Getting Started with METIS 3

For Windows NT® and Windows® 95/98 Users

Revision Record

Release	Date	Description
METIS 2.1	June 1999	First Printing
METIS 2.2	October 1999	Changes for METIS 2.2 Release Added: • What's New • Performance Considerations • Upgrade from METIS 2.1 • Model Browser Publishing (local and Web) Updated: • Installation procedures • Changed METIS 2.1 to METIS 2.2
METIS 3	August 2000	Changes for METIS 3 Release Added: • What's New • Upgrade from METIS 2.2 Updates: • Installation procedures • Managing METIS Files • The METIS Model Browser

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Introduction

Using this Manual

The purpose of this manual is to familiarize you with the structure and usage of METIS 3 so you can effectively install and operate it on your computer. This manual is organized in the following manner.

- **Overview of METIS 3** lists the main components of METIS 3 and the new functionality compared to METIS 2.2. A section on performance consideration is also included.
- **METIS Contacts** describes how to access our Web pages, how to access our e-mail servers, and how to provide feedback.
- **Installing METIS** explains how to install and uninstall METIS 3. Minimum system requirements are also provided.
- **Starting METIS for the First Time** describes how to get started.
- **METIS 3 Quick Reference** is an overview of all the keyboard shortcuts available in the tool.
- **Managing Models** explains where files are located, where you should locate your own files, and how to install models, templates, and metamodels.
- **The METIS Model Browser** explains how to use the Model Browser and how to publish models on a local computer, a LAN, the Internet or an intranet.

Overview of METIS 3

Welcome to METIS 3 – a modeling platform for enterprise models.

Here are a few highlights of what METIS 3 offers:

- **METIS 3 Engine** is the basic modeling engine with all core capabilities needed to develop new models and run METIS-based applications and solutions. Documentation for the METIS 3 Engine is available as online help from the application. Press F1 to access it.
- **METIS Standard GEM Template** is the standard Generic Enterprise Modeling (GEM) Template. New users of METIS can easily start building enterprise models with GEM; more advanced users can expand it for special modeling purposes. Help on the domains and types of this template is found in a special Help file available from the METIS 3 menu in the Start menu, tooltips and What's This Help.
- **METIS Documentation**:
    - METIS 3 Engine Help explains METIS functionality through procedural information and glossary entries, and a "Modeling with METIS" topic.
    - METIS GEM Template Reference Guide explains the domains and types of the standard GEM template.
    - *Getting Started with METIS 3* (this manual) describes software installation and setup procedures.
- **METIS 3 Tutorial** is a computer learning program containing video presentations introducing basic tasks and hands-on exercises.
- **METIS Model Browser** is available for Netscape Communicator® as a Plug-in and Internet Explorer® versions 4 and 5 as an ActiveX control. The model browser is installed by its installation program, and operates directly on METIS files. To publish your METIS models over the Internet or an intranet, some configuration of your Web server is required.

New File Extensions

METIS 3 now uses XML to store its information. Two new file extensions have been introduced: Knowledge Model Visualization (KMV), and Knowledge Model Data (KMD). These, in addition to the Scalable Vector Graphics (SVG - An international standard) format for symbols, replace MML :

- KMV - Used for METIS files containing at least one model view. These are usually files created from the Model using the Template command in METIS. A .kmv file can be opened by METIS and it will display a model view.
- SVG - Used for Symbol Files. These can be files created by the METIS 3 Symbol Editor or files created by 3rd party software. An .svg file can be opened by METIS and it will display a symbol.
- KMD - Used for all other METIS files, containing data such as object instances, symbol palettes, domains, types, criteria, methods, typeview and viewstyle. A .kmd file can be opened by METIS but it will not have any visual contents.

Note that even though XML is the storage format, we are using other file extensions than .xml to distinguish the usage of a file.

What's New

METIS 3 contains the following new functionality compared to METIS 2.2. See the online help file for more information.

- True Web-modeling
  You can access METIS models and symbols for reading over the Internet directly from the METIS Engine. Just activate the Open Url command and enter the address of the METIS model or data file you want to load. Please note that you cannot write to or save files opened by the Open Url command. Network support may be turned off by a shortcut-option.

- XML/SVG standardization
  The Extensible Markup Language (XML) is the universal format for structured documents and data on the Web. METIS 3 uses XML to store its information (instead of MML - METIS Model Language). Existing models based on MML will be converted automatically to XML when opened for the first time.

- Model-content Internationalization
  Unicode is a coded character set which assigns unique numbers to about 30,000 of the characters of the world's major languages - it provides a unique encoding for each character. Unicode is now supported by METIS for model content.

- Symbol Palette
  Using symbols is much more visual and organized in METIS 3. The tool offers a new palette capability enabling users to organize their own symbols in a hierarchical manner. From the palette, you can drag&drop, open the symbol, and set symbol properties.

- Clip Art Library
  The Clip Art Library is now available directly from METIS. It is no longer necessary to install third-party software to view the clip art, and the clip art can be used by drag&drop.

- Dependent Views
  The need for sharing model objects is obvious in multi-user situations. Today we can easily share data objects by locating them to external files. In order to do this for view objects we have introduced the Dependent View capability.

- Property List
  The new property list dialog allows editing of instance properties in spreadsheet fashion. Both object and relationship lists are supported.

- Used Object/Relationship Types
  In the METIS 3 Domain tree you can see the types that have been used in your model by opening the "Used Object Types" list, and the "Used Relationship Types" list.

- Enhancement of the GEM Template
  Several enhancements have been done to the GEM Template:
  - Object types in domains have been moved up one level so that they are accessible directly under the domains.
  - New icons have been assigned to all 57 GEM types.
  - The Document domain types and the Directory object have been moved to a special "Document Modeling" domain under the Modeling domain, and these modeling constructs will be available to all models, not only those based on the GEM template. A new object type – File Document – has been introduced to handle files in a directory structure.
  - The property 'Gender' has been added to the Person object.
  - Person utilizes the new Date property type for storing, defining and presenting the date of birth property.
  - Online Document now uses the new Url property type for storing, defining and presenting the file reference. The file reference can now be set through a Browse… dialog.
- Easier publishing for the Model Browser on intranets
  It is now easy to publish domain, metamodel and symbol files on an intranet server, and let the METIS Model Browser load all necessary files required by the model from this server. It is no longer necessary to specify an alias on the server, or set-up a proxy-server.
- Improved Process Modeling
  Several enhancements have been done to the Process Modeling domain:
  - Dialog to set number of ICOMs and Sub-processes
  - Top-Down and Bottom-Up creation of ICOMs
  - Relationship lines will have right angles
  - Processes are created closed

- Proper aspect ratio is set when viewstyle is used
- Align interfaces will not reset manual layout sequence

- HTML Reporting enhancements
  Both the HTML Report dialog and the report itself have several enhancements:
  - A ‘Progress Meter’ has been added to the HTML Reporting Wizard.
  - It is possible to print an overview image of the HTML report.
  - More ‘intelligence’ is available for choosing the proper tab when browsing objects.

- New command system
  The METIS 3 Command system has been completely redesigned. The menus have been reorganized, and some commands have been moved together so that they are easier to find and use. The entire menu system was rewritten during this process to meet other requirements. With METIS 3 you are now able to customize menus, drag&drop tools to toolbars, hide and show toolbars, and even use commands from the Action Button.
  - Dockable tool bars.
  - More separators in the pop-up menus making them easier to read.
  - Relationship Visibility/Text in View menu, not the Edit menu.
  - Customize tool bars from right mouse click on toolbar.
  - What's This help on right mouse button menus and pull-down menus.
  - Reorganization of the commands: Zoom, Symbol and Layout submenus.
  - Possible to reposition and customize toolbars.
  - "Delete View" in the pop-up menu.

- Zoom to Primary/Next/Previous in selection is now in the View menu.
- Menu commands can now be triggered from Action Buttons.
- A new 'Zoom to Modelview' option in Action Button has been added.
- Wheel mouse events are now supported.

- Miscellaneous Enhancements
  - Automatic layout: A new 'Sort on User Defined Property' option has been added.
  - Macro: When setting a macro value on an instance you can now choose to add it to the macro value set on the type.
  - Property dialog: You can see in the dialog the parent and children of an object in a decomposed structure. The symbol URI will be shown. Support for Dates. A File/URL reference can be set through a Browse... dialog.
  - More colors in the Symbol Editor's color bar, and a special Edit Custom Colors dialog for customizing up to 16 different colors.
  - A new Release Files dialog that can be used to remove links to unwanted files.
  - A new Edit Model Scope dialog enabling inclusion of XML files containing CSV Import/Export rules, criteria and symbol palettes.
  - Text overflow on object views is now indicated with ellipses (…).
  - Aspect ratio control with used symbols has been implemented. New commands can be used to set the width and/or height of selected object views according to the symbols' aspect ratio.

