



Avaya Solution & Interoperability Test Lab

Application Notes for Integrating Vitel Ivide with Avaya Modular Messaging - Issue 1.0

Abstract

These Application Notes describe the configuration steps for integrating Ivide Release 3.1 with Avaya Modular Messaging Release 1.1. Vitel's Ivide enables enterprises to proactively manage and analyze voice and messaging communications networks. These networks may consist of multiple disparate voice communications platforms, including both traditional (legacy) and IP-based systems. Ivide collects performance, event, and other data into reports, graphs, and analyses to provide data to all levels of the organization. Compliance testing for interoperability was successfully completed. Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

Vitel Ivize is a Windows-based software application that collects event, configuration, and measurement information from voice-based platforms such as communications servers and messaging systems. This information is critical for managing systems, particularly in multi-site environments. Since voice communications systems including Avaya Modular Messaging retain certain data for limited intervals, Vitel Ivize provides the ability to pull this information before it is lost or overwritten.

Vitel Ivize automates the collection of Avaya Modular Messaging data into a central data warehouse, using IP-based protocols. The user defines data collection schedules. Vitel Ivize automatically retrieves and processes data simultaneously from all servers in an Avaya Modular Messaging system and then “pushes” reports and other information to destinations including email and web servers. This information is used for management reporting, capacity planning, grade of service tabulation, and system optimization.

The Vitel Ivize architecture supports many different types of voice platforms, as depicted in the **Figure 1**. These Application Notes focus on the interoperability of Avaya Modular Messaging, which falls under the Voice Messaging Level.

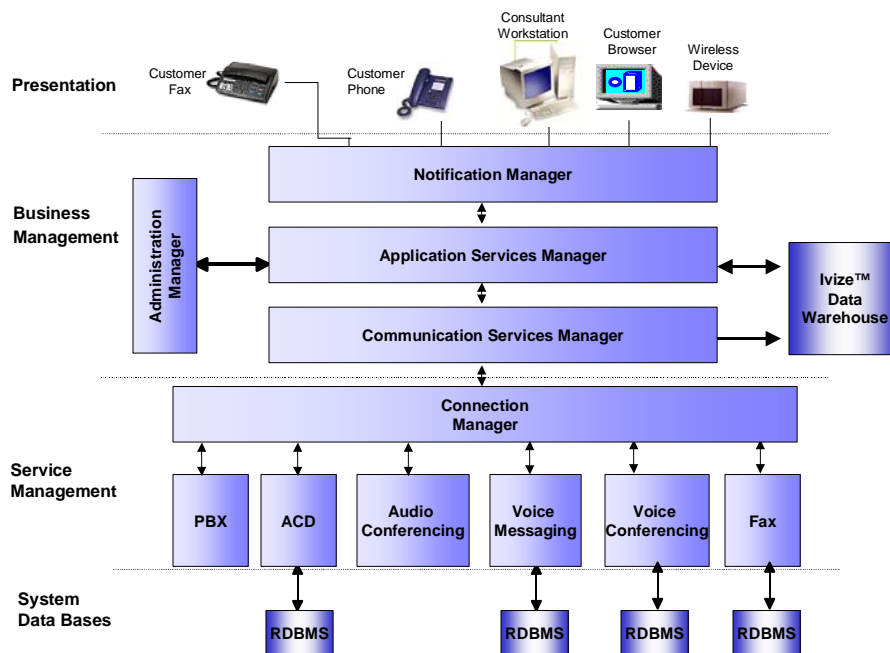


Figure 1 – Vitel Ivize Architecture

2. Vitel Ivize Configuration

An Ivize system consists of an application server with the following configuration:

- Windows NT 4.0 Server with SP6, Windows 2000 Server or Windows 2003 Server
- SQL Server 2000
- Static IP Address for the Ivize system
- TCP-IP LAN connection to the Modular Messaging system

The Ivize system performs all data collection tasks and historical data management. There are several Ivize NT services that run continuously to check collection schedules, and automatically retrieve data from Modular Messaging systems. Additional desktop computer systems called “clients” can run Ivize software to generate reports and view collected data. **Figure 2** illustrates the test configuration network.

