



Cisco Customer Response Applications Database Schema

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

Text Part Number: OL-2525-01



THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

CCIP, the Cisco *Powered* Network mark, the Cisco Systems Verified logo, Cisco Unity, Follow Me Browsing, FormShare, Internet Quotient, iQ Breakthrough, iQ Expertise, iQ FastTrack, the iQ Logo, iQ Net Readiness Scorecard, Networking Academy, ScriptShare, SMARTnet, TransPath, and Voice LAN are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn, Discover All That's Possible, The Fastest Way to Increase Your Internet Quotient, and iQuick Study are service marks of Cisco Systems, Inc.; and Aironet, ASIST, BPX, Catalyst, CCDA, CCDP, CCIE, CCNA, CCNP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, the Cisco IOS logo, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Empowering the Internet Generation, Enterprise/Solver, EtherChannel, EtherSwitch, Fast Step, GigaStack, IOS, IP/TV, LightStream, MGX, MICA, the Networkers logo, Network Registrar, *Packet*, PIX, Post-Routing, Pre-Routing, RateMUX, Registrar, SlideCast, StrataView Plus, Stratm, SwitchProbe, TeleRouter, and VCO are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and certain other countries.

All other trademarks mentioned in this document or Web site are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0203R)

Cisco Customer Response Applications Database Schema

Copyright © 2002, Cisco Systems, Inc.

All rights reserved.



Preface v

Audience **v**

Organization **v**

Related Documentation **vi**

Obtaining Documentation **vi**

World Wide Web **vi**

Documentation CD-ROM **vi**

Ordering Documentation **vii**

Documentation Feedback **vii**

Obtaining Technical Assistance **viii**

Cisco.com **viii**

Technical Assistance Center **viii**

Cisco TAC Web Site **ix**

Cisco TAC Escalation Center **x**

Database Schema 1

General Database Concepts **2**

Tables, Columns, and Rows **2**

Table Relationships **2**

Database Table Details **3**

AgentConnectionDetail **5**

AgentStateDetail **7**

ContactCallDetail **9**

ContactRoutingDetail **14**

ContactServiceQueue **17**

ProfileIDMapping 19
Resource 20
ResourceGroup 23
ResourceSkillMapping 24
Skill 25
SkillGroup 27
WorkflowTask 28

Index IN-1



Preface

The *Cisco Customer Response Applications Database Schema* describes how data is organized in Cisco Customer Response Applications (CRA) databases. This manual provides detailed descriptions of the records and fields in each database table and will provide you with useful information if you want to create your own reports.

Audience

The *Cisco Customer Response Applications Database Schema* is intended for system managers, administrators, and developers who want to create custom reports using generally available third-party programs that create reports from databases.

Organization

The “Database Table Details” section on page 3 describes each table in the Cisco CRA databases. The descriptions are arranged in alphabetical order by table name. Each description includes a detailed explanation of each record in the table.

Related Documentation

The following documents contain additional information about the Cisco CRA databases and the information stored in these databases:

- *Cisco Customer Response Applications Administrator Guide*
- *Cisco Customer Response Applications Historical Reports User Guide*

Obtaining Documentation

These sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com>

Translated documentation is available at this URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

Ordering Documentation

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:

http://www.cisco.com/cgi-bin/order/order_root.pl

- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:

<http://www.cisco.com/go/subscription>

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can submit comments electronically on Cisco.com. In the Cisco Documentation home page, click the **Fax** or **Email** option in the “Leave Feedback” section at the bottom of the page.

You can e-mail your comments to bug-doc@cisco.com.

You can submit your comments by mail by using the response card behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Document Resource Connection
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com is a highly integrated Internet application and a powerful, easy-to-use tool that provides a broad range of features and services to help you with these tasks:

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages
- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

If you want to obtain customized information and service, you can self-register on Cisco.com. To access Cisco.com, go to this URL:

<http://www.cisco.com>

Technical Assistance Center

The Cisco Technical Assistance Center (TAC) is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Cisco TAC inquiries are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

The Cisco TAC resource that you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

You can use the Cisco TAC Web Site to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to this URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

<http://www.cisco.com/register/>

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC Web Site, you can open a case online by using the TAC Case Open tool at this URL:

<http://www.cisco.com/tac/caseopen>

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.



Database Schema

This manual describes how data is organized in the Cisco Customer Response Applications (CRA) databases.

The Cisco CRA databases are:

- `db_cra`—Main Cisco CRA database. Contains most information for historical reports, including Integrated Contact Distribution (ICD) configuration information, stored procedures, and some call statistics. This database contains these 11 tables: `AgentConnectionDetail`, `AgentStateDetail`, `ContactRoutingDetail`, `ContactServiceQueue`, `ProfileIDMapping`, `Resource`, `ResourceGroup`, `ResourceSkillMapping`, `Skill`, `SkillGroup`, `WorkflowTask`.
- `db_cra_ccdr`—Contains the `ContactCallDetail` table, which is the main table for call statistics.



