Oracle® Interaction Center Intelligence

Implementation Guide

Release 11*i*

February 2002

Part No. A95155-02

1 Implementing Oracle Interaction Center Intelligence

This Implementation Guide provides information and instructions to help you effectively implement Oracle Interaction Center Intelligence. It also explains and introduces other sources of information that can help your implementation.

2 Oracle Interaction Center Intelligence Overview

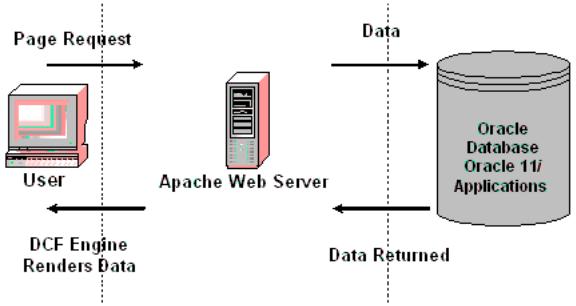
Oracle Interaction Center Application Suite (11*i*) consists of several products/options including Oracle Interaction Center, Advanced Inbound, Advanced Outbound, eMail Center, and so on. Oracle Interaction Center Intelligence is part of this suite. As call centers evolve into interaction centers, due to the increase in the interaction channels (including Web technology, email, mobile devices, and so on.), there is a critical business need to provide a mechanism of intelligent reporting to facilitate day-to-day operational as well as long-term strategic decisions.

Oracle Interaction Center Intelligence is a Web-based reporting solution aimed at fulfilling this need. The information is presented to the user in an easy-to-use portal format that gives the user a unified, role based, easily customized view of the interaction center information. The look and feel is similar to other Oracle CRM applications. Because it is Web-based, the user needs minimal training. Also, no additional software is needed on the user's machine other than a Web browser.

By using Oracle Interaction Center Intelligence, interaction center managers and agents can get various kinds of information, including call related information, Oracle Universal Work Queue (UWQ) information, Key Performance measures relating to agent productivity, speed to answer, abandon rate, and so on.

The following diagram illustrates the data flow of Oracle Interaction Center Intelligence.

Figure 1 Oracle Interaction Center Intelligence Data Flow



Oracle Interaction Center Intelligence is built on a Java-based technology stack (Oracle CRM Foundation, also known as JTF), which is built by Oracle.

3 Architecture Overview

Oracle Interaction Center Intelligence is a Web-based product, which provides an easy-to-use intelligence reporting mechanism for business users. It is based on a three-tier architecture:

- The front end or the client who is using the system through a simple Web browser (no other software is required on the user's machine).
- The middle tier, which contains the Web server (Apache server) and application server (Forms), which come as part of the Oracle Applications installation.
- The database tier, which is an Oracle database

Oracle Interaction Center Intelligence is built using the Declarative Components Framework, which is provided as a part of the Oracle CRM Foundation (JTF) module in the Oracle CRM 11.5.6 release. Declarative Components are personalized software objects that are dynamically generated from a metadata repository. The current version of ICI contains the following types of objects:

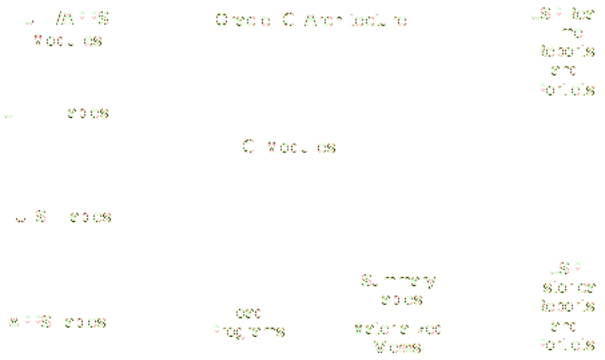
- Portlets
- Report
- Graph Report

Each component derives its data content format from three distinct layers:

- Data: the actual data content which resides in the target database tables
- Metadata: stored in Oracle's AK tables
- Renderer: a rendering mechanism provided by JTF

There are two kinds of information: real-time and historical. For real-time information, the programs read directly from the OLTP (transactional) base tables to generate the data content. Historical reports are read from a set of intermediate summary tables that are designed for optimum query performance. The reports are run off population programs that are run periodically to populate the intermediate tables.

Figure 2 Oracle Interaction Center Intelligence Architecture



4 Components

Oracle Interaction Center Intelligence contains the following components.

4.1 Home Page

Users have the option of customizing their home pages by clicking the Personalize link on the top right corner of the page. This will allow them to choose which portlets, reports or graphs they want to see on their page. The administrator decides which components can be accessed by which users/responsibilities.

4.2 Portlets

Portlets provide crucial performance statistics relating to calls, agents and queues. The performance statistics, presented as portlets, are shown in the

opening report. These provide you with condensed up-to-date information even before you run a single report.

Oracle Interaction Center Intelligence includes five pre-built portlets that offer you a condensed snapshot of the key measures in your interaction center and give you a quick indication of the performance of your center. These portlets also provide drill-downs to the more detailed reports for further investigation.

4.3 Real-Time Reports

The real-time reports can provide up-to-the-minute information on key performance measures. Real-time reports help you uncover problems as soon as they occur to help you take immediate action. These reports serve as very useful tools to plan the day's activities.