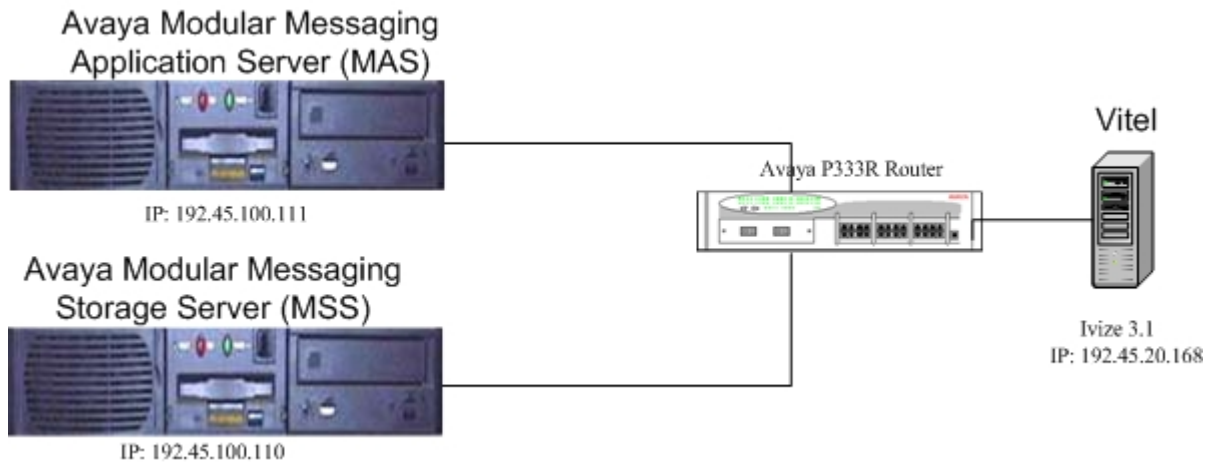


Figure 2-Connectivity to Modular Messaging

3. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

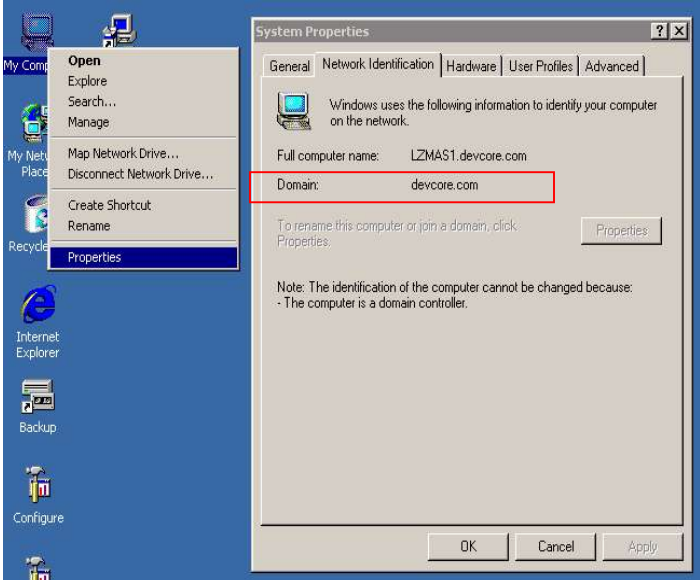
Equipment	Software
Avaya S3400 Servers (MAS and MSS)	1.1
Vitel Ivize	3.1

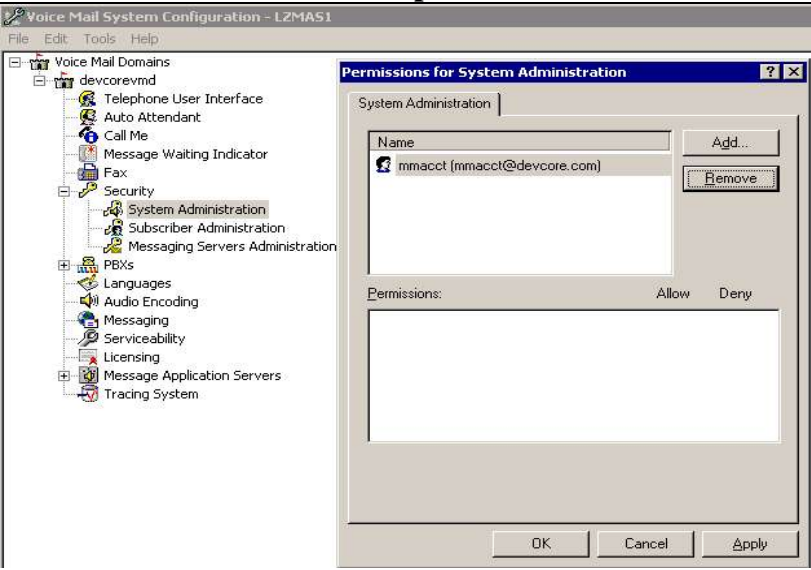
4. Avaya Modular Messaging Configuration

Ivize establishes a connection to the MSS in a Modular Messaging Domain using a standard system login and password. The Ivize Application Server and MSS login account must be configured as a trusted server. Ivize connects to the MSS via standard IP protocols. The IP address of the MSS is used by Ivize to establish a connection. Ivize establishes a connection to any MAS in a Modular Messaging Voice Mail Domain using standard Windows NT Domain


Authentication. Ivice connects to the MAS via standard IP protocols. The IP address of the MAS is used by Ivice to establish a connection.


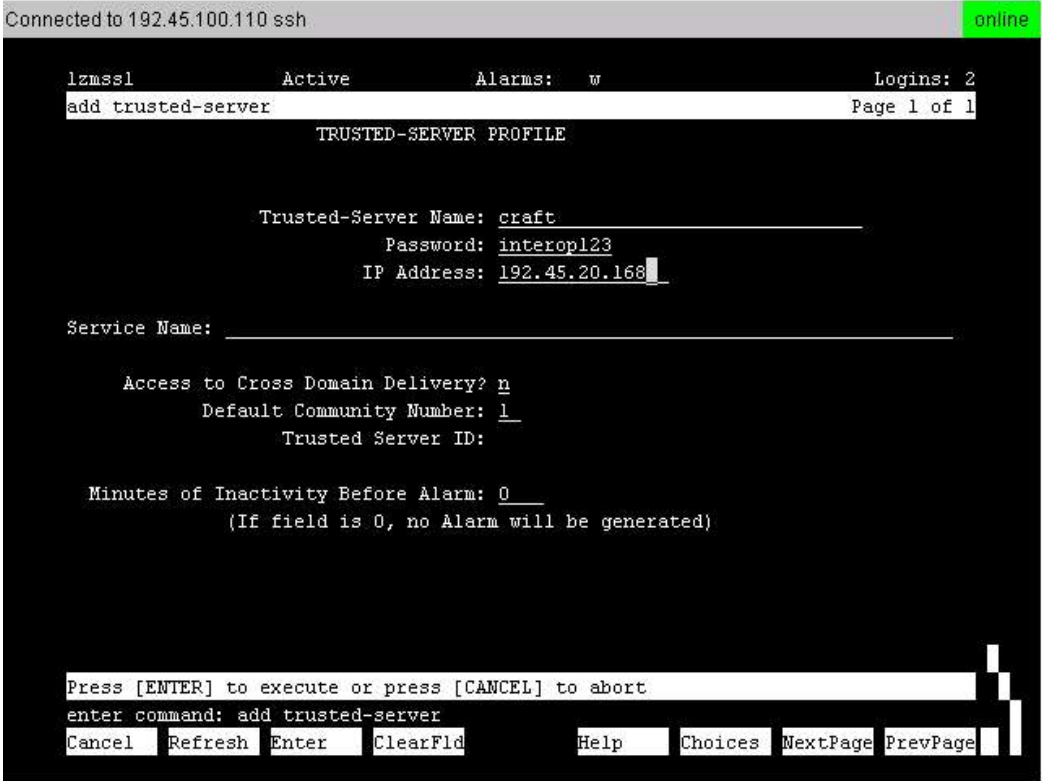
4.1. Configure Avaya Modular Messaging Application Server

Step	Description
1.	<p>Access the System Properties of the MAS server to note the windows domain name.</p>  <p>The screenshot shows a Windows desktop with a context menu open over the 'My Computer' icon. The 'Properties' option is selected. The 'System Properties' dialog box is open, showing the 'Network Identification' tab. The 'Domain' field is highlighted with a red box and contains the text 'devcore.com'. The 'Full computer name' is 'LZMAS1.devcore.com'. A note at the bottom states: 'Note: The identification of the computer cannot be changed because: - The computer is a domain controller.'</p>
2.	Run the Voice Mail System Configuration .
3.	Expand the Security and double click on System Administration . Vitel Ivice uses an account in this group to access MAS. Use existing account or click Add to create a new account for Ivice.