Supported Language and Character Set

METIS 3 supports US English as the application language.

Internally all text strings stored in model object properties, are stored as UTF-16 Unicode characters (http://www.ietf.org/rfc/rfc2281.txt). How well these characters are displayed depends on the Unicode font support on the system on which METIS is running.

Models and metamodels are stored in an XML format, and are encoded using UTF-8 (http://www.ietf.org/rfc/rfc2279.txt), which will preserve all Unicode information.

METIS Contacts

Technical Support

Support information is found on a separate sheet enclosed with the METIS 3 software.

FAQ

A Frequently Asked Questions page is available at http://www.computas.com/metis/products/faq3x.html. Visit this page often for updated information.

Troubleshooting

A Troubleshooting page is available at http://www.computas.com/metis/support/index.html.

Performance Considerations

You can optimize graphics display time by any of the following actions:

- Make many small model views rather than a few big ones.

- Close containers and decomposition structures that you do not need to see. The next time you open the model, the content will not be drawn until the containers and decomposition structures are opened for the first time.
- Hide all relationships that you do not need to see. The graphics for a relationship is not drawn until the relationship is visualized for the first time.
- Turn off unnecessary relationship text.
- For symbols, avoid drawing primitives that are resource intensive like filled splines and bitmaps. Use the METIS symbol editor to create vector based representations of bitmaps-images whenever possible.
- Split the model into multiple model files with one model view in each file. Make an “index” as a separate file with Action Buttons that link to each of the model files. Loading the index model file will be very fast since the model files referenced from the Action Buttons are not loaded before the user clicks the buttons.

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Installing METIS 3

Minimum System Requirements

To install and run METIS 3, you should have the following:

- Pentium®-class PC with a minimum of 48 MB of memory. A Pentium II PC with 64 MB of memory or more is strongly recommended.
- Windows NT® 4.0, Windows® 95 or Windows 98 operating system.
- Approximately 16 MB of free disk space. If you choose to install the clip art library, you need approximately 80 MB additional disk space.
- A screen resolution of 1024 x 768 or better. METIS models are usually graphic intensive and METIS 3 is NOT designed to run on lower screen resolutions.
- If you plan to use the online help system (strongly recommended), you need Microsoft Internet Explorer® Version 4.01 or later.

Note: METIS 1.10 models can not be migrated directly to METIS 3. You can do an indirect migration by first migrating to METIS 2.2 (or METIS 2.1) and then opening the migrated .mml file using METIS 3. You must, however, also install under METIS 3 the specific templates that you installed under METIS 2.2. Your template vendor will need to supply you with the necessary installation scripts for the templates in METIS 3 format.

Starting the Main Installation Dialog

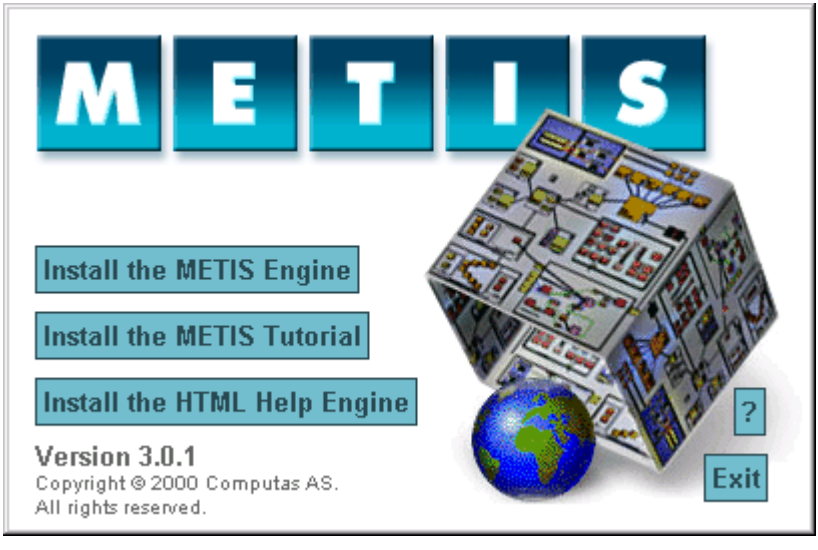
When you put the METIS 3 Engine CD into your CD-ROM drive, the Main Installation Dialog starts automatically.

Note: If you do not want the Main Installation Dialog to start automatically, hold down the Shift key when you insert the CD.

You can also start the Main Installation Dialog by double-clicking **My Computer**, right-clicking on the CD-ROM drive icon, and selecting the **AutoPlay** command.

If Autoplay has been disabled on your computer, the Main Installation Dialog will not appear automatically. To start it:

1. Insert the METIS 3 CD into your CD-ROM drive.
2. From the Windows **Start** menu, click **Run...** and enter **D:\setup.bat** where **D:** is your CD-ROM drive.

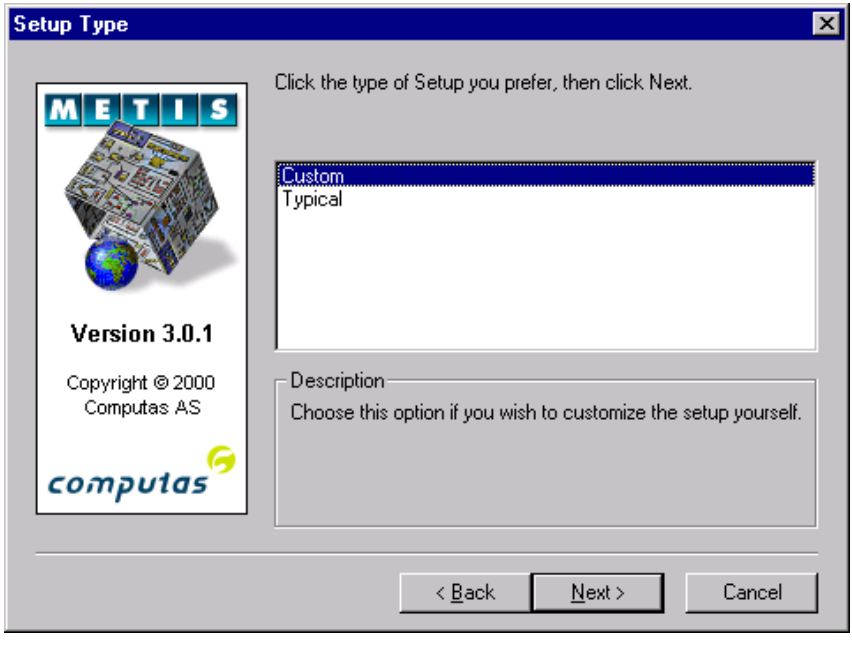


Installing METIS 3 Engine

1. From the Main Installation Dialog, click the **Install the METIS Engine** button.
2. Read the Welcome message and click **Next**.
3. Accept the License Agreement by pressing **Yes**.
4. Select a folder for METIS 3 and press **Next**.

Note: Do not install METIS 3 in the same folder as METIS 1.10, METIS 2.1 or METIS 2.2.

5. Select the folder for your METIS model files and press **Next**. The default folder is either 'C:\My Documents' or the value of your HOME variable (if the HOME variable is set). You can change this default to any folder, **except** the folder in which you installed METIS 3. We recommend using 'C:\My Documents\METISFiles'.
6. Select a Setup option (Custom or Typical) and press **Next**.



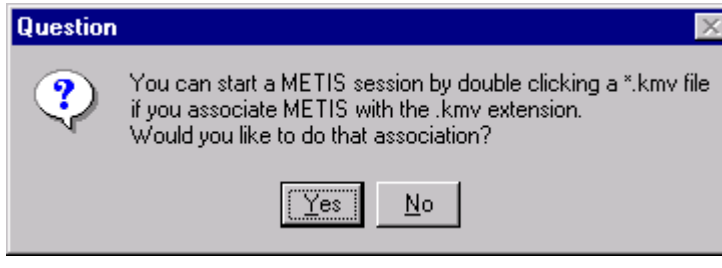
- **Typical** – Recommended for most users. Includes the standard packages and online help.
- **Custom** – Customize Setup by choosing specific installation components.

Note: Install everything you need in one session. If you install components across several sessions, your uninstall information will be incomplete. For example, if you first install Program files, and then Help files later in a separate Setup session, the uninstall information will be incomplete; i.e., your system's uninstall function will only recognize the Help files. Avoid this problem by always installing all components during an install session.