4.4 Historical Reports

Historical reports can report on customer interactions for half-hour segments. Data can be collected daily or at any other pre-determined interval. These reports have very detailed information of various important measures that are grouped, filtered and sorted by numerous parameters. In conjunction with the portlets, these reports provide actionable business intelligence to the interaction center manager.

5 Responsibilities

Oracle Interaction Center Intelligence comes pre-seeded with the following responsibilities:

- Interaction Center Intelligence User HTML: Run and view portlets, reports and graphs in the product.
- Interaction Center Intelligence Administrator HTML: Run and view the components, and set up application wide profiles like goals, application dependencies, and so on.
- Interaction Center Intelligence User Apps: Set up profile values. Typically , the ICI Admin App should set up these user profiles.
- Interaction Center Intelligence Administrator Apps: Run concurrent programs and set up profiles which are needed for ICI.

The administrator may choose to seed other custom responsibilities, depending on the requirements of the organization. ICI supports security at a component level. If a component is accessible only by a certain responsibility, users who do not have this responsibility will be unable to view this component. This allows administrators to control component

security at a very granular level. Depending on the needs of the organization, the administrator might decide that new responsibilities are needed, in addition to the four pre-seeded responsibilities. If needed, these new responsibilities can be created through Oracle Applications as a System Administrator.

6 Application Setup

Perform the following tasks after installation of Interaction Center Intelligence. Create an Administrator user to complete the following tasks:

- Setting Up Applications Profiles
- Setting Up Users
- Setting Up Applications Dependencies
- Setting Up Goals

6.1 Setting Up Application Profiles

This section explains the setup of applications profiles:

- Configuring Preferred Currency Profile
- Enabling Multi-Currency Support
- Setting Up Hourly Wage
- Enabling Session History Logging

6.1.1 Configuring Preferred Currency Profile

Use the following procedure to configure currency.

Prerequisites

None

Steps

1. Log in to Oracle Applications (Forms) with the Interaction Center Intelligence Administrator Apps responsibility. (Users need to use the Interaction Center Intelligence User Apps responsibility to update the user level profiles.)
2. Click **Profile**.
3. Click System.
4. Search for and update the following profile option:

BIX: Preferred Currency: This is the main currency in which the customer conducts business. This is also referred to as "Consolidated Currency". This is a site level profile.

This procedure is complete.

6.1.2 Enabling Multi-Currency Support

Use the following procedure to report on multiple currencies.

Prerequisites

Before enabling Multi-Currency support, for each user define JTF_PROFILE_DEFAULT_CUURENCY (refer to Setup user profiles).

Steps

1. Define and enable the currencies that you want to use. Oracle Applications predefines all ISO currencies, but the administrator can define as many additional currencies as needed.
2. Enter the daily rates needed for conversion.
3. Log in to Oracle Applications (Forms) with the Interaction Center Intelligence Administrator Apps responsibility. (Users need to use the Interaction Center Intelligence User Apps responsibility to update the user level profiles.)
4. Click **Profile**.
5. Click System.
6. Search for and update the following profile options:

- BIX: Conversion Type: This is a site level profile which is set up by the administrator to specify what rate type should be used for currency conversion (for example, "Spot", "Corporate," and so on).
- BIX: Maximum Roll Days: This is a site level profile that does not have a default value. The programs make use of this profile to convert currency based on the following logic:
  - If "BIX: Maximum Roll Days" is a positive number, the API looks backward from the conversion date for the most recent date for which a rate is defined with the given currencies and conversion type. It goes backward up to the maximum roll days specified. If it cannot find a rate, the API raises an error. Otherwise, it returns the rate.
  - If "BIX: Maximum Roll Days" is a negative number, the API looks backward without any date limit for a rate defined with the given

currencies and conversion type. If it cannot find a rate, the API raises an error. Otherwise, it returns the rate.

If "BIX: Maximum Roll Days" is zero, the API does not look backward for a conversion rate. Instead, it raises an error.

This procedure is complete.

6.1.3 Setting Up Hourly Wage

Use the following procedure to set up the Key Comparison by Period report. This report uses hourly wage to calculate cost.

Prerequisites

None

Steps

1. Log in to Oracle Applications (Forms) with Interaction Center Intelligence Administrator Apps responsibility. (Users need to use Interaction Center Intelligence User Apps responsibility to update the user level profiles.)
2. Click **Profile**.
3. Click System.
4. Search for and update the profile option:

   BIX: Call Center Agent Hourly Wage: This is used by the summary program to calculate the cost of calls. This is a site level profile that does not have a default value. Enter a value for the hourly wage.

   This procedure is complete.

6.1.4 Enabling Session History Logging

Session history logging is not a BIX profile, but is used by the UWQ OLTP application and affects the functioning of ICI. Set this profile to "Yes" to capture UWQ session information into IEU tables.

Use the following procedure to enable session history logging.

Prerequisites

None

Steps

1. Log on to Oracle Applications (Forms) with Interaction Center Intelligence Administrator Apps responsibility. (Users need to use

Interaction Center Intelligence User Apps responsibility to update the user level profiles.)