Step	Description
	 <p>The screenshot shows the 'Voice Mail System Configuration - LZMAS1' application window. On the left is a tree view of system components, including 'devcorevmd', 'Telephone User Interface', 'Auto Attendant', 'Call Me', 'Message Waiting Indicator', 'Fax', 'Security', 'System Administration', 'Subscriber Administration', 'Messaging Servers Administration', 'PBXs', 'Languages', 'Audio Encoding', 'Messaging', 'Serviceability', 'Licensing', 'Message Application Servers', and 'Tracing System'. The 'System Administration' component is selected. A dialog box titled 'Permissions for System Administration' is open in the foreground. It has a 'Name' field containing 'mmacct (mmacct@devcore.com)' and an 'Add...' button. Below the name field are 'Allow' and 'Deny' radio buttons. The 'Permissions' section is currently empty. At the bottom of the dialog are 'OK', 'Cancel', and 'Apply' buttons.</p>

4.2. Configure Avaya Modular Messaging Storage Server

Step	Description
1.	<p>Access the MSS server via the web browser.</p> 
2.	<p>Click on the Global Administration→Messaging Administration.</p> <p style="text-align: center;">Global Administration</p> <ul style="list-style-type: none"> • Messaging Administration • Subscriber Management <hr/> <p style="text-align: center;"> <input type="button" value="Return to Main"/> <input type="button" value="Help"/> </p>

Step	Description
3.	<p>Login as craft or MSS service account.</p> <p style="text-align: right;">Messaging Administration</p>  <p>The screenshot shows a terminal window titled 'Connected to 192.45.100.110 ssh' with an 'online' status indicator. An 'SSH User Authentication' dialog box is overlaid on the terminal. The dialog box contains the text 'SSH Authorization required' and two input fields: 'User name' with the value 'craft' and 'Password' with masked characters '*****'. There are 'Login' and 'Cancel' buttons at the bottom of the dialog box. The dialog box title bar includes standard window controls and the text 'SSH User Authentication' and 'Java Applet Window'.</p>
4.	<p>At the command prompt, enter “add trusted-server” and press Enter.</p>
5.	<p>Enter the MSS service account as Trusted-server and the password. Enter the IP address of the Vitel Ivize server in the IP Address field. Press F3 to save.</p> <p style="text-align: right;">Messaging Administration</p>  <p>The screenshot shows a terminal window titled 'Connected to 192.45.100.110 ssh' with an 'online' status indicator. The terminal displays the following text:</p> <pre> lzmssl Active Alarms: w Logins: 2 add trusted-server Page 1 of 1 TRUSTED-SERVER PROFILE Trusted-Server Name: craft Password: interopl23 IP Address: 192.45.20.168 Service Name: Access to Cross Domain Delivery? n Default Community Number: 1 Trusted Server ID: Minutes of Inactivity Before Alarm: 0 (If field is 0, no Alarm will be generated) Press [ENTER] to execute or press [CANCEL] to abort. enter command: add trusted-server Cancel Refresh Enter ClearFld Help Choices NextPage PrevPage </pre>

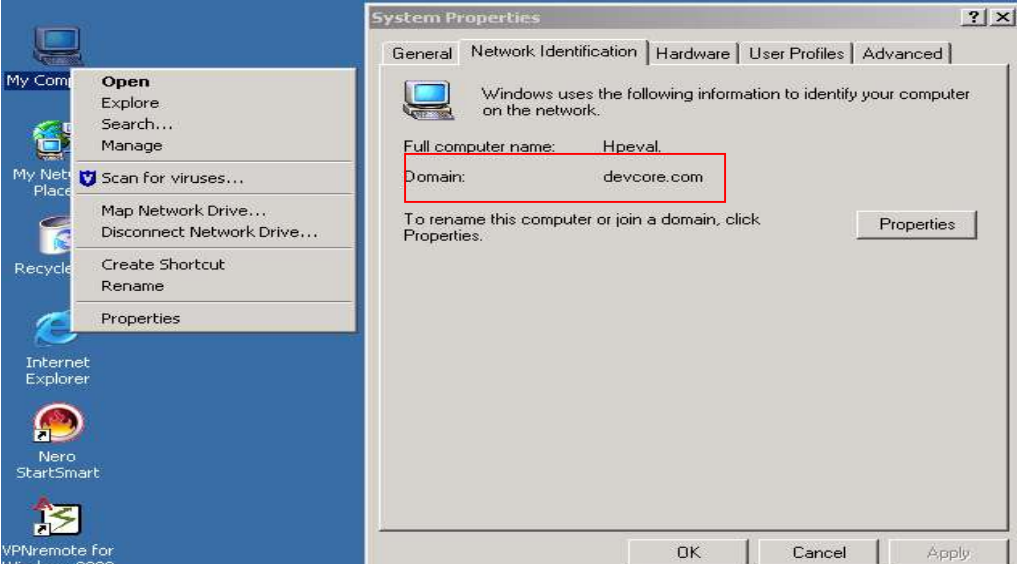
5. Configure the Vitel Ivize Server

The Ivize server must be configured with a static IP address. Also, SQL Server 2000 with SP3 must be installed. Installing Ivize consists of three basic steps:

- Verify that the Ivize server is in the same the Windows domain as the MAS server.
- Add information about Modular Messaging servers and other setup information required by Ivize.
- Start the Ivize application services.

