



# Adaptive Media

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## Envision3D Administrator Training



# Training Agenda

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## Technology Overview

- Envision3D Benefits
- Product Components
- Installing the Client Application
- Exploring Product Features

## Break

## Installing Envision3D Software

- Installing the Envision3D Product Suite
- Configuring through MediaManager Administrator
- Converting a Basic Model
- Reviewing Envision3D Files

## Lunch



# Training Agenda

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## Adding Value

- Optimizer Options
- Creating Starting Viewpoints and Paths
- Creating Basic View Hierarchies
- Tuning the Attribute Database
- Incremental Updates

## Break

## Application Specific Guidelines

- Importing Models Directly
- Importing Translated Files



# Course Objectives

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## You will be able to:

- Assume Responsibilities of the Envision3D Administrator
- Install and Configure Envision3D
- Convert Source Models
- Add Value to Envision3D Models
- Use Application-Specific Exporting Tools



# Lesson 1: Technology Overview

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- Envision3D Benefits
- Product Components
- Installing the Client Application
- Exploring Product Features



# Envision3D At Work

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- Old technology: download and view
- Envision3D technology: dynamically deliver only those portions of the model that are relevant to your current viewpoint
  - Immediate access to model (no download wait)
  - Faster navigation
  - Wider access to models by more users (LAN, WAN)
  - No need to have CAD software installed (uses standard browsers)
  - Uses standard PC workstations



# Key Benefits

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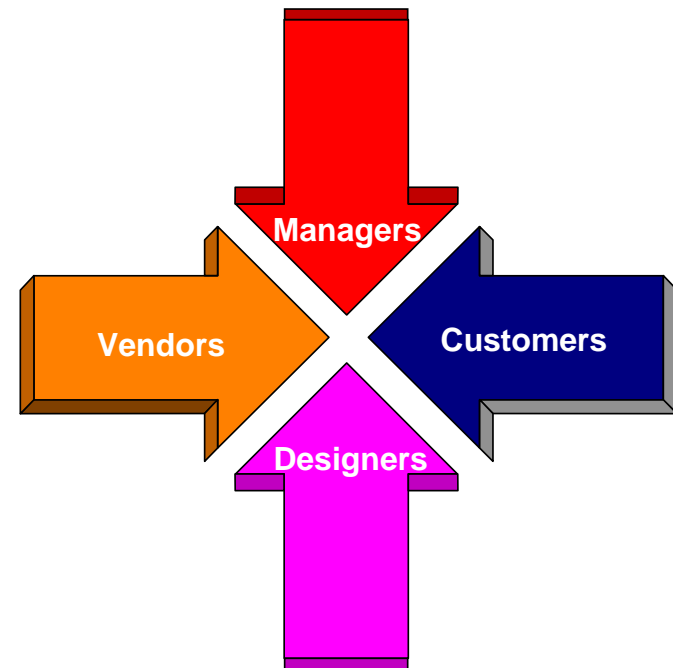
- Shortens design review cycles
- Promotes early inputs from all reviewers
- Allows product engineering data to be used throughout the enterprise
- Shares design and project information across sites
- Saves travel time, meeting time and associated costs



# The Collaborative Benefit

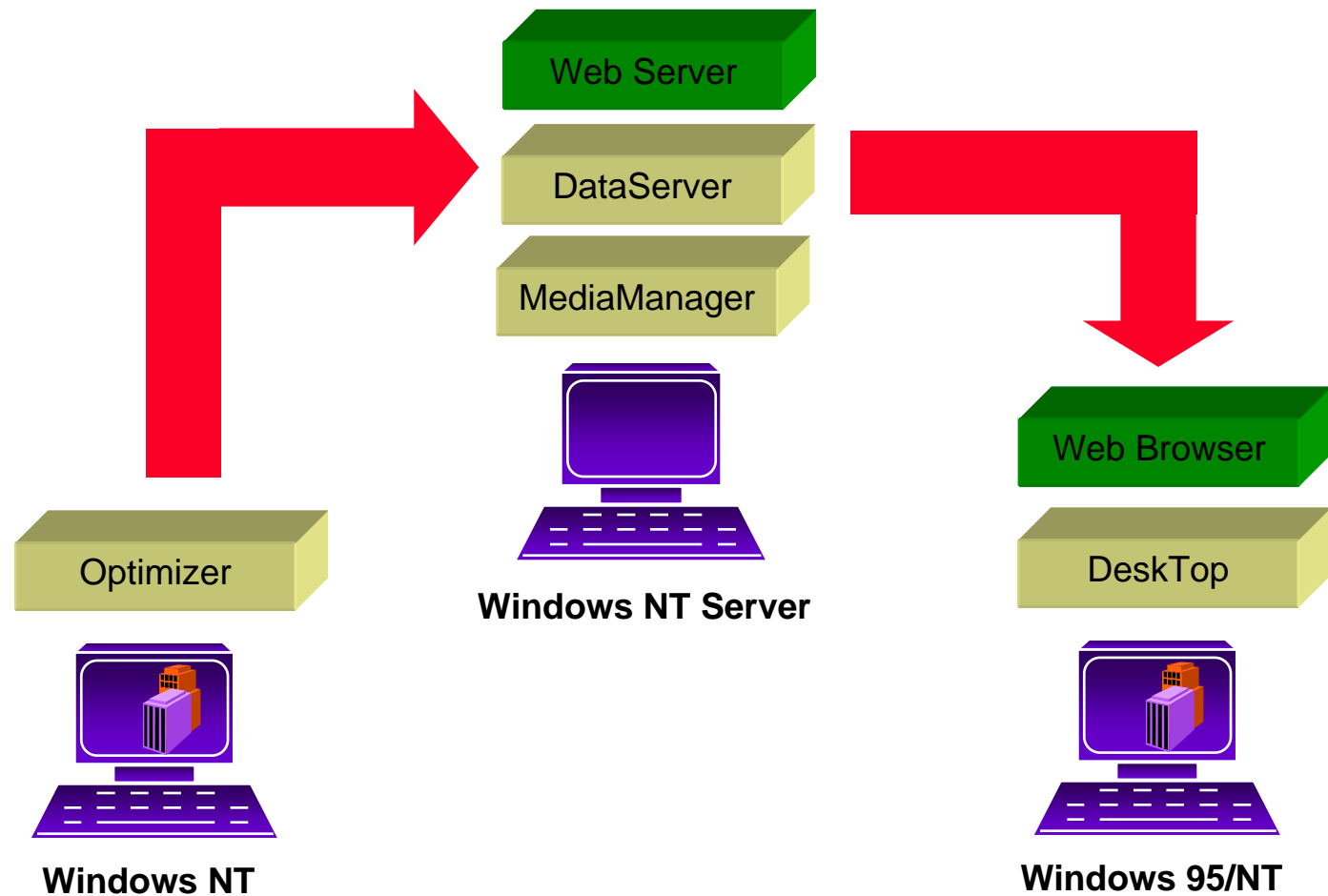
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Envision3D enables the distribution of highly complex 3D model designs across the enterprise resulting in a more collaborative and efficient working environment critical to the design process

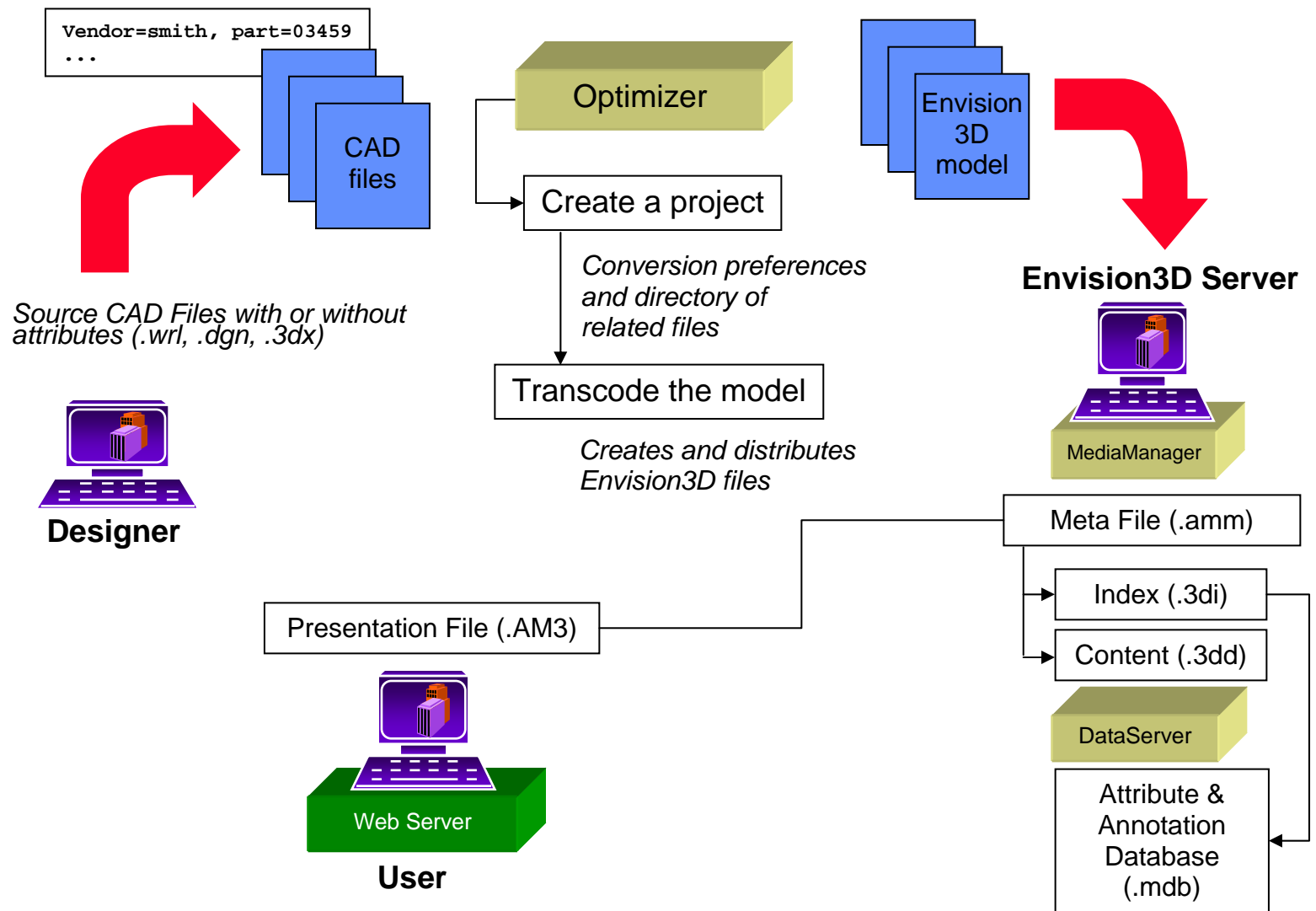




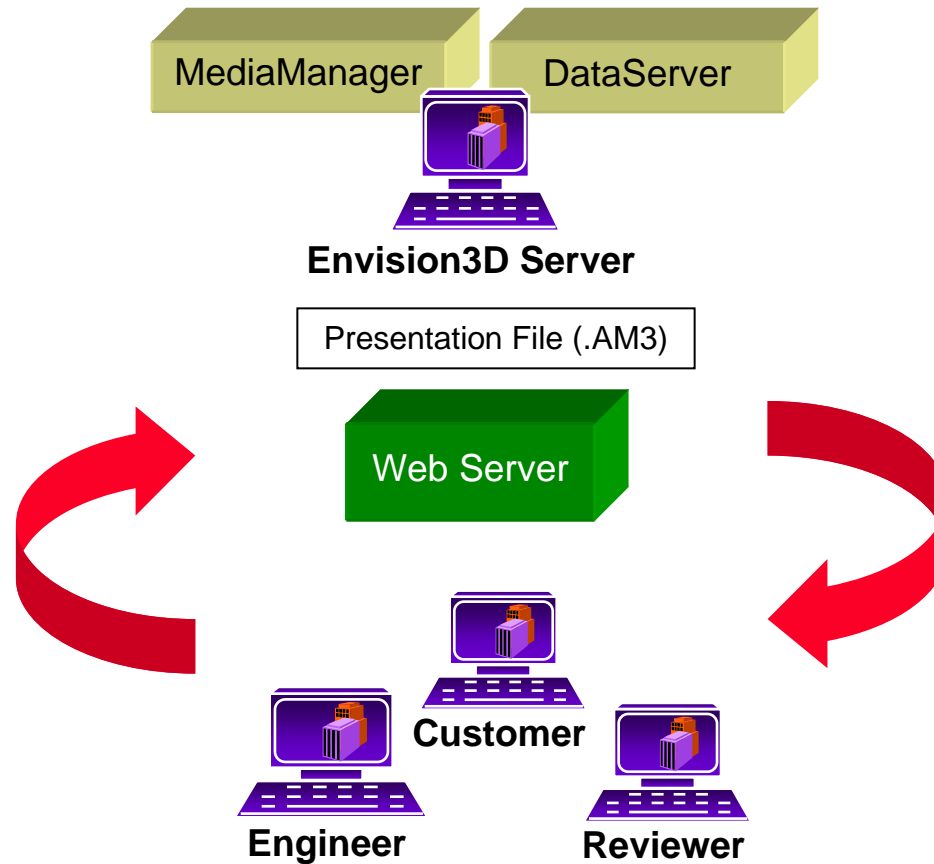
# Envision3D Components



# Envision3D: Creating



# Envision3D: Serving



# Installing the Client Application

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- Installation CD includes:
  - Envision3D Desktop
    - Allows users to work with models that have been converted to the Envision3D format
  - Envision3D Optimizer
    - Allows the Administrator to convert external models to Envision3D models and to add value to models for users
  - Envision3D Exporters
    - Provides special filtering for specific file types to capture additional value for use in Envision3D models
  - Envision3D MediaManager and MediaManager Administrator
    - Server level applications to manage Envision3D models
  - Envision3D DataServer
    - Server level database (access) to hold attribute and annotation information



