward from the current page, with or without case sensitivity. To use this feature, click the Find icon in the Reader toolbar or choose Edit > Find from the Reader menu bar. You can then enter a search string and Reader will jump to the first occurrence of the string.

For more information about using the Find feature, click the “Finding Words” bookmark in the Acrobat Reader user guide (from the Reader menu bar, choose Help > Reader Guide).

Searching Across the Document Set (Search)

OPNET documentation includes catalog files that index the books that make up the document set for your product. Acrobat Reader uses these files to do full-text searches of the indexed documents.

Using the Search feature, you can

- Search for single words or phrases
- Indicate wildcard characters (*, ?) and Boolean operators (AND, OR, NOT) in your search string
- Request that Reader search for related parts of speech (word stemming), similar-sounding words, or synonyms of a search word

To use the search feature, you can do any of the following:

- Click on the **Search the Document Set** bookmark in the navigation pane
- Click on the **Search** icon in the Reader toolbar
- Choose **Edit > Search** from the Reader menu bar





You can then enter a search string in the Search dialog box and Reader will generate a list of all documents that contain a matching string. Double-click on a name in the list and Reader opens that document to the first occurrence of the string.

For more information about using the Search feature, see “Searching Catalog Indexes” in the Acrobat Reader user guide (choose Help > Reader Guide).

WARNING—The Search feature requires the Search plug-in for Acrobat Reader. If you are using the copy of Reader installed by OPNET, this plug-in is installed automatically. If you are using a copy of Acrobat Reader from another source, make sure it used the Reader+Search installer.

Table 3-4 shows the toolbar icons and menu bar commands that you use to search and view results using Acrobat Reader (4.x-5.x).

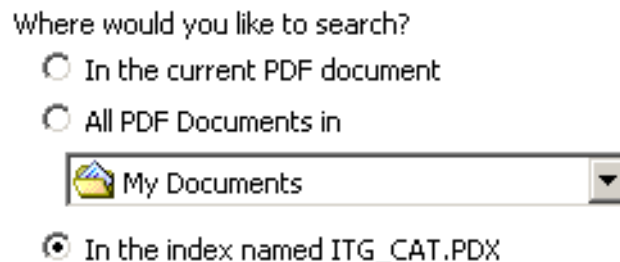
Table 3-4 Search Commands in Acrobat Reader (4.x -5.x)

Description	Toolbar	Menu Bar
Search the current document or document set		Edit > Search Query
Display results of the last search		Edit > Search > Results
Jump to the previous or next item found	 	Edit > Search > Previous Edit > Search > Next
Jump to the previous or next document in the results list	none	Edit > Search > Previous Document Edit > Search > Next Document
End of Table 3-4		

Searches Using Adobe Reader 6.x and Later

In Adobe Reader 6.x and later, you use the Search command for all searches regardless of the scope of the search. You define the scope of your search by selecting a radio button in the Search pane of the Reader (Figure 3-3).

Figure 3-3 Selecting the Scope of Your Search in Adobe Reader



Note—In the OPNET documentation sets, the global index (<product_abbreviation>_CAT.PDX) is attached to each menu in the product document set automatically. When you open the Search pane, the correct index and the global search option are selected by default. You can change the scope of your search by selecting another radio button.

Table 3-5 shows the toolbar icons and menu bar commands that you use to search and view results using Adobe Reader 6.x and later.

Table 3-5 Search Commands in Adobe Reader (6.x and Later)


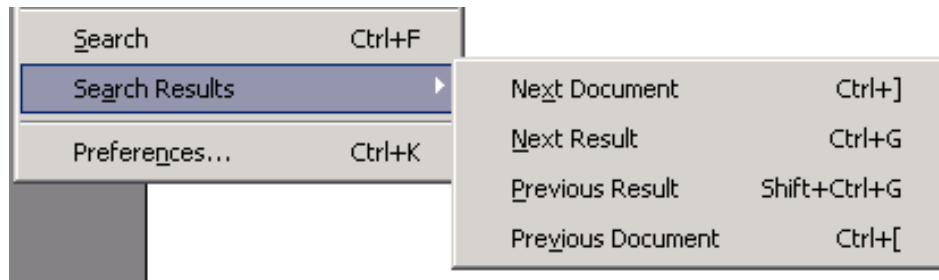
Description	Toolbar	Menu Bar
Search the current document or document set		Edit > Search
Display results of the last search	Not applicable	Edit > Search > Results
End of Table 3-5		

Figure 3-4 shows the menu commands and related shortcuts you can use to navigate the search results in Adobe Reader 6.x and later.



Figure 3-4 Search Results in Adobe Reader 6.x and Later



Copying Information

Table 3-6 lists the commands you can use to copy text and graphics from the documentation for use in other applications.

