



Avaya Solution & Interoperability Test Lab

Application Notes for InteractCRM Activity Monitor for IC Manager 1.0 with Avaya Interaction Center Release 7.0 - Issue 1.0

Abstract

These Application Notes describe the procedures for configuring InteractCRM Activity Monitor for IC Manager 1.0 to successfully interoperate with Avaya Interaction Center (IC) Release 7.0.

InteractCRM Activity Monitor for IC Manager provides the customer with an efficient way to capture and manage the activity data of Avaya IC Manager and present the data in tabulated reports that can be viewed from a standard web browser.

Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the *DeveloperConnection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the compliance-tested configuration used to validate Avaya Interaction Center Release 7.0 with InteractCRM Activity Monitor for IC Manager 1.0.

Contact centers that have implemented Avaya Interaction Center (IC) as their multi-channel solution rely on Avaya IC Manager to manage the configuration and monitor the health of the Avaya IC system. In large organizations, IC is often implemented across multiple environments, and it is common to have IC Manager installed on multiple machines and accessed by multiple administrators. While this allows for distributed management of the IC system, there is no way for the organization to create a complete and comprehensible audit trail of the activities being performed by the administrators. This can pose a security threat as well as make it difficult to back track changes that could have caused exceptions to occur. Contact center managers running critical customer service operations require a stronger audit and reporting capability of their IC administration functions than what is provided today with IC.

InteractCRM Activity Monitor for IC Manager addresses this requirement by providing a detailed audit trail of the activities being conducted using multiple IC Manager instances running in the customers organization. The solution provides the following benefits:

- **Security against uncertainties** - Persist configuration information by providing an audit trail of changes made to the system allowing fallback.
- **Exhaustive change tracking** - Allows the customer to track changes made to the IC system using IC Manager such as settings, configurations and properties.
- **Intuitive user friendly reporting** - All changes can be read and analyzed using user-friendly web reports without having to deal with complicated log files.
- **Multi-site multiple session support** - Supports tracking across multiple simultaneous instances of IC Manager user sessions, making it viable for a multi-site environment. Each instance of IC Manager is tracked by Activity Monitor installed on the same machine.

Figure 1 illustrates the configuration used to verify InteractCRM Activity Monitor for IC Manager interoperability with Avaya Interaction Center. The core servers for Avaya Interaction Center reside on a server running Microsoft Windows Server 2003. Another server running Microsoft SQL Server 2000 stores the IC Repository and the Activity Monitor database. Two administrator desktops are installed with Avaya IC Manager and InteractionCRM Activity Monitor for IC Manager Core Module. The Core Module captures the changes made by IC Manager and stores them in the Activity Monitor database. The Activity Monitor Reporting Module is hosted on the Microsoft Internet Information Server (IIS) web server to provide web reports to users running Microsoft Internet Explorer. All the systems are connected on the customer LAN using the Avaya C364T-PWR Converged Stackable Switch.

