

# OpenView

OpenView (OpenView.exe) is a graphical user interface tool that allows you to create the communications processes (also referred to as comservers), set up routing, create scripts, and control and monitor interfaces.

## Opening OpenView


Before opening OpenView, verify that the OEN Controller server (SCP 240) is running. Open the OpenView application from the Cerner folder. When prompted, enter the appropriate user, environment, and password information.

Within OpenView, the following functions are available to assist with the interface build, testing, and troubleshooting.

- **Controller:** The controller is used to start, stop, and monitor comservers.
- **Scripting:** The script editor can be used to view, edit, and delete existing scripts. Also, the script wizard can be used to write a new Open Engine script. This should only be used under the direction of a Cerner Interface Analyst, unless licensed for Open Engine and you have had the appropriate training.
- **Process Config:** The Process Configuration function is used for making changes to existing comservers. Also available is the Process Wizard, which is used to create a new Open Engine comserver. This should only be used under the direction of a Cerner Interface Analyst, unless licensed for Open Engine and you have had the appropriate training.
- **Server Config:** The Server Configuration function is used to add or change ESO routing. A custom route script can also be used and is configured here. This should only be used under the direction of a Cerner Interface Analyst, unless licensed for Open Engine and you have had the appropriate training.
- **Interface Debugger:** The interface debugger provides the ability to view a transaction after an Open Engine script has formatted it.

## Creating an Interface

When creating an interface, specific steps must be followed and need to be repeated for each interface being created.

**Note**

This should only be done under the direction of a Cerner Interface Analyst, unless you are licensed for Open Engine and you have had the appropriate training.

## Creating a Comserver

Click the **Process Wizard** icon in OpenView. Enter the Interface Name, Description, and Communications Service on the first screen. Most interfaces use the Cerner standard naming convention.

### Interface Name

Enter the interface name in this box. The name must not be longer than 25 characters and cannot contain any spaces. See below for recommended standard naming convention.

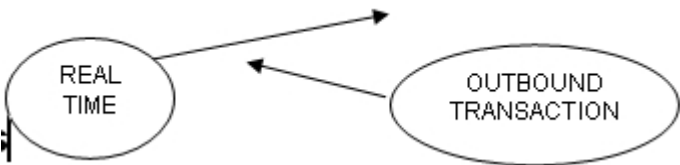
### Interface Description

Enter the interface description in this box. The description is displayed in the OpenView Controller along with the interface name.

### Communications Service

Options for communications service are TCP/IP, Disk, and *Discern Explorer* (CCL). The type of Communications Service is specified in your Unit 2 specification.

An example of a comserver name is RT\_ADT\_HBOC\_OUT.



# Creating a Comserver to Send CCD

## Build a Comserver

This step is required to send the CCD to a foreign system. If the client has no need to send the CCD out, this step can be skipped.

Using OpenView, build a comserver that sends the CCD. Currently, Cerner supports writing the CCD to disk and posting it to a RESTful service.

Note the Process ID associated with the comserver. This is used in Step 5: Build a Contributor System.

## Building an HTTP/S Outbound Comserver

1. Open OpenView and open the Process Wizard. Enter a process name and description and select the **HTTP/S Outbound** button.
2. Click **Next**. Enter values for the service URL and timeout period. Select the appropriate option under the Authentication section depending upon the authentication method (for example, TLS) used by your configuration.
3. If **No Authentication** is selected, the Next button is unavailable. Proceed to Step 5.
4. Click the **Next**. Enter the file path of the Certification Authority (CA) certificate. If **Mutual Authentication** was selected in Step 2, enter the Client Certificate, the Private Key and the Pass Phrase for the private key.
5. Click the **Finish**. The Process Config window opens and displays the Services tab by default. Notice that the Outbound check box is selected by default.
6. Click the **Error Recovery** tab. Notice that the OAUTH\_FLAG trait has been populated with the value of -1. This trait must be -1 when the receiving service does not require OAuth.

When sending CCD Documents, set the FLATTEN\_TO personality to XML

1. Click the **Communications** tab. Notice that the HTTP/S Outbound option button is selected by default.
2. If you want to make any changes to the HTTP/S comserver, click the **Service Specs** in the Communications tab. A new window labeled *HTTP/S Outbound* is displayed, displaying the information entered during the Process Wizard. You can change these values.
  1. For No authentication, populate only the Service URL and Timeout.
  2. For Unilateral Authentication, populate only the Service URL, Timeout and Certificate Authority certificate path.
  3. For Mutual Authentication, populate all elements.
3. When you are finished, click **OK** in the Process Config window. Your comserver is saved.