5.1. Verify Vitel Ivize Server Domain

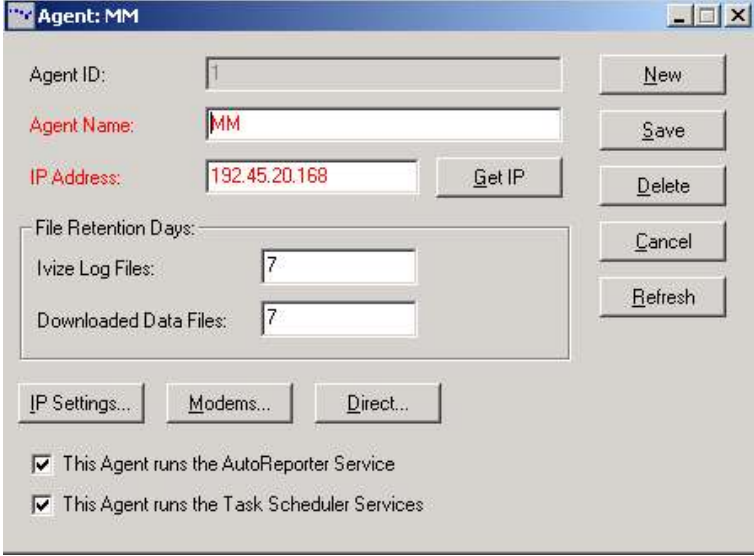
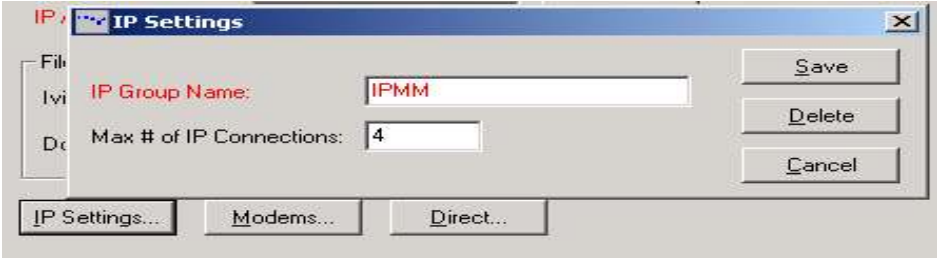
Verify that the Ivize server is in the same Windows domain as the MAS server. Ivize & the MAS server use Windows authentication to access the MS SQL database.

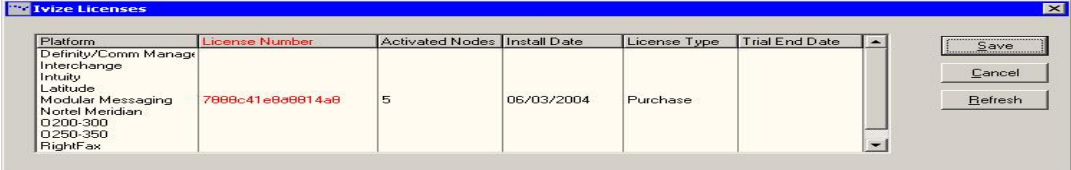
Step	Description
1.	<p>Access the System Properties of the Ivize server and verify that the server is in the same Windows domain as described in Step 4.1.1</p> 