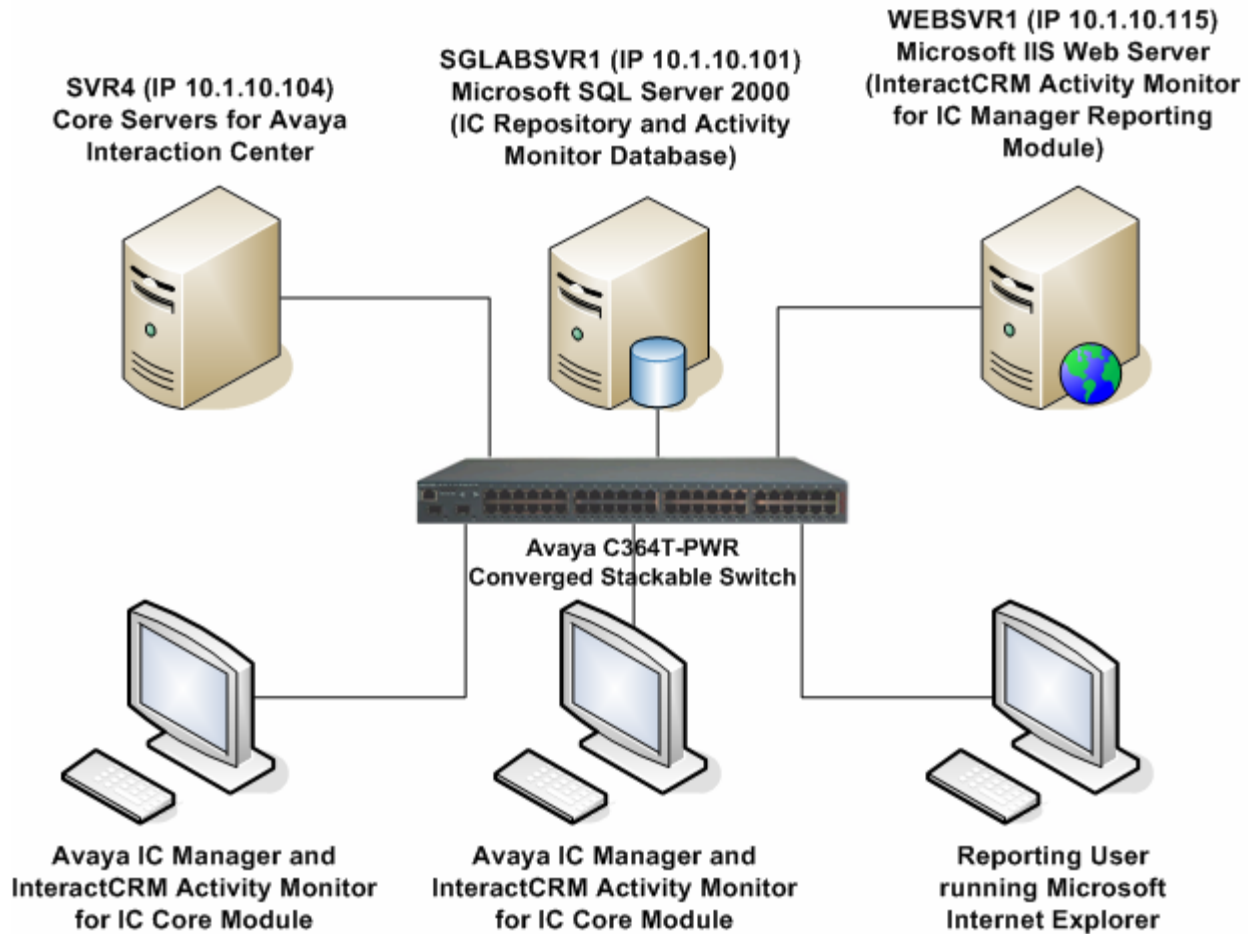


Figure 1: Network Configuration

2. Equipment and Software Validated

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

Equipment	Software
Avaya Interaction Center	Release 7.0 Service Pack 2
Avaya IC Manager	Release 7.0 Service Pack 2
Avaya C364T-PWR Converged Stackable Switch	4.3.12
InteractCRM Activity Monitor for IC Manager	1.0
Microsoft SQL Server 2000	8.00.760 (SP3)
Microsoft Internet Information Services (IIS)	5.0

3. Configure Avaya Interaction Center

It is assumed that Avaya Interaction Center core servers and Avaya IC Manager are installed and running properly. InteractACM Activity Monitor for IC Manager requires read access to the file **ds.ffid** located in the directory **C:\Program Files\Avaya\IC70\etc** on the IC server. This is achieved by configuring the above directory as a shared folder through Windows File Sharing and assigning read access to the users that will run IC Manager and Activity Monitor for IC (see <http://support.microsoft.com/kb/324267/EN-US/>). Detail steps to configure the shared folder are beyond the scope of these Application Notes. Further configurations required to configure Activity Monitor for IC Manager to work with IC are described in **Section 4**.


4. Configure InteractCRM Activity Monitor for IC Manager

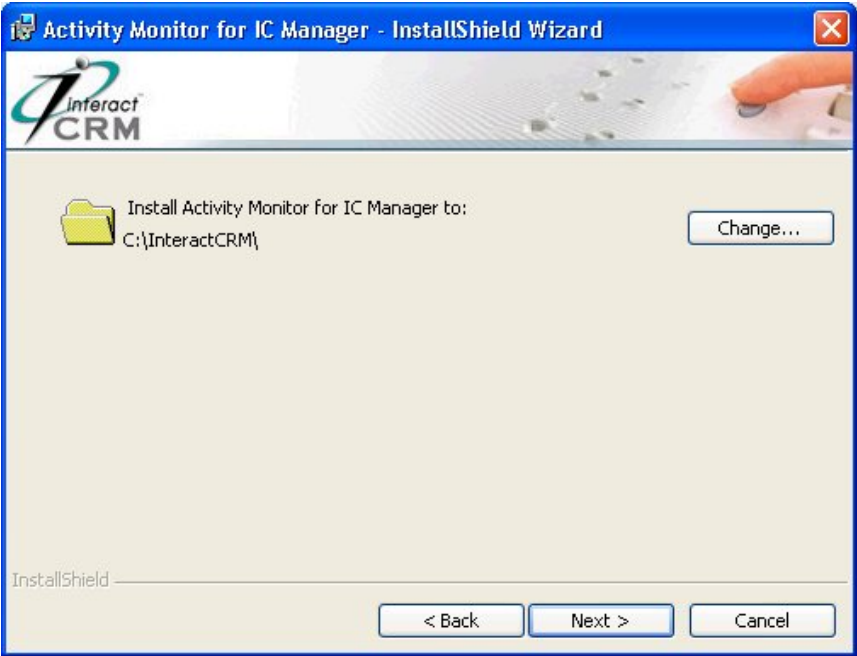
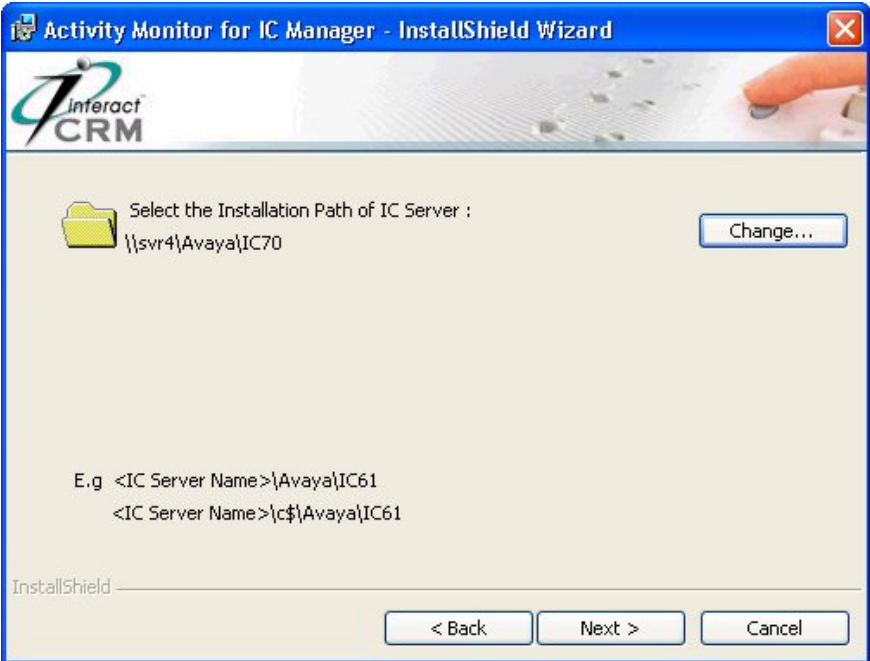
This section describes the installation and configuration of InteractCRM Activity Monitor for IC Manager to interoperate with Avaya IC Manager.