2. Click **Profile**.
3. Click System.
4. Search for and update the following profile option:

   IEU Session History Logging: If this profile is set to "No," then no session related data is written to the IEU tables that ICI uses. This is a site level profile.

   This procedure is complete.

6.2 Setting Up Users

Use this section to set up users for Oracle Interaction Center Intelligence.

This sections explains the following:

- Creating a User
- Configuring User Profiles

6.2.1 Creating a User

As a system administrator, create the user and assign the Interaction Center Intelligence User HTML responsibility.

6.2.2 Configuring User Profiles

Use the following procedure to configure user profiles.

Prerequisites

You must have created a new user.

Steps

1. Log in to Oracle Applications (Forms) with Interaction Center Intelligence Administrator Apps responsibility. (Users need to use Interaction Center Intelligence User Apps responsibility to update the user level profiles.).
2. Select User.
3. Click **Profile**.
4. Click System.
5. Search for and update the following profile options:

- BIX:Default Agent Group: Each user will be associated with a default group. Note that if the user is not set up with a default group, some of the portlets and reports may not show any data. This will have to be done for each user individually because this is a user-level profile. Some of the portlets and reports restrict data based on the user's default group. These components show data only for (1) all agents in the user's default group and (2) all immediate child groups of the user's default group. In a future release, this behavior will be enhanced and extended to all portlets and reports.
- JTF_PROFILE_DEFAULT_CURRENCY: The default currency in which the reports will display the currency columns. This is the profile that users should change if they want to change the currency in which their reports are displayed. This is a user level profile.
- BIX:Time Range For BIX Reports: Some of the call-related reports show data broken down to a certain period (a half hour, one hour, and so on). This profile helps the user customize reports based on the time range in which they want to see the data analyzed. This is a user level profile.

This procedure is complete.

6.2.3 Setting Up Application Dependencies

ICI pulls some data from other modules, such as Telesales and Marketing, to enable some of the cross-functional reports that it produces. However, some or all of these modules may not be installed in an organization. The summary programs collect data based on whether or not these modules are installed. This is meant to be an organization-wide setup, which can be changed at a later date. If you do change the setup, the old summary data will not be affected.

Use the following procedure to set up application dependencies.

Prerequisites

None

Steps

1. Log in to Oracle Applications HTML (JTF) page as the user that you created with the Interaction Center Intelligence Administrator HTML responsibility.
2. Click the Setup tab.
3. Click the Select Application Dependencies tab.

4. Click the appropriate check box to select the applications that are implemented in your interaction center.
5. Click **OK** to update.

   You return to the Home page.

   This procedure is complete.

Guidelines

Use the following section to determine the value of each report if one or more application modules are not installed and/or Oracle Telephony Manager (OTM) is running in passive mode.

The following table identifies the measures in each report that are impacted if OTM is in passive mode and OTS, Teleservice are not installed. In passive mode, the ACD performs the routing, and no IQD or routing servers are involved, thus ROUTING and IN_QUEUE life cycle segments are not written to the Interaction History tables. In addition, the measures that can be obtained for reporting depend on the switch / middleware's ability to monitor the route point.

OTM uses two switch-dependent passive modes:

- OTM Active Mode Dependencies (Intel CT Connect), in which routing point monitoring is supported by switch/middleware combinations, that is, CT Connect in general.
- OTM Active Mode Dependencies (Cisco ICM), in which routing point monitoring is not supported by switch/middleware combinations, that is, Cisco ICM.

Table 1 Report Measures in Passive Mode

Report Name	OTM Active Mode (CT Connect)	OTM Active Mode (Cisco ICM)	Oracle TeleSales (OTS)	Oracle TeleService
Real- Time				
Agent Status				
Agent Detail				
Queue Detail	Average Speed to Answer	Calls Offered, Calls Abandoned, Avg. Abandon Time, Avg. Speed to Answer, Calls within Service Level		

Table 1 Report Measures in Passive Mode (Cont.)

Report Name	OTM Active Mode (CT Connect)	OTM Active Mode (Cisco ICM)	Oracle TeleSales (OTS)	Oracle TeleService
Historical Reports				
UWQ Login				
UWQ Duration				
Agent Group				
Agent by Clarification				
Transactional KPI - Agent			Lead-Created updated, lead amount, Opportunity - Created, updated, Won, Won Amount	Service Requests - Created, Open, Closed
Classification	Speed to Answer, Avg Caller Transaction Time, Calls Handled by Primary Destination	Speed to Answer, Wait to Abandon, Avg Caller Transaction Time, Calls Offered, Calls Abandoned, Calls Handled by Primary destination, Calls within Service Level		
Transactional KPI - Classification			Lead - Created updated, lead amount, Opportunity - Created, updated, Won, Won Amount	Service Requests - Created, Open, Closed
KPI Comparison by Period	Avg Speed to Answer	Calls Offered, Avg Speed to Answer, Avg Wait to Abandon	Total Opportunity Amount, Opportunity Amount per call	

Table 1 Report Measures in Passive Mode (Cont.)

Report Name	OTM Active Mode (CT Connect)	OTM Active Mode (Cisco ICM)	Oracle TeleSales (OTS)	Oracle TeleService
DNIS	Speed to Answer	Calls Offered, Calls Abandoned, Speed to Answer, Wait to Abandon, Service Level		

Note: For detailed information regarding product dependency, see "Dependency" in the Appendix.