# Envision3D DeskTop

## *Client Program: Viewing and Collaborating*

### Purpose

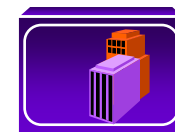
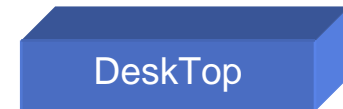
- View 3D models streamed from MediaManager
- Collaborate with other users using views, paths, annotations

### Software Components

- Netscape plug-in
- ActiveX control

### System Requirements

- Windows 95/NT 4.0
- Pentium 133MHz
- 32MB RAM
- Web browser (Netscape or IE)
- OpenGL accelerated graphics board (recommended)



Windows 95/NT



# Key Product Features

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- Moving Around the Model
  - Navigation Options
  - Viewpoints
  - Paths
- Working with Objects
  - Isolate
  - Examine
  - Fit
  - Attributes
  - View Hierarchies
- Working with Others
  - Annotations
  - Shared Vision



# Navigating the Model

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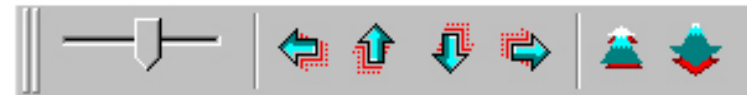
- Navigation icons
  - Backward and Forward
  - Up and Down
  - Full Rotation
- Navigating with the mouse
- A few other choices...
  - Navigating with auxiliary views
    - Top View
    - Front View
  - Navigating with pre-defined viewpoints
  - Navigating with pre-defined paths



# Navigating the Model

- Click on icons to move in direction of arrows
- Change speed of movement and rotation on slider bars

## Movement Toolbar



*speed of movement*

*pan left, right, up and down*

*move forward and back*

## Rotation Toolbar



*straighten the camera view*

*speed of rotation*

*turn left, pitch up, pitch down, turn right*

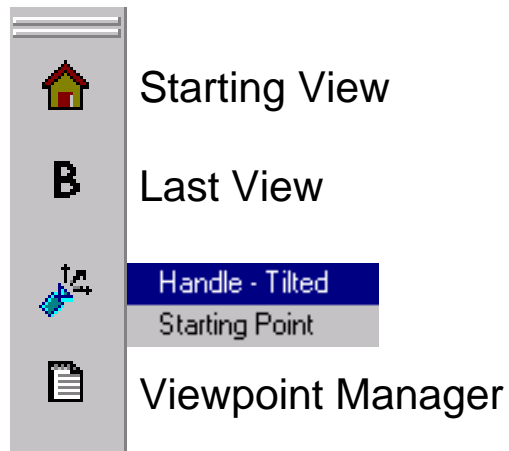
*roll left, roll right*





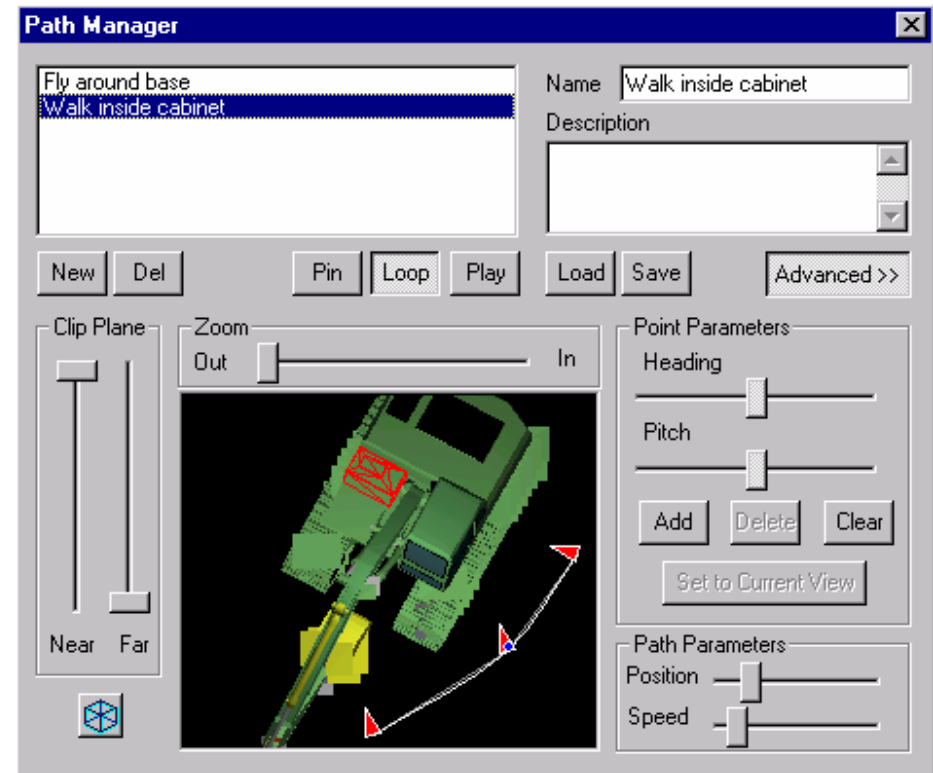
# Viewpoints

- Viewpoints allow you to preset particular points of view
  - Accessible from a menu
  - Very helpful for users
- Set “Home” for all users
- UI tracks individual “Last View”



# Paths

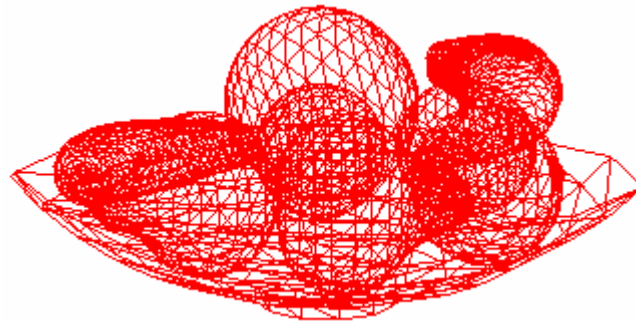
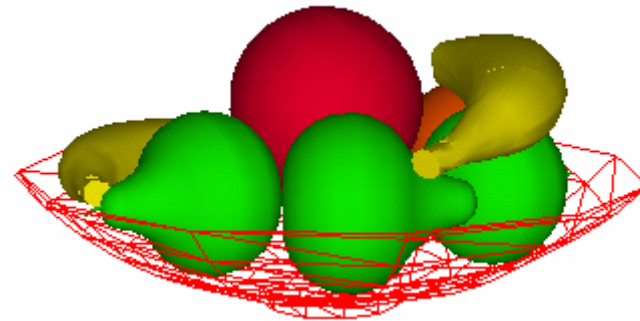
- Paths allow you to create walk-throughs or fly-throughs of your model
- Settings control speed, heading and pitch
- You can set the path to perform a continuous loop or to only play once



# Selecting Objects

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- Select a single object or a group of objects



# Isolate

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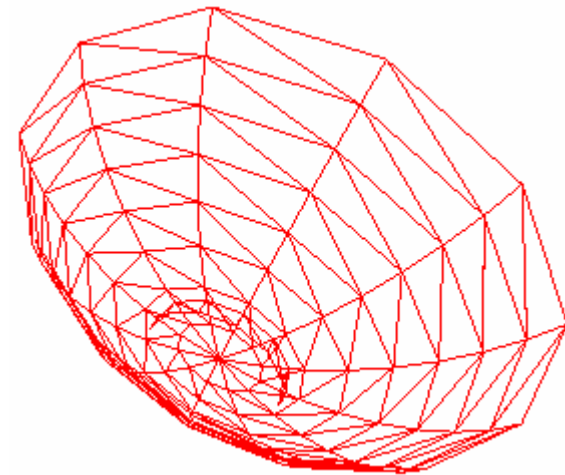
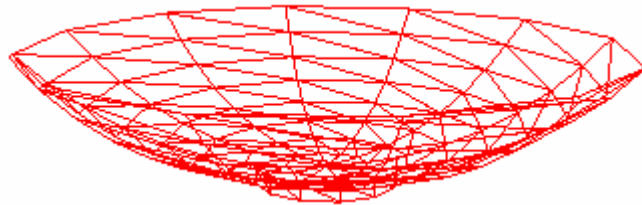
- Isolate lets you focus specifically on one object in the view
  - Zoom
  - Rotate
  - Discover hidden information behind the current view



# Examine

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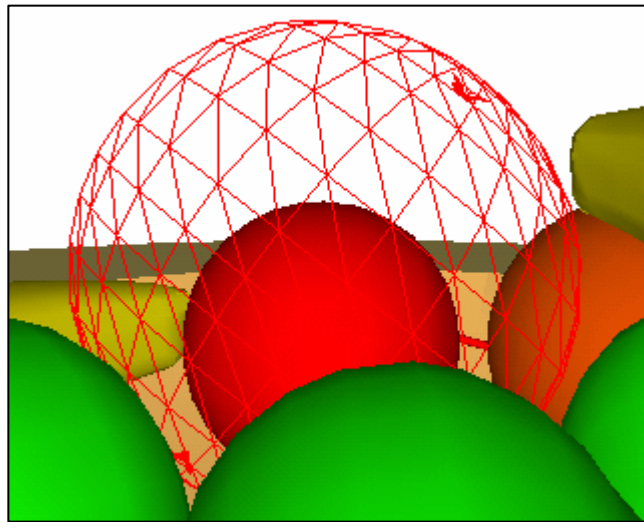
- Similar to isolate, but changes navigation controls to relate only to the object
- Allows you to rotate the object and move without interference from any other parts of the model



# Fit

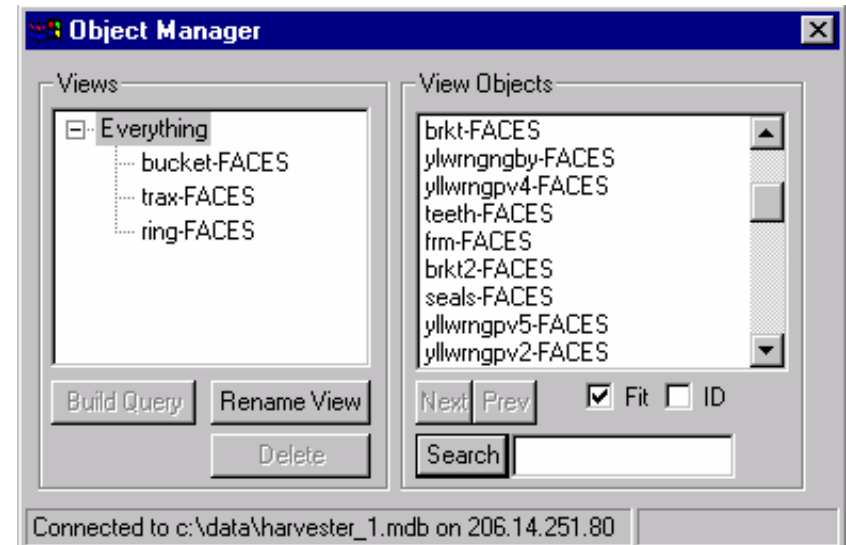
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- To reposition your view automatically, click the Fit button
  - Fit works with multiple objects
  - Brings your object to the center of the view
  - Other selections remain on for the fit