7. Name the program folder where the METIS 3 program icons will be installed, or accept the default value "METIS 3". The folder name is displayed in the Start menu under Programs.

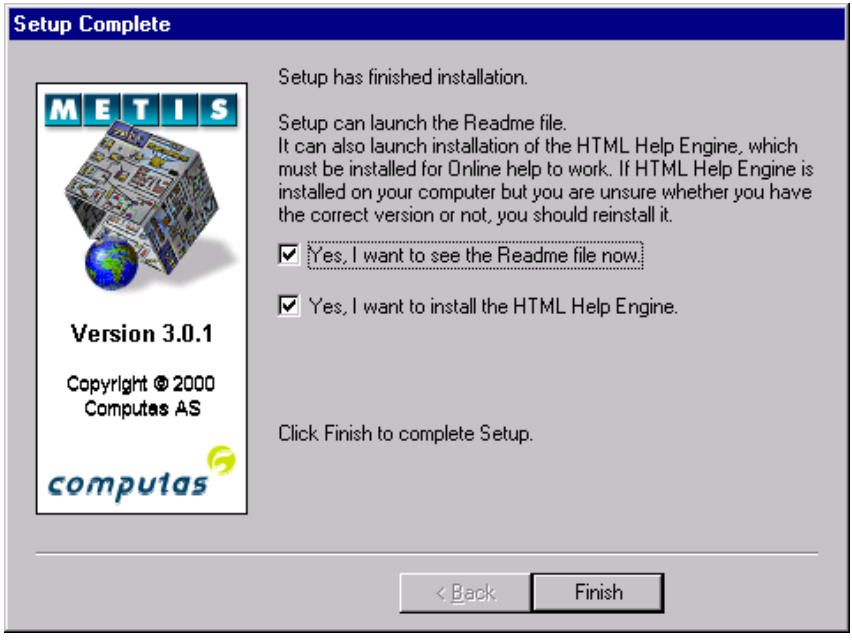
8. When the setup program lists the settings, verify that they are correct. Then press **Next** to copy files.

9. After the files are copied, click **Yes** to associate METIS with the .kmv extension.



This association lets you launch METIS by double-clicking a .kmv file from the file hierarchy tree in Windows Explorer.

10. After the installation has completed, view the Readme file and install the HTML Help Engine.



- **Readme** – The Readme file contains important last minute information about METIS that is not provided elsewhere.
- **HTML Help Engine** – METIS 3 uses the new HTML Help technology. The Setup program gives you the option to install the HTML Help engine that is required for the Help system to work. If you have already installed the HTML Help Engine, you do not need to reinstall it. If you have installed a Help engine, but are not sure if it is the correct version, install the HTML Help Engine.

Important Note: In a Windows NT system, administrator privileges are required to install the HTML Help Engine. This requirement applies only to installing the HTML Help engine, not to using it.

Note: Microsoft Internet Explorer® Version 4.01 or later is required to run HTML Help with METIS.

After Setup is Complete

Installing the HTML Help Engine

If you did not install the HTML Help Engine from the METIS 3 Setup program, you can install it directly from the METIS 3 Engine CD.

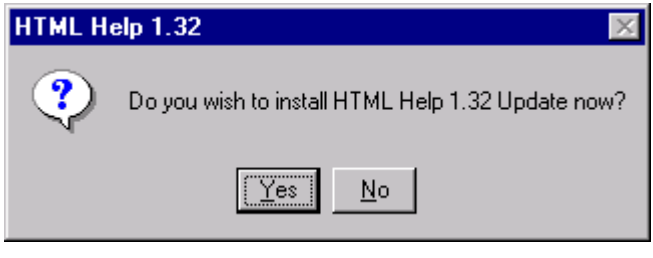
Note: Microsoft Internet Explorer® Version 4.01 or later is required to run HTML Help from METIS.

To install the HTML Help Engine :

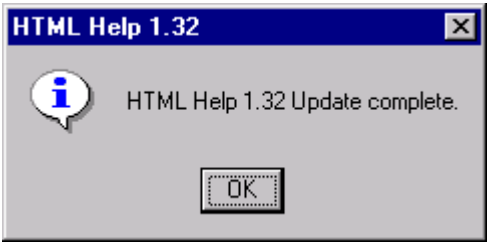
1. Insert the METIS 3 CD into your CD-ROM drive. The Main Installation Dialog appears.
2. Click **Install the HTML Help Engine** button and then follow the on-screen instructions to install the software.

Note: If Autorun has been disabled on your computer, the Main Installation Dialog does not appear automatically. To start it, complete the following steps:

- Insert the METIS 3 CD into your CD-ROM drive.
- From the Windows **Start** menu, click **Run...** and enter **D:\setup.bat** where D: is your CD-ROM drive.



3. Click **Yes**.



- Click **OK** to close the message box.

Installing the Clip Art Library

An extensive clip art library of more than 2000 symbols is available on the METIS 3 installation CD. You can install the clip art library onto your hard disk for easier access.

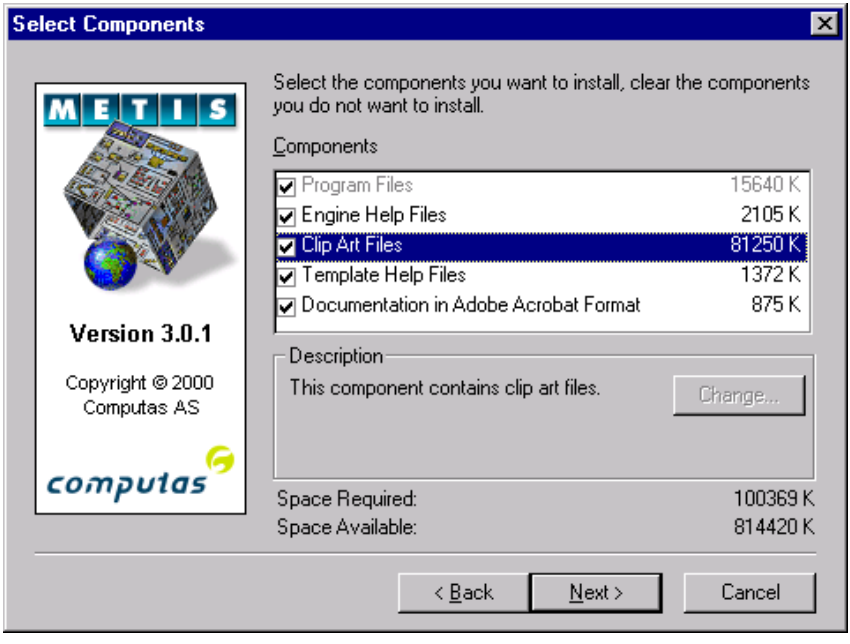
To install the Clip Art Library:

1. Insert the METIS 3 CD into your CD-ROM drive. The Main Installation Dialog appears.

Note: If Autorun has been disabled on your computer, the Main Installation Dialog will not appear automatically. To start it:

- Insert the METIS 3 CD into your CD-ROM drive.
- From the Windows **Start** menu, click **Run...** and enter **D:\setup.bat** where D: is your CD-ROM drive

2. Click **Install the METIS Engine** button. Click Next a couple of times until the Setup Type dialog appears. Select the **Custom** setup type, and click **Next**.



- Check the **Clip Art Files** option, and click **Next**. Finish the installation

See the "Starting METIS for the First Time" chapter for information on how to use the Clip Art Library.

Installing the GEM Template Reference Guide

The GEM Template Reference Guide, documenting the standard GEM domains with their modeling constructs, is installed by checking Template Help Files in the Select Components dialog during setup. A shortcut to the GEM Template Reference Guide will be created in the METIS 3 program folder in the Start menu.

METIS 3 Program Folder

After METIS 3 is successfully installed on your computer, a METIS 3 program folder is available from the **Programs** menu. The following shortcuts appear in the program folder depending on the installed components.

Note: most of the documentation installed from the CD are provided in Adobe® Acrobat® Reader™ format (.pdf). See "**Get Adobe Acrobat Reader**" below for details on how to download this free software if you do not already have it.

- **GEM Template Ref. Guide.** If you have Microsoft Internet Explorer® Version 4.01 or later installed, and you have installed the HTML Help Engine (see "Running the Setup Program"), you may launch the GEM Template Reference Guide from this shortcut.