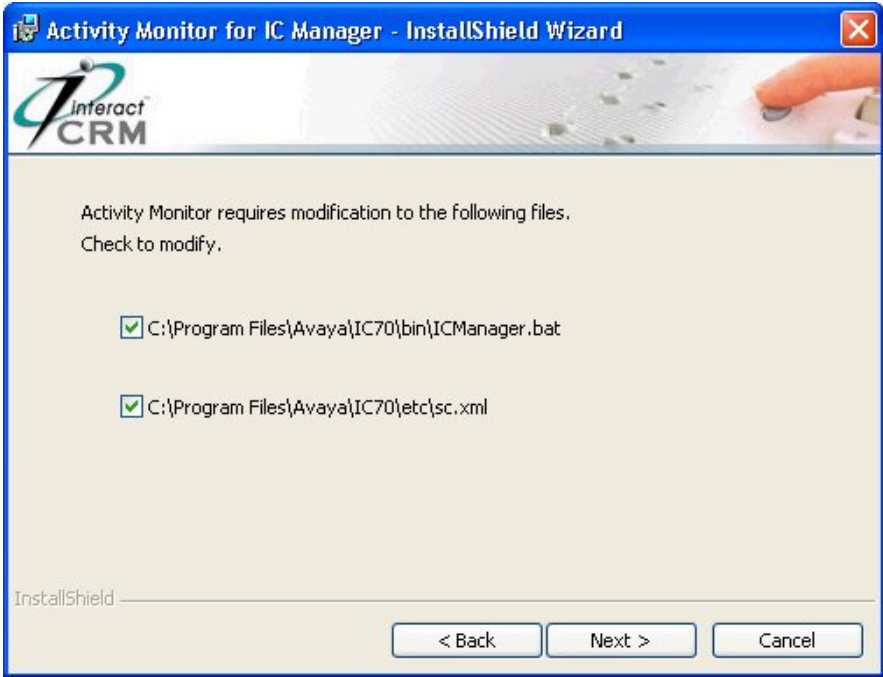
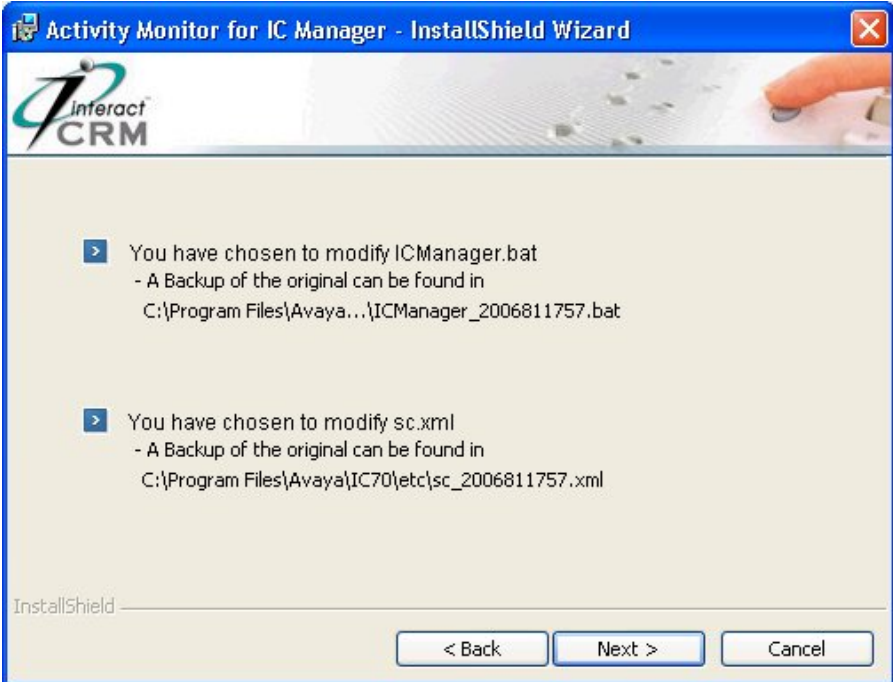
Software prerequisites for Activity Monitor include:

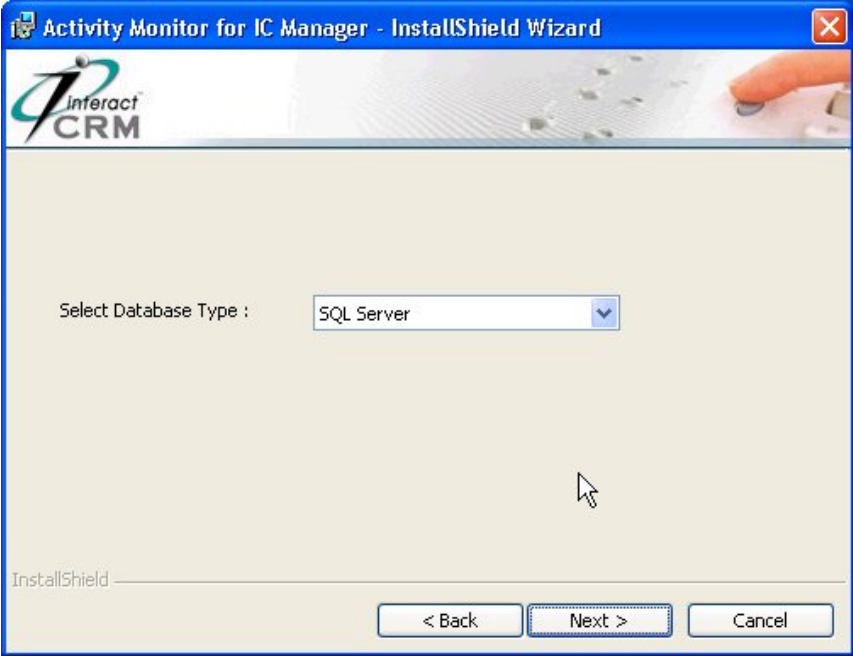
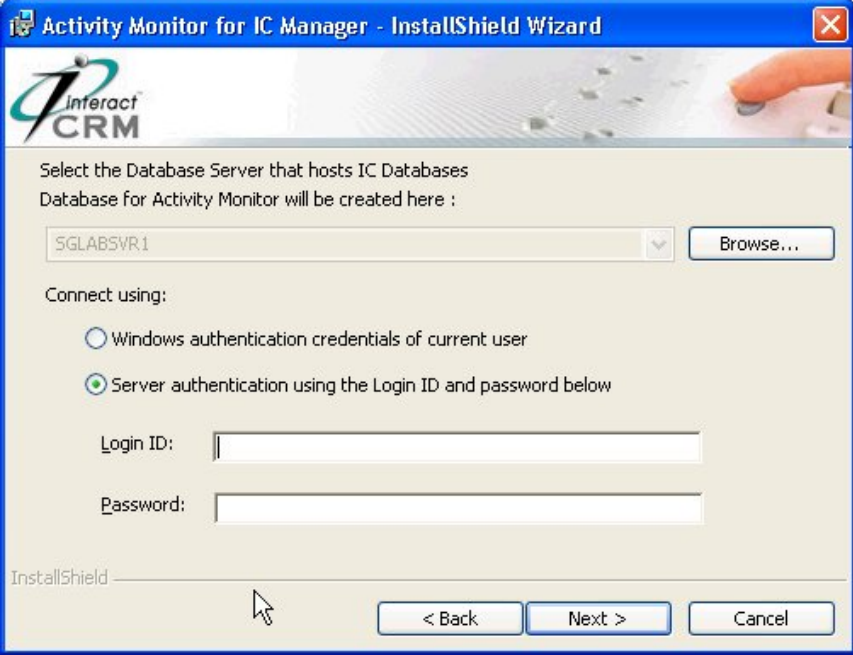
- Microsoft SQL Server 2000 Client tools, Service Pack 3 and above
- Microsoft .NET Framework 1.1
- Access to the **ds.ffid** file in the **C:\Program Files\Avaya\IC70\etc** folder on the Avaya IC server. In this configuration, the folder **C:\Program Files\Avaya** on the IC server is shared using the name **Avaya** with read permissions.