## Building an HTTP/S Outbound Comserver to send CCDs to CernerHealth.com with the CERN OAuth Service

1. Open OpenView and open the Process Wizard. Enter a process name and description and select the **HTTP/S Outbound** option. Select cerner.com (OAuth) under *What special configuration will be used*.
2. Click **Next**. The service URL, timeout period, and TLS authentication configuration are defaulted using the values in the standard interface. You can change them here.
3. Click **Next**. Enter the file path of the Certification Authority (CA) certificate for the TLS authentication.
4. If the Unilateral Authentication was selected, click **Finish**. The Process Config window opens and displays the Services tab by default. Notice that the Outbound check box has been checked by default when the cerner.com (OAuth) special configuration has been selected.
5. Click the **Error Recovery** tab. Notice that the OAUTH\_FLAG trait has been populated with the value of 1. This trait must be 1 when using the CERN OAuth service.

When sending CCD Documents, set the FLATTEN\_TO personality to XML.

1. Click the **Communications** tab. Notice that the HTTP/S Outbound option button has been selected by default.
2. If you want to make any changes to the HTTP/S comserver, click **Service Specs** in the Communications tab. A new window labeled *HTTP/S Outbound* is displayed, displaying the information entered during the Process Wizard. You can change these values. For OAuth, leave the Client Certificate, Private Key and Pass Phrase values empty.
3. When you are finished, click **OK** in the Process Config window. Your comserver is saved.

## Interface Naming Conventions

Cerner has developed a standard naming convention for interfaces. This convention allows Cerner support associates to quickly identify the interface.

**Interface Type.** This can have only one of the four values:

- RT: Real-Time-for example, ADT transactions.
- NR: Non Real-Time-for example, Billing transactions.
- BT: Batch-for example, ProFit specific transactions.
- UP: Upload-for example, History upload transactions.

**Message Types.** This is the type of transaction being sent through. If more than one transaction type is sent, then all of the transactions are listed. These are the valid types that could be listed:

- ADT---Admit Discharge Transfer
- ORM---Orders
- ORU---Results
- DFT---Charges
- SIU---Scheduling
- MDM or ZDM---Transcription

- BAR---Drop Billing
- RDE---Pharmacy
- RDS---Pharmacy
- MFN---Master File Notification

After providing and selecting the necessary information, click **Next**. On the next screen, select the direction (inbound or outbound) and select whether to use the standard HL7 som/eom and ACK/NAK. Click Next. The final screens to display depend on which communications type you selected on the first screen.

## TCP/IP

If TCP/IP communication service was selected, you can select the functionality of the interfaces service. The selection you make is based upon the type of interface created inbound or outbound. Typically, an outbound interface initiates the connection and an inbound interface accepts a connection. The TCP/IP interface requires a port number and possibly an IP address for it to function properly.

## DISK

If Disk communication service was selected, specify the file pattern or generic disk file name for the interface to read or write the transactions.

The file pattern is the path and name of the file. For an inbound comserver, an example would be `/cerner/prod/ccluserdir/test*.in` where `*` represents any character. For an outbound comserver, an example would be `/cerner/prod/ccluserdir/out#.dat` where `#` represents a number, and this number is incremented for each transaction.

## Discern Explorer (CCL)

If the *Discern Explorer* (CCL) communication service was selected for your interface, a screen that specifies the open, close, receive, send and reset scripts to be used is displayed. Open Engines *Discern Explorer* (CCL) interfaces provide interface developers tremendous flexibility in acquiring just the configuration they require. Essentially, through the use of a *Discern Explorer* (CCL) interface, developers can create custom communication steps by composing *Discern Explorer* (CCL) scripts that perform specialized functions, such as opening a communications port, reading from a translation table, or resetting a connection.

Comservers can be viewed on the OpenView Controller screen.