- **Get Adobe Acrobat Reader**. If you have installed documentation in Adobe® Acrobat® format you will need the Adobe® Acrobat® Reader™ to open the documents. If you do not have this software on your computer, then clicking this shortcut opens your default Web browser, and (if you are connected to the Internet) the Adobe® Acrobat® Reader™ download page is accessed. Your browser should automatically download the software so you can use it to view/print the documentation.

- **Getting Started with METIS**. If you installed this manual during the install process, then click this shortcut to view the manual. (Requires Adobe® Acrobat®.)

- **METIS**. Click this shortcut to start METIS 3. (A shortcut on the desktop is also available.)

- **METIS 3 Tutorial**. If you installed the METIS Tutorial, then click this shortcut to launch the tutorial. (Requires the METIS 3 CD in the CD-ROM Drive).

- **METIS Engine Release Bulletin**. If you installed this release bulletin during the install process, then click this shortcut to view the document. (Requires Adobe® Acrobat®.)

- **METIS Tutorial Release Bulletin**. If you have installed the METIS Tutorial, then click this shortcut to view the document. (Requires Adobe® Acrobat®.)

- **METIS on the Web**. Opens your default Web browser and connects to the METIS page at http://www.computas.com/metis/.

- **Modeling with METIS**. If you have Microsoft Internet Explorer® Version 4.01 or later installed, and you have installed the HTML Help Engine (see "Running the Setup Program"), you can launch the online help and automatically open the "Modeling with METIS" topic from this shortcut.
- **Readme**. Opens the Readme file using the program associated with the .txt file extension (usually Notepad).

Upgrade models from METIS 2.2

Models based on the GEM template or Training template created with METIS 2.1 or METIS 2.2 are compatible with METIS 3. They can be opened directly and you will be prompted to save the model in the new format.

If you have used templates and metamodels from a third-party vendor, migration may be necessary. Please consult your vendor for information. You will need a new installation script for their templates and metamodels, and these must be installed under the METIS 3 installation directory.

Browsable models published with METIS 2.1 or METIS 2.2 cannot be browsed using the METIS 3 Model Browser and vice-versa. To publish a model for the METIS 3 Model, open the model in METIS 3 and use the Model Browser Wizard to create the new model browser file. Put the model browser file for METIS 3 in a different location than the METIS 2.1/2.2 model browser file so you can support both METIS 2.1/2.2 and METIS 3 audiences if necessary.

When a model browser file is opened with an incompatible browser (for example a METIS 3 browser file is opened with the METIS 2.2 Model Browser) the Model Browser download page (http://www.computas.com/metis/products/model_browser/) automatically displays. From the download page, select the proper version, download it, and install it.

Note: If you want to continue browsing models published with METIS 2.2, you will have to set your PC up with both Internet Explorer® and Netscape Communicator®. The version 2.2 model browser must be installed for one of the

web browsers (for example Netscape) and the version 3 model browser must be installed for the other web browser (for example IE).

Upgrade templates from METIS 2.2

Templates created with METIS 2.1 or METIS 2.2 by authoring .mml files must be upgraded to the new METIS 3 format (.kmv, .kmd and .svg files). This is done through a semi-automatic process as described below.

1. Install METIS 3 using the Typical or Custom setup type.
2. Optionally, start METIS 2.2, and use the Select Template dialog in METIS 2.2 to see a list of templates that you have developed.
3. For each template you have developed, use Windows Explorer to copy the template files (located under e.g. C:\Program Files\METIS2.2\mml\templates) to the METIS 3 installation directory, normally C:\Program Files\METIS3***X***\mml\templates and create new sub-directories as needed. The file structure under METIS 3 must be exactly the same as it was under METIS 2.2.

Note: In file path examples in this manual, the directory "METIS3***X***" refers to the appropriate directory name for the installed METIS version, for example, **"**METIS3.0", **"**METIS3.1", etc.

4. Copy all domain, metamodel and symbol .mml files from the METIS 2.2 installation directory, for example:
   C:\Program Files\METIS2.2\mml\http\mml.mycompany.com
   to the same directory under METIS 3, for example:
   C:\Program Files\METIS3 ***X*** \mml\http\mml.mycompany.com and create sub-directories as needed.

So far we have simply copied all authored .mml files from METIS 2.2 to the same sub directories under METIS 3.

5. Make sure that all files copied to the METIS 3 installation directory are set to **Read/Write**. This means that if you have set the Read-only flag on the copied template, domain, metamodel or symbol files, please remove this flag. You can use Windows Explorer to do this, but you have to visit each directory. In each directory, press

Ctrl+A to select all files, and use the Right Mouse Button menu on one of the selected files, select the Properties… command, and uncheck the Read-only attribute. There are other ways to do this that may be easier, for example using the 'chmod –R' command in the UNIX command shell.

6. Start METIS 3, and open each template file directly (the New Model from Template doesn't work since the template files that were copied from METIS 2.2 have not been located in the proper directory). The template files are found in sub-directories under the C:\Program Files\METIS3***X***\mml\templates directory.

7. Save all template, domain, metamodel and symbol files in the suggested directories. METIS 3 will present a list with all these files and you just have to press the Save All button. Necessary directories based on naming conventions will be created under your METIS 3 installation directory.

8. The template file itself will be saved in a sub-directory in the C:\Program Files\METIS3***X***\xml\templates directory. The file has the same name as the METIS 2.2 template file, but it will now have the .kmv extension. Next time you start METIS 3, the template files you moved to this directory will appear in the New Model from Template dialog.

9. If you have used files (for example .chm files) other than .mml files in METIS 2.2, you must copy these files to the corresponding directory location under C:\Program Files\METIS3***X*** \xml. In case your template contains references to other files, you may have to update the file references to match the new location of these files.

The converted .mml files that have been turned into .kmv, .kmd and .svg files will now become the new source for your template. To ship the templates, including metamodel, domain and symbol files, to your customer, make sure that all files under:

C:\Program Files\METIS3***X***\xml\templates

and

C:\Program Files\METIS3***X***\xml\http\xml.mycompany.com

are included in the setup. The Setup Program you create to install the files must set the Read Only flag on every file that gets installed on the user's computer.

Installing Templates and Metamodels

If your vendor has provided templates for specific modeling constructs, follow the vendor instructions to install them.

A template is a model containing predefined collections of object and relationship types, methods, criteria, and symbols targeted toward a specific application area. A template may also include predefined objects to serve as placeholders for information and data.

A metamodel defines the semantics of objects and relationships used in a model. These semantics include the definition of a type's properties, such as name and description, and how to present these to the user. The definition also includes restrictions on potential relationships among objects (constraints), the symbol to use for visualization of the object, the methods the user may use on the object, and the search criteria that may be used.

The template file itself must be installed in the following directory:

%METISHOME%\xml\templates

where %METISHOME% is the directory in which you installed METIS (for example C:\Program Files\METIS3\xml\templates).

Note: The name of the template subdirectory must be the same as the template filename.

The domain, metamodel and symbol files used by this template must be installed in the following directory:

%METISHOME%\xml\http

For example, C:\Program Files\METIS3\xml\http.

To install the XYZ template developed by XYZ Solutions, do the following:

1. Install the template file (xyz.kmv) in the directory:

%METISHOME%\xml\templates\xyz

2. Install the domain, metamodel and symbol files used by this template in the directory:

%METISHOME%\xml\http\xml.xyz-solutions.com\xml

assuming http://www.xyz-solutions.com/ is the URL reserved by this company.

Installing on Dual-Boot Computers

For a dual-boot system (for example, Windows NT and Windows 95), install METIS 3 and the HTML Help Engine on both operating systems and in different locations. Although this may seem like a waste of disk space, it is necessary for correct registry information on both operating systems. The registry information is used, for example, when installing new versions and uninstalling.

Note: Install the HTML Help Engine on both operating systems.

The models you create with METIS 3 are platform independent. You can use the models you create in one operating system on any of the other operating systems used by METIS 3: Windows NT, Windows 95, or Windows 98.

Uninstalling METIS

To uninstall METIS 3:

1. Double-click the **My Computer** icon on the desktop.
2. Open the **Control Panel**.
3. Double-click the **Add/Remove** Programs icon.
4. Select **METIS 3** and press **Add/Remove**….

All files installed with the METIS 3 installation program are removed.

The uninstall program does not remove model or symbol files or other files that you have created with the tool, or any other files that you have put into the METIS 3 program folder.