Note

The `Application` table, the `HistoricalUsers` table, and the `ProductInformation` table, all of which reside in the `db_cra` database, contain information that is not used for custom reports. These tables and their records are not described in this manual.

If you want to use a third-party program to create custom reports from information in the Cisco CRA databases, refer to the information in this manual as you design your reports.

The following sections include these topics:

- General Database Concepts, page 2
- Database Table Details, page 3

General Database Concepts

This section provides an overview of some basic database concepts.

Tables, Columns, and Rows

A database contains one or more tables of data. Each table in a database defines a set of columns, which are called *fields*. Within each table, the database stores data in rows, which are called *records*. Each record (row) contains one value for each field (column) of the table. For example, Figure 1 shows an example of a Skill table, which contains five fields. This example shows a Skill table with three records.

Figure 1 Skill Table Fields and Records

		Fields				
		skillID	profileID	skillName	active	datelinactive
Records	1	1	1	Guitar	1	NULL
	2	2	1	Bass	0	2002-06-19 12:02:01.680
	3	3	1	Drum	1	NULL

Database tables and the number and names of their fields are constant. The number of records in a table and the data that those records contain will vary according your system.

Table Relationships

Related tables in a database share one or more common fields. For example, both the Skill and the SkillGroup tables include the skillID field. Each record in the Skill table is related to each record in the SkillGroup table that shares the same skillID value.

Relationships between tables can be on-to-one or one-to-many. For example, because one skill can be associated with many skill groups, the relationship between the Skill and SkillGroup tables is one-to-many. On the other hand, each

call or call leg has its own set of data about the agent who handled the call and other information. Therefore, the relationship between the AgentConnectionDetail and ContactCallDetail table is one-to-one.

Each database table description in this manual is followed by a Related Tables section. These sections show the fields by which a table is related to other tables. If the fields have different names in each table, these sections show the mapping.

Database Table Details

This section provides information about Cisco CRA system database tables, their records, and their fields.

Each description provides the following information:

- Database Table Name—Name of the Cisco CRA database table.
- Database—Name of the Cisco CRA database that contains the database table.
- Field Name—Name of a field as it appears in the database table.
- Description—Description of the field, including valid values where appropriate.
- Storage—Information about the data in each field as follows:
 - Data type used for the field in the database. Table 1 describes each data type.

Table 1 *Field Data Types*

Data Type	Description
bit	Integer value of 1 or 0.
datetime	Date and time accurate to the millisecond. Stored as two four-byte integers (eight bytes total: days before or after January 1, 1900, and milliseconds after midnight).
decimal	Fixed-precision numeric value between $-10^{38} - 1$ and $10^{38} - 1$.
int	Four-byte integer value between $-2,147,483,648$ and $2,147,483,647$.
nvarchar(<i>n</i>)	Variable-length Unicode data up to 4,000 characters. The storage size depends on the length of the data.

Table 1 *Field Data Types (continued)*

Data Type	Description
smallint	Two-byte integer value between –32,768 and 32,767.
tinyint	One-byte integer value between 0 and 255.
varchar(<i>n</i>)	Variable-length non-Unicode data up to 8,000 characters. The storage size depends on the length of the data.

- Whether the NULL value is valid for the field. “NULL” if the NULL value is or “NOT NULL” if the NULL value is not valid.



Note If the NULL value is valid, the system will return a value of –1 for a NULL value in a numeric field. The system will return an empty string for a NULL value in other fields.

- “Primary Key” if the field is a primary key, or part of a primary key, in the database table.

Related Topics

- AgentConnectionDetail, page 5
- AgentStateDetail, page 7
- ContactCallDetail, page 9
- ContactRoutingDetail, page 14
- ContactServiceQueue, page 17
- ProfileIDMapping, page 19
- Resource, page 20
- ResourceGroup, page 23
- ResourceSkillMapping, page 24
- Skill, page 25
- SkillGroup, page 27
- WorkflowTask, page 28

AgentConnectionDetail

Database table name: AgentConnectionDetail

Database: db_cra

The Cisco CRA system creates a new record in the AgentConnectionDetail table when an agent disconnects a call or a leg by hanging up or by transferring the call. (A new call leg starts each time that a call is transferred, except when a call is transferred from a Cisco CTI [Computer Telephony Interface] port to an agent.)

An AgentConnectionDetail record contains information relating to the agent who handled the call or call leg.

The AgentConnectionDetail table contains the fields shown Table 2.