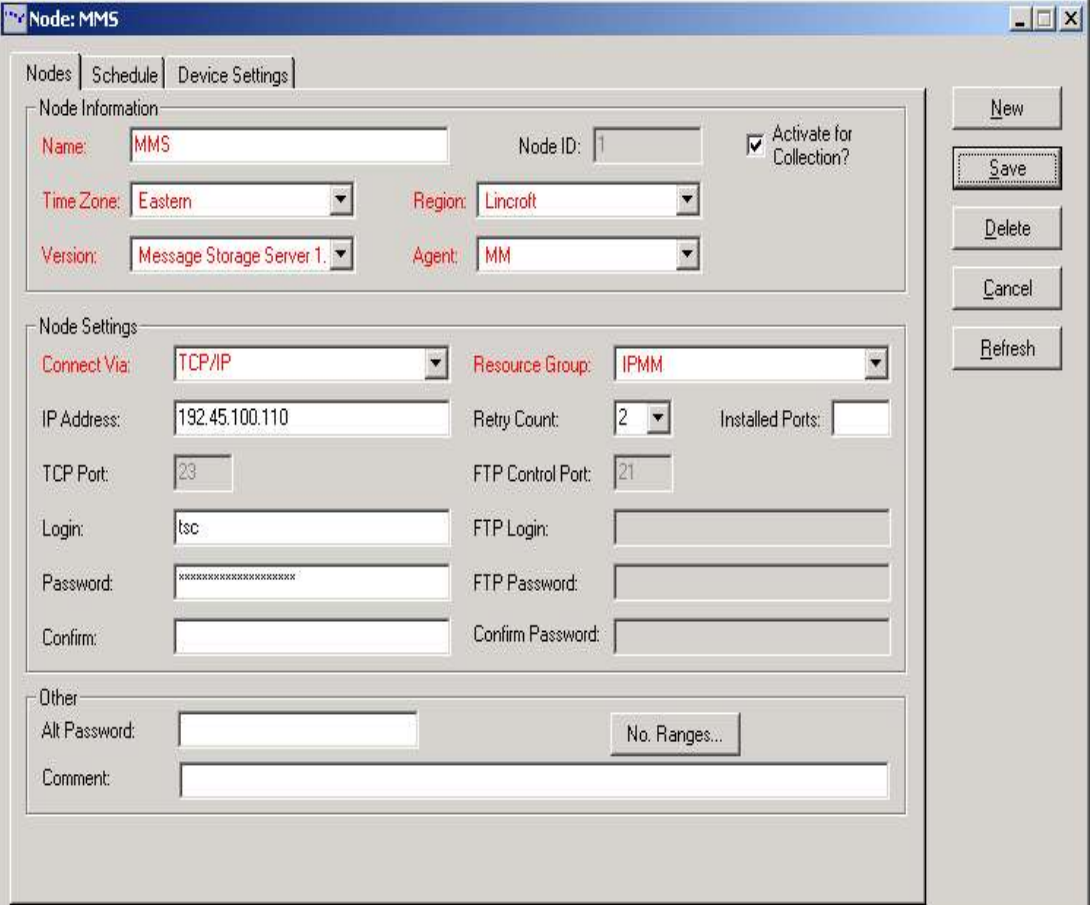
5.2. Configure Vitel Ivize

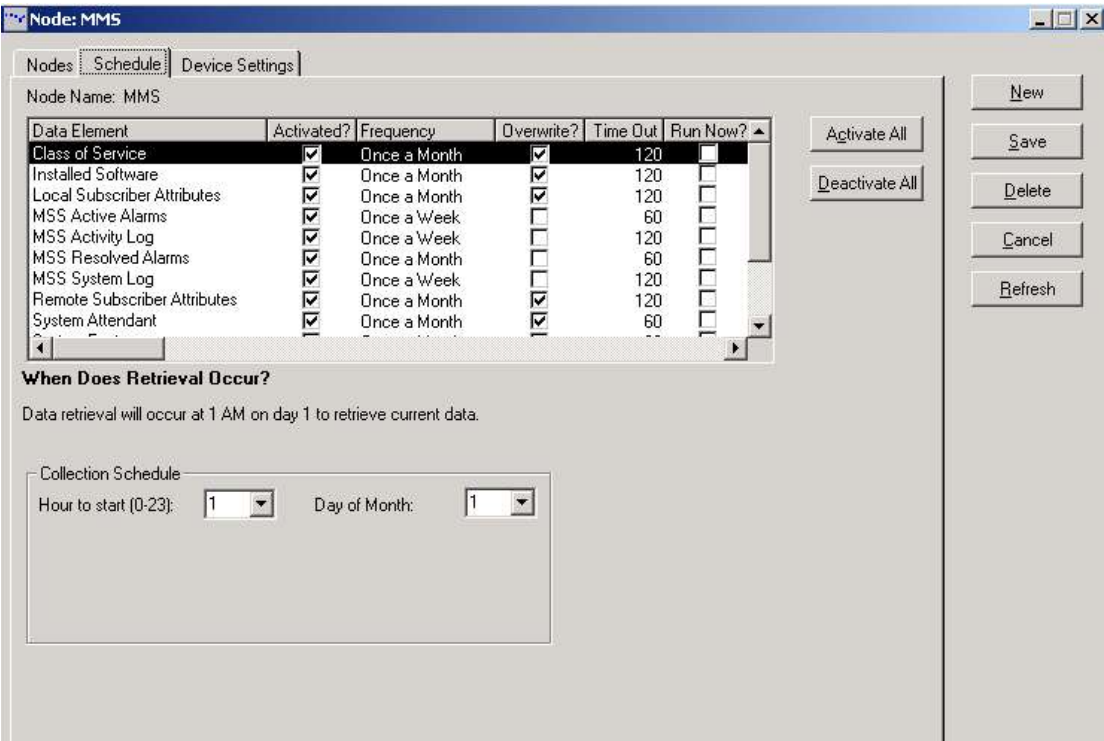
Ivize requires some preliminary information in order for data collection to occur. The Ivize Operations Guide shows how to configure Ivize for the first time. The basic steps are outlined below.

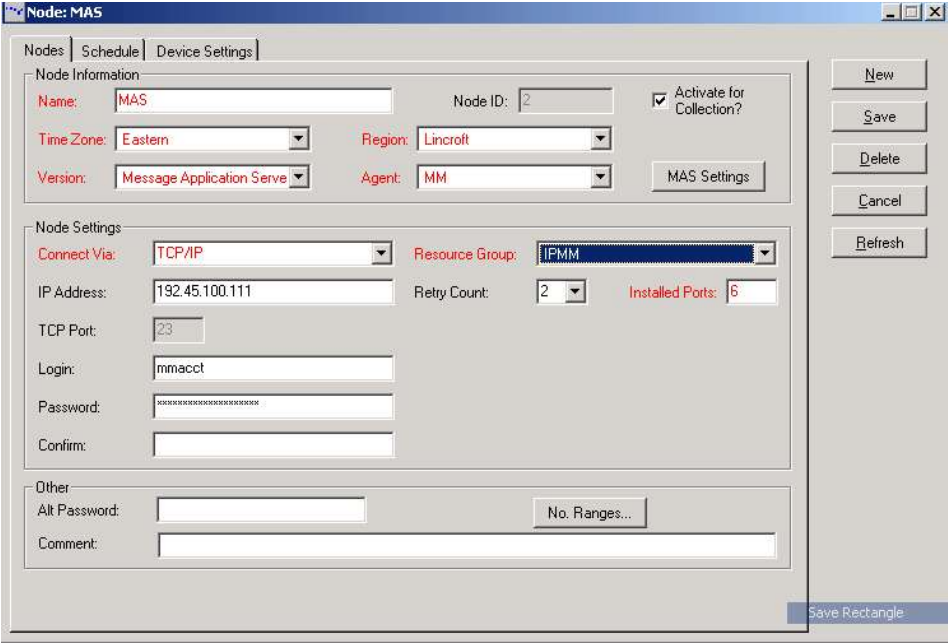
Step	Description
1.	Click on the Ivize icon to run the program. Log into Ivize with login and password.
2.	Enter a Company record in the Company form. Usually, this is the name of the organization. Click Save to save the record.