## Controller Screen

Process Name	ProcId	SCP	Description	State	Last Modification	Count	In Cycle Time	Out Cycle Time
DK_ADT_HBDC_RCA_OUT	1021	1013	ADT Out to HBDC RC-A file (A01.A04)	STOPPED	02/08/2001 17:39:00	systemoe		
DK_ADT_HBDC_RCB_OUT	1022	1008	ADT Out to HBDC RC-B file (A02.A08)	STOPPED	02/01/2001 18:49:00	systemoe		
DK_ADT_HBDC_RCN_OUT	1023	1007	ADT Out to HBDC RC-N file (A03)	STOPPED	02/15/2001 12:36:00	systemoe		
oen_to_esi	1005	1023	oen_to_esi	RUNNING	02/08/2001 13:36:00	systemoe		
RT_ADT_3M_OUT	1009	1019	ADT Out to 3M	STOPPED	02/14/2001 16:13:00	systemoe	382	42:34:40
RT_ADT_OMNICELL_OUT	1017	1011	ADT Out to Omnicell	RUNNING	01/05/2001 16:28:00	CERNER		
RT_ADT_RML_OUT	1010	1018	ADT Out to RML Cloverleaf Engine	STOPPED	03/06/2001 16:26:00	systemoe		
RT_ADT_TRANS_OUT	1011	1017	ADT Out to DOLBEY Transcription	STOPPED	03/07/2001 10:37:00	systemoe		
RT_ORM_ORU_RML_IN	1013	1015	ORM/ORU In from RML Cloverleaf ...	STOPPED	02/27/2001 15:44:00	systemoe		
RT_ORM_RML_OUT	1012	1016	ORM Out to RML Cloverleaf Engine	STOPPED	03/06/2001 11:39:00	systemoe	500	00:50:28
RT_ORU_TRANS_IN	1014	1014	ORU In from DOLBEY Transcription	STOPPED	11/20/2000 12:30:00	CERNER		02:24:51

A green circle to the left of the Process Name indicates the comserver is running and a red X indicates that the server is stopped.

The Refresh option on the toolbar refreshes or updates the screen, so the latest status of the comservers and transactions is displayed. The filter option in OpenView allows you to customize the Controller screen by selecting which interfaces to display. To apply filtering, highlight the interfaces you want to view, right-click, and select **Filter**.

In the Controller view, right-clicking a process provides additional options: *Start/stop* to start or stop a comserver, *Process Config* to change comserver configurations, and *View events* to go to System Message Viewer. System Message Viewer reports errors and messages recorded for the interface and other servers. *View Monitor* links you to Cerner Enterprise Manager, which enables you to diagnose system-level problems in a domain or PC. *ViewCCLOutput* allows you to view *Discern Explorer* (CCL) scripts. *Filter* allows you to set the Controller display.

The Controller display can be set to auto-refresh. Auto-refresh is typically used to monitor interfaces in a production environment. To use auto-refresh, select Auto-refresh from the View Menu. Your screen is now refreshed every seven seconds approximately.

To stop a comserver, right-click the Interface Process name and select **Stop**, or click the **Stoplight icon** in the upper-right corner of the Controller screen. The comserver completes processing of the current transaction and shuts down.

# Configuring Comservers

To configure a process after it is created, select **Task Process Process Configuration**, or click the **Process Config**. The Process Configuration screen is comprised of five tabbed screens: Services, Formatting, Communications, Logging, and Error Recovery.



## Note

This should only be done under the direction of a Cerner Interface Analyst, unless you are licensed for Open Engine and you have had the appropriate training.

## Services Tab

The Services tab is used to control the configuration for the ACK and NAK messages, for routing, and for ESI load balancing.

For an outbound interface, the Expected ACK can be modified. The Expected ACK (OpenView)/Remote Acknowledgment (OEN\_PROC\_VIEW) element can accept the binary notation (<NNN>) for non-ASCII characters, in the same fashion as the Start and End of Message elements or the actual text of the ACK. The Read Timeout and Default NAK are modified in the Service tab. For an inbound interface, the Default NAK can be modified, although typically it does not need to be.

The Services tab also contains the Route Setup option, which allows you to configure the inbound routing. The options include the Route To, Load Balancing, Custom Routing Script, and Cross Domain ESI Posting.

- **Route To:** - To route outbound HL7 messages to an outbound process, select the interface name from the list box under *Route To*. Messages can be routed to both outbound interfaces and to ESI outbound (*Cerner Millennium*) processes. For optimum performance, there should be one ESI server for each configured ESI interface. The order of the ESI Com servers listed in the routing configuration must be identical for each inbound Com server sending to those ESI Com servers.
- **Custom Routing** - If a custom routing script is to be used, select the script name in the Custom Routing Script box.
- **Enable Load Balancing** - If you want ESI load balancing to be functional, select **ESI Load Balancing** and identify the element to load balance on. Typically, the primary patient identifier is used as the Load Balancing element. The content within the element for load balancing should be consistent for each patient across the inbound feeds.
- **Optimize for ESI** - This option is useful when the message type has changed in the inbound comserver, because it forces the ESI comserver to reparse the message. If the option is selected, there should not be a Mod Object or Map From Library Scripting option set in the ESI comserver. Cerner does not recommend using this option for batch transactions.