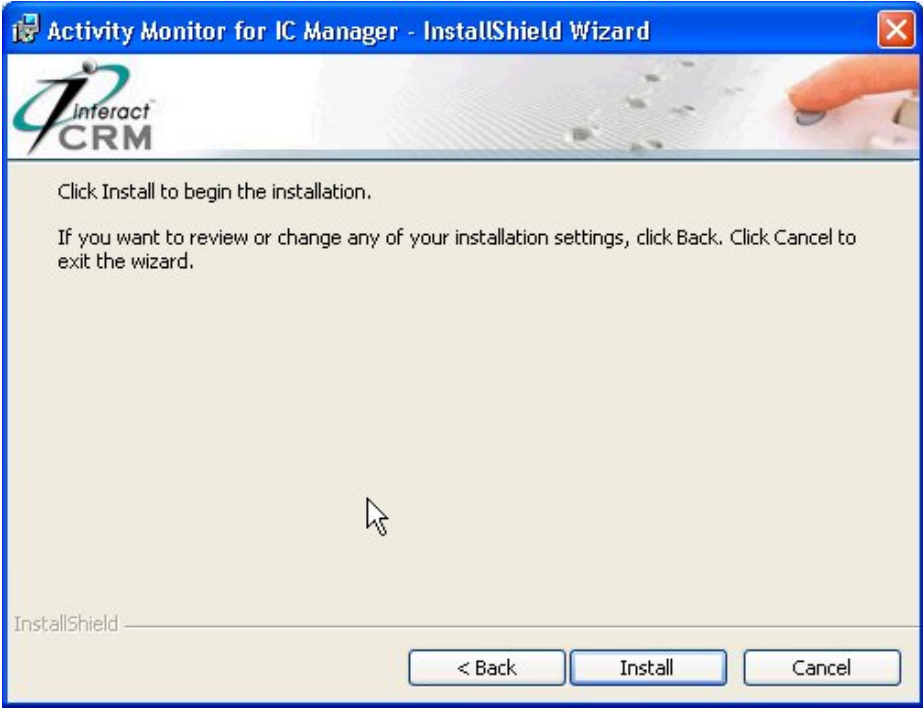
4.1. Install Activity Monitor for IC Manager

Step	Description
1.	<p>Insert the CDROM “Activity Monitor for IC Manager” into the CDROM drive on the IC Manager machine. Run Activity Monitor.exe to start up the main screen of the Installation Wizard. Click Activity Monitor. Click Next on the Welcome Screen.</p> 

Step	Description
2.	<p>Click Next to accept the default installation folder for Activity Monitor for IC Manager.</p> 
3.	<p>Click Change to browse to the location of the shared folder Avaya on the IC server and click Ok. The window is updated with the installation path of IC server as shown below. Click Next.</p> 

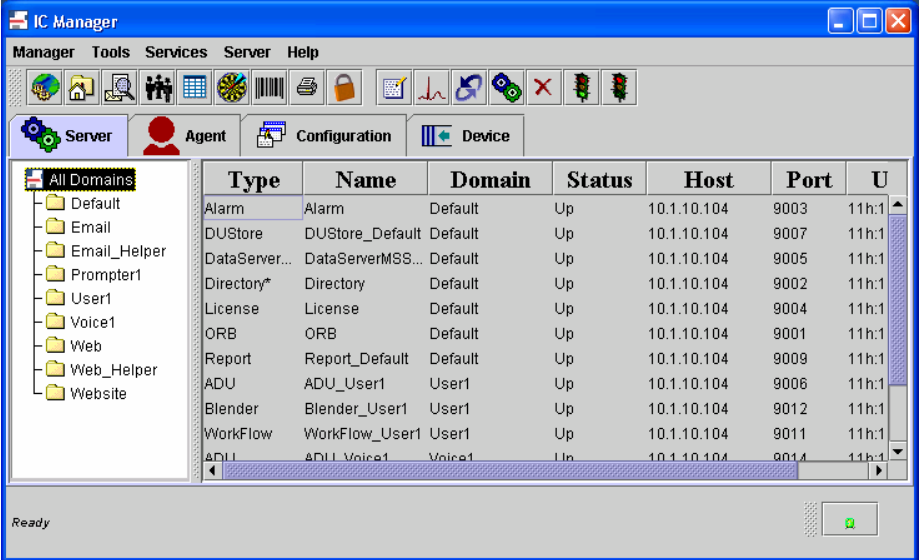
Step	Description
4.	<p>Check the boxes to modify the files ICManager.bat and sc.xml on the local machine. Click Next.</p> 
5.	<p>The backup copies of the files ICManager.bat and sc.xml are shown below. Click Next.</p> 