6.2.4 Setting Up Goals

Administrators can pre-seed some key performance indicator (KPI) goals to use while running some of the KPI related ICI reports. These goals give business users the ability to analyze how their agents or call centers performed against expected performance measures.

This setup is intended to be performed for the entire organization. Therefore, Oracle recommends that you carefully plan the value selection for these goals. The values may be changed at a later date, but the summary data that was collected until that date will still be based on the previous performance goals.

Use the following procedure to set up goals.

Prerequisites

None

Steps

1. Log in to Oracle Applications HTML (JTF) page as the user that you created with the Interaction Center Intelligence Administrator HTML responsibility.
2. Click the Setup tab.
3. Click Define Goals.
4. Goals are defined for each Classification. From the drop-down menu, select the Classification for which you want to create or update the goal.
5. Click **Go**.

The screen refreshes.

6. In the Goals fields, add or update the values as needed.
7. Click **Update** to save the new values.

   The screen refreshes.
8. Repeat steps 4 through 7 to select each Classification and update goals.

   This procedure is complete.

7 Updating Media Items

In the Call Center and Telephony (CCT) application, Interaction History data is not populated in real time. Media items are updated by a periodical process in which the interval between each run of the process can be configured via a parameter called "ih_close_mi_interval." Oracle Interaction Center Intelligence administrators should work with the CCT administrators to make sure that this flag is set to the appropriate value.

Prerequisites

None

Steps

1. Log in to the Oracle Applications HTML log in with Call Center HTML Administration responsibility.
2. Select the ICSM tab.
3. Select the server group that has been established.
4. Select the appropriate server name.
5. Select Advanced from the server details page.
6. Set the server arguments with a value that specifies the frequency for IQDs to check and close inactive media items. For example, if you add "-ih_close_mi_interval 1," then IQD will check and close inactive media items every one minute.

   This procedure is complete.

See Also

Oracle Call Center Technology Concepts and Procedures Guide

8 Security

The standard Oracle Applications security framework controls security. Every user of the system must be granted some responsibilities. When the user logs in to ICI, the components that are available depend on the responsibility that is associated with the user. The System Administrator uses Oracle Applications to assign responsibilities. When the user is granted certain responsibilities, the user has the flexibility within the ICI application to change to a different responsibility.

Each component (portlet/report/graph) can be assigned to a responsibility. If a user logs on with a responsibility which does not have the appropriate access rights, the user will be unable to run a portlet or report to which the administrator has not specifically granted access. This process of configuring component security is done by logging in to the Oracle Applications JTF page as an Administrator. Refer to the Oracle CRM Foundation guide for more details on this JTF feature.

8.1 Configuring Component Security

Use the following procedure to configure component security.

Prerequisites

None

Steps

1. Log in to the Oracle Applications (HTML/JTF) page as CRM HTML Administrator.
2. Click the Design tab at the top of the page.
3. Click the Declarative Components tab.
4. Click Component Security.
5. Choose on of the following options:

   Assign a particular component to multiple responsibilities (Component to Responsibilities option).

   OR

   Give a particular responsibility access to multiple components (Responsibility to Components option).
6. Click **Next**.
7. If you selected the Component to Responsibilities option, follow these steps:

a. Select the Application Code (Call Center Intelligence - BIX) and the component code to which you want to assign privileges.

b. Click **Next**.

c. Use the arrow buttons to select responsibilities so that they appear in the Selected Responsibilities section.

d. Click **Update**.

e. Repeat for each component.

If you selected the Responsibility to Components option, follow these steps:

a. Select the Responsibility Application Code (Call Center Intelligence - BIX) and the Responsibility to which you want to assign components.

b. Click **Next**.

c. Use the arrow button to select components so that they appear in the Selected Components section.

d. Click **Update**.

e. Repeat for each responsibility.

This procedure is complete.

9 Removing UWQ Inactive Sessions

Oracle Universal Work Queue (UWQ) uses a concurrent program to remove inactive sessions and activities that might remain in an "Active" state (for example, in case of machine crashes or power failures). ICI administrators should work with the UWQ administrators to make sure that this program is set up to run periodically. The name of the program is "Session History - UWQ Cleanup Process."

Use the following procedure to run the Session History cleanup process.

Prerequisites

None

Steps

1. Log into Oracle Application (Forms) with the Universal Work Queue Administrator Responsibility.
2. Select Run from the Concurrent Requests option.

3. Select Single Request.
4. Select the Session History-UWQ Cleanup Process program.
5. Click **Submit**.

   This procedure is complete.

See Also

Oracle Universal Work Queue Concepts and Procedures Guide

10 Concurrent Programs

ICI comes pre-seeded with two concurrent programs:

- Populate Interaction Center Intelligence Calls Summary
- Populate Interaction Center Intelligence UWQ Summary

Use these two programs to populate the summary tables that are used by the historical portlets and reports.

Only users who have the Interaction Center Intelligence Apps Administrator responsibility are allowed to run Concurrent Programs. Both these programs expect a start date parameter and an end date parameter. By default, the programs use the start date as the last date and time the program was run, and the end date as the current date and time. Also, agents need to belong to groups for the summary programs to be able to summarize information by group. If an agent is not associated with a group, then that information will not appear in the table summarized by group. This is, however, not a setup specific to ICI, but is done by the administrator at the time of setting up the OLTP system.