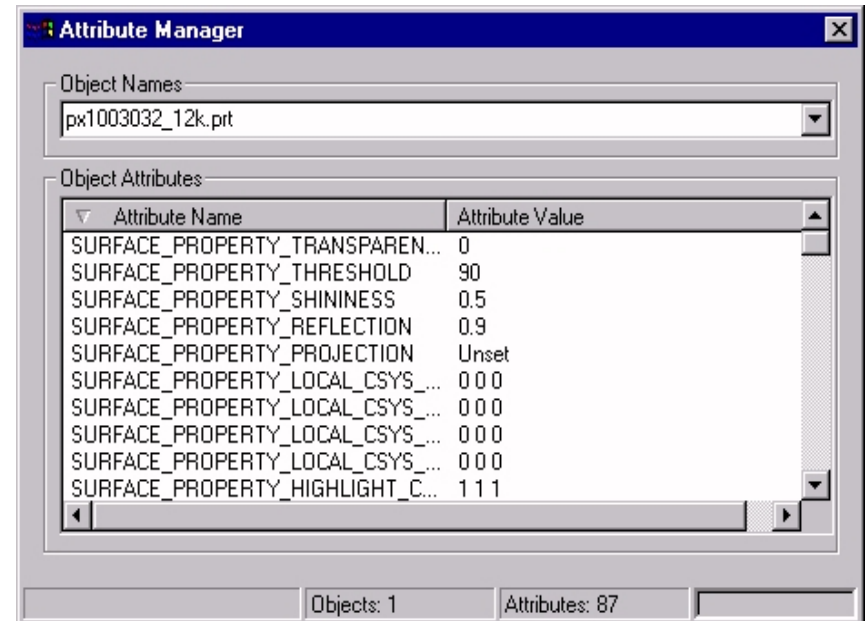
# Working with Objects

- The Object Manager presents information about model objects
  - Gathered during conversion if present in original model
  - Added after conversion for specific features



# Attributes

- You can view attributes about a particular object
- You can add attributes to describe the object or provide information about the object
  - Vendor
  - Cost
  - Specifications
  - URL
- You can create and edit attributes with a special support tool called DBEDIT





# View Hierarchies

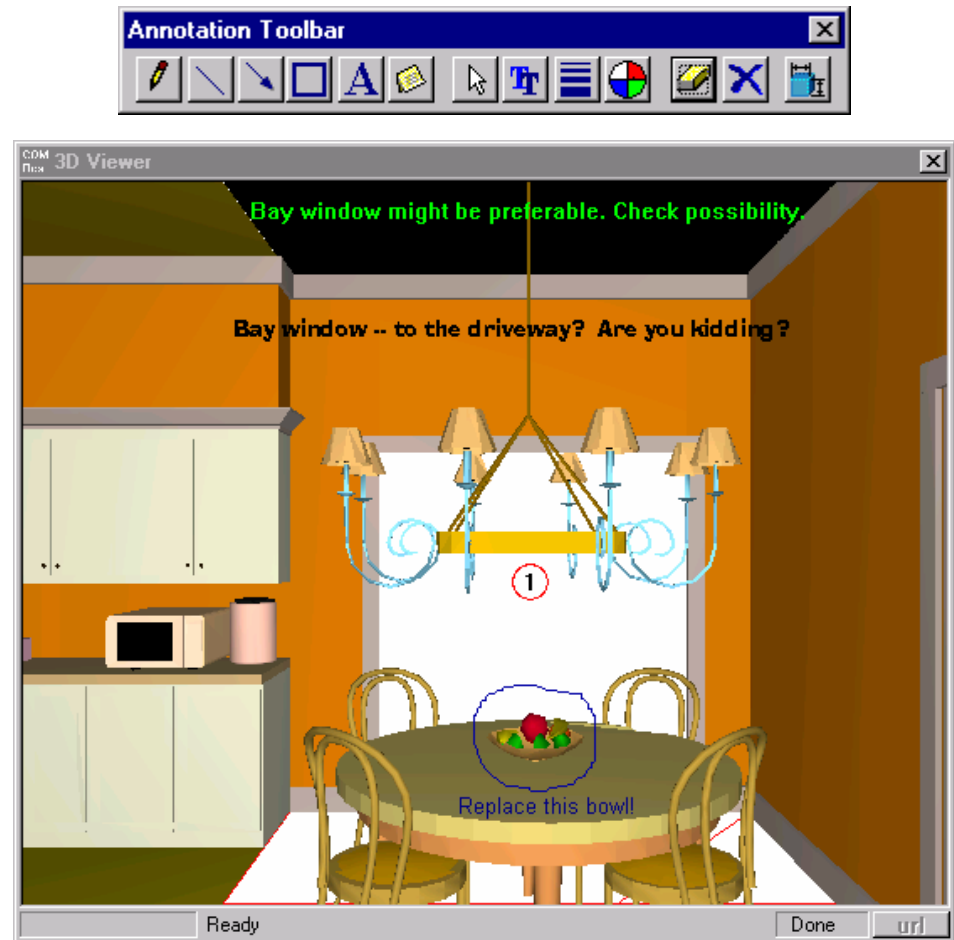
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- You can establish “super views” for aggregated objects
  - Kitchen
    - Sink Area
    - Stove Area
  - Dining Area
    - Cabinets
      - Hutch
      - Pantry
    - Dining Room Furniture
      - Table
      - Chairs



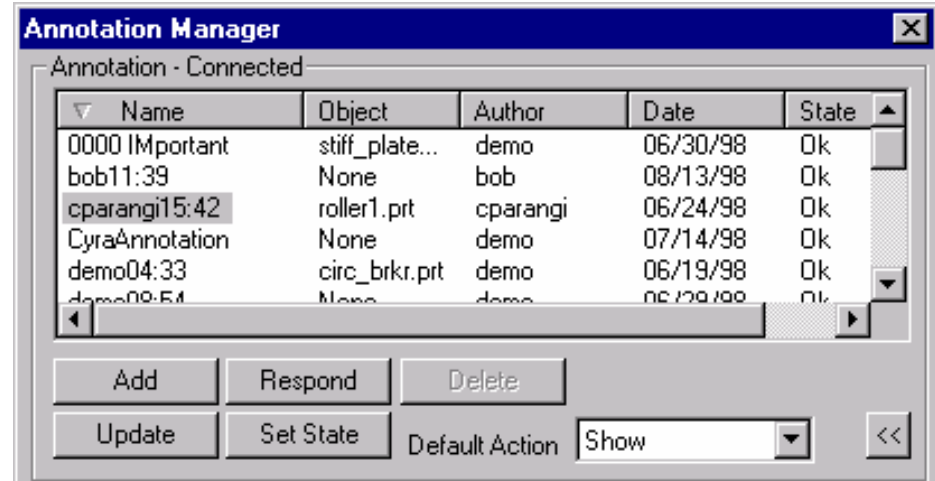
# Working with Others

- Add notes or make comments directly on the model
- The annotation toolbar provides several options for customizing your annotations



# Annotations

- Annotations allow you to make notes about objects or models
  - Ask questions
  - Provide answers
  - Track updates
  - Set actions



# Collaboration: A Shared Vision

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- New to Version 4 - Update once Jayne's stuff is available.



# Technology Review

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- How Parts Work Together
- Components in the Envision3D Product
- Workflow
- Key Features



# Technology Overview: Lab Exercise

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- Install the Envision3D Desktop
- Open a Practice Model
- Explore Key DeskTop Features
- Have fun -- it's the best way to learn!



# Lesson 2: Installing Envision3D

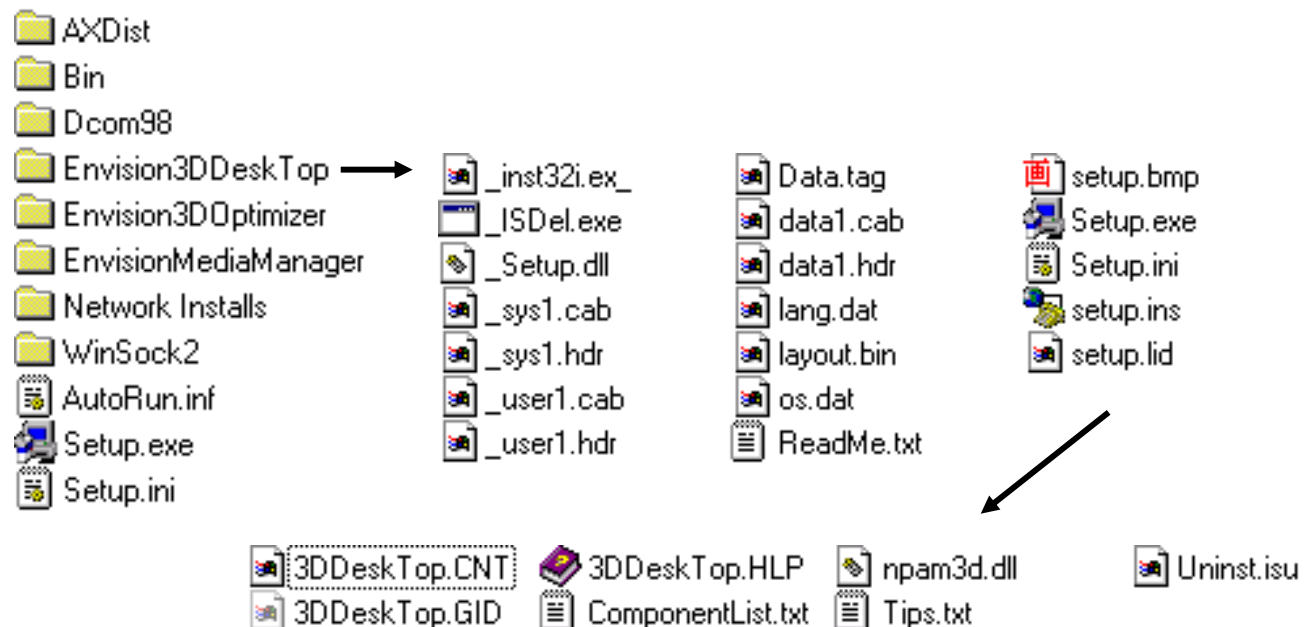
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- Installing the Envision3D Product Suite
- Configuring through MediaManager Administrator
- Converting a Basic Model
- Reviewing Envision3D Files



# The Envision3D CD

- The CD contains installation programs for the entire suite as well as individual components in the suite
- The DBEDIT tool can be obtained through Technical Support





# Performance Matrix

	<i>Minimum Performance System</i>	<i>High Performance System</i>
<b>Envision MediaManager and DatabaseManager Server</b> <i>Windows NT 4.0 SP3.0+</i> 10 Mbs Ethernet network 800x600 minimum display	<b>Pentium 200MHz CPU, SCSI hard disk with &lt;9 msec access time, 64 MB RAM,</b>	<b>Dual Pentium 200MHz CPU with 512KB cache CPU, wide SCSI disk RAID controller with &lt;8msec access time and 7200 rpm disks, 128MB RAM, 100mbs Ethernet network</b>
<b>Envision MediaManager Administrator System</b> <i>Windows 95 or NT 4.0 SP3.0+</i> 800x600 minimum display	<b>100MHz 486 CPU 16MB RAM</b>	
<b>WebServer</b> <i>Windows NT 4.0 SP3.0+</i> 800x600 minimum display Netscape Enterprise or M/S IIS Server software	<b>Pentium 200MHz CPU 64 MB RAM</b>	
<b>Envision3D Optimizer</b> <i>Windows NT 4.0 SP3.0+</i> 800x600 minimum display 16-bit color for viewer	<b>Pentium 200MHz CPU 64 MB RAM</b>	<b>Pentium 200MHz CPU 128 MB RAM</b>
<b>Pro/Engineer Plug-In</b> <i>Windows NT 4.0 SP3.0+</i> Pro/Engineer ver. 18 or 19 800x600 minimum display	<b>Standard configuration for the version of Pro/E installed</b>	<b>Standard configuration for the version of Pro/E installed</b>
<b>Envision3D DeskTop</b> <i>Windows 95 or NT 4.0 SP3.0+</i> 800x600 minimum display 16-bit color	<b>Pentium 133MHz CPU, 32MB RAM 64kbs to 10mbs network</b>	<b>Pentium Pro 200MHz CPU, 128MB RAM 10mbs or faster Ethernet network</b>



# Envision3D MediaManager

## *Server Program: Manages Content*

### Purpose

- Streams CAD models to client workstations

### Software Components

- **Windows NT Service**

### System Requirements

- **Windows NT 4.0**
- **Pentium 200MHz**
- **64MB RAM**
- **SCSI hard disk < 9ms access time**