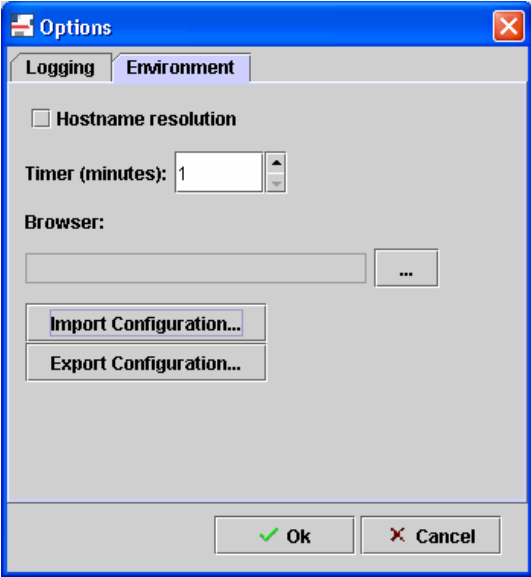
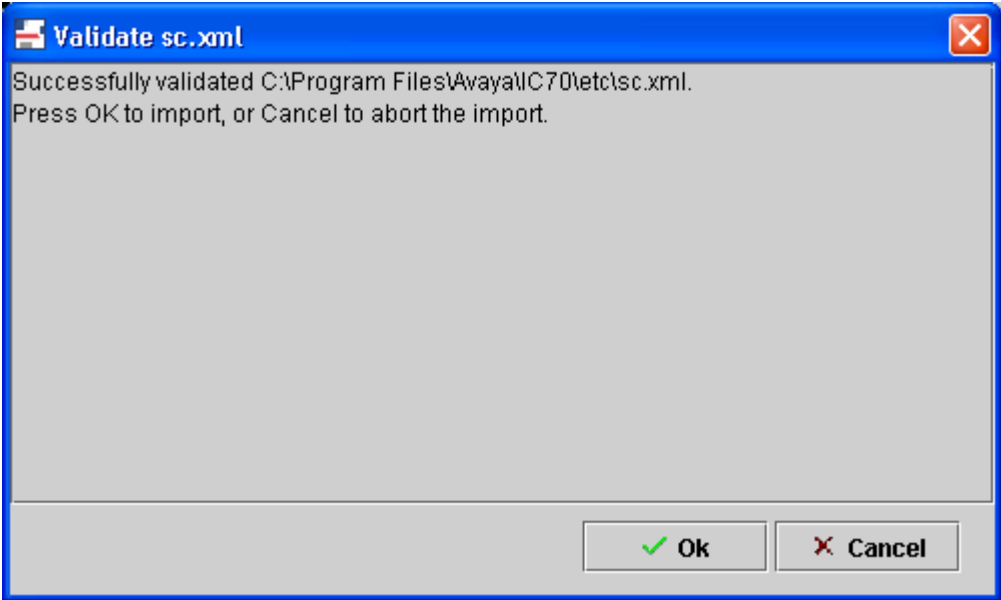
Step	Description
6.	<p>Only Microsoft SQL Server is supported in this configuration. Click Next.</p> 
7.	<p>Click Browse and select the Microsoft SQL Server that will be used to store the database for Activity Monitor for IC Manager. In this configuration, the server name is SGLABSVR1. Enter the Login ID and Password of an account on Microsoft SQL Server with administrative privileges to create a new database. Click Next.</p> 

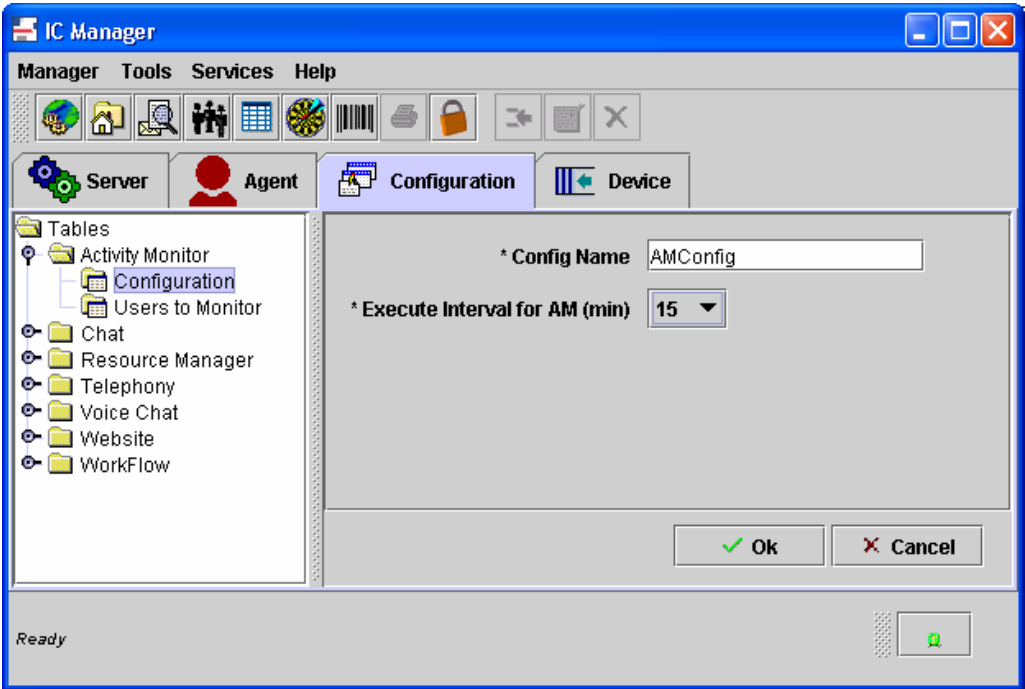
Step	Description
8.	<p>When installing Activity Monitor for IC Manager for the first time, click Yes to create the database. On subsequent installations, click No to preserve the existing database.</p> 
9.	<p>Click Install. This will begin the copying of files for the installation. At the end of the installation, click Finished.</p> 
10.	<p>To configure the license for Activity Monitor for IC Manager, refer to the InteractCRM installation guide for instructions.</p>