Prerequisites

None

Steps

1. Log in to Oracle Applications (Forms).
2. Select the Interaction Center Intelligence Administrator Apps responsibility.

   The "Profiles" and "Requests" page opens.
3. Select Requests.
4. Click **Open**.

5. Click Submit a New Request.
6. Click Single Request.
7. Click **OK**.
8. Click the box next to Name (the three dots).

   The Concurrent Programs page opens.
9. Depending on which programs need to be run, click the appropriate Concurrent Program.
10. Click **OK**.
11. Enter the date parameters as prompted.
12. Click **OK**.
13. Click **Submit** to run the concurrent program.

    This procedure is complete.

Guidelines

Oracle recommends that the administrator monitor the log files after each run to make that sure the programs executed successfully.

You can use Concurrent Manager to schedule programs to run on a periodic basis. Depending on the needs of the organization, you can set up these two concurrent programs to run periodically. Oracle recommends that you run these programs when the system is at the lowest load levels, so you will not impact real-time users of the system.

11 Testing the Implementation

Before completing the implementation, test whether the reports get data.

Use the following procedure to test the log in flow path.

Prerequisites

- Oracle Advanced Inbound and Oracle Universal Work Queue must have been implemented and parameters have been set correctly
- All services must be running
- Business applications have been implemented
- All other processes and parameters described earlier are set up properly
- Agent has been set to run Customer Care or Telesales through Oracle Universal Work Queue

- IEU profile Set Session History is set to Yes

Steps

1. Log into Oracle Universal Work Queue.
2. Enter the extension and note the time.
3. Wait two minutes after entering the extension, then highlight Inbound Telephony media type.
4. Press **Get Work** and note the time again.
5. Wait four minutes after pressing Get Work and then press **Cancel Media**.
6. Close Oracle Universal Work Queue.
7. Select End Session on the media controller.
8. Run the ICI Call Summary program and ICI UWQ Summary program.
9. Log in to the Apache URL.
10. Review the reports, which should be listed as follows:
    - Idle Time two minutes
    - Available Time four minutes
    - Login Time six minutes for the Agent in the Agent Group report.

    This procedure is complete.

12 Troubleshooting/FAQs

Use the following frequently asked questions (FAQs) to troubleshoot any difficulties with Oracle Interaction Center Intelligence.

12.1 Functional FAQs

1. Was Interaction Center Intelligence (ICI) renamed recently?

   Yes, Interaction Center Intelligence was renamed from Call Center Intelligence in 11iR5 to align itself with the Interaction Center product family.

2. Who is the primary audience for ICI?

   ICI is an operational call center reporting solution focusing on telephony data. Call center supervisors and managers are the primary users of ICI; however, agents can also use ICI for self monitoring and motivation.

3. Does ICI seek real-time data?

   Yes, real-time reports query directly from the transactional systems. But ICI historical reports employ an architecture where OLTP data is collected into summary tables, so a set of concurrent requests needs to be executed before running reports.

4. How current are historical reports? Are time series supported?

   Historical data may be collected in time buckets as small as half an hour. If you set up ICI collection programs to run every half hour, your historical reports will at most be half an hour behind.

5. When would you implement ICI?

   ICI is the only operational reporting solution for OTM in active mode; similar to a switch reporting solution for a switch. Typically the transactional business application e.g., TeleService or TeleSales, is implemented; followed closely by AI or AO; after which ICI is implemented

6. Why are two OTM passive modes supported in 11.5.6?

   In OTM active mode, OTM performs the routing. In OTM passive mode, the ACD performs the routing. OTM has two passive modes in 11.5.6 based on the CTI middleware: Intel CT Connect passive and Cisco ICM passive. Route point monitoring is supported by Intel CT Connect and NOT supported by Cisco ICM.

7. What measures and reports are available if OTM is in passive mode?

   In Intel CT Connect passive mode, there is no visibility to route and queue times because the ACD performs this task. Therefore, measures such as ASA, Average Caller Transaction Time and Calls Handled by Primary Destination are not available.

   In Cisco ICM passive mode, route point monitoring is not supported and there is no visibility until the call is at the agent. Therefore, additional measures such as Longest Call Waiting, Calls Offered, Calls Abandoned, Average Abandon Time, Calls within Service Level, Average Wait to Abandon and Service Level are not available.

8. What are ICI's transactional dependencies?

   ICI is pre-integrated with Oracle TeleService, Oracle TeleSales and Oracle Universal Work Queue.

9. What are your TeleService dependencies?

   ICI derives its Service Request information from TeleService, specifically, service requests created, opened and closed. ICI looks into

Interaction History to find agents and interaction times to match service requests created, opened or closed.

10. What are your TeleSales dependencies?

    ICI derives its Leads and Opportunity information from TeleSales, specifically, leads created, updated, lead amounts and opportunities created, updated, won, and won opportunity amounts. ICI looks into Interaction History to find agents and interaction times to match leads and opportunities created, updated or won.

11. What are your Universal Work Queue dependencies?

    ICI derives its login and logout times, and break reasons from Universal Work Queue.