## Formatting Tab

The Formatting tab is where inbound and outbound message formatting is configured. This includes specifying Message Type and Trigger, and identifying any Type Script, ACK Script, Modify Original, Map to/from Library or Modify Object scripts used for this interface.

Open Engine Scripts need to be created first before they show up in the list in the Formatting tab. For Inbound Message Formatting to be modified, the selection in the Map to Library list needs to be changed from PASS to Auto-Mapping or a Map to Library Script. The transaction is not treated as an object using the PASS option.

## Communications Tab

The Start of Message and End of Message Identifiers are defaulted to HL7 standard Start and End of Message. To change these values, you can manually enter the decimal values or right-click in the message box and make a selection from a list. Remember, with a TCP/IP transaction start and end of message values are necessary.

The Communication Steps can be modified here as well. They are defaulted from the Process Wizard values when the comserver was created. To change the Communication Steps, click **Custom Steps**. The new steps can be manually entered or added by right-clicking the **Custom Steps** window to display a list of available steps.



## Caution

Do not change the communication steps unless you know the consequences of your changes.

The Service Specs button is in the Communications tab. Clicking **Service Specs** opens the Service Specs dialog box. The displaying of this box varies with the type of communications selected earlier. For a TCP/IP interface, this is where you specify the port number, and, if this interface is initiating the connection, the IP address.

## Logging Tab

In the Logging tab, Transaction Logging can be enabled or disabled for all comservers. It is normally enabled. Event logging can also be enabled. It essentially

does the same thing as transaction logging except it only logs time information. Log levels are set here as well. Trace Log Level options are Debug, Trace, Audit, Warning, Error, and No Logging. Typically, log levels are set higher during testing and lower for a production system. The higher the log level, the more detail captured and the more disk space required. Having the log level set high for a production system can affect system performance.

Selecting **Event Logging** causes transactions to be logged into OEN\_TELOG.

Selecting **Transaction Logging** causes transactions to be logged into OEN\_TXLOG. OEN\_TXLOG is used extensively for troubleshooting and is the source of transactions for OEN\_REPLAY.

## Error Recovery Tab

The Error Recovery tab of Process Configuration contains numerous interface trait settings, which can affect how an interface processes transactions; however, not every trait is applicable to OpenView and these should *not* be changed from the default setting without understanding the implications the change dictates. The trait settings that are viewed on the front end and some others can also be accessed through the back end by using the OEN\_PROC\_VIEW tool, accessed through *Discern Explorer* (CCL).

## Scripting



### Note

Scripting should only be done under the direction of a Cerner Interface Analyst, unless licensed for Open Engine and you have had the appropriate training.

OpenView's scripting utility and Script Wizard both provide tools to write, edit, and include your scripts. When a script is included, it is first written to the OEN\_SCRIPT table. It is then written to disk, where the Script server performs a BUILD step on the file. If the BUILD step fails because of a script syntax error, the errors are returned to OpenView.

If the script includes successfully, OpenView confirms the successful inclusion. The Scripting tool allows you to create a new script or edit an existing script. Selecting **New** opens a dialog box that requests the script name, a brief description, and a script type. Types available are Modify Original, Modify Object, Route, Map to Library, Map from Library, Type, and Generic.

- **Modify Original.** Written to modify raw transactions received from and sent to a foreign system.
- **Modify Object.** Written to modify a standard-format object received from and sent to a foreign system.
- **Map to Library.** Written to convert an original transaction to a standard-format object before routing to a foreign system.
- **Map from Library.** Written to convert a standard-format transaction to a non-standard format before routing to a foreign system.
- **Type.** Written to parse information from a message in order to determine its type, such as ADT or ORM, and direct it to the appropriate process.
- **Generic.** A script written to perform a subroutine or function that can be called from within another script. Typically used to create ACK scripts.

## Scripting Wizard



### Note

Scripting should only be done under the direction of a Cerner Interface Analyst, unless licensed for Open Engine and you have had the appropriate training.

The Script Wizard simplifies many of the tasks of writing script code. Using its drag and drop features and pop-up menu functionality, you can quickly compose the lines of code necessary to format your transaction.

To start the Wizard, click the **Toolbar** icon or select **New Script Wizard** from the Task menu. The Wizard prompts you for a script name, description, and script type. After providing this information, click the Next button.