Step	Description
3.	Click on the Regions icon in the Ivize Configuration menu. Right-click “ New ” to add a new regions record. Complete the required information highlighted in red and click Save to save the record. Exit the form.
4.	<p>Click on the Agents icon in the Ivize Configuration menu. Right-click “New” to add a new agent record. Check the box labeled This agent runs the Task Scheduler Services. Complete the required information (shown in red) and click Save to save the record.</p> 
5.	<p>Click on the IP Settings button. Enter the IP Group Name. Note that the group name must be unique across all agents. Enter the maximum number of connections to allow at one time. Click Save to save the record.</p> 

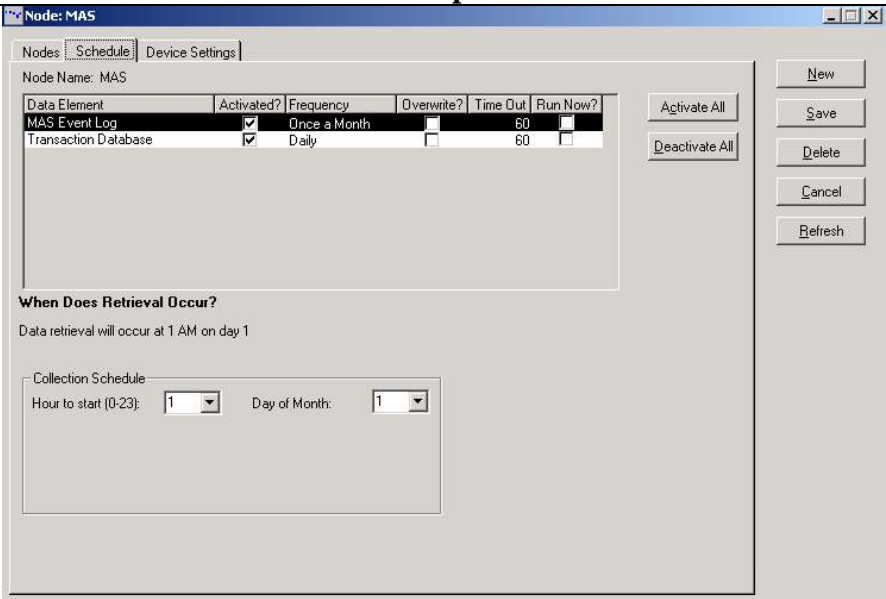
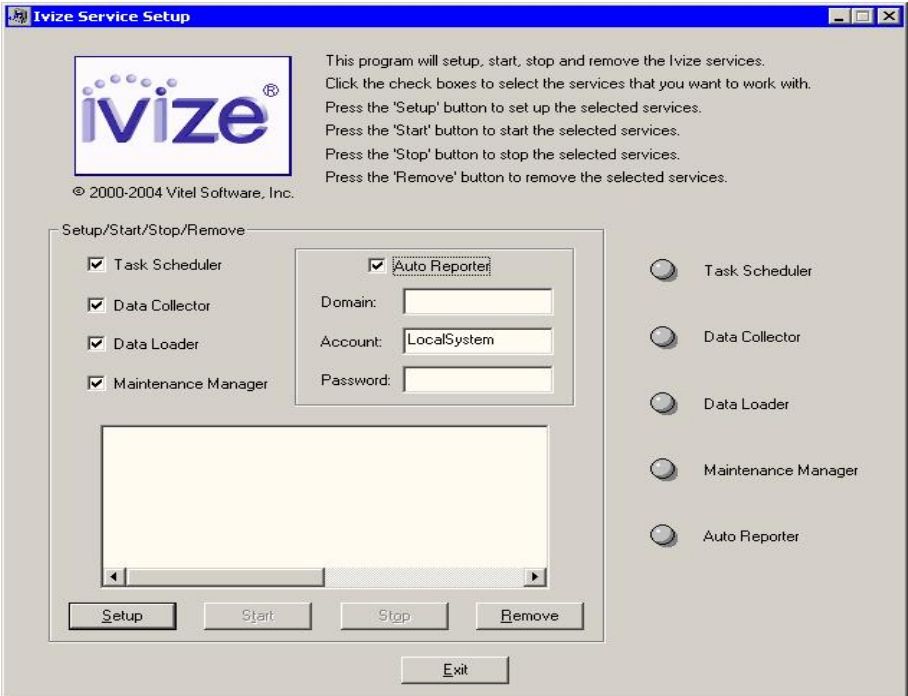
Step	Description																										
6.	<p>Enter the Ivide serial number provided by Vitel Software in the column called License Number. This form is accessible from the System Options level of the Ivide Console. Enter the Ivide serial number in the column called License Number. Click Save when done.</p> 																										
7.	<p>Define a Modular Messaging node for collecting data. Provide descriptive information (name, time zone, platform etc.), access information (IP address, login), data collection, and specifications for use with each MM node. For each node, specify the frequency of collection for each individual data element. Right click on the “platform” icon for the appropriate platform in the left panel of the console. Select New from the context menu to add a new node or double-click the icon next to an existing node in the right pane of the console to modify a node record. The fields below are specific to Modular Messaging MSS Nodes.</p> <table border="1" data-bbox="332 987 1421 1837"> <thead> <tr> <th data-bbox="332 987 665 1029">Field</th> <th data-bbox="665 987 1421 1029">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="332 1029 665 1102">Name</td> <td data-bbox="665 1029 1421 1102">Enter a name for the Modular Messaging Message Storage Server.</td> </tr> <tr> <td data-bbox="332 1102 665 1144">Activate for Collection</td> <td data-bbox="665 1102 1421 1144">This box should be checked.</td> </tr> <tr> <td data-bbox="332 1144 665 1323">Time zone</td> <td data-bbox="665 1144 1421 1323">The time zone in which the node resides. Select from listbox. This information is used by the Data Collection agent to determine data collection times. For data integrity, it is crucial that the time zone be set correctly to match the time zone of the node.</td> </tr> <tr> <td data-bbox="332 1323 665 1365">Region</td> <td data-bbox="665 1323 1421 1365">Region in which the node is located. Select from listbox.