# MediaManager Administrator

## *Server Program: Provides Administration Tools*

### Purpose

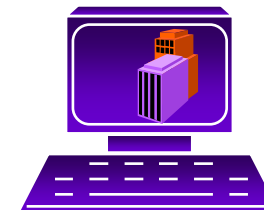
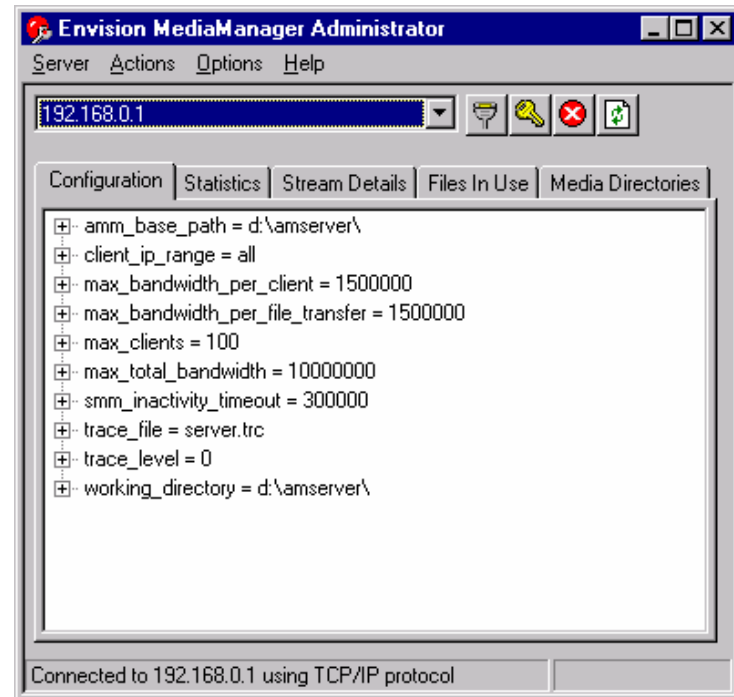
- **Change server configuration**
- **Monitor server activity**

### Software Components

- **Windows NT application**

### System Requirements

- **Windows NT 4.0**
- **486 100MHz**
- **16MB RAM**



**Windows NT**



# Envision3D DataServer

## *Server Program: Serves Database Objects*

### Purpose

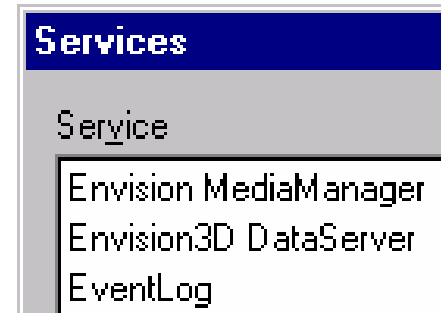
- Provides access to database containing object attributes

### Software Components

- Windows NT Service

### System Requirements

- Windows NT 4.0
- Pentium 200MHz
- 64MB RAM
- SCSI hard disk < 9ms access time
- Can be on same machine as MediaManager but better performance on its own machine



# Envision3D Optimizer

## *Server Program: Creates Envision3D Files*

### Purpose

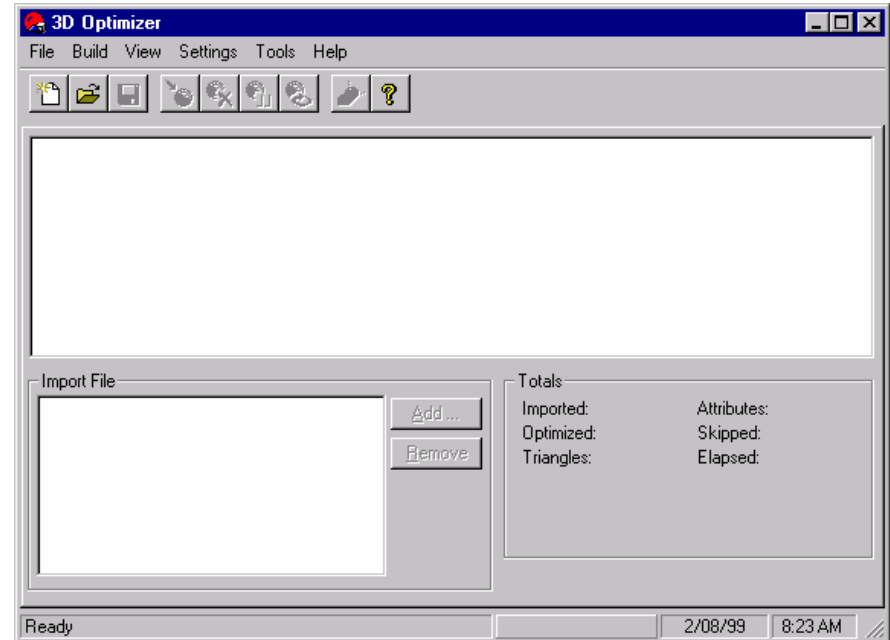
- **Convert CAD files from native format to Envision3D**
- **Setup default viewpoints and paths for all users**

### Software Components

- **Windows NT Application**

### System Requirements

- **Windows NT 4.0**
- **Pentium 200MHz**
- **64 MB RAM**
- **800x600 / 16 bit color display**



Windows NT



# Web Server

## *Server Program: Calls Content from Server*

### Purpose

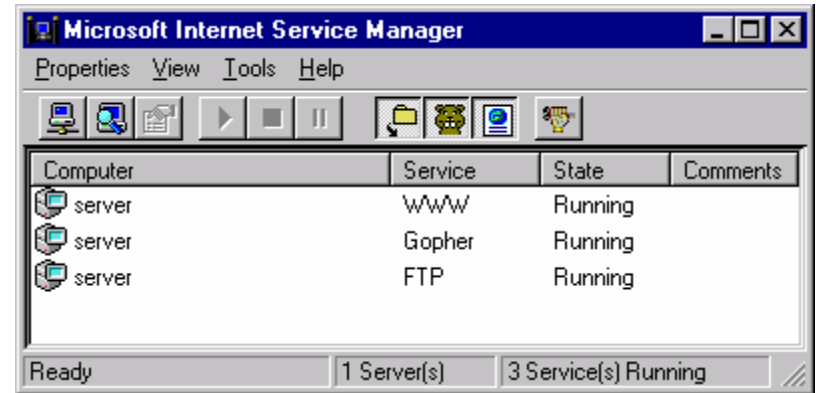
- Provides access to files for client web browsers

### Software Components

- Any standard Web software
- Microsoft IIS comes free with Windows NT

### System Requirements

- Any operating system (WIN/MAC/UNIX)
- Any standard Web server
- Can run on MediaManager server, but may affect performance



Windows NT Server



# Envision3D DeskTop

## *Client Program: Viewing and Collaborating*

### Purpose

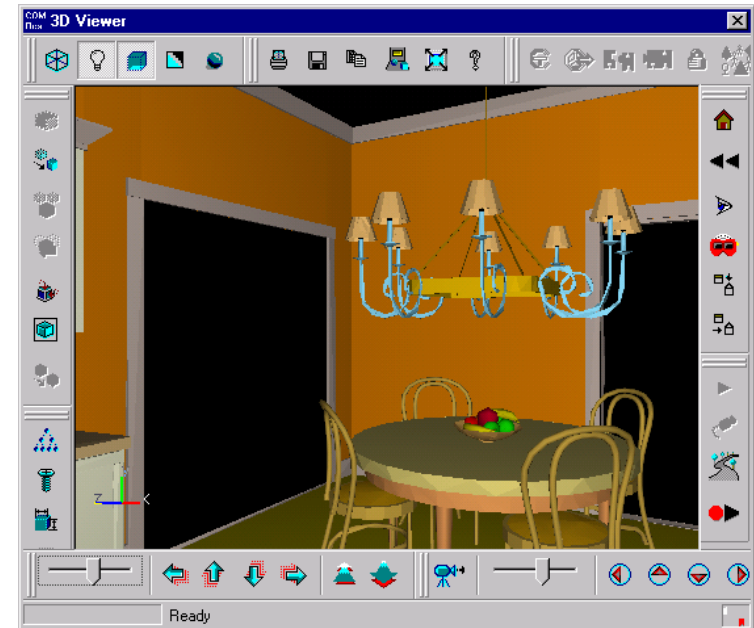
- **View 3D models streamed from MediaManager**
- **Collaborate with other users using views, paths, annotations**

### Software Components

- **Netscape plug-in**
- **ActiveX control**

### System Requirements

- **Windows 95/NT 4.0**
- **Pentium 133MHz, 32MB RAM**
- **Web browser (Netscape or IE)**
- **OpenGL accelerated graphics board (recommended)**



Windows 95/NT



# Envision3D Pro/E Exporter

## Purpose

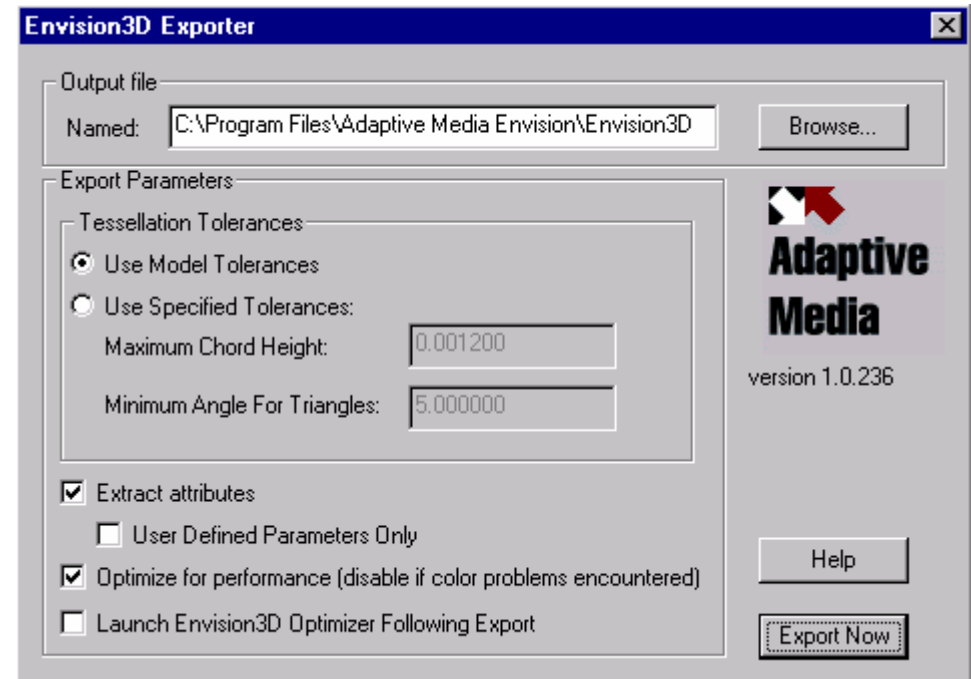
- **Used to export Pro/E files in Envision3D exchange format (.3DX)**

## Software Components

- **Pro/Engineer (19 or higher - 19 only for Odin 3.0.174)**
- **Must be Pro/E for NT**

## System Requirements

- **Windows NT 4.0**
- **System used for Pro/Engineer**





# Envision3D MicroStation Exporter

## Purpose

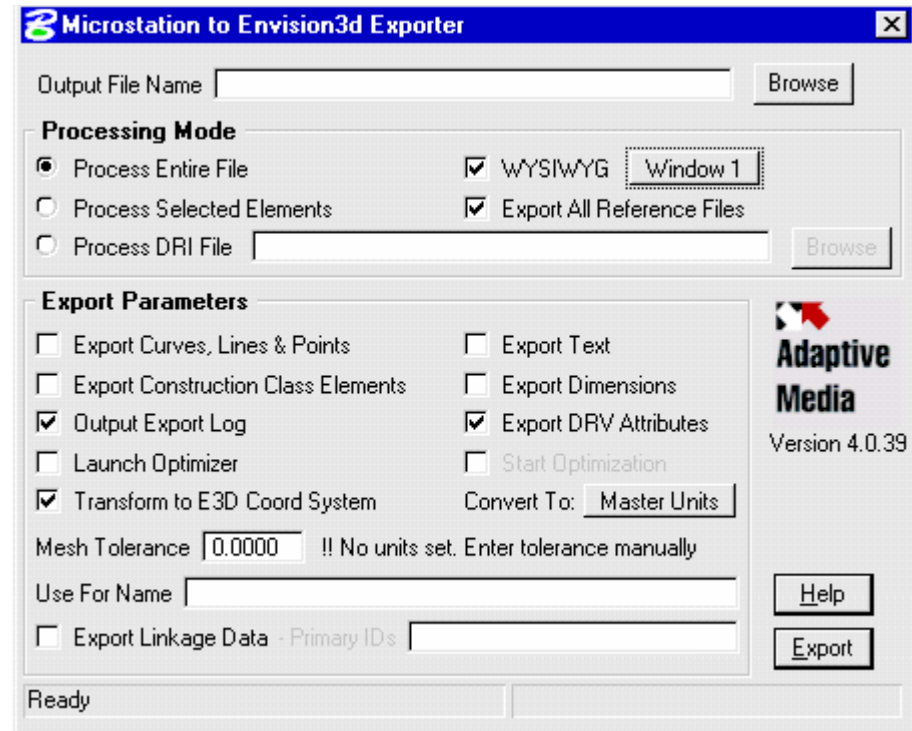
- Used to convert .DRI files (with DGN points and/or text) to Envision3D exchange format (.3DX)