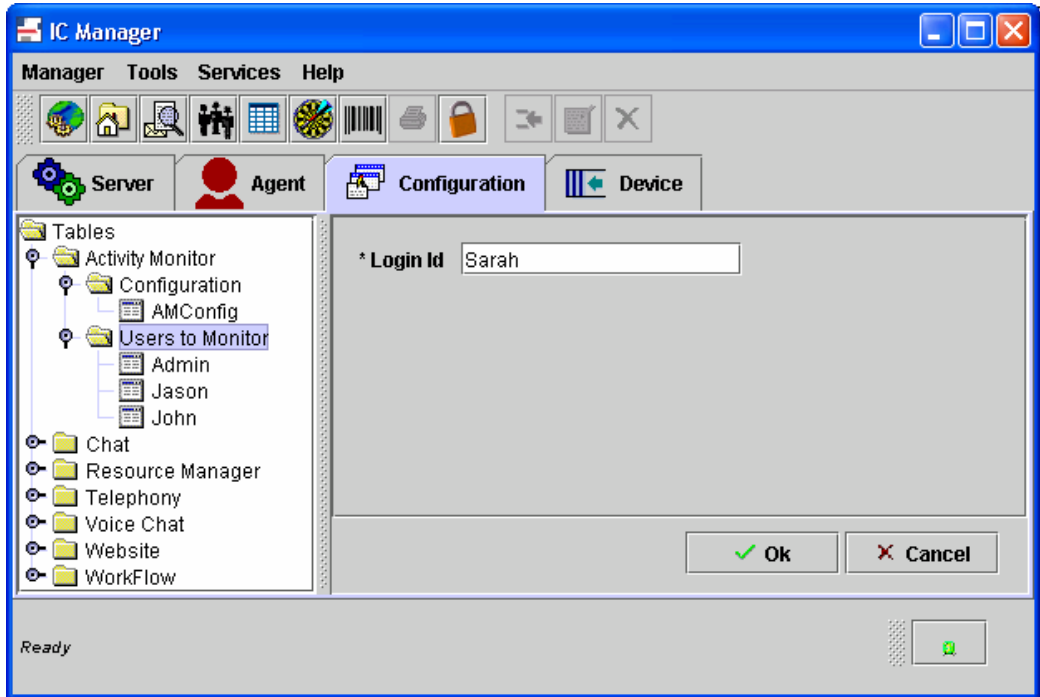
4.2. Configure Activity Monitor for IC Manager

The file `sc.xml` contains the server settings for the Avaya IC system. The file was modified during installation in Section 4.1 to include the additional settings for InteractCRM Activity Monitor for IC Manager. The file is required to be imported into Avaya IC Manager to reflect the changes made to it.

Step	Description																																																																																				
1.	<p>Start IC Manager and log in with an account with administrator privileges. Click Manager→Options to open the Options window.</p>  <p>The screenshot shows the IC Manager application window with the Configuration tab selected. The left pane shows a tree view of domains, and the right pane displays a table of server settings.</p> <table border="1" data-bbox="597 737 1300 1052"> <thead> <tr> <th>Type</th> <th>Name</th> <th>Domain</th> <th>Status</th> <th>Host</th> <th>Port</th> <th>U</th> </tr> </thead> <tbody> <tr> <td>Alarm</td> <td>Alarm</td> <td>Default</td> <td>Up</td> <td>10.1.10.104</td> <td>9003</td> <td>11h:1</td> </tr> <tr> <td>DUStore</td> <td>DUStore_Default</td> <td>Default</td> <td>Up</td> <td>10.1.10.104</td> <td>9007</td> <td>11h:1</td> </tr> <tr> <td>DataServer...</td> <td>DataServerMSS...</td> <td>Default</td> <td>Up</td> <td>10.1.10.104</td> <td>9005</td> <td>11h:1</td> </tr> <tr> <td>Directory*</td> <td>Directory</td> <td>Default</td> <td>Up</td> <td>10.1.10.104</td> <td>9002</td> <td>11h:1</td> </tr> <tr> <td>License</td> <td>License</td> <td>Default</td> <td>Up</td> <td>10.1.10.104</td> <td>9004</td> <td>11h:1</td> </tr> <tr> <td>ORB</td> <td>ORB</td> <td>Default</td> <td>Up</td> <td>10.1.10.104</td> <td>9001</td> <td>11h:1</td> </tr> <tr> <td>Report</td> <td>Report_Default</td> <td>Default</td> <td>Up</td> <td>10.1.10.104</td> <td>9009</td> <td>11h:1</td> </tr> <tr> <td>ADU</td> <td>ADU_User1</td> <td>User1</td> <td>Up</td> <td>10.1.10.104</td> <td>9006</td> <td>11h:1</td> </tr> <tr> <td>Blender</td> <td>Blender_User1</td> <td>User1</td> <td>Up</td> <td>10.1.10.104</td> <td>9012</td> <td>11h:1</td> </tr> <tr> <td>WorkFlow</td> <td>WorkFlow_User1</td> <td>User1</td> <td>Up</td> <td>10.1.10.104</td> <td>9011</td> <td>11h:1</td> </tr> <tr> <td>ADU</td> <td>ADU_Voice1</td> <td>Voice1</td> <td>Up</td> <td>10.1.10.104</td> <td>9014</td> <td>11h:1</td> </tr> </tbody> </table>	Type	Name	Domain	Status	Host	Port	U	Alarm	Alarm	Default	Up	10.1.10.104	9003	11h:1	DUStore	DUStore_Default	Default	Up	10.1.10.104	9007	11h:1	DataServer...	DataServerMSS...	Default	Up	10.1.10.104	9005	11h:1	Directory*	Directory	Default	Up	10.1.10.104	9002	11h:1	License	License	Default	Up	10.1.10.104	9004	11h:1	ORB	ORB	Default	Up	10.1.10.104	9001	11h:1	Report	Report_Default	Default	Up	10.1.10.104	9009	11h:1	ADU	ADU_User1	User1	Up	10.1.10.104	9006	11h:1	Blender	Blender_User1	User1	Up	10.1.10.104	9012	11h:1	WorkFlow	WorkFlow_User1	User1	Up	10.1.10.104	9011	11h:1	ADU	ADU_Voice1	Voice1	Up	10.1.10.104	9014	11h:1
Type	Name	Domain	Status	Host	Port	U																																																																															
Alarm	Alarm	Default	Up	10.1.10.104	9003	11h:1																																																																															
DUStore	DUStore_Default	Default	Up	10.1.10.104	9007	11h:1																																																																															
DataServer...	DataServerMSS...	Default	Up	10.1.10.104	9005	11h:1																																																																															
Directory*	Directory	Default	Up	10.1.10.104	9002	11h:1																																																																															
License	License	Default	Up	10.1.10.104	9004	11h:1																																																																															
ORB	ORB	Default	Up	10.1.10.104	9001	11h:1																																																																															
Report	Report_Default	Default	Up	10.1.10.104	9009	11h:1																																																																															
ADU	ADU_User1	User1	Up	10.1.10.104	9006	11h:1																																																																															
Blender	Blender_User1	User1	Up	10.1.10.104	9012	11h:1																																																																															
WorkFlow	WorkFlow_User1	User1	Up	10.1.10.104	9011	11h:1																																																																															
ADU	ADU_Voice1	Voice1	Up	10.1.10.104	9014	11h:1																																																																															