Table 2 *AgentConnectionDetail Table Fields*

Field Name	Description	Storage
sessionID	Identifier that the system assigned to the call. This identifier remains the same for all legs of the call.	decimal(13) NOT NULL Primary Key
sessionSeqNum	Session sequence number that the system assigned to the call or the leg. Each leg of a call is assigned a new sequence number.	smallint NOT NULL Primary Key
profileID	Identifier of the Cisco CRA profile that is associated with this record.	int NOT NULL Primary Key
resourceID	Identifier of the agent who handled the call.	int NOT NULL Primary Key
startDateTime	Date and time that the call or the leg started ringing at the device of an agent.	datetime NOT NULL Primary Key

Table 2 *AgentConnectionDetail Table Fields (continued)*

Field Name	Description	Storage
endDateTime	Date and time that the call or the leg was transferred or disconnected.	datetime NOT NULL Primary Key
gmtOffset	Offset, in minutes, between local time of the Cisco CRA server and Greenwich Mean Time.	smallint NOT NULL
ringTime	Amount of time, in seconds, between the time the call or the leg first rang at the extension of an agent and one of the following events: <ul style="list-style-type: none"> • The agent answered the call or the leg • The caller hung up before the call or the leg was answered • The system retrieved the call or the leg before the call or the leg was answered 	smallint NULL
talkTime	The amount of time, in seconds, that passed from the time an agent answered the call or the leg to the time the call or the leg was disconnected or transferred, not including hold time.	smallint NULL
holdTime	The amount of time, in seconds, that the call or the leg spent on hold.	smallint NULL
workTime	The amount of time, in seconds, that an agent spent in Work State after the call or the leg.	smallint NULL

Related Tables

- AgentStateDetail, page 7 (resourceID maps to agentID)
- ContactCallDetail, page 9 (via sessionID and sessionSeqNum)

- ContactRoutingDetail, page 14 (via sessionID and sessionSeqNum)
- ProfileIDMapping, page 19 (via profileID)

AgentStateDetail

Database table name: AgentStateDetail

Database: db_cra

The Cisco CRA system creates a new record in the AgentStateDetail table each time the state of an agent changes.

An AgentStateDetail record contains information about the agent and about the event that caused the agent state change.

The AgentStateDetail table contains the fields shown in Table 3.

Table 3 *AgentStateDetail Table Fields*

Field Name	Description	Storage
agentID	Identifier of the agent whose state has changed.	int NOT NULL Primary Key
eventDateTime	Date and time that the agent state changed.	datetime NOT NULL Primary Key
gmtOffset	Offset, in minutes, between local time of the Cisco CRA server and Greenwich Mean Time.	smallint NOT NULL

Table 3 *AgentStateDetail Table Fields (continued)*

Field Name	Description	Storage
eventType	Event that triggered the agent state change: 1—Log In 2—Not Ready 3—Ready 4—Reserved 5—Talking 6—Work 7—Log Out	tinyint NOT NULL Primary Key
reasonCode	Code, as set up in the Cisco Desktop Administrator, for the reason that the agent changed to Not Ready State or to Log Out State. Null if a reason code is not configured.	smallint NULL
profileID	Identifier of the Cisco CRA profile that is associated with this record.	int NOT NULL Primary Key

Related Tables

- ContactServiceQueue, page 17 (agentID maps to resourceID)
- ProfileIDMapping, page 19 (via profileID)
- ResourceSkillMapping, page 24 (agentID maps to resourceID)

ContactCallDetail

Database table name: ContactCallDetail

Database: db_cra_ccdr

The Cisco CRA system creates a new record in the ContactCallDetail table for each call or call leg processed by the system. (A new call leg starts each time that a call is transferred, except when a call is transferred from a Cisco CTI port to an agent.)

A ContactCallDetail record contains detailed information about the call or leg. At least one such record will exist for each call.

The ContactCallDetail table contains the fields shown in Table 4.

Table 4 *ContactCallDetail Table Fields*

Field Name	Description	Storage
sessionID	Identifier that the system assigned to the call. This identifier remains the same for all legs of the call.	decimal(13) NOT NULL Primary Key
sessionSeqNum	Session sequence number that the system assigned to the call or the leg. Each leg of a call is assigned a new sequence number.	smallint NOT NULL Primary Key
profileID	Identifier of the Cisco CRA profile that is associated with this record.	int NOT NULL Primary Key
contactType	Contact type of the call or the leg: 1—Incoming. Outside call received by the Cisco ICD system. 2—Outgoing. Call originated by the Cisco CRA system, other than a call made within the system. 3—Internal. Call transferred or conferenced between agents, or a call made within the system.	tinyint NOT NULL

Table 4 *ContactCallDetail Table Fields (continued)*

Field Name	Description	Storage
contactDisposition	Disposition of the call or the leg: 1—Abandoned 2—Handled	tinyint NOT NULL
originatorType	Originator of the call or the leg: 1—Agent. Call originated by an agent. 2—Device. Call originated by a simulated caller. (Used for testing.) 3—Unknown. Call originated by an outside caller through a gateway or by an unknown device.	tinyint NOT NULL
originatorID	Login identifier of the agent who originated the call or the leg. Used only if originatorType is 1.	int NULL
originatorDN	If originatorType is 2, this field shows the CTI port number. If originatorType is 3, this field shows the telephone number of the caller as received by the Cisco CallManager, if available. Null if If originatorType is 1.	nvarchar(30) NULL
destinationType	Destination of the call or the leg: 1—Agent. Call presented to an agent. 2—Device. Call presented to a route point. 3—Unknown. Call presented to an outside destination through a gateway or to an unknown device. Null if no destination.	tinyint NULL