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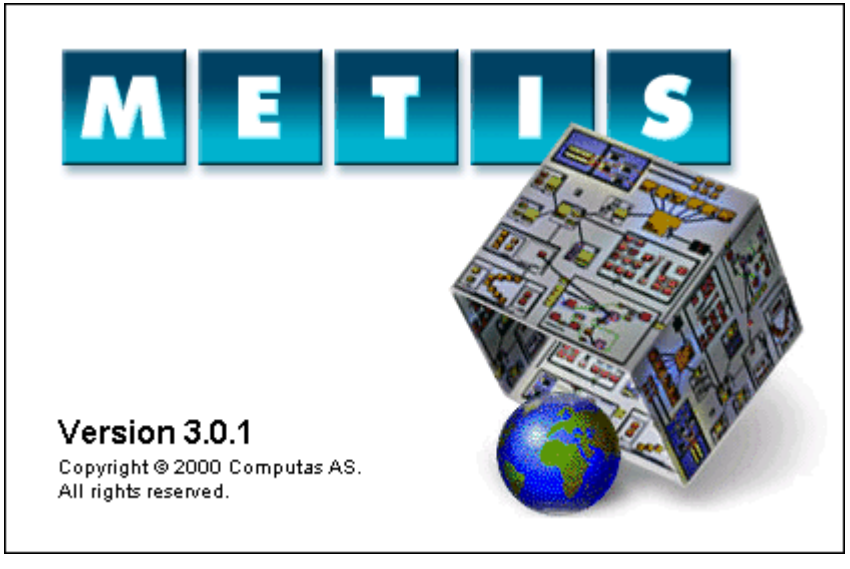
Starting METIS for the First Time

Running METIS 3

After a successful installation, you are ready to start METIS 3.

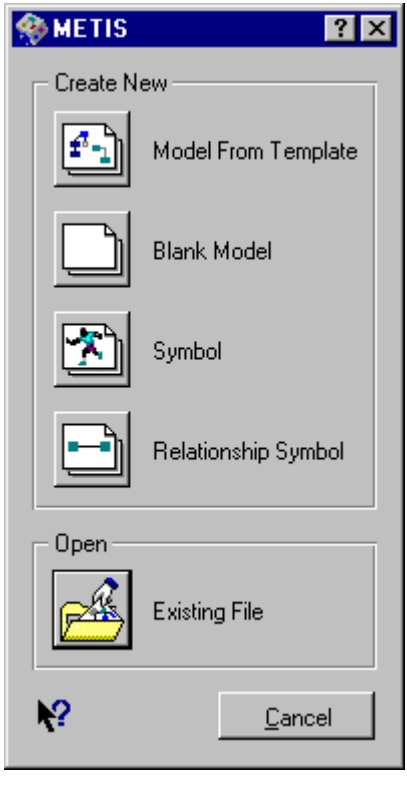
Double-click the METIS 3 icon on your desktop

or select the METIS command from the **Programs** menu. METIS 3 starts and the welcome screen displays.



Note: If you do not want the welcome screen to display, you can append
-O "nosplash" to the METIS 3 shortcut's properties dialog, the Shortcut tab, and the Target field.

Then the Startup dialog displays.



Create a Model from a Template

To create a model from a template:

1. Click the **Model From Template** option from the **Startup** dialog. The **Select Template** dialog displays.

2. Select **GEM** and press **OK**. The **Save As** dialog appears.

3. Select a directory and enter a filename. Press **Save**.

You have now created a new model based on the GEM template. Once METIS 3 has loaded the model, you are ready to start modeling.

Note: Any other templates that you install will also appear in the **Select Template** dialog.

Shortcut Options

You can add options in the METIS 3 shortcut on the desktop. These options must be added to both the Shortcut tab and the Target field. When adding more than one option, put a space between options.

- -r “folder”
  Specifies the folder for the METIS 3 installation. The templates, metamodels, domains, and symbols must be located under the xml\ folder under this folder.

- -C “folder”
  Specifies the default folder for METIS models.

- -O “simpleloading”
  Do not refresh the screen for each 1000 loaded object or

relationship views. Do not allow user interaction during view generation. This results in the model loading quicker.

- -O “nosplash”
  Do not show the welcome screen when METIS 3 is started.

- -O “nonet”
  Turn off network support. Models will not be read over the Internet through the HTTP protocol. This option will prevent METIS from not responding in case the network is down, or the requested network source is unavailable.

- -O “admin”
  Turn on two administrative functions: Release Files and Purge Forward References. More information about these functions is found in the online help system. The functions will be available in the Tools menu.

- -O “usedefaultfont”
  Turn on usage of the default font used on the computer instead of the fonts defined on the symbols of the model. For example, this option enables usage of Kanji fonts on Win95/98 platforms.

- <url> <uri>
  Starts METIS and loads the file defined by <url>. If an <uri> is also specified, this entity is zoomed-to.
  Example 1: mymodel.kmv #oid323
  Example 2: mymodel.kmv mymodel.kmv#oid323
  Example 3: mymodel.kmv myview.kmv#oid123

Loading an Existing Model or Symbol

You can load an existing model or symbol in one of several ways:

- From the **Startup** dialog, select **Existing File**, and press **OK**. Select the file from the **Open** dialog box.

- Use the **Files** tree in the left pane of the METIS window to browse to the desired file. Double-click the file to open it. You can double-click on .kmv, .kmd or .svg files. You can also double-click on old METIS 2.1/2.2 .mml files.

- From the **File** menu, select **Open**, or use the **Open** tool on the toolbar and press **OK**. Select the file from the **Open** dialog box.
- Select one of the models or symbols in the **Recently Used Files** list from the **File** menu.
- Use Windows Explorer to double-click a .kmv file or drag&drop it onto the METIS 3 icon on the desktop (if you associated METIS with the .kmv file extension when you installed METIS).

Accessing Online Help

Important Note: You must install Microsoft Internet Explorer® 4.01 or later to use the Help system. You can download Microsoft Internet Explorer® from this Web site:

http://www.microsoft.com/windows/ie/

To access the Help system from METIS, press F1 from the main window or any dialog, or select **METIS Help**, **Index,** or **METIS Support** from the **Help** menu. The Help system uses Microsoft's HTML Help technology. The HTML Help engine can also be installed from the METIS 3 Engine CD.

Running the METIS Tutorial

The METIS Tutorial runs from the METIS 3 CD. The Tutorial files are accessed from the CD; they are not installed on your hard drive.

Although METIS does not have to be installed to run some portions of the Tutorial, METIS must be installed to run the Tutorial exercises.

Using the Clip Art Library

You can use the METIS 3 Engine to view and use more than 2000 pictures in the Clip Art Library. These pictures can be opened directly

and used as-is, or you can copy & paste whole symbols or parts of symbols to your own symbol.

In addition, the METIS 3 Symbol Editor can import any clip art in WMF format.

To view the clip art, you must have the METIS 3 Engine CD in your CD-ROM drive if you did not install the clip art to your hard disk. If you did install the clip art files, you don't need the METIS 3 Engine CD.

To browse the METIS Clip Art Library:

1. Start METIS 3 Engine.

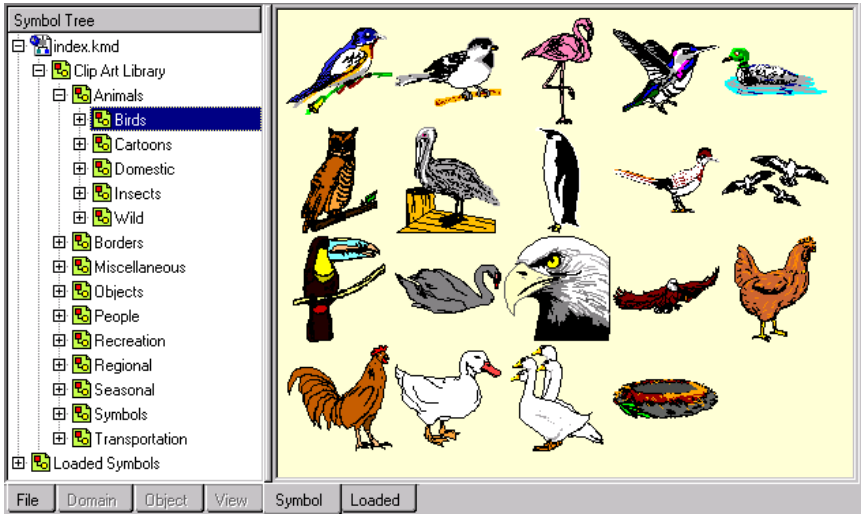
If you installed the clip art files to your hard disk

2. Activate the File – Open command and open the file index.kmd in the xml\clipart directory of your METIS 3 installation, i.e. c:\Program Files\METIS3***X*** \xml\clipart. You can also navigate to one of the sub-categories and open the index.kmd file in case you don't want to open the whole library.