12. What are my implementation choices in setting up ICI reporting agent hierarchies?

    By specifying the reporting hierarchy "usage," you can choose an existing TeleSales resource hierarchy, or an existing TeleService resource hierarchy or an existing Call Center resource hierarchy. Note the Call Center resource hierarchy purpose is to support routing and may not be fit as a call center reporting hierarchy.

13. What type of data security is supported?

    As in all Oracle e-Business applications, responsibilities limit the choice of functions available to a user. In addition, ICI supports data security dictated by a user's position in the agent group hierarchy. ICI supports managers and members.

    Managers of agent groups have access to any agent group or agent under them. Members of agent groups have access only to their own data.

14. Are there any Oracle Discoverer workbooks in 11.5.6?

    No, there are no workbooks in 11.5.6, but three are scheduled for 11.5.7.

15. Does ICI provide multi-site support?

    Yes, ICI supports multiple call center sites set up on the same database instance.

16. Does ICI provide multi-currency support?

    Yes, ICI supports daily rate multiple currencies.

12.2 Technical FAQs

1. How can I customize a report? What skill set is necessary?

Reports are built into CRM's JTT framework, which is part of the JTF framework. JTT and AK framework knowledge, SQL, PL/SQL and JSP skills are recommended. Customizing real-time and historical reports requires that you change to SQL stored in JTT or AK. In addition, historical reports require new columns to be sourced and integrated into summary tables.

2. Some portlets/reports do not bring up any data.

   Check the base transaction tables to see if data should be brought up in the reports. Try running some simple queries against the transaction tables using the same query criteria and parameters as the portlet/report in question. If this brings up data, but the portlet/report does not, then perform these checks:

   - Does the summary table have data?
   - Were there any errors in running the concurrent programs?
   - Have you set up a default group as explained in the Setup section?

3. Graph is not displayed.

   - Check if the post-install steps for the Oracle CRM Foundation product (JTF) were performed correctly.
   - Check that the Apache Web server is configured to use the correct display server.
   - Check that the display server up and running.
   - Check that you are using JDK 1.2.2 or a higher version.

   If all the setup steps are good, try restarting the Apache Web server.

4. Some portlets/reports give "invalid permission error."

   Log in to the CRM Foundation HTML (JTF) page as the administrator and grant the components to the appropriate responsibilities.

5. Unable to log on to Oracle Applications (Forms).

   a. Check that the Forms server is up and running.
   b. Check that the database is up and running.
   c. Check that you are using the correct version of JInitiator.
   d. If JInitiator gives an "Out of Memory" error, try clearing the contents of the jcache directory (typically located under C:\Program Files\Oracle\JInitiator\jcache).
   e. Try restarting the Forms Server.

6. Unable to log on to Oracle Applications (HTML/JTF login).

a. Check that the Apache Web server is up and running.

b. If any new patches were applied recently, check that you clear out the Java cache and restart the Apache Web server.

c. Try restarting the Apache Web server.

13 Related Documents

For additional information, refer to the following documents:

- *Oracle Applications Concepts*, Release 11.5.6
- *Installing Oracle Applications*, Release 11.5.6
- *Oracle CRM Application Foundation Implementation Guide*, Release 11.5.6
- *Oracle Interaction Center Intelligence Technical Reference Manual*, Release 11.5.6
- *Oracle Interaction Center Intelligence Concepts and Procedures*, Release 11.5.6
- *Oracle Applications System Administrator's Guide*, Release 11.5.6

14 Referencing TARs and Patch Information

For information relating to bugs/patches please refer to http://metalink.oracle.com.

15 Tables, Views, and Dependencies

15.1 ICI Tables

The following tables are created in the BIX schema for use by ICI programs:

1. BIX_DM_UWQ_AGENT_SUM: Stores Universal Work Queue information summarized by day by agent. The format of this table closely reflects the format that is used in the reports. This facilitates better query performance as the portlets/reports perform a direct select from the summary table at run-time, without having to hit the transactional tables. The table stores total durations. Average durations are calculated at run-time while rendering the portlet/report.
2. BIX_DM_UWQ_GROUP_SUM: Stores Universal Work Queue information summarized by day by group. The format of this table closely reflects the format that is used in the reports. This facilitates better query performance as the portlets/reports perform a direct select from the summary table at run-time, without having to hit the

transactional tables. The table stores total durations. Average durations are calculated at run-time while rendering the portlet/report.

3. BIX_DM_AGENT_CALL_SUM: Stores call related information, summarized by agent, per half hour.
4. BIX_DM_GROUP_CALL_SUM: Stores call related information, summarized by agent group, per half hour.
5. BIX_DM_COLLECT_LOG: Records information relating to the execution of the concurrent programs which populate the four summary tables mentioned above. Administrators can check this table after every run of the concurrent program.
6. BIX_DM_GOALS: Stores organization related performance goals. These goals/measures are used by some of the reports to perform intelligent analysis on performance of call center, agents etc.
7. BIX_DM_APPS_DEPENDENCY: Populated from the Application Setup Screen when the user clicks on "Setup Application Dependencies." The data in this table is used by the summary table population programs to selectively populate certain columns based on whether or not the corresponding OLTP module exists.