Table 4 *ContactCallDetail Table Fields (continued)*

Field Name	Description	Storage
destinationID	Login identifier of the agent who received the call or the leg. Used only if destinationType is 1.	int NULL
destinationDN	If destinationType is 2, this field shows the CTI port number. If destinationType is 3, this field shows the telephone number called, if available. Null if destinationType is 1.	nvarchar(30) NULL
startDateTime	For an incoming call or a leg, date and time that the call or the leg started to ring in the system. For an internal call or for an outgoing call, date and time that the call originated.	datetime NOT NULL
endDateTime	Date and time that this call or the leg was transferred or was disconnected.	datetime NOT NULL
gmtOffset	Offset, in minutes, between the local time of the Cisco CRA server and Greenwich Mean Time.	smallint NOT NULL
calledNumber	Telephone number of the device to which the call or leg was presented. If the call or leg was placed to a Cisco CRA Route Point, this field shows the directory number configured in the Cisco CallManager for that Route Point. If the call was placed to an external party, this field shows the telephone number dialed by the caller.	nvarchar(30) NULL

Table 4 *ContactCallDetail Table Fields (continued)*

Field Name	Description	Storage
origCalledNumber	<p>If the call was placed from an IP phone, the telephone number dialed by the caller.</p> <p>If the call was placed from outside the VoIP¹ network (for example, from the PSTN² or a TDM³ PBX⁴), the Cisco CallManager directory number to which the VoIP gateway routed the call.</p> <p>Null if the caller picked up the phone but did not dial any digits.</p>	nvarchar(30) NULL
applicationTaskID	<p>Identifier of the Cisco ICD or IVR⁵ application task that is associated with the call or the leg.</p> <p>Null for a call that does not have an application associated with it.</p>	decimal(9) NULL
applicationID	<p>Identifier of the Cisco ICD or IVR application that processed the call or the leg.</p> <p>Null for a call or a leg that does not have an application associated with it.</p>	int NULL
applicationName	<p>Name of the Cisco ICD or IVR application associated with the call.</p> <p>Null for a call or a leg that does not have an application associated with it.</p>	nvarchar(30) NULL
connectTime	<p>Amount of time, in seconds, between the start time of the call or the leg and the end time of the call or the leg.</p>	smallint NULL

Table 4 *ContactCallDetail Table Fields (continued)*

Field Name	Description	Storage
customVariable1	The contents of the variable _ccdrVar1, if this variable is set by the Set Session Info step in the workflow that the Cisco ICD or IVR application associated with this call or this leg invoked. Null if this variable is not set.	varchar(40) NULL
customVariable2	The contents of the variable _ccdrVar2, if this variable is set by the Set Session Info step in the workflow that the Cisco ICD or IVR application associated with this call or this leg invoked. Null if this variable is not set.	varchar(40) NULL
customVariable3	The contents of the variable _ccdrVar3, if this variable is set by the Set Session Info step in the workflow that the Cisco ICD or IVR application associated with this call or this leg invoked. Null if this variable is not set.	varchar(40) NULL
customVariable4	The contents of the variable _ccdrVar4, if this variable is set by the Set Session Info step in the workflow that the Cisco ICD or IVR application associated with this call or this leg invoked. Null if this variable is not set.	varchar(40) NULL
customVariable5	The contents of the variable _ccdrVar5, if this variable is set by the Set Session Info step in the workflow that the Cisco ICD or IVR application associated with this call or this leg invoked. Null if this variable is not set.	varchar(40) NULL

1. VoIP = Voice over Internet Protocol
2. PSTN = Public Switched Telephone Network
3. TDM = Time-Division Multiplexing

4. PBX = Private Branch Exchange
5. IVR = Interactive Voice Response

Related Tables

- ContactRoutingDetail, page 14 (via sessionID and sessionSeqNum)
- ContactServiceQueue, page 17 (via sessionID and sessionSeqNum; originatorID maps to resourceID, if originatorID is the identifier of an agent; destinationID maps to resourceID, if destinationID is the identifier of an agent)
- ProfileIDMapping, page 19 (via profileID)
- ResourceSkillMapping, page 24 (originatorID maps to resourceID, if originatorID is the identifier of an agent; destinationID maps to resourceID, if destinationID is the identifier of an agent)

ContactRoutingDetail

Database table name: ContactRoutingDetail

Database: db_cra

The Cisco CRA system creates a new record in the ContactRoutingDetail table for each Cisco Integrated Contact Distribution (ICD) call or call leg. (A new call leg starts each time that a call is transferred, except when a call is transferred from a Cisco CTI [Computer Telephony Interface] port to an agent.) The system also creates a new record in the ContactRoutingDetail table if a call is conferenced to an ICD workflow.

A ContactRoutingDetail record contains information about the Contact Service Queue (CSQ), priority, and resource group that are associated with the call or leg. If the call or leg disconnects before it reaches the CSQ, the system will not create this record.