Table 3-6 Copy Commands

Description	Toolbar	Menu Bar
Text select tool (select text by dragging the cursor across it)		none
Graphics select tool (copy a graphic by dragging a selection rectangle around it) ¹		none
Select all text in the current document	none	Edit > Select All
Copy selected text or graphic	none	Edit > Copy
End of Table 3-6		

1. To choose the graphics select tool, click on the text select tool and hold the mouse button until the select tool submenu appears, then choose the graphics select tool from the submenu.

To use this feature, select the item to be copied as follows:

- **Text**—Choose the text select tool and drag the cursor over the desired text, or choose Edit > Select All from the Reader menu bar.
- **Graphic**—Choose the graphics select tool and drag the cursor to define a selection rectangle around the area to be copied.

Then choose Edit > Copy from the Reader menu bar. The text or graphic is placed in the clipboard and can be pasted into most applications.

For more information about copying text and graphics, click the “Copying and pasting text and graphics to another application” bookmark in the Acrobat Reader user guide (from the Reader menu bar, choose Help > Reader Guide).

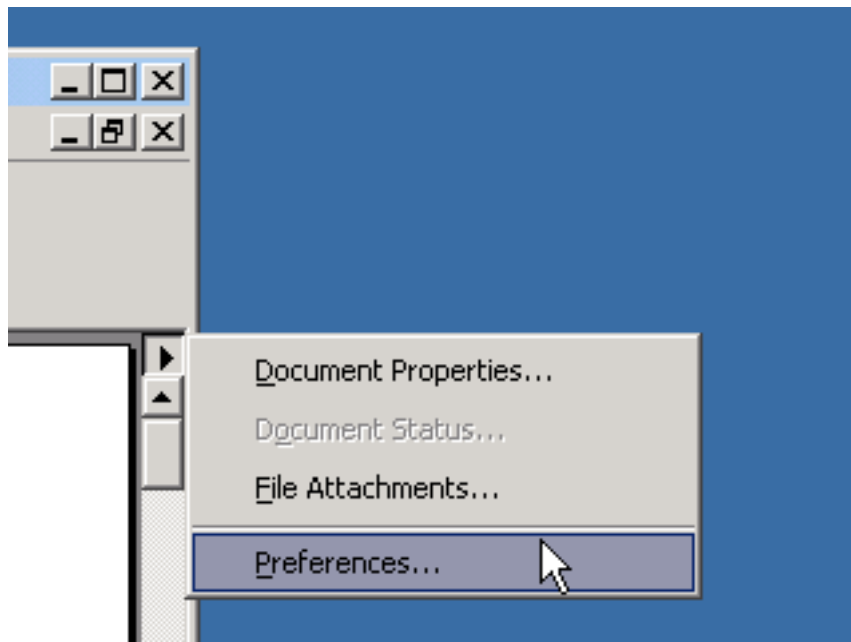
Optimizing Preferences

Adobe Acrobat (4.x-5.x) and Adobe Reader (6.x and later) have viewer preferences that you can set to optimize searching and viewing.

Checking Viewer Preferences

To check viewer preferences, select Edit > Preferences... from the main menu of Reader, or click on the right arrow under the title bar (Figure 3-5).

Figure 3-5 Opening the Preferences Dialog Box



When the Preferences dialog box appears, you can select from various categories to set the viewing characteristics. The Reader retains any settings you save in the Preferences dialog box until you change them.

Sizing Adobe Reader to Your Working Environment

Note—This feature is available in Adobe Reader 6.x or later only.

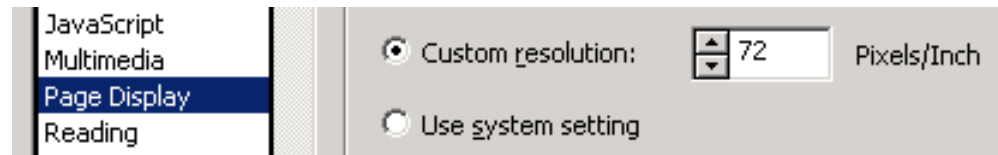
The opening page sizes of menus, manuals, and tutorials in the OPNET product documentation are set during document production. The predetermined page sizes are based on the recommended display resolution of 1024x768 for the OPNET software.

However, you might want to change the display resolution to better suite the size of your monitor and your personal preferences for network visualization, object sizes, and viewing distance. With Adobe Reader 6.x and later, you can also adjust the resolution of the Reader to resize the documentation pages for the best readability in your working environment.

Note—The relative sizes of the documentation pages will be retained—menu and manual pages are larger than tutorial pages.

Figure 3-6 shows the Adobe Reader resolution settings of the Page Display preference with the correct default setting for OPNET documentation.

Figure 3-6 Setting the Resolution for Adobe Reader



WARNING—When you install Adobe Reader, the default setting is “Use system setting”. Because Adobe Reader is Windows-based, the system setting is 96 pixels/inch. This renders the OPNET documentation over 30 percent larger than the preset size, which is 72 pixels/inch.

Table 3-7 lists suggested display resolutions that scale Adobe Reader for optimal readability of text and graphics on 17- to 20-inch monitors set to display at 1024x768.