Step	Description
2.	<p>Click on Environment. Click Import Configuration and browse to the file sc.xml located in the folder C:\Program Files\Avaya\IC70\etc\.</p> 
3.	<p>Click Ok to import sc.xml. Click Ok to close the Options window. Exit from IC Manager and log in again to effect the changes after the import.</p> 

Step	Description
4.	<p>Click on the Configuration tab. Expand Tables→Activity Monitor→Configuration. Click on the New button from the toolbar. Set Config Name to AMConfig and Execute Interval for AM (min) to 15. Click Ok.</p> 

Step	Description
5.	<p>Expand Tables→Activity Monitor→Users to Monitor. Click on the New button from the toolbar. Specify a Login Id that should be monitored by Activity Monitor and click Ok. Multiple Login Ids to be monitored may be specified.</p> 

5. Interoperability Compliance Testing

The Interoperability compliance testing included feature functionality testing. The feature functionality testing focused on verifying the ability of Activity Monitor for IC Manager to track the changes made to the IC system using IC Manager.

5.1. General Test Approach

The feature functionality test cases were performed manually. Changes were made to the IC system systematically using IC Manager. Two instances of IC Manager were used to make changes concurrently and up to three different Login Ids were used to log in to IC Manager. Activity Monitor for IC Manager reports were then generated and compared with the actual changes performed using IC Manager.

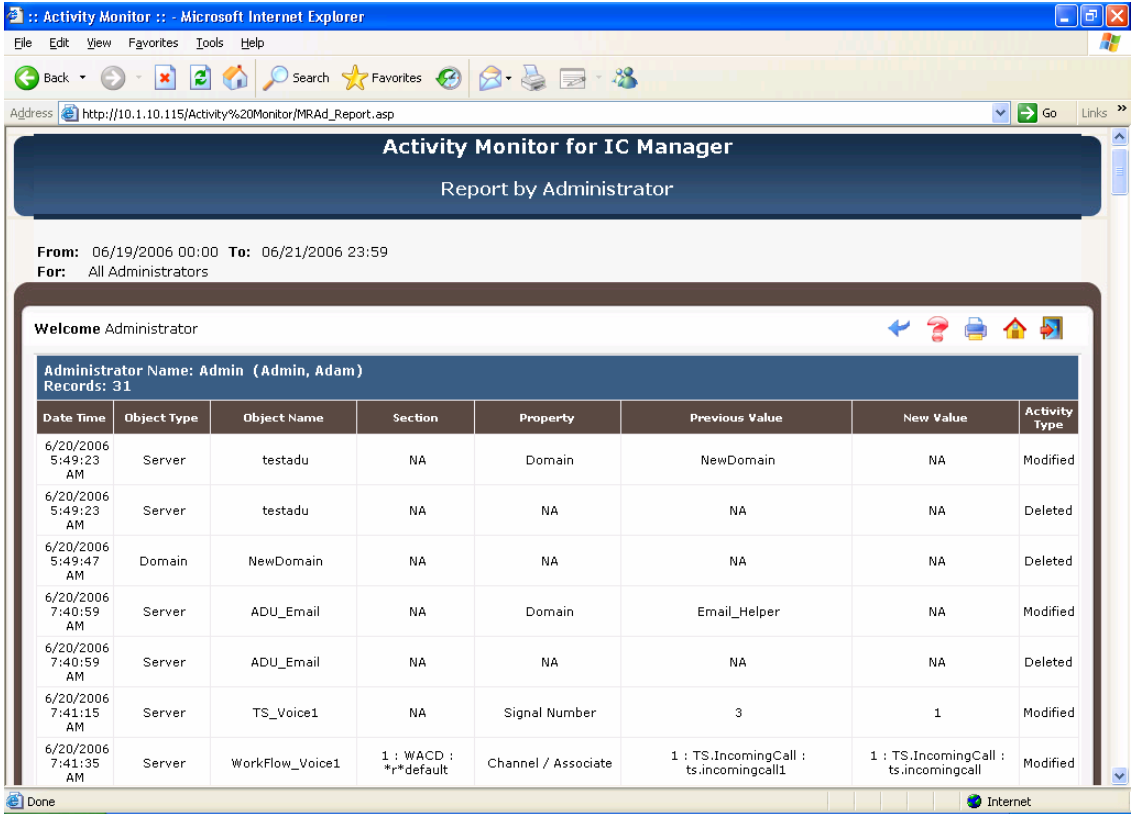
5.2. Test Results

All test cases passed successfully. The test cases included adding, modifying and deleting records such as Agents, Servers, Group properties and Configuration parameters using IC Manager. Activity Monitor for IC Manager was verified to have tracked the change. Changes that were not tracked by Activity Monitor for IC Manager and any expected exceptions were excluded from the test plan. These are documented in detail in the Appendix A of the Activity

Monitor for IC Manager Guide as listed in Section 9 as limitations for Activity Monitor for IC Manager.