The Contact Routing Detail table contains the fields shown in Table 5.

Table 5 *ContactRoutingDetail Table Fields*

Field Name	Description	Storage
sessionID	Identifier that the system assigned to the call. This identifier remains the same for all legs of the call.	decimal(13) NOT NULL Primary Key
sessionSeqNum	Session sequence number that the system assigned to the call or the leg. Each leg of a call is assigned a new sequence number.	smallint NOT NULL Primary Key
profileID	Identifier of the Cisco CRA profile that is associated with this record.	int NOT NULL Primary Key
primaryCSD	CSQ that handled the call or the leg. Null if the call or the leg was not handled by an agent.	int NULL
CSD1	First CSQ to which the call or the leg was queued. Null if the call or the leg was not queued.	int NULL
CSD2	Second CSQ to which the call or the leg was queued, if applicable. Null if the call or the leg was queued to less than two CSQs.	int NULL
CSD3	Third CSQ to which the call or the leg was queued, if applicable. Null if the call or the leg was queued to less than three CSQs.	int NULL
origPriority	Priority level assigned to the call or the leg when it was first queued. Null if a priority was not assigned.	tinyint NULL

Table 5 *ContactRoutingDetail Table Fields (continued)*

Field Name	Description	Storage
finalPriority	Priority level of the call or the leg when it ended. Null if a priority was not assigned.	tinyint NULL
rsrcGroupID	Resource group of the agent who handled the call or the leg. Null if the call or the leg was not handled by an agent.	smallint NULL
metServiceLevel	Whether a call or the leg was answered within the number of seconds specified in the Service Level field when the CSQ was set up in Cisco CRA Administration: 0—No 1—Yes	bit NULL
queueTime	Time, in seconds, that the call or the leg was queued before an agent picked up the call or the leg.	smallint NULL
startDateTime	For an incoming call or a leg, date and time that the call or the leg was queued.	datetime NOT NULL Primary Key

Related Tables

- ContactCallDetail, page 9 (via sessionID and sessionSeqNum)
- ContactServiceQueue, page 17 (via sessionID and sessionSeqNum; primaryCSD maps to recordID; CSD1 maps to recordID; CSD2 maps to recordID; CSD3 maps to recordID; rsrcGroupID maps to resourceGroupID)
- ProfileIDMapping, page 19 (via profileID)
- ResourceSkillMapping, page 24 (rsrcGroupID maps to resourceGroupID)

ContactServiceQueue

Database table name: ContactServiceQueue

Database: db_cra

The Cisco CRA system creates a new record in the ContactServiceQueue table when a Contact Service Queue (CSQ) is set up in Cisco CRA Administration.

A ContactServiceQueue record contains information about the CSQ. One such record exists for each active CSQ.

The ContactServiceQueue table contains the fields shown in Table 6.

Table 6 *ContactServiceQueue Table Fields*

Field Name	Description	Storage
contactServiceQueueID	Numeric identifier of the CSQ.	int NOT NULL
profileID	Identifier of the Cisco CRA profile that is associated with this record.	int NOT NULL
CSQName	Name of the CSQ as set up in Cisco CRA Administration.	nvarchar(50) NOT NULL
resourcePoolType	Type of resource pool that is set up in Cisco CRA Administration: 1—Resource groups 2—Resource skills	tinyint NOT NULL
resourceGroupID	If resourcePoolType is 1, unique identifier used to locate the associated resource group in the Resource Group table. Not used if resourcePoolType is 2.	int NULL
selectionCriteria	Resource pool selection model that is set up in Cisco CRA Administration	nvarchar(30) NOT NULL

Table 6 *ContactServiceQueue Table Fields (continued)*

Field Name	Description	Storage
skillGroupID	If resourcePoolType is 2, unique identifier used to locate the associated skill group in the SkillGroup table. The SkillGroup table can contain multiple records for one CSQ. Not used if resourcePoolType is 1.	int NULL
serviceLevel	Goal, in seconds, for the maximum time that a caller spends in the CSQ before the call is answered by an agent, as set up in Cisco CRA Administration.	int NOT NULL
serviceLevelPercentage	Goal for the percentage of calls that meet the service level that is shown in the serviceLevel field, as set up in Cisco CRA Administration.	tinyint NOT NULL
active	Whether the record is active: 0—Inactive 1—Active A record becomes inactive if the CSQ is deleted from the system.	bit NOT NULL
autoWork	Whether an agent goes to Work State after handling a call from this CSQ: 0—No 1—Yes	bit NOT NULL
dateInactive	If the active field is 0, date and time that the record became inactive.	datetime NULL
queueAlgorithm	Criterion that specifies how contacts are queued, as set up in Cisco CRA Administration.	nvarchar(30)

Table 6 *ContactServiceQueue Table Fields (continued)*

Field Name	Description	Storage
recordID	Identifier of this record.	int NOT NULL Primary Key
orderList	Reserved for future use.	int NULL

Related Tables

- ContactRoutingDetail, page 14 (recordID maps to primaryCSD, CSD1, CSD2, or CSD3; resourceGroupID maps to rsrcGroupID)
- ProfileIDMapping, page 19 (via profileID)
- ResourceSkillMapping, page 24 (via resourceGroupID)
- SkillGroup, page 27 (via skillGroupID)

ProfileIDMapping

Database table name: ProfileIDMapping

Database: db_cra

The Cisco CRA system creates a new record in the ProfileIDMapping table when a new profile is set up in Cisco CRA Administration.