</td> </tr> <tr> <td data-bbox="332 1365 665 1407">Version</td> <td data-bbox="665 1365 1421 1407">Select Message Storage Server 1.1.</td> </tr> <tr> <td data-bbox="332 1407 665 1512">Agent</td> <td data-bbox="665 1407 1421 1512">The Ivide agent assigned to collect data from this node. Select from listbox. Listbox selections are all agents assigned to the region selected for this node.</td> </tr> <tr> <td data-bbox="332 1512 665 1554">Connect Via</td> <td data-bbox="665 1512 1421 1554">Select TCP/IP</td> </tr> <tr> <td data-bbox="332 1554 665 1596">Resource Group</td> <td data-bbox="665 1554 1421 1596">Select resource group.</td> </tr> <tr> <td data-bbox="332 1596 665 1669">IP Address</td> <td data-bbox="665 1596 1421 1669">The IP address of the Modular Messaging Message Storage Server.</td> </tr> <tr> <td data-bbox="332 1669 665 1711">Retry Count</td> <td data-bbox="665 1669 1421 1711">Select retry count.</td> </tr> <tr> <td data-bbox="332 1711 665 1774">Login</td> <td data-bbox="665 1711 1421 1774">The login that is required for access to the node. This is a service account to access the MMS server.</td> </tr> <tr> <td data-bbox="332 1774 665 1837">Password</td> <td data-bbox="665 1774 1421 1837">The password that is required for access to the node. Confirm the password in the field below.</td> </tr> </tbody> </table>	Field	Description	Name	Enter a name for the Modular Messaging Message Storage Server.	Activate for Collection	This box should be checked.	Time zone	The time zone in which the node resides. Select from listbox. This information is used by the Data Collection agent to determine data collection times. For data integrity, it is crucial that the time zone be set correctly to match the time zone of the node.	Region	Region in which the node is located. Select from listbox.	Version	Select Message Storage Server 1.1.	Agent	The Ivide agent assigned to collect data from this node. Select from listbox. Listbox selections are all agents assigned to the region selected for this node.	Connect Via	Select TCP/IP	Resource Group	Select resource group.	IP Address	The IP address of the Modular Messaging Message Storage Server.	Retry Count	Select retry count.	Login	The login that is required for access to the node. This is a service account to access the MMS server.	Password	The password that is required for access to the node. Confirm the password in the field below.
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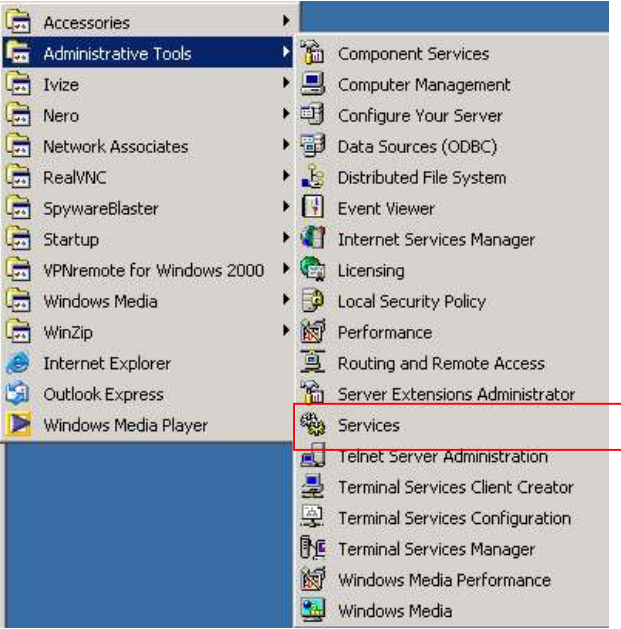
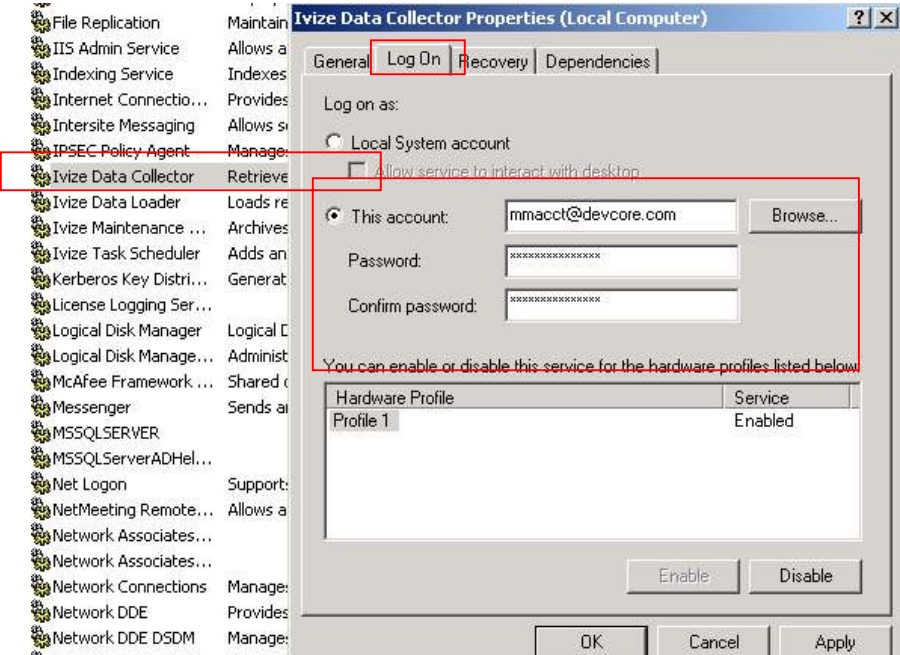
Step	Description
	<p>Click Save when finished. The figure below illustrated login as “tsc”, however “craft” can also use to access the MSS server.</p> 