If you did not install the clip art files to your hard disk

2. Make sure you have the METIS 3 Engine CD in your CD-drive. Activate the File – Open command and open the file index.kmd in the Metis\xml\clipart directory of the CD. You can also navigate to one of the sub-categories and open the index.kmd file in case you don't want to open the whole library.

3. After the file has loaded, click the Symbol tree tab in the left pane, and open the desired symbol palette. Click on the palette name to load and display all symbols. Please see METIS Help for further information on how to use the palettes.



Once you have found the picture you want to use in your METIS model, just double-click it to bring it into the Symbol Editor. Once present in the Symbol Editor, you can copy & paste the whole symbol or parts of it into another symbol or save it as your own symbol. Please note that you cannot save the symbol back onto its original file location since that would potentially destroy the source.

Adding the Clip Art Library index file to your model

If you want to use the Clip Art Library from a model without having to load the index file in each METIS session you should add it to the model scope.

To add the Clip Art Library index file to the model:

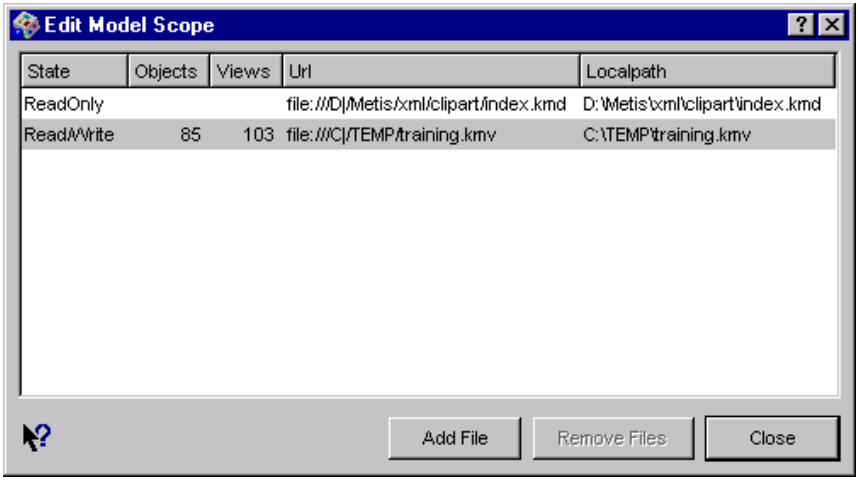
1. Start METIS 3 and open your model.

If you installed the clip art files to your hard disk

2. Activate the Tools – Edit Model Scope… command and add the file index.kmd in the xml\clipart directory of your METIS 3 installation, for example c:\Program Files\METIS3***X*** \xml\clipart. You may also navigate to one of the sub-categories and add the index.kmd file in case you don't want to add the whole library.

If you did not install the clip art files to your hard disk

2. Make sure you have the METIS 3 Engine CD in your CD-drive. Activate the Tools – Edit Model Scope… command and add the file index.kmd in the Metis\xml\clipart directory of the CD. You may also navigate to one of the sub-categories and add the index.kmd file in case you don't want to add the whole library.



3. Close the Edit Model Scope dialog.

Next time you open your model, the Clip Art Library index file will be loaded automatically (the symbols will not be loaded until you open a palette). If you added the index file from the METIS 3 CD you must of course make sure that the CD-ROM is inserted before you load your model.

METIS 3 Quick Reference

Keyboard Shortcuts

The following table lists all the keyboard shortcuts available in the METIS 3 editors.

Note: An asterisk (*) identifies a METIS-specific shortcut. All other shortcuts are standard Windows shortcuts.

To…	Press…
Working with files	
Create a new file	Ctrl+N
Open an existing file	Ctrl+O
Save the current file. **Note:** In the Model Editor the current file and/or all modified model data files are saved.	Ctrl+S
Display the **Print** dialog box	Ctrl+P
Close the current window. Note: If this is the last window then the application closes.	Ctrl+W or Alt+F4
Exit the application	Ctrl+Q
Getting Help	
Display the Online Help and table of contents	F1
Activate the What's This help functionality	Shift+F1
Editing Elements	
Undo the last operation (only in Symbol Editors)	Ctrl+Z
Cut element(s)	Ctrl+X
Copy element(s)	Ctrl+C
Paste element(s)	Ctrl+V
Delete element(s)	Del
Duplicate element(s)	Ctrl+D

To…	Press…
Select all elements	Ctrl+A
Delete the last breakpoint created (Symbol Editor)	Backspace*
Exit point editing mode	Esc*
Abort primitive creation	Esc*
Enter multiple primitive create mode	Double-click the primitive tool*
Exit multiple primitive create mode	Esc*
Exit What's This? mode	Esc*
Color multiple primitives using the drag-and-drop color feature	Spacebar*
Zooming and Navigating	
Zoom into the right pane	Ctrl+I*
Zoom out of the right pane	Ctrl+U*
Zoom to all elements in the right pane	Ctrl+L*
Zoom to text size	Ctrl+T*
Zoom into selected elements	Ctrl+E*
Zoom to a selected area	Ctrl+R*
Pan the right pane	Arrow keys*
Exit Fly Through mode	Any key*
Refreshing	
Refresh Macros	Ctrl+M*
Searching	
Find Instances	Ctrl+F

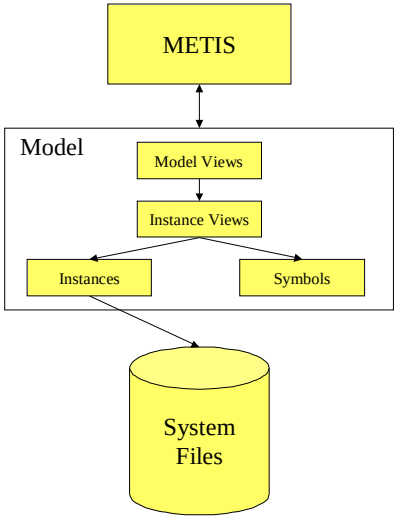
Key: ***** = METIS-specific shortcut. (All other shortcuts are standard Windows shortcuts.)

Managing Models

A METIS Model consists of groups of related objects and relationships that represent information about an enterprise.

Conceptual View

The figure below shows the three main components in a METIS environment.



METIS is the modeling engine. It operates on models. A model consists of one or more model views. A model view consists of object and relationship views (instance views). Each instance view points to an instance which holds the data. An instance can be pointed to by more than one instance view. The instance is of a particular type, and has a particular default visualization. These characteristics (type and typeview) are defined by read-only system files located under the METIS installation directory.

By the use of the METIS symbol editor it is possible to create symbols and use these instead of the default visualizations. Such use-defined symbols become part of the model.

Physical View

A METIS model is stored in one single file, or in multiple files depending on how the data is organized by the user.

System files are files containing object- and relationship type definitions, typeview definitions, viewstyle definitions, domain definitions, method definitions, criteria definitions and symbol definitions. The system files define what you can build and what you can do with a model.

Note: When exchanging model data, or working on the same model, it is a requirement that you share the same system files.

Depending on the work situation, you share the system files differently.

- **If you work off-line**
  You need to install a template containing the system files through a special setup program. Since this creates a **copy** of the system files on your local computer, you must be sure that you install the correct version of the template.
  If your model is based on the GEM template, you don't need to install a template since the GEM template is installed as part of the METIS installation.

- **If you work on-line**
  Depending on how you work on-line, the system files must be installed on a server, and you must load the system files from that server.

  - LAN server
    The system files are installed on a Local Area Network server, for example \\server\share\metis3***X*****.** You need to set the METISHOME variable in Autoexec.bat (Win 95/98), or Environment (WinNT) to point to this location. You can also use the –r shortcut option to define this home location.

- An intranet server or an Internet server
  The system files are installed on a Web server, for example http://www.mycompany.com/metis3***X***. You need to set the METISHOME variable in Autoexec.bat (Win 95/98), or Environment (WinNT) to point to this location. You can also use the –r shortcut option to define this home location.
  It is also necessary to configure the Web server to serve METIS files. Please see http://www.computas.com/metis/products/model_browser/ for information on how to do this, or the chapter on Model Browser Publishing later in this manual.

The METISHOME variable controls from where you load the system files. Even if you have installed the system files locally, you can choose to use system files on a server instead by changing the value of the METISHOME variable, or defining the –r shortcut option.

Any models created with METIS 3 refer to "system" METIS files located in a special directory (%METISHOME%\xml\http, for example C:\Program Files\METIS3***X*** \xml\http when you work off-line). All files within this directory structure are read-only and should not be modified.