## Software Components

- Embedded exporter for drawing files and user attributes

## System Requirements

- Windows NT 4.0
- System used for MicroStation



# Envision3D DWG Translator

## Purpose

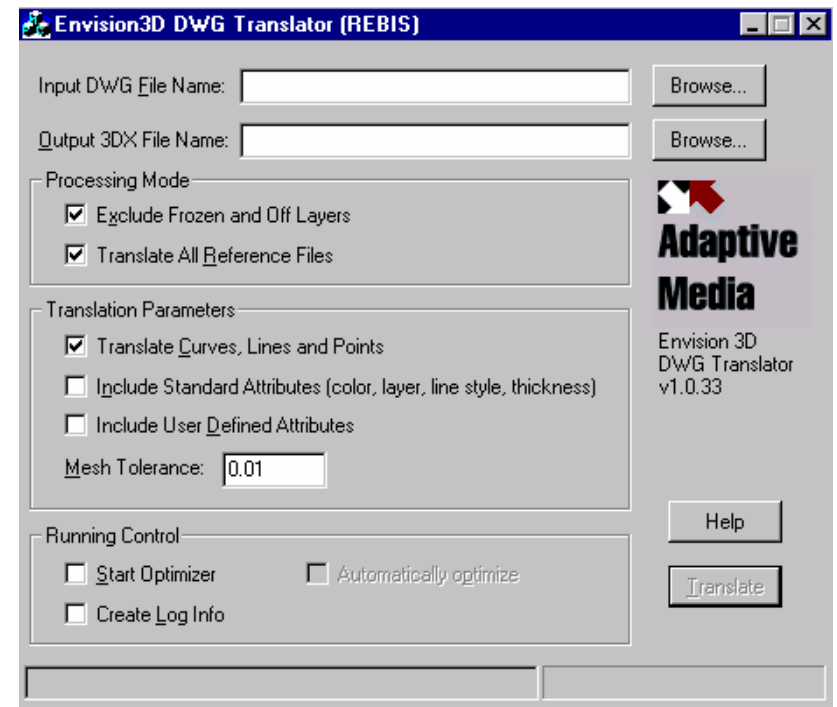
- Used to translate AutoCAD (.DWG) files to Envision3D exchange format (.3DX)

## Software Components

- Standalone translator for drawing files and user attributes

## System Requirements

- Windows 95/NT 4.0



# Before Installation

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## Prep Work

- Check minimum guidelines on the Performance Matrix
- Know your IP addresses (DataServer and MediaManager)

## Create Folders

- Working folder
- Database folder
- Web server folder (wwwroot)

## Recommended Directory Structure

- |                             |                      |
|-----------------------------|----------------------|
| ■ Web server                | c:\inetpub\wwwroot   |
| ■ MediaManager              | d:\amserver\models   |
| ■ Models default location   | d:\amserver\models   |
| ■ Database default location | d:\amserver\database |



# After Installation

## Review Release

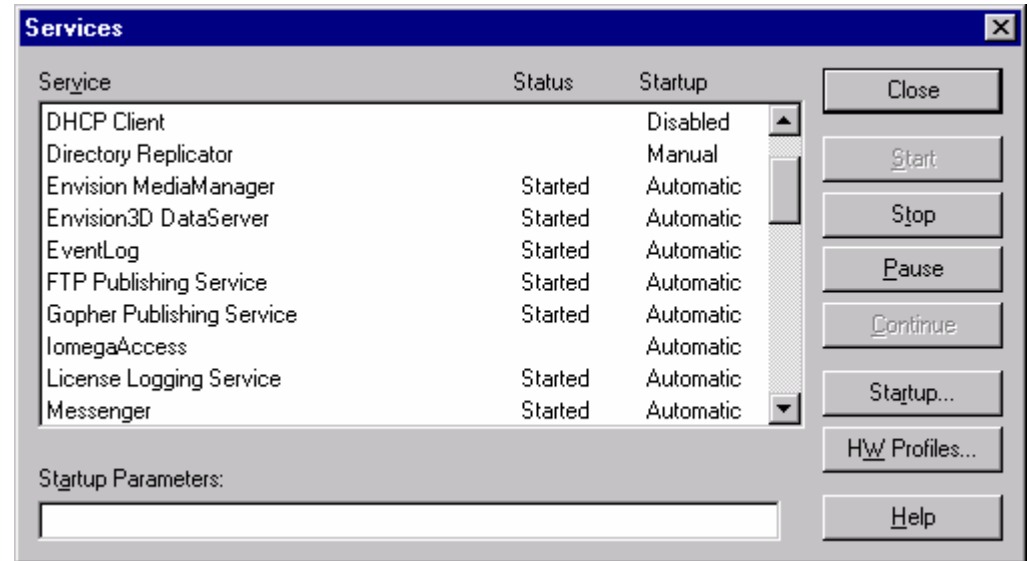
### Notes

- Installation Issues
- Installation Procedures
- Known Problems and Limitations

## Check Services

### (Control Panel)

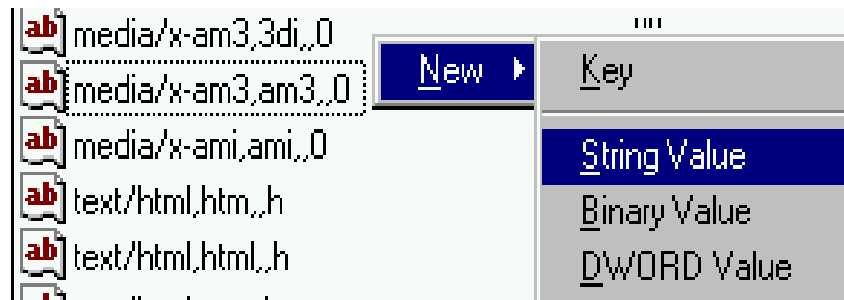
- MediaManager
- DataServer



# Web Server Configuration

## Web Server Mime Type

- Release notes contain specific details for adding mime types to supported Web Servers
  - Varies by server and version
- Add a mime type for Envision3D files: media/x-am3,am3,,,



# DeskTop Installation

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Verify your DeskTop installation

- A web browser must be installed before installing Envision3D
- You can check that the plug-in is installed in Netscape by selecting “About Plug-ins” from the Help menu
- Envision3D will now appear in the “Add/Remove Programs” section of your Control Panel

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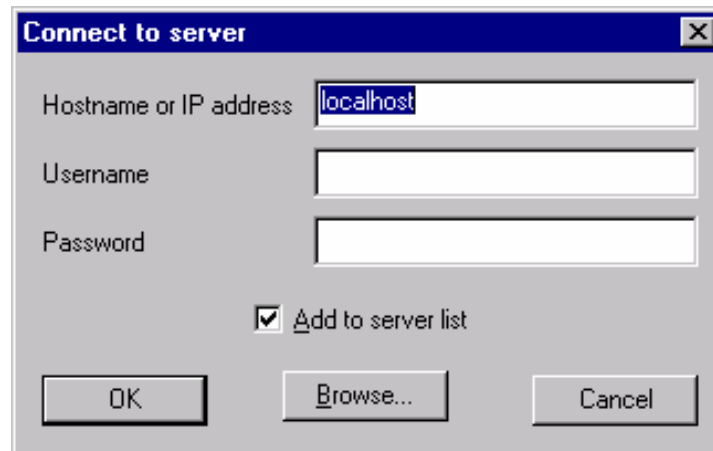
Envision MediaManager  
Envision MediaManager Administrator  
Envision3D DataServer  
Envision3D DeskTop  
Envision3D Optimizer




# MediaManager Administrator

## Connecting to the MediaManager

- Initial logon requires no password
- You can set or change passwords from the Actions menu
- Click “Add to server list” to allow the server to be selectable from a drop-down list



The 'Connect to server' dialog box has a blue title bar with the text 'Connect to server' and a close button (X). It contains three text input fields: 'Hostname or IP address' with the text 'localhost', 'Username', and 'Password'. Below these fields is a checked checkbox labeled 'Add to server list'. At the bottom, there are three buttons: 'OK', 'Browse...', and 'Cancel'.



The 'Change Username/Password' dialog box has a blue title bar with the text 'Change Username/Password' and a close button (X). It contains two text input fields: 'New username' and 'New password'. At the bottom, there are two buttons: 'OK' and 'Cancel'.



# MediaManager Menu Options

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- Connect to Server
- Remove Servers from List
- Set Security Access Privileges
  - Admin level passwords let you change everything on a server, including passwords and configuration values - always set up this access first
  - MediaLink level passwords just allow you to replicate, copy, and move presentations
- Stop the Server
- Set Screen Update Rate
- Reconnect When Program Starts
- Display Hostnames
  - Disable when server or client does not include a DNS entry
  - Causes delays searching nameservers for a non-existent DNS entry

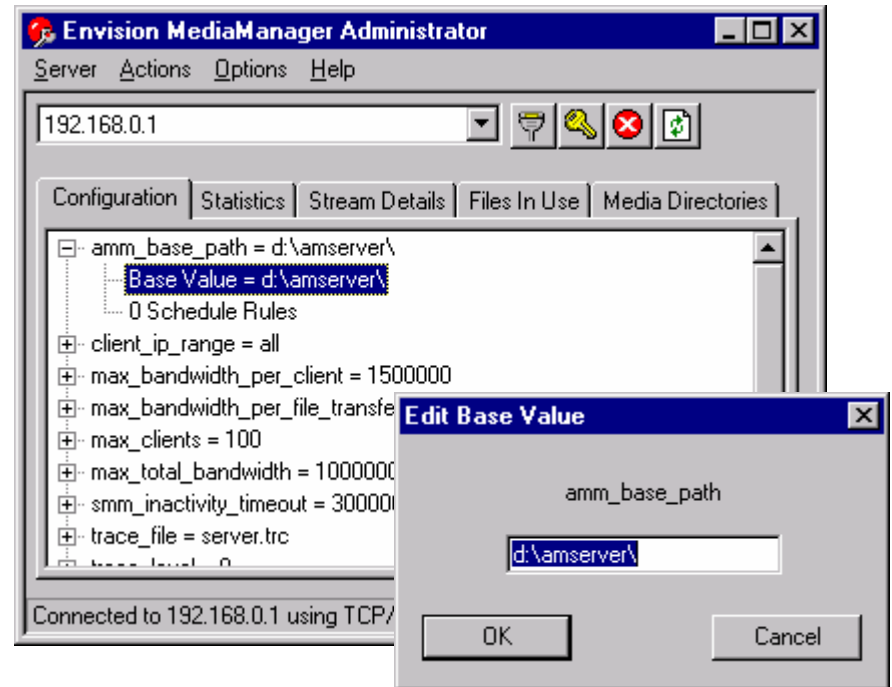




# MediaManager: Configuration

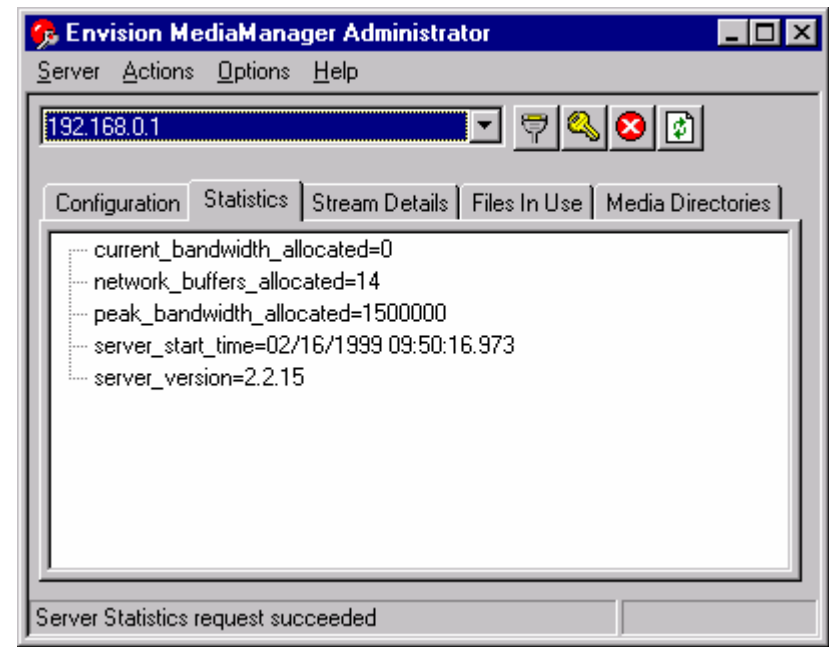
## Manage Configuration Settings

- Set default media locations
- Change bandwidth restrictions
- Set schedule rules based on time of day
- Right-click to edit values