Step	Description
8.	<p>Define data elements for each node to be collected and set the frequency to collect those data elements. It is recommended that default frequency settings be retained. The available elements will depend on the particular platform. The frequency of data collection will also depend on the type of reports. Most data can be collected on an hourly, daily, weekly, or monthly basis. In order to provide stringent monitoring, alarms may be polled as frequently as every 5 minutes. Not all frequency options make sense for all elements. It makes little sense to collect statistics on an hourly basis if they are only updated on the platform on a daily basis. Click on the Schedule tab and check the Activated column for each data element to be activated. Click Save when finished.</p> 

Step	Description																
9.	<p>Right click again on the “platform” icon for the appropriate platform in the left panel of the console. Select New from the context menu to add a new node or double-click the icon next to an existing node in the right pane of the console to modify a node record.</p>  <p>Define the MAS nodes from which to collect data from. The fields below are specific to Modular Messaging MAS Nodes.</p> <table border="1" data-bbox="332 1234 1414 1816"> <thead> <tr> <th>Field</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Name</td> <td>Enter a name for the Modular Messaging Message Application Server.</td> </tr> <tr> <td>Activate for Collection</td> <td>This box should be checked.</td> </tr> <tr> <td>Time zone</td> <td>The time zone in which the node resides. Select from listbox. The Data Collection agent uses this information to determine data collection times. For data integrity, it is crucial that the time zone be set correctly to match the time zone of the node.</td> </tr> <tr> <td>Region</td> <td>Region in which the node is located. Select from listbox.</td> </tr> <tr> <td>Version</td> <td>Select Message Application Server 1.1.</td> </tr> <tr> <td>Agent</td> <td>The Ivize agent assigned to collect data from this node. Select from listbox.</td> </tr> <tr> <td>MAS Settings</td> <td>Click ‘MAS Settings’ to configure additional settings for this Node.</td> </tr> </tbody> </table>	Field	Description	Name	Enter a name for the Modular Messaging Message Application Server.	Activate for Collection	This box should be checked.	Time zone	The time zone in which the node resides. Select from listbox. The Data Collection agent uses this information to determine data collection times. For data integrity, it is crucial that the time zone be set correctly to match the time zone of the node.	Region	Region in which the node is located. Select from listbox.	Version	Select Message Application Server 1.1 .	Agent	The Ivize agent assigned to collect data from this node. Select from listbox.	MAS Settings	Click ‘ MAS Settings ’ to configure additional settings for this Node.
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Step	Description										
	<div data-bbox="602 231 1401 520" style="border: 1px solid gray; padding: 5px;"> </div> <p data-bbox="602 525 1401 882">Specify the MSS node of the associated MAS. One MAS node must be selected as the 'Primary MAS'. This is the node associated with the collection of Transaction (Tracing) database information. Modular Messaging collects all tracing information from every MAS in the Voice Mail Domain and places it into one database. This means Ivize can only associate the Tracing database with one node. Enter the IP address of the tracing server. This may be the same IP address as the MAS or a different server's IP address if the tracing database is located elsewhere.</p> <table border="1" data-bbox="332 886 1417 1075"> <tr> <td>Connect Via</td> <td>Select TCP/IP</td> </tr> <tr> <td>Resource Group</td> <td>Select resource group.</td> </tr> <tr> <td>IP Address</td> <td>The IP address of the Modular Messaging Application Server.</td> </tr> <tr> <td>Retry Count</td> <td>Select retry count.</td> </tr> <tr> <td>Installed Ports</td> <td>Enter the number of ports installed on this MAS.</td> </tr> </table> <p data-bbox="332 1113 673 1144">Click Save when finished.</p>	Connect Via	Select TCP/IP	Resource Group	Select resource group.	IP Address	The IP address of the Modular Messaging Application Server.	Retry Count	Select retry count.	Installed Ports	Enter the number of ports installed on this MAS.
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10.	<p data-bbox="332 1190 1417 1512">Define which data elements are to be collected and set the frequency to collect those data elements. It is recommended that default frequency settings be retained. The available elements will depend on the particular platform. The frequency of data collection will also depend on the type of reports to generate. Not all frequency options make sense for all elements. It makes little sense to collect statistics on an hourly basis if they are only updated on the platform on a daily basis. Click on the Schedule tab and check Activated column for each data element to be activated... Click Save when finished. If the MAS node is not designated as the Primary MAS then the Transaction Database will be unavailable.</p>										

Step	Description
	
11.	<p>The Final installation step is to set the Ivize services for data collection. Select <i>Service Setup</i> from the Ivize group on the Windows start menu or select Service Setup from the Tools menu of the Ivize Console. Check each service box and then click the button marked Setup. The lights on the right side will turn from gray to red. Click on the button marked Start. The buttons on the right will turn from red to green. This means that these services are running and data collection will occur at the next hour.</p> 

Step	Description
12	<p>Run the Windows Services program.</p> 
13	Double click on the Ivize Data Collector .
14	Click on the Log On tab.
15	<p>Select This account box and enter MAS service account and password. Click OK and restart the server.</p> 

6. Interoperability Compliance Testing

The scope for compliance testing encompasses two primary objectives.

1. To ensure reliability of connectivity between Ivide and the Modular Messaging 1.1 system. Ivide consistently logs in, logs out as required based on the schedule of jobs submitted. Ivide collects all data that has been specified by the schedule of elements selected for processing.
2. Data processing accuracy – match data collected by Ivide to data on the Modular Messaging system.

6.1. General Test Approach

There are three Ivide services, which gather data from the Avaya Modular Messaging servers. The interoperability compliance test verified the Ivide four subsystems such as Task Scheduler, Data Collector, Data Loader, and Report. The data are compared between reports generated by Ivide and reports generated by Avaya Modular Messaging servers.

6.2. Test Results

Vitel Ivide successfully passed Interoperability Compliance testing.

7. Verification Steps

In the field, the following steps can be used to validate these Application Notes:

1. Run a report through the Query Designer that will show the hourly data for each element marked hourly in the test cases. Match the data that is on the report to the request that was submitted from the schedule. Verify that the elements that were submitted as hourly have data on the report.
2. From the Modular Messaging user interface, match data for an element to the data in the Ivide element table.

8. Support

Vitel Software provides live technical support at 508-831-9700.

The Knowledge Base is also available from the Vitel web site at:

<http://www.vitelsoftware.com/knowledgebase> .

A support ticket can also be opened at: http://www.vitelsoftware.com/supp_form.html

9. Conclusion

The interoperability compliance testing verified that the Vitel Ivide solution successfully integrated with Avaya Modular Messaging Release 1.1.

10. Additional References

- *Ivize System Requirements Document* - Provides the hardware and software requirements for the Ivize product. Web Site address is <http://www.vitelsoftware.com/pub/pdf/iz2require.pdf>.
- *Ivize Tech Note 401* - This document answers questions related to installing and configuring database settings for the Ivize product. This document is a guide for database administrators. Web Site address is http://www.vitelsoftware.com/pub/pdf/iz_tn401.pdf.
- *Ivize Tech Note 417* – Provides information on configuring Modular Messaging Nodes in Ivize. Web Site Address is http://www.vitelsoftware.com/pub/pdf/ivize_technote417.pdf.

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