The model file and any symbols used by the model to override the default symbol defined on the type can be located anywhere on the system except the METIS 3 installation directory or any of its subdirectories.

A recommended structure is one top-level directory called C:\My Documents\METISFiles with two sub-directories called \models and \symbols. Locate your models under

C:\My Documents\METISFiles\models\

and your symbols under

C:\My Documents\METISFiles\symbols\

Important Note: Once you have created this directory structure and have created models that refer to symbols in the "symbols" directory, you must maintain this structure. Moving the "models" directory or the "symbols" directory

or renaming the “symbols” directory will cause errors. Likewise, to send a model to another METIS 3 user, you must send the model file and all necessary symbol files referenced by the model.

Exchanging Models

A model is made up of one or more METIS files. A METIS file has one of three possible extensions: .kmv, .kmd or .svg. The model views, including the object and relationship views, are located in one file with the .kmv extension. The instances might be contained in the same file or another file or files. If instances are located in other files, they have the extension .kmd. Domains, metamodels, and default type symbols are not included in the file, but are referenced from the %METISHOME%\xml\http area of the METIS 3 installation. User-defined symbols used to override the default symbols provided by the metamodel are located in separate .svg files under control of the modeler.

Important Note: If you want to exchange a model for browsing with the METIS Model Browser, you can publish the system files on a server, see the next chapter for detailed information. If you don’t publish the system files on a server, you must follow the instructions below also when exchanging models for use with the METIS Model Browser.

Receiving Models

Models developed on another system can be opened on your system under certain conditions.

If the model is based on the Standard GEM template, or any other template installed on your system:

- The model can be installed anywhere on the system and loaded by METIS 3.

If the model overrides default symbols with user-defined symbols created by the model-builder:

- The model can be installed anywhere on the system, but the user-defined symbols must be installed in the correct location relative to the model file.

If the model uses template files (such as domains, metamodels and symbols) developed by the model-builder, or a third-party vendor:

- You must install the template files from the model builder, or the third-party vendor, under the %METISHOME%\xml\http directory.

If you receive a model based on a template that has local symbol overrides from a third-party vendor, you must install the template files and the symbols to load the model.

Sending Models

A model developed on your system can be used on another system under certain conditions.

If the model is based on the Standard GEM template, or any other template installed on your system:

- Send only the model file(s). The receiver can locate the model anywhere on his system. It can be used by METIS 3 as long as the receiver has installed the template on which the model is based.

If the model overrides default symbols with user-defined symbols created by the model-builder:

- Create an archive (for example a ZIP file) containing the model file(s) and the symbols being used by your model. The archive must be able to restore the directory structure when being installed so that references to the symbol files are maintained.

If the model uses template files (such as domains, metamodels and symbols) developed by you:

- Create two archives: one containing the model file(s) and one containing the template files. The receiver can install the model file(s) in any location, but the template files **must** be installed under the %METISHOME%\xml\http directory of where METIS 3

is installed. If possible, install the template files through a setup program and set the read-only flag on these files.

If you send a model with local symbol overrides that is based on a template from a third-party vendor, the receiver must install the template files and the symbols to load the model.

Publishing and sending models using HTML Reporting

You can also publish and send a model as an HTML report. The HTML report can be viewed in any Web browser supporting JavaScript, for example Netscape Communicator® or Internet Explorer®.

To publish a model as an HTML report:

1. Start METIS 3 and open your model.

2. Activate the File – HTML Report… command.

3. Follow the steps of the METIS HTML Report Wizard. Press F1 or What's This to get help. Make sure you check the 'Copy Framework' option on the Report Environment dialog.

4. Exit METIS.

To send the HTML report :

5. Use Windows Explorer and navigate to the directory where you created the HTML report;
for example, C:\My Models\reports\mymodel\.
This directory is called the 'Target Directory' in the HTML Report Wizard.

6. Move one directory up, e.g., C:\My Models\reports\. Observe that this directory contains a sub-directory called **framework**. This directory with all files and sub-directory must be sent together with the HTML report.

7. Use WinZip® or another archiving program to add both the framework sub-directory, and the sub-directory containing the HTML report to an archive. Make sure you check the 'Recurse Folders' option. When finished, just send this file and instruct the

receiver to unzip to a directory. The file index.html in the sub-directory where the HTML report was created (i.e. the 'Target Directory') is the file to start with.

Locating Templates and Metamodels

The template file is installed in the following directory:

%METISHOME%\xml\templates

For example: C:\Program Files\METIS3\xml\templates

The name of the subdirectory is the same as the template filename.

The domain, metamodel and symbol files used by this template are installed in the following directory:

%METISHOME%\xml\http

For example: C:\Program Files\METIS3***X*** \xml\http

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The METIS Model Browser

The METIS Model Browser allows you to browse METIS models that have been published locally or on the Web. From within one of the supported Web Browsers, you may zoom and pan, open and close objects, hide and view relationships, traverse relationships, visualize properties, navigate tree views and more. New models developed using METIS 3 can be browsed directly after running them through the Model Browser Wizard. No conversion of the model is needed. Models created using METIS 1.10 need to be migrated to METIS 2.1 or METIS 2.2, and then opened and saved with METIS 3 first.

Installing the Model Browser

The METIS 3 Model Browser for Netscape Communicator® or Internet Explorer® is a separate installation. It may also be downloaded from:

http://www.computas.com/metis/products/model_browser/.

Publishing Models Locally

Local publishing includes publishing on a local computer or a LAN file server. No Web server is involved.

Publishing on a Local Computer

In this case you have installed both the METIS 3 Engine and the METIS 3 Model Browser on your local computer. Publishing requires one step:

1. Create the Model Browser file using the Model Browser Wizard.

Start Netscape Communicator® or Internet Explorer® and load the Model Browser file. The METIS Model Browser starts automatically and all necessary files are loaded from your local computer.

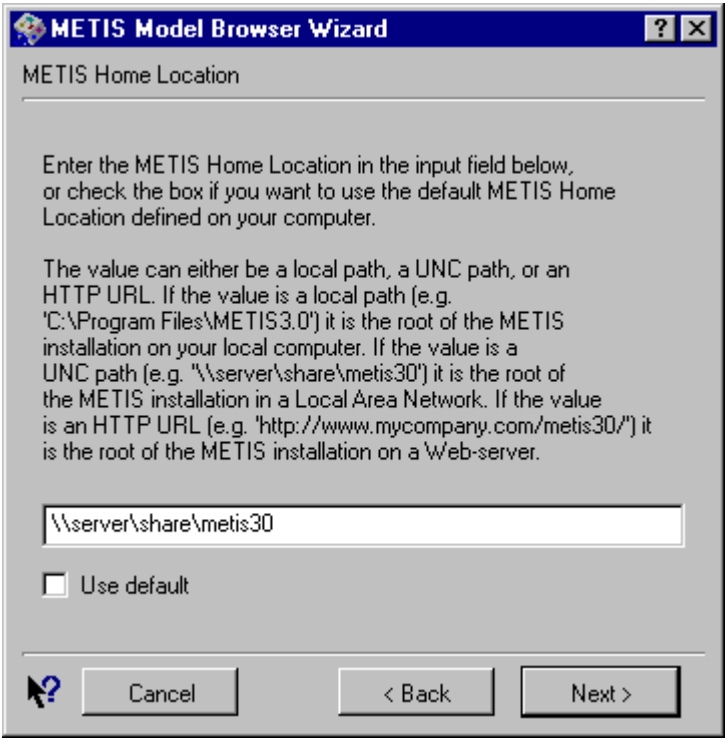
Publishing on a Local Area Network

In this case you have installed the METIS 3 Engine on your development computer and you want to publish to an audience on your LAN who has installed the METIS 3 Model Browser but not the METIS 3 Engine. You want the audience to load all files required by the model from a shared drive in the LAN.

If all users have access permissions to a LAN server, use the following procedure to publish your model to the LAN server. Users do not need to be mapped to the server, they just need to have access. If all users do not have access, see "Publishing Model on the Web" for an alternative.

1. Install METIS 3[1] on a shared drive in the LAN.
2. In case your model is based on a different template than GEM, install all domain, metamodel and symbol files used by the template on the same shared drive and under the same directory as you installed METIS 3 in step 1.
3. Create the Model Browser file using the Model Browser Wizard. Make sure you change the METIS Home Location to point to the directory in the LAN where METIS 3 was installed.

[1] The Model Browser needs access to the common domain, metamodel and symbol files that are included in the METIS 3 Installation, or in case you use templates from third-party vendors, included in their installation package.