A ProfileIDMapping record shows the mapping of the profile name to its unique identifier.

The ProfileIDMapping table contains the information shown in Table 7.

Table 7 *ProfileIDMapping Table Fields*

Field Name	Description	Storage
profilename	Name of the profile, as set up in Cisco CRA Administration.	nvarchar(50) NOT NULL Primary Key
profileID	Identifier of the profile.	int NOT NULL

Related Tables

- AgentConnectionDetail, page 5
- AgentStateDetail, page 7 (via profileID)
- ContactCallDetail, page 9 (via profileID)
- ContactRoutingDetail, page 14 (via profileID)
- ContactServiceQueue, page 17 (via profileID)
- ProfileIDMapping, page 19 (via profileID)
- ResourceGroup, page 23 (via profileID)
- ResourceSkillMapping, page 24 (via profileID)
- SkillGroup, page 27 (via profileID)

Resource

Database table name: Resource

Database: db_cra

The Cisco CRA system creates a new record in the Resource table when the CRA system retrieves agent information from the Cisco CallManager.

A Resource record contains information about the resource (agent). One such record exists for each active resource.

The Resource table contains the fields shown in Table 8.

Table 8 *Resource Table Fields*

Field Name	Description	Storage
resourceID	Numeric identifier of the resource.	int NOT NULL Primary Key
profileID	Identifier of the Cisco CRA profile that is associated with this record.	int NOT NULL Primary Key
resourceLoginID	The login name assigned to the resource in the Cisco CallManager.	nvarchar(50) NOT NULL
resourceName	The first name and the last name of the resource.	nvarchar(50) NOT NULL
resourceGroupID	Resource group to which the resource belongs. Null if no resource group is assigned to the resource.	int NULL
resourceType	Type of the resource: 1—Agent 2—Supervisor 3—Administrator	tinyint NOT NULL
resourceSkillMapID	Identifier used to locate the associated skill set of the resource in the ResourceSkillMapping table. The ResourceSkillMapping table can contain multiple records for one resource.	int NOT NULL

Table 8 *Resource Table Fields (continued)*

Field Name	Description	Storage
active	Whether this record is active: 0—Inactive 1—Active A record becomes inactive if the agent is deleted or updated.	bit NOT NULL
autoAvail	Whether the resource goes to Ready State after handling a Cisco ICD call: 0—No 1—Yes	bit NOT NULL
extension	The Cisco ICD extension of the resource.	nvarchar(50) NOT NULL
orderInRG	Order in which the resource resides within the resource group. Null if no resource group is assigned to the resource.	int NULL
dateInactive	If the active field is 0, date and time that the record became inactive.	datetime NULL

Related Tables

- AgentStateDetail, page 7 (resourceID maps to agentID)
- ContactRoutingDetail, page 14 (resourceGroupID maps to rsrcGroupID)
- ProfileIDMapping, page 19 (via profileID)
- ResourceGroup, page 23 (via resourceGroupID)
- ResourceSkillMapping, page 24 (via resourceSkillMapID)

ResourceGroup

Database table name: ResourceGroup

Database: db_cra

The Cisco CRA system creates a new record in the ResourceGroup table when a resource group is set up in Cisco CRA Administration.

A ResourceGroup record contains information about the resource group. One such record exists for each active resource group.

The Resource Group table contains the fields shown in Table 9.

Table 9 *Resource Group Table Fields*

Field Name	Description	Storage
resourceGroupID	Numeric identifier of the resource group.	int NOT NULL Primary Key
resourceGroupName	Name of the resource group, as set up in Cisco CRA Administration.	nvarchar(50) NULL
profileID	Identifier of the Cisco CRA profile that is associated with this record.	int NOT NULL Primary Key
active	Whether the record is active in the Cisco CRA system: 0—Inactive 1—Active A record becomes inactive if the resource group is deleted from the system.	bit NOT NULL
dateInactive	If the active field is 0, date and time that the record became inactive.	datetime NULL

Related Tables

- ContactServiceQueue, page 17 (via resourceGroupID)
- ProfileIDMapping, page 19 (via profileID)
- Resource, page 20 (via resourceGroupID)

ResourceSkillMapping

Database table name: ResourceSkillMapping

Database: db_cra

The Cisco CRA system creates a new record in the ResourceSkillMapping table when an agent is associated with a skill in CRA Administration.

A ResourceSkillMapping record contains information about all of the skills that are assigned to resources.

The ResourceSkillMapping table contains the fields shown in Table 10.