# MediaManager: Statistics

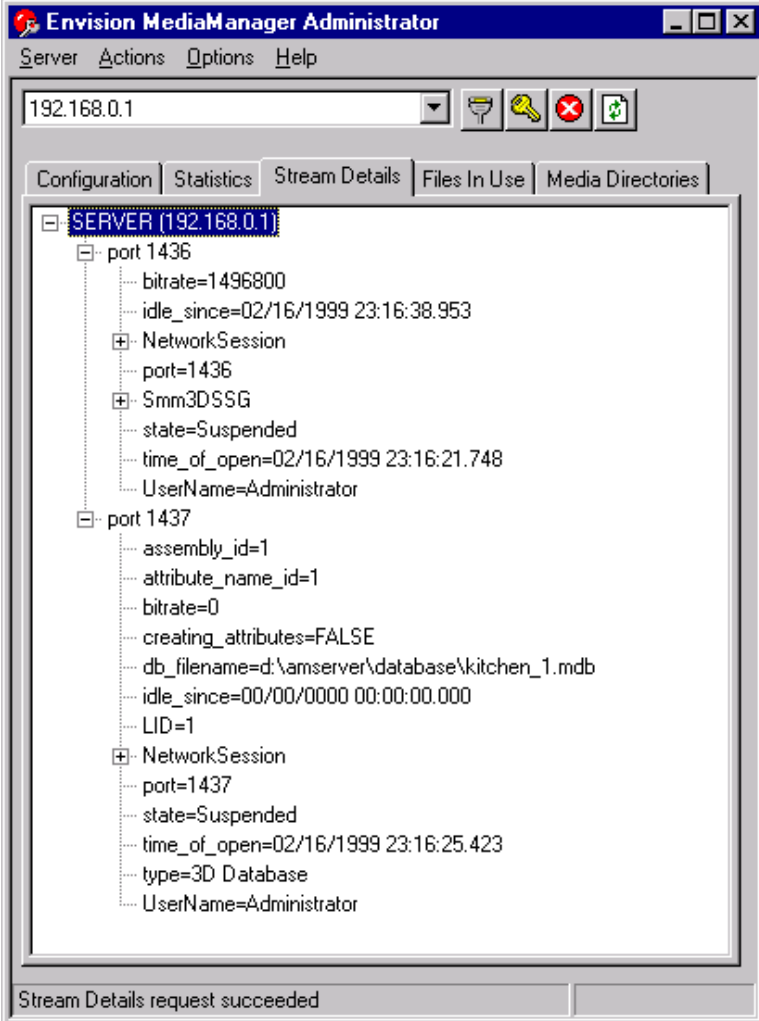
- Current bandwidth allocated is the total bandwidth of all streams currently open on the server (bps)
- Peak bandwidth allocated is the highest amount of bandwidth required by simultaneous client content requests since MediaManager was last started on the server



# MediaManager: Stream Details

Streams sent by the MediaManager server

- State lists whether the stream is currently being sent to the client (STREAMING) or not (SUSPENDED)
- Streams can be suspended (though still in use) when the buffer in the Envision Desktop player is full



The screenshot displays the 'Envision MediaManager Administrator' window. The address bar shows '192.168.0.1'. The 'Stream Details' tab is active, showing a tree view under 'SERVER (192.168.0.1)'. Two ports are listed:

- port 1436:**
  - bitrate=1496800
  - idle\_since=02/16/1999 23:16:38.953
  - NetworkSession
    - port=1436
    - Smm3DSSG
      - state=Suspended
      - time\_of\_open=02/16/1999 23:16:21.748
      - UserName=Administrator
- port 1437:**
  - assembly\_id=1
  - attribute\_name\_id=1
  - bitrate=0
  - creating\_attributes=FALSE
  - db\_filename=d:\amserver\database\kitchen\_1.mdb
  - idle\_since=00/00/0000 00:00:00.000
  - LID=1
  - NetworkSession
    - port=1437
    - state=Suspended
    - time\_of\_open=02/16/1999 23:16:25.423
    - type=3D Database
    - UserName=Administrator

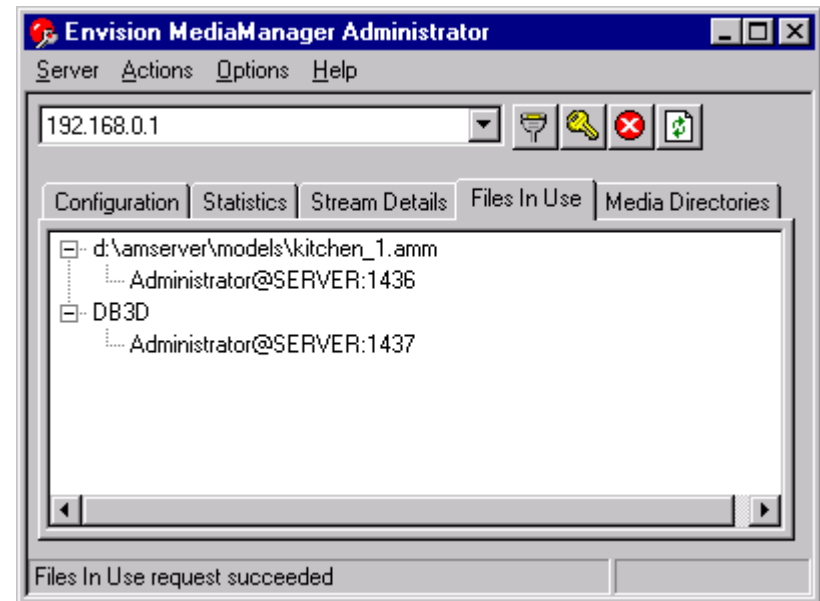
The status bar at the bottom indicates 'Stream Details request succeeded'.



# MediaManager: Files In Use

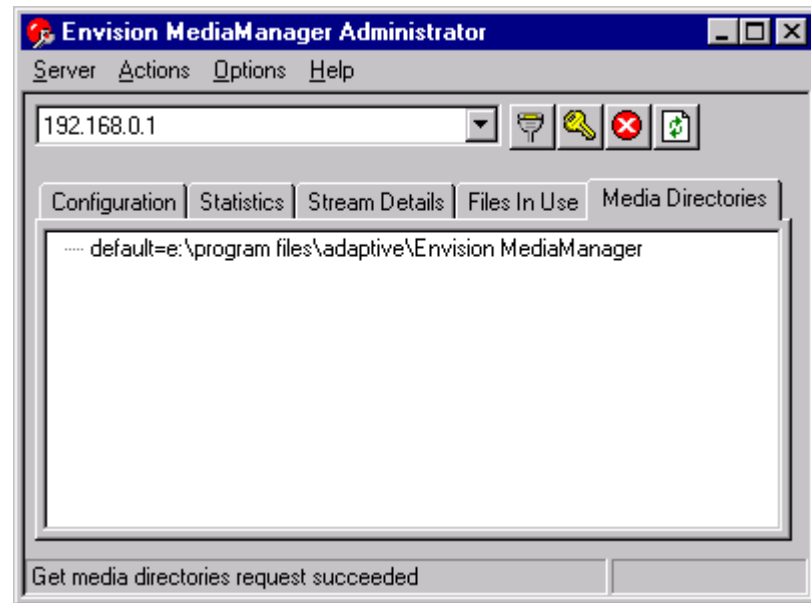
Displays files in use at the moment

- Dynamic, showing user activities



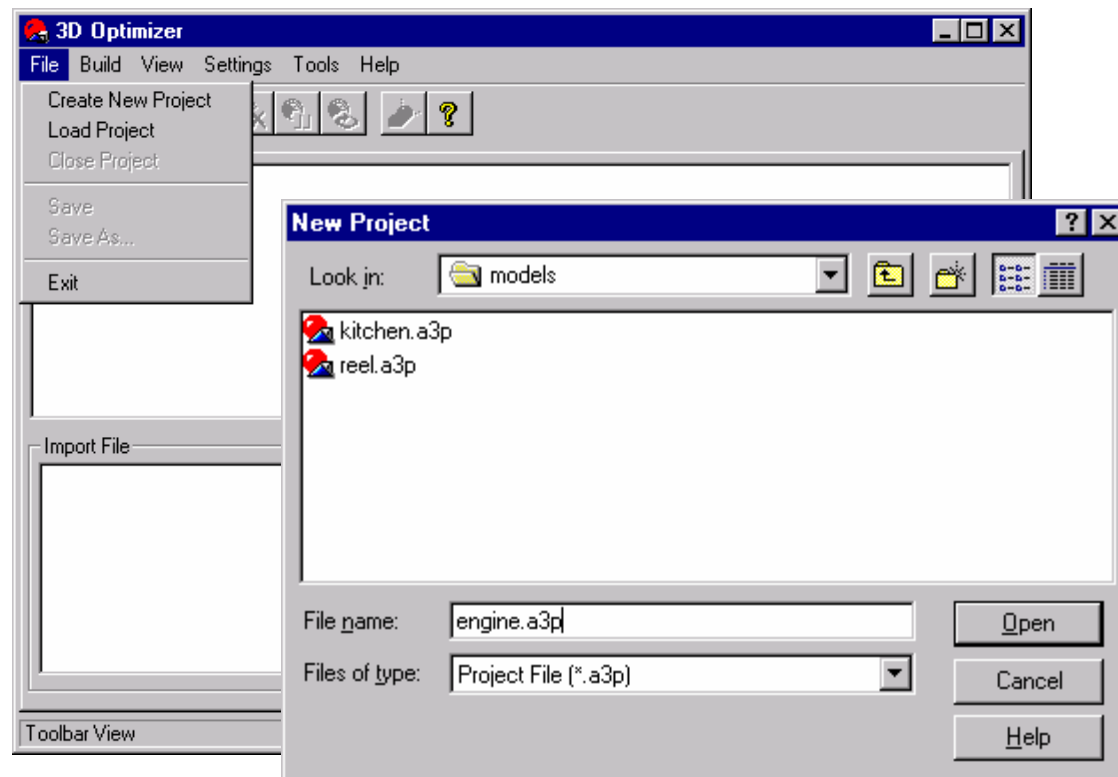
# MediaManager: Media Directories

Add points - per  
Jayne's research



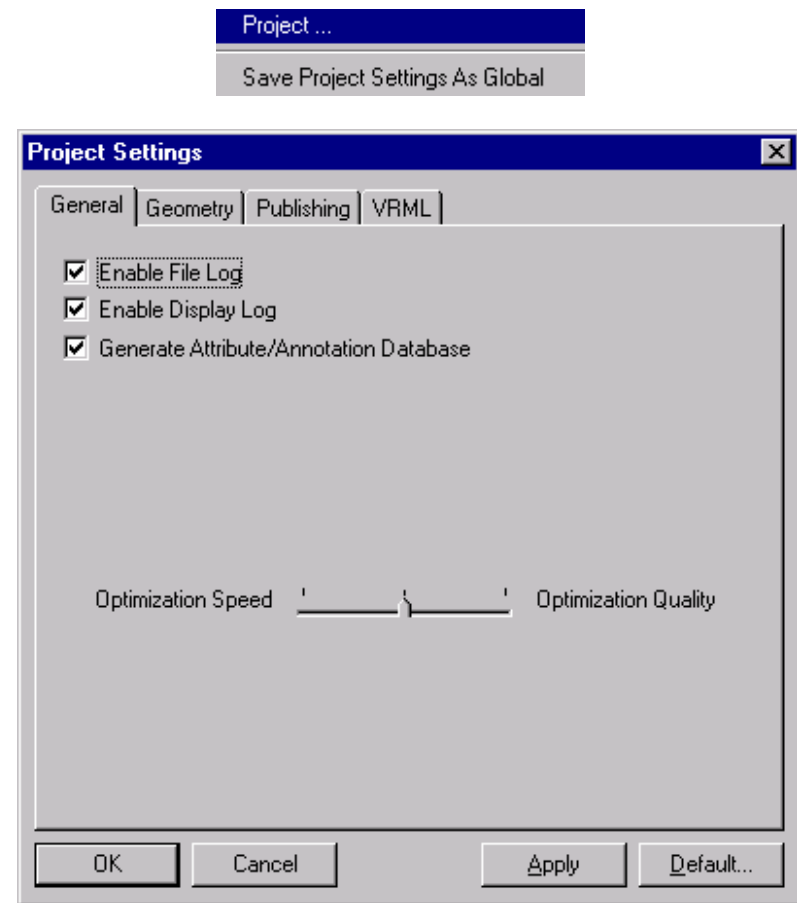
# Optimizer: Create a New Project

- Start Optimizer and create a new project in your models folder
- Workbook directions lead you step by step