The Database Administrator is responsible for sizing these tables according to the needs of the organization. The administrator is also responsible for deciding on the organization's purging mechanism and time frame. In the 11.5.6 release, ICI does not provide a default purge mechanism, as this can vary from one organization to another.

15.2 ICI Materialized Views

Materialized views are schema objects which can be used to precompute summarized information to enable better performance of queries that perform summary calculations. Materialized views are different from regular views in that they physically contain the underlying rows as selected by the view definition. If materialized views are designed correctly, the Oracle optimizer automatically performs a query re-write for calculating summarized information.

Materialized views can also be accessed directly using a SQL statement without having to depend on the optimizer to perform the query re-write. Because materialized views are actually physical objects that store data, running a query off a materialized view results in performance gains, as compared to running the query off the base table. Materialized views consume storage space and must be refreshed when the data in the base table changes.

ICI has the materialized views listed in the following table.

Table 2 Materialized Views

Materialized View	Description	Source
BIX_DM_AGENT_SUM1_MV	Agent data summarized to 1 hour	bix_dm_agent_call_sum
BIX_DM_AGENT_SUM2_MV	Agent data summarized to 2 hour	bix_dm_agent_sum1_mv
BIX_DM_AGENT_SUM4_MV	Agent data summarized to 4 hour	bix_dm_agent_sum2_mv
BIX_DM_AGENT_SUM_DAY_MV	Agent data summarized to 1 day	bix_dm_agent_sum4_mv
BIX_DM_AGENT_SUM_MTH_MV	Agent data summarized to 1 month	bix_dm_agent_sum_day_mv
BIX_DM_GROUP_SUM1_MV	Group data summarized to 1 hour	bix_dm_group_call_sum
BIX_DM_GROUP_SUM2_MV	Group data summarized to 2 hour	bix_dm_group_sum1_mv
BIX_DM_GROUP_SUM4_MV	Group data summarized to 4 hour	bix_dm_group_sum2_mv
BIX_DM_GROUP_SUM_DAY_MV	Group data summarized to 1 day	bix_dm_group_sum4_mv
BIX_DM_GROUP_SUM_MTH_MV	Group data summarized to 1 month	bix_dm_group_sum_day_mv

The database administrator is responsible for assigning the appropriate storage parameters for these views. No additional effort is required because the concurrent programs that populate the summary tables perform an automatic refresh of the materialized views.

15.3 Dependencies

Oracle Interaction Center Intelligence depends on other Oracle Applications products and components. When ICI is first installed, it is set up with empty summary tables and materialized views which need to be

refreshed from the base transaction tables that reside in the corresponding OLTP schema. For ICI to be fully functional, check that the dependencies are met and that the base OLTP tables have data in them.

The following table lists ICI summary tables or materialized views and the base tables on which they depend for data.

Table 3 Base Table Dependencies

Summary Table/Materialized View	Tables/Views Used for Data Extraction
BIX_DM_UWQ_AGENT_SUM	IEU_SH_SESSIONS
BIX_DM_UWQ_GROUP_SUM	BIX_DM_UWQ_AGENT_SUM
	JTF_RS_GROUP_MEMBERS
	JTF_RS_GROUPS_DENORM
BIX_DM_AGENT_CALL_SUM	JTF_IH_INTERACTIONS
	JTF_IH_MEDIA_ITEMS
	JTF_IH_MEDIA_ITEM_LC_SEGS
	JTF_IH_MEDIA_ITM_LC_SEG_TYS
	JTF_RS_RESOURCE_EXTNS
	JTF_RS_GROUP_MEMBERS
	JTF_RS_GROUP_DENORM
	IEU_SH_SESSIONS
	IEU_SH_ACTIVITIES
	AS_SALES_LEADS
	AS_LEADS_ALL
	AS_STATUSES_VL
	CS_INCIDENTS_ALL_B
	CS_INCIDENTS_STATUSES_VL
	BIX_DM_GOALS
BIX_DM_GROUP_CALL_SUM	BIX_DM_AGENT_CALL_SUM
	JTF_RS_RESOURCE_EXTNS
	JTF_RS_GROUP_MEMBERS
	JTF_RS_GROUP_DENORM
BIX_DM_AGENT_SUM1_MV	BIX_DM_AGENT_CALL_SUM

Table 3 Base Table Dependencies(Cont.)

Summary Table/Materialized View	Tables/Views Used for Data Extraction
BIX_DM_AGENT_SUM2_MV	BIX_DM_AGENT_SUM1_MV
BIX_DM_AGENT_SUM4_MV	BIX_DM_AGENT_SUM2_MV
BIX_DM_AGENT_SUM_DAY_MV	BIX_DM_AGENT_SUM4_MV
BIX_DM_AGENT_SUM_MTH_MV	BIX_DM_AGENT_SUM_MTH_MV
BIX_DM_AGENT_SUM_DAY_MV	BIX_DM_ GROUP _SUM1_MV
BIX_DM_ GROUP _CALL_SUM	BIX_DM_ GROUP _SUM2_MV
BIX_DM_ GROUP _SUM1_MV	BIX_DM_ GROUP _SUM4_MV
BIX_DM_ GROUP _SUM2_MV	BIX_DM_ GROUP _SUM_DAY_MV
BIX_DM_ GROUP _SUM4_MV	BIX_DM_GROUP _SUM_MTH_MV

The following table lists ICI report components and the base tables on which they depend for data. Note that some of the tables are ICI summary tables and others are OLTP tables.