Table 10 *ResourceSkillMapping Table Fields*

Field Name	Description	Storage
resourceSkillMapID	Identifier of the skill set that is associated with a resource.	int NOT NULL Primary Key
skillID	Identifier of the skill that is associated with a resource.	int NOT NULL Primary Key
profileID	Identifier of the Cisco CRA profile that is associated with this record.	int NOT NULL Primary Key

Table 10 *ResourceSkillMapping Table Fields (continued)*

Field Name	Description	Storage
competenceLevel	Competence level associated with the skill, as set up in Cisco CRA Administration. Values range from 1 (lowest) to 10 (highest).	tinyint NOT NULL
active	Whether the record is active: 0—Inactive 1—Active A record becomes inactive if a new skill or a new competence level is assigned to the resource that is associated with this record.	bit NOT NULL

Related Tables

- ContactServiceQueue, page 17 (via skillID)
- ProfileIDMapping, page 19 (via profileID)
- ResourceSkillMapping, page 24 (via resourceSkillMapID)

Skill

Database table name: Skill**Database:** db_cra

The Cisco CRA system creates a new record in the Skill table when a skill is set up in Cisco CRA Administration.

A Skill record contains information about a skill. One such record exists for each configured skill.

The Skill table contains the fields shown in Table 11.

Table 11 Skill Table Fields

Field Name	Description	Storage
skillID	Identifier of the skill.	int NOT NULL Primary Key
profileID	Identifier of the Cisco CRA profile that is associated with this record.	int NOT NULL Primary Key
skillName	Name of the skill, as set up in Cisco CRA Administration.	nvarchar(50) NOT NULL
active	Whether the record is active in the Cisco CRA system: 0—Inactive 1—Active A record becomes inactive if the skill is deleted from the system.	bit NOT NULL
dateInactive	If the active field is 0, date and time that the record became inactive.	datetime NULL

Related Tables

- ProfileIDMapping, page 19 (via profileID)
- ResourceSkillMapping, page 24 (via skillID)
- SkillGroup, page 27 (via skillID)

SkillGroup

Database table name: SkillGroup

Database: db_cra

The Cisco CRA system creates a new record in the SkillGroup table when skills are associated with a Contact Service Queue (CSQ) in Cisco CRA Administration.

A SkillGroup record describes each skill that is associated with the CSQ.

The Skill Group table contains the fields shown in Table 12.

Table 12 Skill Group Table Fields

Field Name	Description	Storage
skillGroupID	Numeric identifier of the skill group.	int NOT NULL Primary Key
skillID	Numeric identifier of the skill.	int NOT NULL Primary Key
profileID	Identifier of the Cisco CRA profile that is associated with this record.	int NOT NULL Primary Key
competenceLevel	Minimum acceptable skill level for agents with this skill, as set up in Cisco CRA Administration. Values range from 1 (lowest) to 10 (highest).	tinyint NOT NULL
active	Whether the record is active in the CSQ: 0—Inactive 1—Active A record becomes inactive if the new skill group is deleted.	bit NOT NULL

Related Tables

- ContactServiceQueue, page 17 (via skillID)
- ProfileIDMapping, page 19 (via profileID)
- Skill, page 25 (via skillID)

WorkflowTask

Database table name: WorkflowTask

Database: db_cra

A WorkflowTask record contains information about a task or a subtask that runs on the Cisco CRA system.

The Workflow Task table contains the fields shown in Table 13.

Table 13 *WorkflowTask Table Fields*

Field Name	Description	Storage
taskID	Identifier of the task.	decimal(9) NOT NULL Primary Key
parentTaskID	Identifier of the parent task, if the task is a subtask.	decimal(9) NULL
applicationServerID	Identifier of the Cisco CRA Engine on which the task ran.	smallint NOT NULL Primary Key
startDateTime	Date and the time that the task started executing.	datetime NOT NULL
endDateTime	Date and the time that the task completed executing.	datetime NOT NULL



A

active field
 in ContactServiceQueue table 18
 in ResourceGroup table 23
 in ResourceSkillMapping table 25
 in Resource table 22
 in SkillGroup table 27
 in Skill table 26

AgentConnectionDetail table 5

agentID field, in AgentStateDetail table 7

AgentStateDetail table 7

applicationID field, in ContactCallDetail table 12

applicationName field, in ContactCallDetail table 12

applicationServerID field, in WorkflowTask table 28

applicationTaskID field, in ContactCallDetail table 12

autoAvail field, in Resource table 22

autoWork field, in ContactServiceQueue table 18

B

bit, defined 3

C

calledNumber field, in ContactCallDetail table 11

Cisco CRA database
 db_cra 1
 db_cra_ccdr 1

competenceLevel field
 in ResourceSkillMapping table 25
 in SkillGroup table 27

connectTime field, in ContactCallDetail table 12

ContactCallDetail table 9

contactDisposition field, in ContactCallDetail table 10

ContactRoutingDetail table 14

contactServiceQueueID field, in ContactService Queue table 17

ContactServiceQueue table 17

contactType field, in ContactCallDetail table 9

CSD1 field, in ContactRoutingDetail table 15

CSD2 field, in ContactRoutingDetail table 15

CSD3 field, in ContactRoutingDetail table 15
 CSQName field, in ContactServiceQueue table 17
 customVariable1 field, in ContactCallDetail table 13
 customVariable2 field, in ContactCallDetail table 13
 customVariable3 field, in ContactCallDetail table 13
 customVariable4 field, in ContactCallDetail table 13
 customVariable5 field, in ContactCallDetail table 13