Table 3-7 Suggested Resolution Settings for Adobe Reader

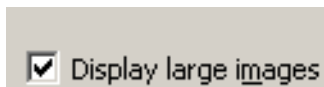
Setting in Page Display	Value (Pixels/Inch)	Comment
Use system setting	(96)	DO NOT USE
Custom resolution	72	OPNET production default
	63	Reduces page size by 12.5 percent
	81	Increases page size by 12.5 percent
End of Table 3-7		

Ensuring That All Images are Visible

Note—This feature is available in Adobe Reader 6.x or later only.

Adobe Reader has a setting in Page Display that speeds loading of image-intensive pages by replacing the images with gray boxes. To ensure that all images in the OPNET documentation are visible, make sure that “Display large images” is selected (default setting).

Figure 3-7 Correct Image Display Setting for OPNET Documentation

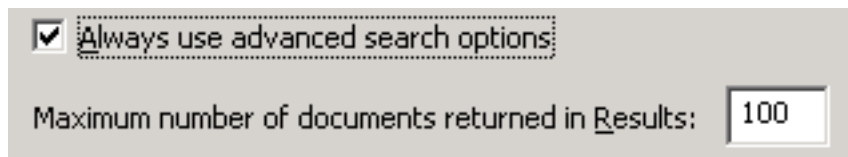


Setting the Number of Search Results

The OPNET documentation sets typically consist of several hundred separate documents that are catalogued to enable global, free-text searching. Consequently, searching for common terms can return very long lists of results.

The default setting of Adobe Reader for the “Maximum number of documents returned in Results:” is 100. To ensure that you see complete results from a global search, set the number of documents to 500 or larger.

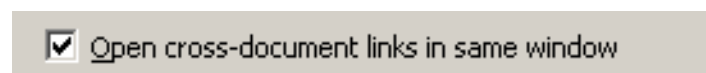
Figure 3-8 Default Search Preference in Adobe Reader



Preserving Document Page Views

OPNET documentation uses two different page sizes for manuals and tutorials. To preserve the opening characteristics and optimal view of each page size and its navigation pane, make sure that “Open cross-document links in the same window” is selected in General preferences.

Figure 3-9 Default Setting for Opening Cross-Document Links



4 Updating Documentation

OPNET documentation is updated frequently (generally after new models or software patches have been released).

To make sure you have the latest version, visit the OPNET Support Center and click on Product Updates.

5 Other Documentation Sources

In addition to the product manuals, you can also consult the following resources for information about using your OPNET product:

- Tutorials
- Help
- OPNET Technical Support Website

Tutorials

The tutorials give a “hands-on” introduction to OPNET through a series of lessons designed to teach the basics of OPNET and the protocol models distributed with the software. Anyone new to OPNET should work through the basic lessons. The supplemental lessons are about specific protocols and other specialized topics; you can do these tutorials in any order to support specific modeling projects.

To run a tutorial, choose Tutorial from the Help menu of the OPNET software.

You can also see the list of tutorials available with your product by accessing the Tutorials menu from the main Documentation menu of your product.

Help

The Help documentation provides descriptions and usage hints for Kernel Procedures, models, and object attributes in OPNET.

To access the help documentation:

- For KP help, choose Essential Kernel Procedures or All Kernel Procedures from the OPNET Help menu (Process Editor only).
- For model help, right-click an icon in the object palette.
- For attribute help, click the Details button that appears in many dialog boxes.

OPNET Technologies Website

The OPNET Support Center provides extensive, up-to-date information on the following topics:

- License Registration
- Product Updates
- FAQs
- User Forums
- Technical Resources

Technical support services are available only to customers with active maintenance and technical support agreements.

You can request OPNET technical support services by e-mail (support@opnet.com), telephone (240.497.1200), or fax (240.497.1064). To contact OPNET overseas representatives for technical support, see the Technical Support area of the website for contact information.

When submitting a request for technical support, you must specify your OPNET-assigned Group ID, which uniquely identifies your OPNET site. To display the Group ID, choose About This Application from the Help menu.

License Registration

In the License Registration area, you can

- View the status of your licenses
- Register or deregister your licenses
- View electronic license agreements

Product Updates

In the Product Updates area, you can

- View information about the latest version of your product
- Download the latest version or update of your product
- Download release notes, installation instructions, and other specialized documentation

FAQs

In the FAQs area, you can search the Technical Support Database by keyword to get answers to commonly-asked questions and solutions to known problems.

User Forums

User Forums enable you to communicate with other users of your product so you can share information or initiate dialog on working methods or common problems.

Note—You must have a current maintenance agreement to use the OPNET online User Forums.

Technical Resources

Documentation for the following items is maintained on the OPNET Support Center website and updated frequently:

- Methodologies and Case Studies
- Model Conformance Validation Reports
- Model Library Protocol Features
- Tech Workshop and Seminar Archives
- OPNETWORK Proceedings: Papers, Labs, and Presentations from the annual user conference.

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