6. Verification Steps

This section provides the tests that can be performed to verify proper configuration of InteractCRM Activity Monitor for IC Manager.

Step	Description																																																																
1.	<p>Start IC Manager and log in using an administrative account that is being monitored by Activity Monitor for IC Manager. Make some modifications to the IC system, e.g. changing the password for a Login Id. Run a report for Activity Monitor for IC Manager report using the administrative account as the selection criteria. Verify that the changes are captured in the report.</p>  <p>The screenshot shows the 'Activity Monitor for IC Manager' web interface. The report is titled 'Report by Administrator' and covers the period from 06/19/2006 00:00 to 06/21/2006 23:59 for 'All Administrators'. A 'Welcome Administrator' message is displayed above a table of activity records for 'Admin (Admin, Adam)' with 31 records. The table has the following columns: Date Time, Object Type, Object Name, Section, Property, Previous Value, New Value, and Activity Type. The records are as follows:</p> <table border="1"> <thead> <tr> <th>Date Time</th> <th>Object Type</th> <th>Object Name</th> <th>Section</th> <th>Property</th> <th>Previous Value</th> <th>New Value</th> <th>Activity Type</th> </tr> </thead> <tbody> <tr> <td>6/20/2006 5:49:23 AM</td> <td>Server</td> <td>testadu</td> <td>NA</td> <td>Domain</td> <td>NewDomain</td> <td>NA</td> <td>Modified</td> </tr> <tr> <td>6/20/2006 5:49:23 AM</td> <td>Server</td> <td>testadu</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>Deleted</td> </tr> <tr> <td>6/20/2006 5:49:47 AM</td> <td>Domain</td> <td>NewDomain</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>Deleted</td> </tr> <tr> <td>6/20/2006 7:40:59 AM</td> <td>Server</td> <td>ADU_Email</td> <td>NA</td> <td>Domain</td> <td>Email_Helper</td> <td>NA</td> <td>Modified</td> </tr> <tr> <td>6/20/2006 7:40:59 AM</td> <td>Server</td> <td>ADU_Email</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>Deleted</td> </tr> <tr> <td>6/20/2006 7:41:15 AM</td> <td>Server</td> <td>TS_Voice1</td> <td>NA</td> <td>Signal Number</td> <td>3</td> <td>1</td> <td>Modified</td> </tr> <tr> <td>6/20/2006 7:41:35 AM</td> <td>Server</td> <td>WorkFlow_Voice1</td> <td>1 : WACD : *r*default</td> <td>Channel / Associate</td> <td>1 : TS.IncomingCall : ts.incomingcall1</td> <td>1 : TS.IncomingCall : ts.incomingcall</td> <td>Modified</td> </tr> </tbody> </table>	Date Time	Object Type	Object Name	Section	Property	Previous Value	New Value	Activity Type	6/20/2006 5:49:23 AM	Server	testadu	NA	Domain	NewDomain	NA	Modified	6/20/2006 5:49:23 AM	Server	testadu	NA	NA	NA	NA	Deleted	6/20/2006 5:49:47 AM	Domain	NewDomain	NA	NA	NA	NA	Deleted	6/20/2006 7:40:59 AM	Server	ADU_Email	NA	Domain	Email_Helper	NA	Modified	6/20/2006 7:40:59 AM	Server	ADU_Email	NA	NA	NA	NA	Deleted	6/20/2006 7:41:15 AM	Server	TS_Voice1	NA	Signal Number	3	1	Modified	6/20/2006 7:41:35 AM	Server	WorkFlow_Voice1	1 : WACD : *r*default	Channel / Associate	1 : TS.IncomingCall : ts.incomingcall1	1 : TS.IncomingCall : ts.incomingcall	Modified
Date Time	Object Type	Object Name	Section	Property	Previous Value	New Value	Activity Type																																																										
6/20/2006 5:49:23 AM	Server	testadu	NA	Domain	NewDomain	NA	Modified																																																										
6/20/2006 5:49:23 AM	Server	testadu	NA	NA	NA	NA	Deleted																																																										
6/20/2006 5:49:47 AM	Domain	NewDomain	NA	NA	NA	NA	Deleted																																																										
6/20/2006 7:40:59 AM	Server	ADU_Email	NA	Domain	Email_Helper	NA	Modified																																																										
6/20/2006 7:40:59 AM	Server	ADU_Email	NA	NA	NA	NA	Deleted																																																										
6/20/2006 7:41:15 AM	Server	TS_Voice1	NA	Signal Number	3	1	Modified																																																										
6/20/2006 7:41:35 AM	Server	WorkFlow_Voice1	1 : WACD : *r*default	Channel / Associate	1 : TS.IncomingCall : ts.incomingcall1	1 : TS.IncomingCall : ts.incomingcall	Modified																																																										

7. Support

For technical support on InteractCRM Activity Monitor for IC Manager, contact the InteractCRM Support Team at:

- Phone: +91 22 6695 9190
- Fax: +91 22 6602 1850
- Email: AMSupport@interactcrm.com

8. Conclusion

These Application Notes describe the configuration steps required for InteractCRM Activity Monitor for IC Manager 1.0 to successfully interoperate with Avaya Interaction Center Release 7.0. All feature functionality test cases were completed successfully.

9. References

The following documents can be found at <http://support.avaya.com>:

- [1] *Avaya Interaction Center Release 7.0 Installation and Configuration*, 07-300100, Issue 3, July 2005

The following documents are available in the InteractCRM Activity Monitor for IC Manager installation CDROM:

- *Activity Monitor for IC Manager Guide*
- *User Guide for Activity Monitor*

©2006 Avaya Inc. All Rights Reserved.

Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya Developer*Connection* Program at devconnect@avaya.com.