D

database table

AgentConnectionDetail 5
 AgentStateDetail 7
 ContactCallDetail 9
 ContactRoutingDetail 14
 ContactServiceQueue 17
 ProfileIDMapping 19
 Resource 20
 ResourceGroup 23
 ResourceSkillMapping 24
 Skill 25
 SkillGroup 27
 WorkflowTask 28
 dateInactive field
 in ContactServiceQueue table 18

in ResourceGroup table 23
 in Resource table 22
 in Skill table 26
 datetime, defined 3
 db_cra_ccdr database 1
 db_cra database 1
 decimal, defined 3
 destinationDN field, in ContactCallDetail table 11
 destinationID field, in ContactCallDetail table 11
 destinationType field, in ContactCallDetail table 10

E

endTime field
 in AgentConnectionDetail table 6
 in ContactCallDetail table 11
 in WorkflowTask table 28
 eventDateTime field, in AgentStateDetail table 7
 eventType field, in AgentStateDetail table 8
 extension field, in Resource table 22

F

field, database 2
 finalPriority field, in ContactRoutingDetail table 16

-
- ## G
- gmtOffset field
in AgentConnectionDetail table 6
in AgentStateDetail table 7
in ContactCallDetail table 11
-
- ## H
- holdTime field, in AgentConnectionDetail table 6
-
- ## I
- int, defined 3
-
- ## M
- metServiceLevel field, in ContactRoutingDetail table 16
-
- ## N
- NOT NULL, defined 4
nvarchar, defined 3
-
- ## O
- orderInRG field, in Resource table 22
- orderList field, in ContactServiceQueue table 19
- origCalledNumber field, in ContactCallDetail table 12
- originatorDN field, in ContactCallDetail table 10
- originatorID field, in ContactCallDetail table 10
- originatorType field, in ContactCallDetail table 10
- origPriority field, in ContactRoutingDetail table 15
-
- ## P
- parentTaskID field, in WorkflowTask table 28
- primaryCSD field, in ContactRoutingDetail table 15
- primary key 4
- profileID field
in AgentConnectionDetail table 5
in AgentStateDetail table 8
in ContactCallDetail table 9
in ContactRoutingDetail table 15
in ContactService Queue table 17
in ProfileIDMapping table 20
in ResourceGroup table 23
in ResourceSkillMapping table 24
in Resource table 21
in SkillGroup table 27
in Skill table 26

ProfileIDMapping table 19

profilename field, in ProfileIDMapping table 20

Q

queueAlgorithm field, in ContactServiceQueue table 18

queueTime field, in ContactRoutingDetail table 16

R

reasonCode field
in AgentStateDetail table 8

record, database 2

recordID field, in ContactServiceQueue table 19

resourceGroupID field
in ContactServiceQueue table 17
in ResourceGroup table 23
in Resource table 21

resourceGroupName field, in ResourceGroup table 23

ResourceGroup table 23

resourceID field
in AgentConnectionDetail table 5
in Resource table 21

resourceLoginID field, in Resource table 21

resourceName field, in Resource table 21

resourcePoolType field, in
ContactServiceQueue table 17

resourceSkillMapID field
in ResourceSkillMapping table 24
in Resource table 21

ResourceSkillMapping table 24

Resource table 20

resourceType field, in Resource table 21

ringTime field, in AgentConnectionDetail table 6

rsrcGroupID field, in ContactRoutingDetail table 16

S

selectionCriteria field, in ContactServiceQueue table 17

serviceLevel field, in ContactServiceQueue table 18

serviceLevelPercentage field, in
ContactServiceQueue table 18

sessionID field
in AgentConnectionDetail table 5
in ContactCallDetail table 9
in ContactRoutingDetail table 15

sessionSeqNum field
in AgentConnectionDetail table 5
in ContactCallDetail table 9
in ContactRoutingDetail table 15

skillGroupID field
in ContactServiceQueue table 18

in SkillGroup table 27
SkillGroup table 27
skillID field
 in ResourceSkillMapping table 24
 in SkillGroup table 27
 in Skill table 26
skillName field, in Skill table 26
Skill table 25
smallint, defined 4
startDateTime
 in Contact Routing Detail Table 16
startDateTime field
 in AgentConnectionDetail table 5
 in ContactCallDetail table 11
 in WorkflowTask table 28
storage 3

T

talkTime field, in AgentConnectionDetail
 table 6
taskID field, in WorkflowTask table 28
tinyint, defined 4

V

varchar, defined 4

W

WorkflowTask table 28
workTime field, in AgentConnectionDetail
 table 6