The next panel requires you to provide information necessary to compose the script. This would be a sample transaction to be used in creating your script, an object library, or both. For a sample transaction, you can select to paste the transaction into the text box or browse to the location of the sample transaction on your PC.

Click **Next** to complete.

## Configuring a Domain for Multi-Node Mode



### Release Considerations


The functionality described in this section covering multi-node configuration is available with the *Cerner Millennium 2010.02*.

Multi-Node mode describes a situation in which a domain contains multiple small nodes rather than several large ones. Using Open View (OpenView.exe), you can configure a domain for one of three modes: Single Node, Multi-Node, and Multi-Node Extended. A fourth, default mode, called Uninitialized Mode exists, but

it does not require your input. Multi-Node mode can be configured for any OS supported by Open Engine, but you benefit most from using Linux with less expensive hardware.


You can perform the following tasks connected with a multi-node configuration in Open View (OpenView.exe). These tasks are explained in the subsequent sections that follow.

- Enabling or Configuring Multi-Node Mode
- Change from one Mode to Another
- Make a Node Interface Available
- Balance Processes amongst Nodes

**Note**

For security purposes, separate tasks control the right to perform multi-node mode configuration and comserver process balancing. An administrator must grant task access to 1240218 for domain mode configuration and 1242019 for balancing processes between interface available nodes.

1. From the OpenView Toolbar, select the **Multi-Node Mode icon**. The system displays the Multi-Node Mode dialog box.

 **Multi-Node Mode**

Multi-Node Mode:

☐ Single Node

☒ **Multi-Node**

☐ Multi-Node Extended

Primary Node for Router:

Primary Interface Node:

Node /	Interface Available
SPOON	<input type="checkbox"/>
TEST1	<input type="checkbox"/>
TEST2	<input type="checkbox"/>
TEST3	<input type="checkbox"/>
TEST4	<input type="checkbox"/>
TEST5	<input type="checkbox"/>

OK

Cancel

This table will be hidden when the Mode of Choice is "Single Node."

2. Select **Single-Mode**, **Multi-Node**, or **Multi-Node Extended**. Multi-Node extended means there is no hard maximum number of processes running in the domain. Instead, the number of processes per node is limited to 162. The maximum total number of processes is the number of nodes multiplied by 162.

MODE	FLAG VALUE	MAX PROCESSES	MULTI-LEVEL FAIL OVER SUPPORTED
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Uninitialized	0	324 (all on the controller's node)	Y
Single Node	1	324 (all on the Primary Node)	Y
Multi-Node	2	324 (distributed among Interface Available Nodes)	Y
Multi-Node Extended	3	162 per Node (no maximum)	Conditional

- From the Primary Node for Router list, select the appropriate entry.
- If you selected Single Node, select the **Primary Interface Node** from the list. This option is unavailable for all other modes.
- If you selected Multi-Node or Multi-Node Extended, a table is displayed listing the nodes in the domain. For Multi-Node, you must select the option to designate at least two nodes as Interface Available using the check box. One node is designated as primary and the other is for failover purposes. If you chose Multi-Node Extended in Step 2, you must select at least four nodes as Interface Available using the check box (two nodes for primary and two nodes for failover).
- Click **OK**. If there are no errors, the system saves the information into the configuration database and opens the Balance Process window, which allows you to balance the comserver processes running on the nodes. If the system identifies an issue with your configuration, an error message is displayed describing the condition.

## Changing a Multi-Node Configuration

Complete the following steps to change a multi-node configuration.

- From the OpenView toolbar, select **Multi-Node Mode**, or from the Menu bar, select **Task Multi-Node form**. The Multi-Node dialog box is displayed.



### Note

The Multi-Node dialog box does not open unless you have been granted rights to task 1242018 and 1242019.

- Click one of the buttons to select a mode.
- Select a primary node for the router in the Primary Node for Router box.
- If you selected Single Node, make a selection in the Primary Interface Node box.
- If you selected Multi-Node or Multi-Node Extended, a table is displayed listing the nodes in the domain. For Multi-Node, you must select the option to designate at least two nodes as Interface Available using the check box. One node is designated as primary and the other is for failover purposes. If you chose Multi-Node Extended in Step 2, you must select at least four nodes as Interface Available using the check box (two nodes for primary and two for failover).
- Click **OK**. If there are no errors, the system saves the information to the database, and it opens the Balance Process window asking you to balance the processes. If the system identifies a problem, an error message is displayed describing the condition.