Queue Status Report Average Login Duration by Agent Group Report.

Table 4 Report Component Base Table Dependencies

Portlet/Report Name	Tables/Views Used for Generation
Agent Status Portlet	IEU_SH_SESSIONS
	IEU_SH_ACTIVITIES
	JTF_IH_MEDIA_ITEM_LC_SEGS
	JTF_IH_MEDIA_ITM_LC_SEG_TYS
	JTF_IH_INTERACTIONS
	JTF_IH_MEDIA_ITEMS
Queue Status portlet	JTF_IH_MEDIA_ITEM_LC_SEGS
	JTF_IH_MEDIA_ITM_LC_SEG_TYS
	JTF_IH_MEDIA_ITEMS
UWQ Activity portlet	BIX_DM_UWQ_AGENT_SUM
	BIX_DM_UWQ_GROUP_SUM

Table 4 Report Component Base Table Dependencies (Cont.)

Portlet/Report Name	Tables/Views Used for Generation
Calls Handled portlet	BIX_DM_AGENT_CALL_SUM
	BIX_DM_GROUP_CALL_SUM
Classification portlet	BIX_DM_AGENT_CALL_SUM
Agent Detail Report	IEU_SH_SESSIONS
	IEU_SH_ACTIVITIES
	JTF_IH_MEDIA_ITEM_LC_SEGS
	JTF_IH_MEDIA_ITM_LC_SEG_TYS
	JTF_RS_RESOURCE_EXTNS_VL
	JTF_IH_INTERACTIONS
	JTF_RS_GROUP_MEMBERS
Agent Status Report	IEU_SH_SESSIONS
	IEU_SH_ACTIVITIES
	JTF_RS_RESOURCE_EXTNS_VL
	JTF_RS_GROUPS_VL
	JTF_RS_GROUP_MEMBERS
	JTF_IH_MEDIA_ITEM_LC_SEGS
	JTF_IH_MEDIA_ITM_LC_SEG_TYS
	JTF_IH_INTERACTIONS
Queue Detail Report	BIX_DM_AGENT_CALL_SUM
Queue Status Report	JTF_IH_MEDIA_ITEM_LC_SEGS
	JTF_IH_MEDIA_ITM_LC_SEG_TYS
	JTF_IH_MEDIA_ITEMS
	JTF_RS_GROUP_MEMBERS
	JTF_IH_INTERACTIONS

Table 4 Report Component Base Table Dependencies (Cont.)

Portlet/Report Name	Tables/Views Used for Generation
Agent Group Report	BIX_DM_AGENT_CALL_SUM
	BIX_DM_AGENT_SUM1_MV
	BIX_DM_AGENT_SUM2_MV
	BIX_DM_AGENT_SUM4_MV
	BIX_DM_AGENT_SUM_DAY_MV
	BIX_DM_AGENT_SUM_MTH_MV
	BIX_DM_GROUP_SUM1_MV
	BIX_DM_ GROUP_SUM2_MV
	BIX_DM_ GROUP_SUM4_MV
	BIX_DM_GROUP_SUM_DAY_MV
	BIX_DM_GROUP_SUM_MTH_MV
Transactional KPIs -Agent Report	BIX_DM_AGENT_CALL_SUM
	BIX_DM_GROUP_CALL_SUM
	BIX_DM_AGENT_SUM1_MV
	BIX_DM_AGENT_SUM2_MV
	BIX_DM_AGENT_SUM4_MV
	BIX_DM_AGENT_SUM_DAY_MV
	BIX_DM_AGENT_SUM_MTH_MV
	BIX_DM_GROUP_SUM1_MV
	BIX_DM_ GROUP_SUM2_MV
	BIX_DM_ GROUP_SUM4_MV
	BIX_DM_GROUP_SUM_DAY_MV
	BIX_DM_GROUP_SUM_MTH_MV
Unique User Logins by Agent Group Report	BIX_DM_UWQ_AGENT_SUM
	BIX_DM_UWQ_GROUP_SUM
Average Login Duration by Agent Group Report	BIX_DM_UWQ_AGENT_SUM
	BIX_DM_UWQ_GROUP_SUM

Table 4 Report Component Base Table Dependencies (Cont.)

Portlet/Report Name	Tables/Views Used for Generation
Classification Report	BIX_DM_AGENT_CALL_SUM
	BIX_DM_GROUP_CALL_SUM
	BIX_DM_AGENT_SUM1_MV
	BIX_DM_AGENT_SUM2_MV
	BIX_DM_AGENT_SUM4_MV
	BIX_DM_AGENT_SUM_DAY_MV
	BIX_DM_AGENT_SUM_MTH_MV
DNIS Report	BIX_DM_AGENT_CALL_SUM
Key Performance Comparison by Period Report	BIX_DM_AGENT_CALL_SUM
	BIX_DM_GROUP_CALL_SUM
Transactional KPIs - Classification Report	BIX_DM_AGENT_CALL_SUM

16 Documentation Accessibility

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