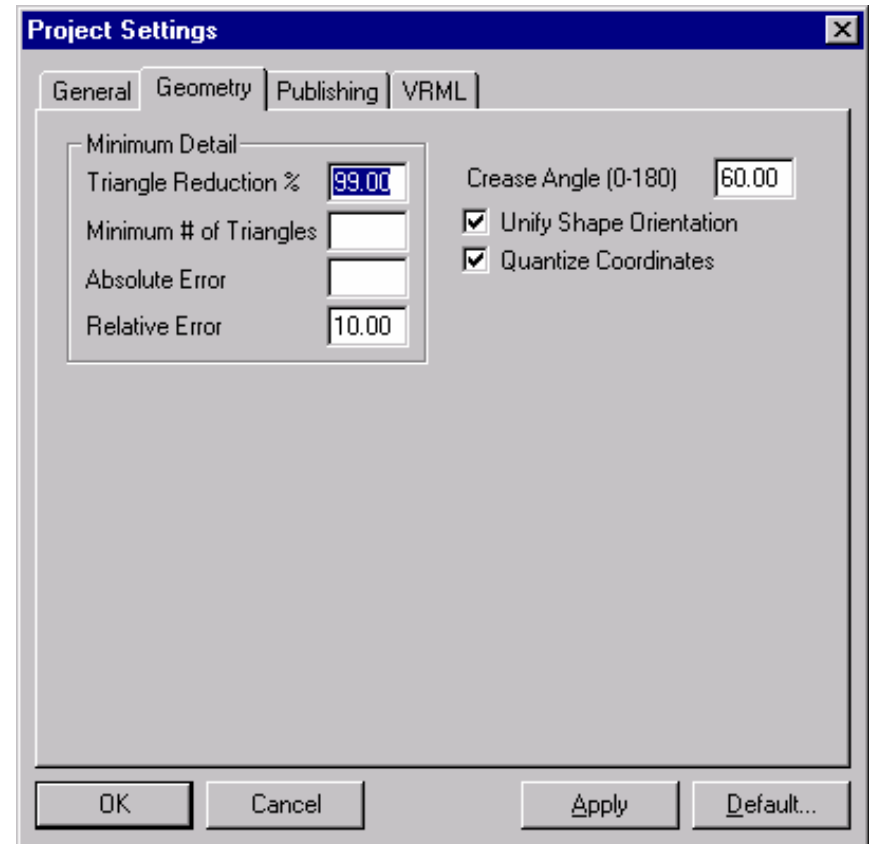
# Specify Project Settings

- Project settings allow you to specify rules and locations for your project
- You can make your settings “global” so all future projects will automatically be set up with the same rules



# Project Settings: Geometry

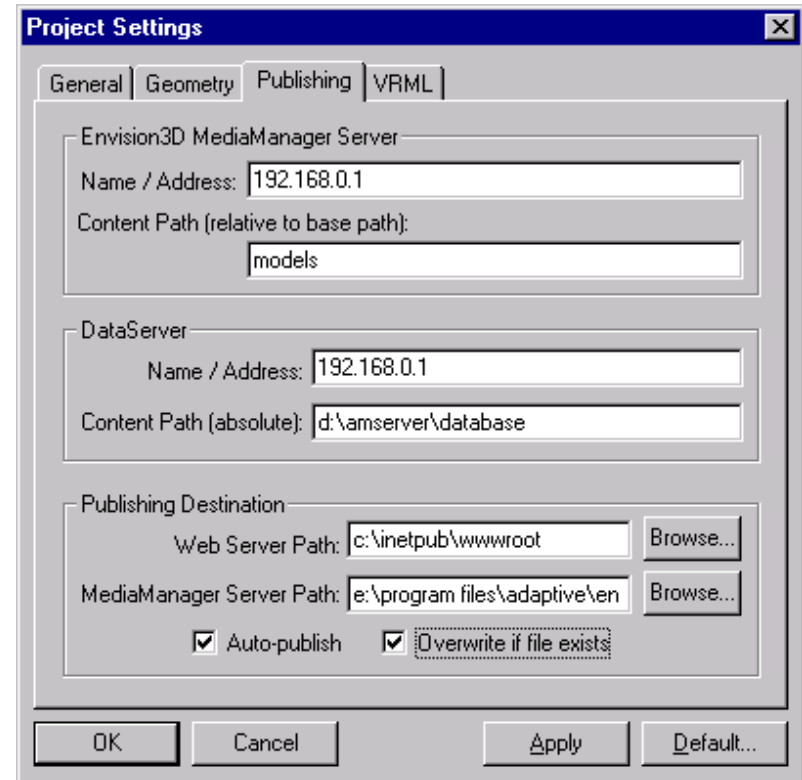
- Options allow you to set minimum levels for detail of objects in your database
- Envision 3D displays each object with at least as much detail as specified
- If you provide a value for more than one minimum field, Optimizer uses the value that degrades the particular object the least





# Project Settings: Publishing

- Controls the creation of the AMM, AM3, and attribute/annotation database (.MDB) files
- Specify the server address and directory location to enable Optimizer to automatically generate AM3 and AMM files for your presentation
- Specify the information for the attribute/annotation database before you convert if you want one available



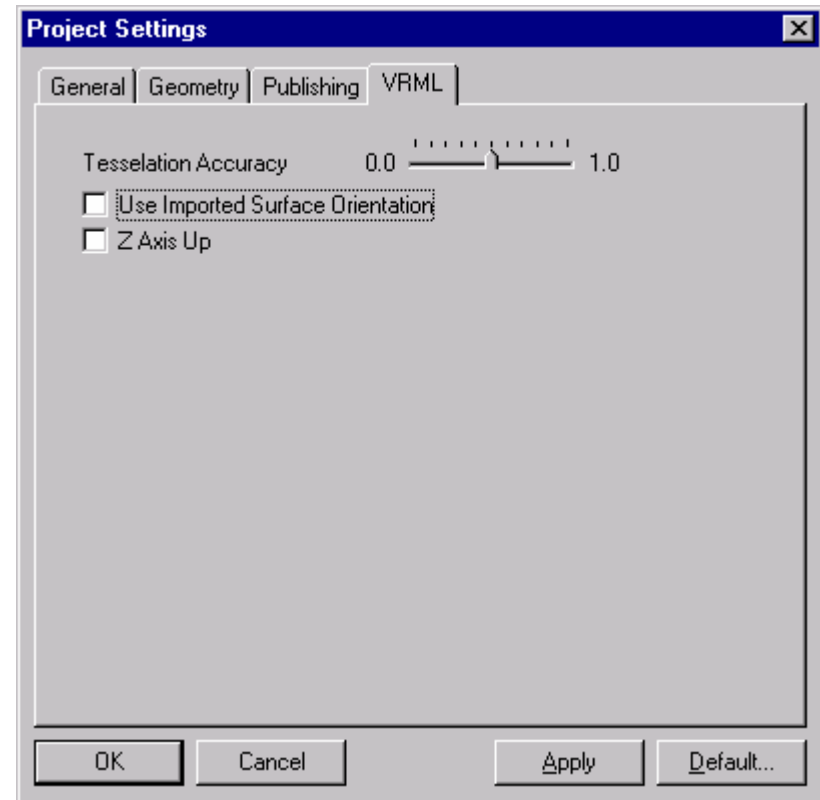
The screenshot shows the 'Project Settings' dialog box with the 'Publishing' tab selected. The dialog is divided into three main sections: 'Envision3D MediaManager Server', 'DataServer', and 'Publishing Destination'. Each section contains text boxes for 'Name / Address' and 'Content Path'. The 'Publishing Destination' section also includes 'Browse...' buttons for the paths and two checked checkboxes: 'Auto-publish' and 'Overwrite if file exists'. At the bottom, there are buttons for 'OK', 'Cancel', 'Apply', and 'Default...'.

Section	Field	Value
Envision3D MediaManager Server	Name / Address	192.168.0.1
	Content Path (relative to base path)	models
DataServer	Name / Address	192.168.0.1
	Content Path (absolute)	d:\amserver\database
Publishing Destination	Web Server Path	c:\inetpub\wwwroot
	MediaManager Server Path	e:\program files\adaptive\en



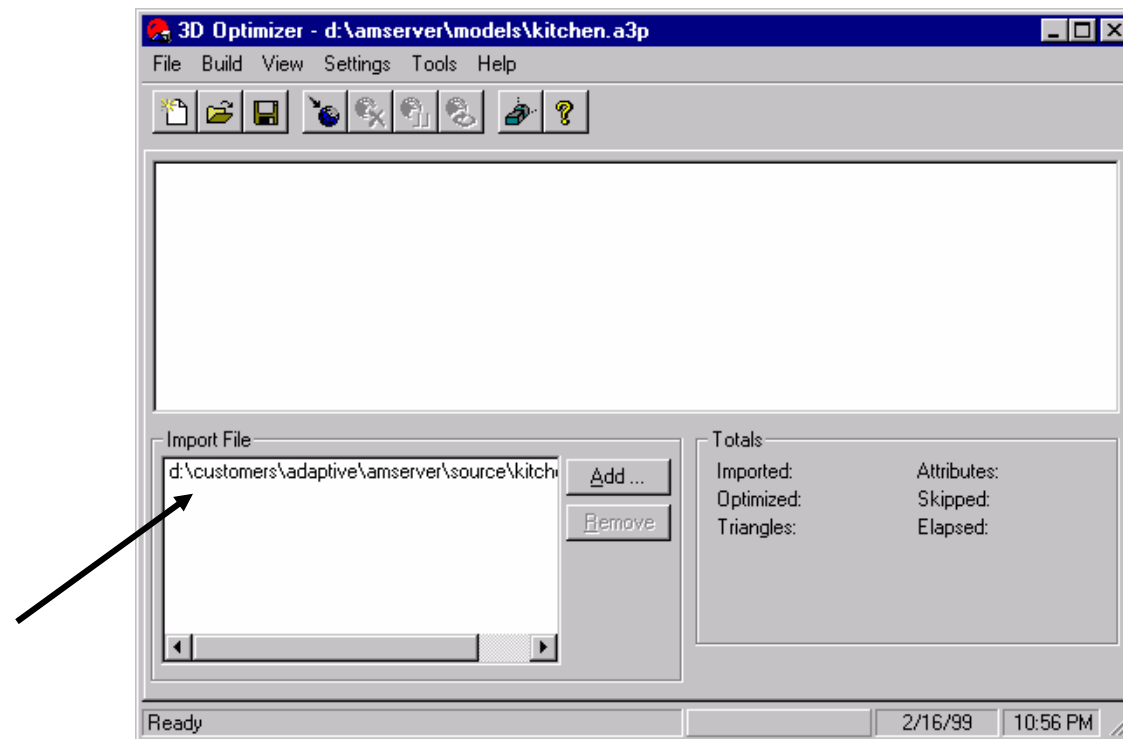
# Project Settings: VRML

- Project settings allow you to specify rules and locations for your project
- You can make your settings “global” so all future projects will automatically be set up with the same rules