You could either specify a local path (e.g., 'C:\Program Files\METIS3***X***') or a UNC[2] path (e.g., '\\server\share\metis3***X***'). Of course this requires that you have installed METIS 3 and all necessary domain, metamodel and symbol files (see steps 1 and 2) in this directory.

4. Copy the Model Browser file (an HTML file) and all necessary model files (.kmv, .kmd and .svg files), to a shared drive in the LAN. The files can be located anywhere, but be sure to maintain the same directory structure.

[2] The Uniform Naming Convention (UNC) is used in networking to completely specify a directory on a file server. The basic format is \\servername\sharename where 'servername' is the hostname of a network file server, and 'sharename' is the name of a networked or shared directory. It is possible to execute a program or open a file using this convention without having to specifically link a drive.

Any user having access to the LAN can now load the Model Browser file from the shared drive you used in step 4, and automatically use the domain, metamodel and symbol files under the shared drive you used in step 1.

Publishing Models on the Web

Web publishing includes publishing on the Internet or an intranet[3]. It is more complex than local publishing since it requires configuration of a Web server for serving METIS files.

Once you have created your METIS model, created the Model Browser file from the Model Browser Wizard, and are able to view it using your own Web browser, see "Publishing Models Locally". You are now ready to publish it on the Web.

Publishing on the Internet

In this case you have installed METIS 3 Engine on your local computer. You want to publish on the Internet to an audience that has installed the METIS 3 Model Browser. The audience will load , the model file and common domain, metamodel and symbol files from the Internet.

To publish, use the following steps:

1. Copy your own (if any) %METISHOME%\xml\http directories and their contents onto your Web server.

For example, if you have created your own common domain, metamodel and symbol files under %METISHOME%\xml\http\www.xyz-consulting.com\xml, copy all these files to the directory /xml on your Web server (assuming

[3] An intranet is any network that provides similar services within an organization to those provided by the Internet outside it, whether or not it is connected to the Internet. The most common example is the use by a company of one or more World-Wide Web servers on an internal TCP/IP network for distribution of information within the company.

the URL of your Web server is http://www.xyz-consulting.com/). If you have used a URL different than your Web server's name (for example, xml.xyz-consulting.com), you must create an alias in the local DNS server table, or set the METIS Home location in the Model Browser file as explained in the next section.

Important Note: You do not need to publish the domains, types and symbols under %METISHOME%\xml\http\xml.metis.no\ since these files are served from the Computas Web server in Norway at http://xml.metis.no/. Also, if you are using templates from third-party vendors, you should not replicate their files as long as they are served from their Web server.

2. Configure your Web server to support XML files.

METIS 2.1 and METIS 2.2 :

Assign the mime type **application/x-vnd.metis-mml** to MML documents. For example, for the Apache Web server, add the following to the configuration file (usually httpd.conf):

```
AddType application/x-vnd.metis-mml mml
```

METIS 3 :

Assign the mime type text/xml to KMD and KMV documents. Assign the mime type image/svg to SVG documents. For example, for the Apache Web server, add the following to the configuration file (usually httpd.conf):

```
AddType text/xml kmd
AddType text/xml kmv
AddType image/svg svg
```

This may also be accomplished by editing the server's mime.types file.

Visit the page at
http://www.computas.com/metis/products/model_browser/

for more information on how to configure Web servers.

3. Create the Model Browser file using the Model Browser Wizard as if you are publishing to a local computer. You don't need to specify the METIS Home Location (use the default location).

4. Copy the Model Browser file (an HTML file) and all necessary model files (.kmv, .kmd and .svg files) to the Web server. The files can be located anywhere, but their internal references must be maintained.

When these steps are completed successfully, any user among your audience who has installed the METIS 3 Model Browser may now start one of the supported Web browsers, browse to your Web server, and open the Model Browser file that you published (HTML file). The model file(s) are read from your Web server, and all necessary domain, metamodel and symbol files are read from respective Web sites. For example, all standard GEM types are read from http://www.computas.com/metis/.

If some persons among your audience have installed METIS 3, the common domain, metamodel and symbol files are read from their local computer instead of the respective Web sites when available. This enhances the performance significantly.

Publishing on an intranet

Publishing on an intranet is very similar to publishing on the Internet, but you must make sure that all common domain, metamodel and symbol files (i.e., .kmd, .kmv and .svg files) used by your model are available on the intranet's Web server, and a proper value for the METIS Home Location is set in the Model Browser file.

Note that intranet publishing can also be used as an Internet publishing in case you want to serve domain, metamodel and symbol files from your own Web-server.

You have create a model with the METIS 3 Engine and want to publish it on an intranet to an audience that has installed the METIS 3 Model Browser. The audience loads both the model file and the common domain, metamodel and symbol files from the intranet. To publish, use the following steps:

1. Install all domain, metamodel and symbol files used by the published model (found under your %METISHOME%\xml\http directory) on the Web server.

2. Configure your Web server to support XML files.

   METIS 2.1 and METIS 2.2 :

   Assign the mime type **application/x-vnd.metis-mml** to MML documents. For example, for the Apache Web server, add the following to the configuration file (usually httpd.conf):

   ```
   AddType application/x-vnd.metis-mml mml
   ```

   METIS 3 :

   Assign the mime type text/xml to KMD and KMV documents. Assign the mime type image/svg to SVG documents. For example, for the Apache Web server, add the following to the configuration file (usually httpd.conf):

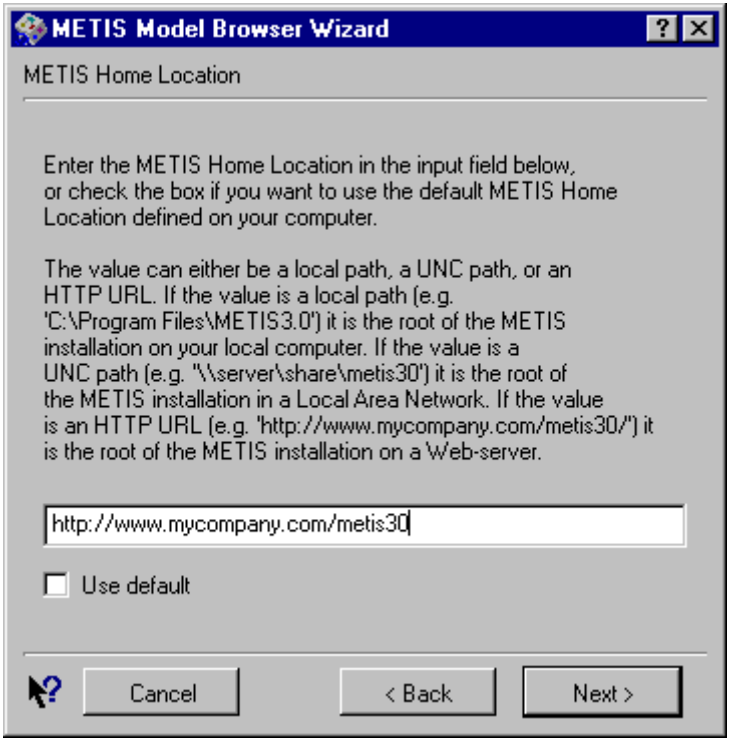
   ```
   AddType text/xml kmd
   AddType text/xml kmv
   AddType image/svg svg
   ```

   This may also be accomplished by editing the server's mime.types file.

   Visit the page at
   http://www.computas.com/metis/products/model_browser/

   for more information on how to configure Web servers.

3. Create the Model Browser file using the Model Browser Wizard. Make sure you change the METIS Home Location to point to the directory on the Web-server underneath where the domain, metamodel and symbol files were installed:



For example, your home Web address is:
http://www.mycompany.com/
corresponding to the directory location:
/giga/web/home
You have installed the domain, metamodel and symbol files under:
/giga/web/home/metis3***X***/xml/http/xml.mycompany.com/xml
The METIS Home Location should then be set to:
http://www.mycompany.com/metis3***X***
which corresponds to the directory location:
/giga/web/home/metis3***X*** (the METIS Home location on disk).

4. Copy the Model Browser file (an HTML file) and all necessary model files (.kmv, .kmd and .svg files) to the Web server. The files can be located anywhere, but their internal references must be maintained.

The audience, having installed the METIS 3 Model Browser, can now start their Web browser (Netscape Communicator® or Internet Explorer®), browse the intranet, and open the Model Browser file that you published. The model file(s) and all necessary domain, metamodel and symbol files are read from your Web server.

If some persons among your audience have installed METIS 3, the domain, metamodel and symbol files are read from their local computer instead of the respective Web sites when available. This enhances performance.

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