## Balancing Comserver Processes

There are two Balance Process windows which can open after you begin the topic on Configuring a Multi-Node Domain. One window is used when you balance the processes for the first time, and the other window is used to update the domain node configuration. Whenever possible, the system inserts default values. You might need to change these values.

When this form is opened because of actions taken on Configuring a Multi-Node Domain, the Multi-Node window remains open, but it is not accessible. Only when you click the OK button on the Balance Processes window does the system save the information from both windows. If you click **CANCEL**, both windows close and no information is saved from either window.

### First Time

- At the top of the Balance Processes window, select the node you want. The system displays the remaining unassigned processes on the left of the table and the assigned processes on the right of the table in the middle of the Balance Processes window.
- In the Node column of the table (which says unassigned), click the **DOWN ARROW**. The system displays the Interface Available nodes window in which processes can be assigned.
- Continue through the table until each process is assigned.

### Updating the Domain Configuration

- At the top of the Balance Processes window, select the node you want. The system displays the remaining unassigned processes on the left of the table and the assigned processes on the right of the table in the middle of the Balance Processes window.
- To assign or un-assign a process, select the process from the appropriate table and click the **RIGHT** or **LEFT ARROW**.

### Updating a Multi-Node Domain Configuration

- In the two selection boxes at the top of the Balance Processes window, select the set of nodes you want.
- Use the Left and Right arrows to move processes between the two selected nodes.
- Also, you can assign a node to a comserver process using the table in the middle of the screen. Click the **DOWN ARROW** in the Node column and

select the node you want to assign for the process specified in that row. You can repeat this step as many times as necessary to assign each table row of comserver processes to the node you want.

4. Click **Apply**. The system updates the process count by node in the panel at the bottom of the Balance Processes window. If the system identifies a problem, an error message is displayed describing the condition.

## Modifying Interface Availability for a Node

A node capable of running comserver processes is considered to be an interface available node. An interface available configuration is required for multi-node and multi-node extended domains, and only multi-node or multi-node extended domains are modified for interface availability. The responsibility for tracking the names of an interface available node is handled by the controller as a personality trait. A multi-node domain has distributed processes running across multiple nodes in a domain. A multi-node extended domain does not limit the number of processes that are running in a domain containing multiple nodes, but each node is limited to 162 processes. Therefore, the maximum number of processes that can be running in a multi-node extended domain is the number of nodes times 162.

Complete the following steps to specify whether a node is interface available:

1. From the OpenView toolbar, select **Multi-Node Mode**, or from the Menu bar, select **Task Multi-Node form**. The Multi-Node dialog box is displayed.



### Note

The Multi-Node dialog box does not open unless you have been granted rights to task 1242018 and 1242019.

2. Click one of the buttons to select a mode if you are changing the mode. If you are not changing the mode, skip this step.
3. Select a primary node for the router in the Primary Node for Router box if necessary.
4. If you selected Single Node, make a selection in the Primary Interface Node box.
5. If you selected Multi-Node or Multi-Node Extended, a table is displayed listing the nodes in the domain. For Multi-Node, you must select the option to designate at least two nodes as Interface Available using the check box. One node is designated as primary and the other is for failover purposes. If you chose Multi-Node Extended in Step 2, you must select at least four nodes as Interface Available using the check box (two nodes for primary and two for failover).
6. Click **OK**. If there are no issues, the system saves the information to the database, or it opens the Balance Process window asking you to balance the processes. If the system identifies a problem, an error message is displayed.

## Interface Debugger

OpenView's Interface Debugger provides you with the tools to debug interface scripts quickly by moving sample transactions step by step through an interface process.

## Preparation

Ensure that you have made the following preparations before you open Interface Debugger:

- Configure the Inbound comserver and all Outbound comservers to which it routes.
- Create the scripts you want to use, making certain they are included successfully.
- Have a sample transaction for the interface on a drive that is accessible from your local PC.

Complete the following steps once you have opened Interface Debugger:

1. Select an Inbound comserver from the list.
2. Click **Select Transaction**. You are prompted with a standard File-Open dialog box.
3. Select the sample transaction to be used for the debugging session.
4. Click **Debug Interface**. The next screen loads, allowing you to view the results.

The left pane of the window is a Tree view; clicking a given step for any of the Inbound or Outbound comservers in the interface reveals the transaction at that point. Clicking **Inbound** displays the original transaction in the right-hand pane. Clicking any other script displays the script name and the transaction at the point immediately after execution of the specified script.

The Help key provides you with answers to questions about this particular tool.