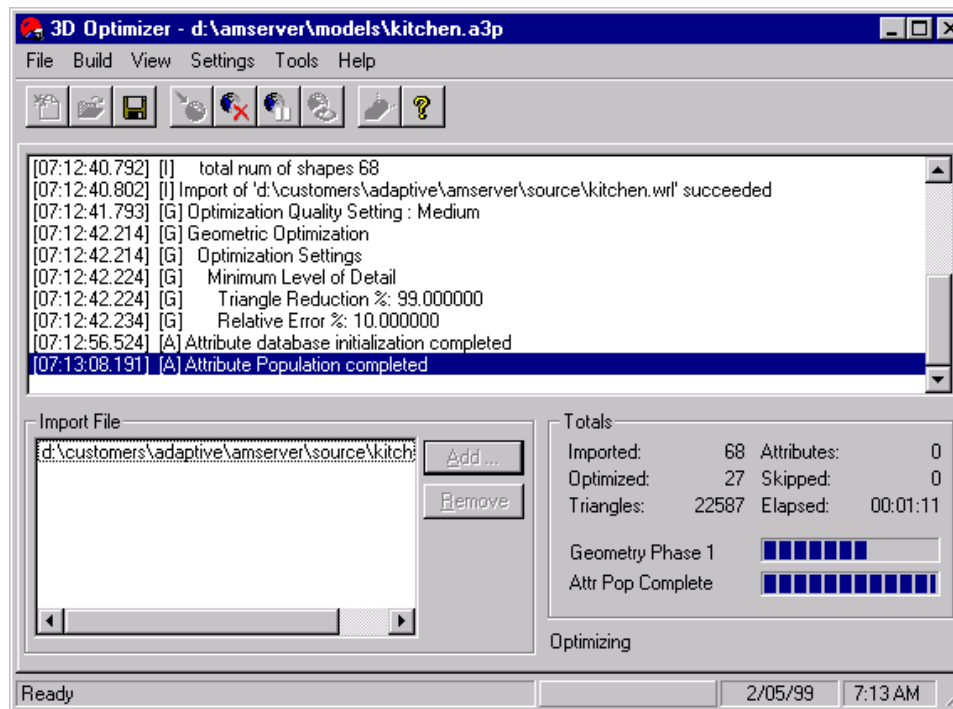
# Add the Source File to the Project

- Locate the original CAD model and add it to the project
  - Multiple source files can be included



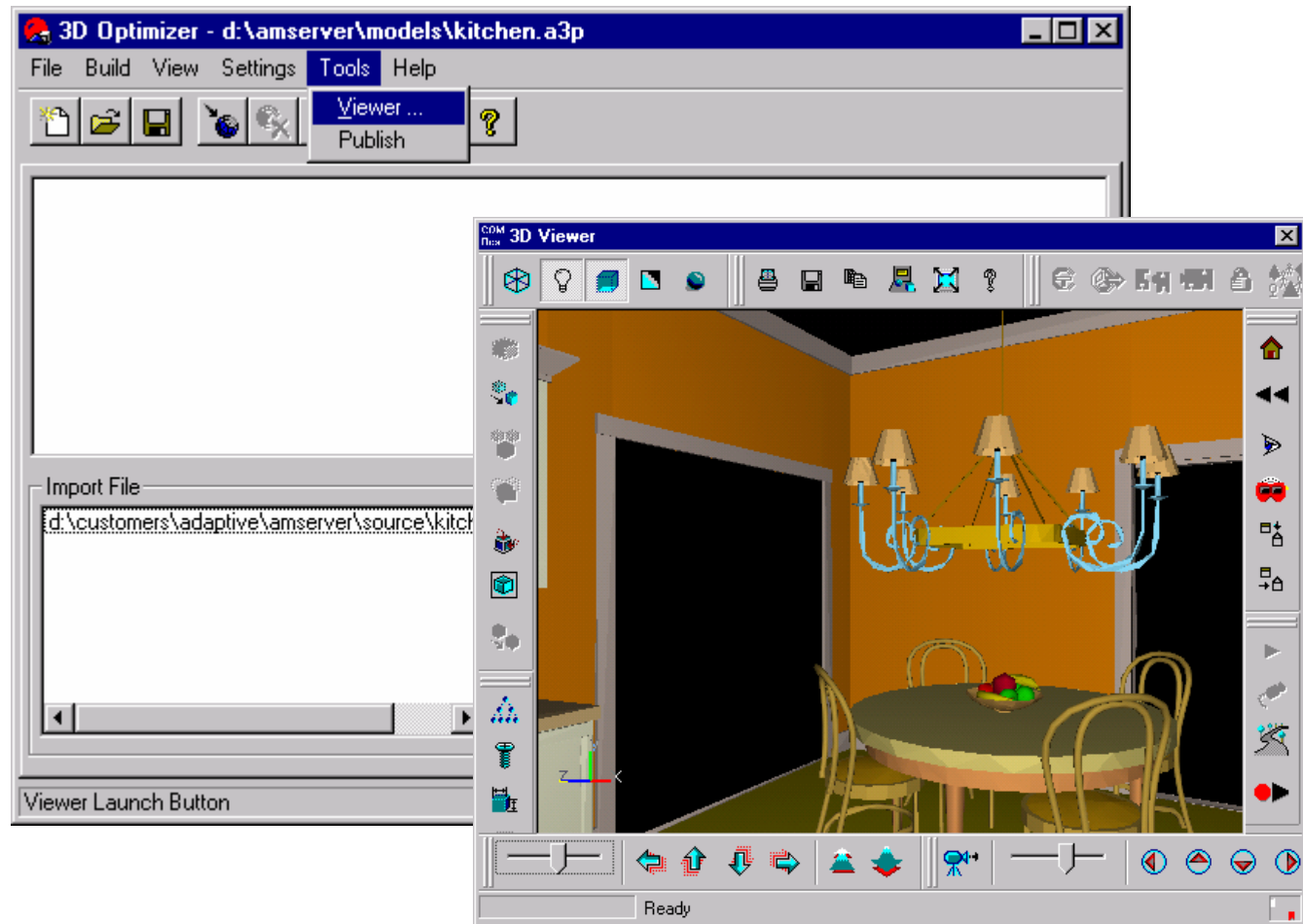
# Transcode the Model

- The “build” process creates the converted files to be used with Envision3D
  - Attributes are captured if they were in the source model
  - Status messages show progress



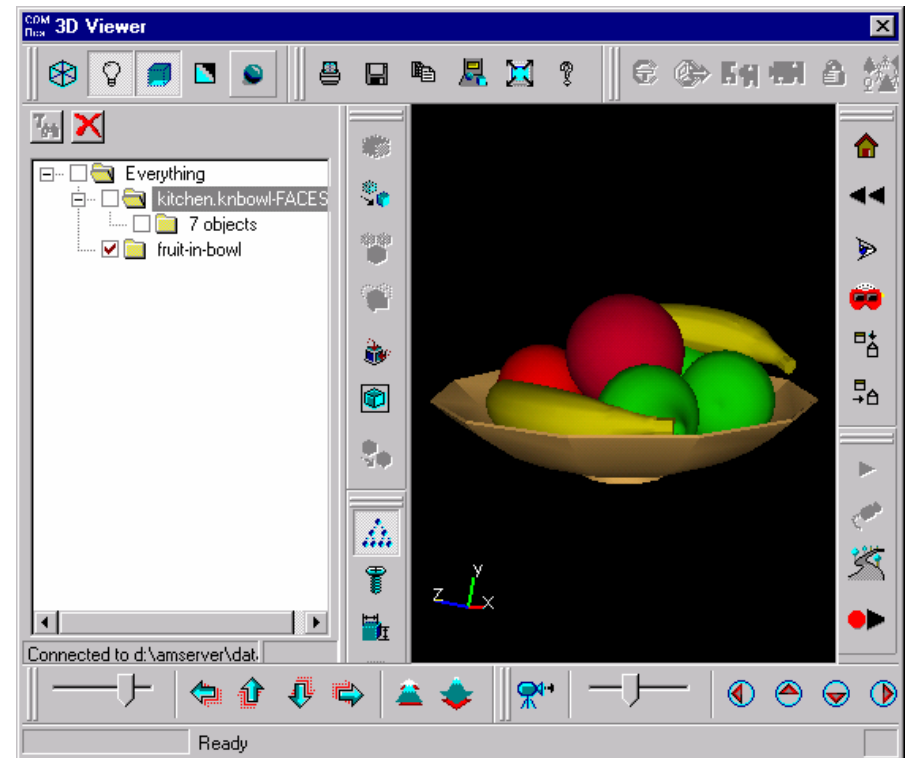
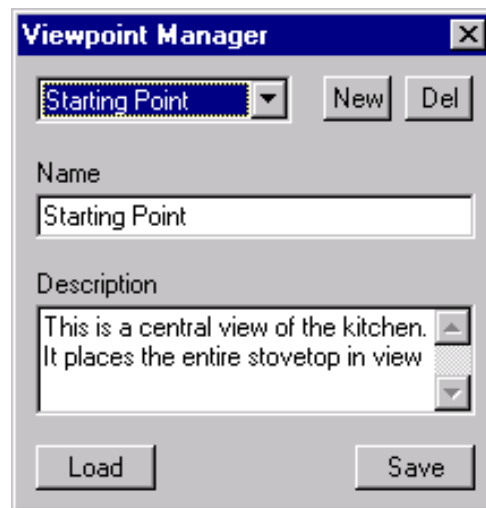
# Check the Model in the Viewer

- The Optimizer provides direct access to the model in the Viewer



# Add Value for Users

- Create basic viewpoints and paths
- Create view hierarchies



# Setup Access from the Web

- Create an HTML page to launch the viewer

```
<html>
<head>
<meta HTTP-EQUIV="Content-Type" CONTENT="text/html; charset=iso-8859-1">
<meta NAME="Author" CONTENT="Kathy Uadasz">
<meta NAME="GENERATOR" CONTENT="Microsoft FrontPage 3.0">
<title>Welcome to Envision3D</title>
</head>

<body>

<p><embed src="http://192.168.0.1/kitchen_1.am3" height="400" width="600"></p>
<!--webbot bot="HTMLMarkup" startspan TAG="XBOT" -->
</EMBED><!--webbot bot="HTMLMarkup" endspan -->

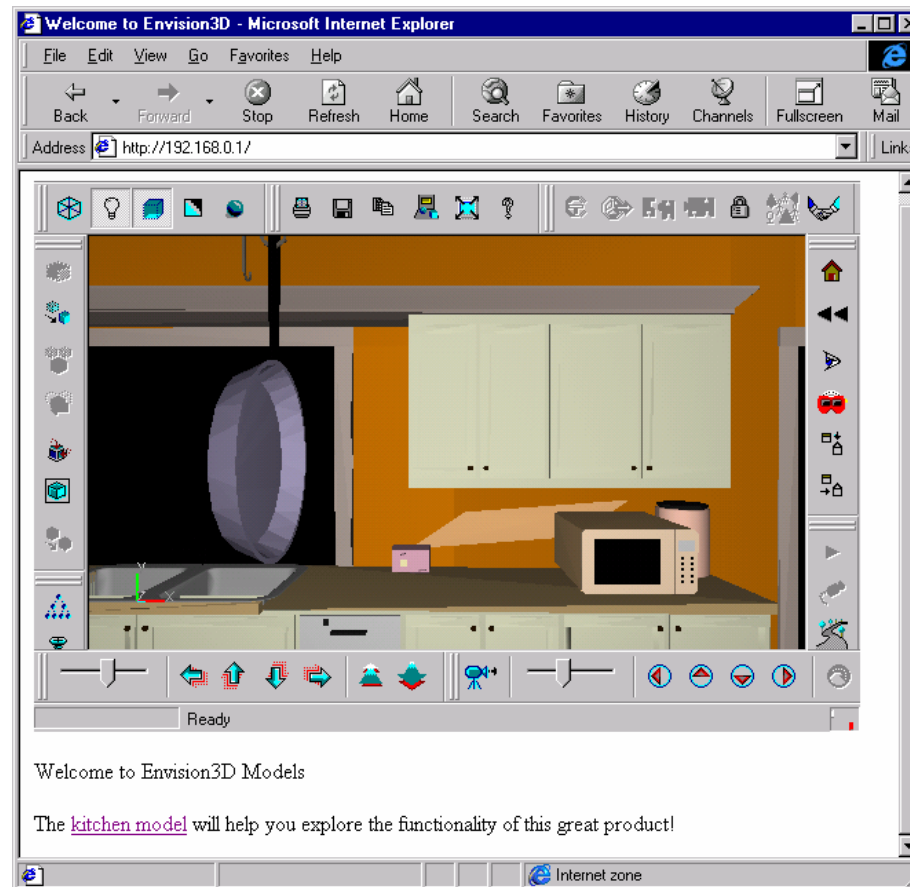
<p>Welcome to Envision3D Models </p>

<p>The <a HREF="http://192.168.0.1/kitchen_1.am3">kitchen model</a> will help
you explore the functionality of this great product! </p>
</body>
</html>
```



# Test Access from the Web

- Ensure your clients are able to view the model and take advantage of the value you've added





# Review

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- What the CD Contains
- Installing the Product Suite
- Post Installation Setup and Verification
- Converting a Basic Model
- Adding Value
- Testing Web Access



# Installing Envision3D Lab Exercise

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- Prepare the Systems for Installation
- Install the Components
- Verify that MediaManager and DataServer are running
- Add MIME Types to the Web Server
- Configure the Envision3D MediaManager
- Create a Project
- Specify Project Settings
- Transcode a Model
- Add Value to the Model with Viewpoints, Paths and Hierarchies
- Create an HTML page to launch the viewer from the web
- Test Web Access

