Reporting Data Guide
Sinch Contact Pro

Version FP18 – November 2021

Revision History

Date	Description
13.01.2014	SP06 Patch 1 version updates
06.06.2014	BCM changed to SAP Contact Center
09.10.2015	DimChannel: email out channel added
06.10.2016	A new column FK_Agent added to FactCEMContactsArrived table, FreeTimeInSeconds definition changed
29.08.2017	Figure in section 2.2 FactCEMContactsArrived updated Section 3.7 DimChannel updated
2.12.2019	CountOfHandledChatOut added to FactCEMAgents, and the following columns are used for both incoming and outgoing chats: ChatInTimeInSeconds, ChatInMultipleTimeInSeconds, ChatInTotalTimeInSeconds, CountOfChatInReply, CountOfChatInTotalReply, ChatInReplyTimeInSeconds,
31.08.2020	Version 2008 changes
15.06.2021	Version 21Q2 changes
24.09.2021	Version 21Q3 changes
02.11.2021	Updating document styles and removing unnecessary content.

Table of Contents

1 Introduction

This document introduces Sinch Contact Pro Reporting system data members. For more information about how events in the conversation flow are shown in different values in Reporting, see the *Sinch Contact Pro Reporting Data Examples* document.

The Reporting application includes a dynamic data warehouse for multidimensional OLAP analysis. The actual reporting is carried out using the Microsoft SQL Reporting Services option.

The Data Collector component passes information about operative events to the Reporting Database. The information privacy in Reporting can be protected with the Data Collector parameters set in the System Configurator application.

The software includes a standard set of reports that are introduced in the Reporting application help. More reports can be defined in the SQL Server Business Intelligence Development Studio software.

SAP Business Objects reports can be viewed in the Business Objects 4.0 environment. Using the newest available Business Objects 4.0 environment is recommended.

Caution

> The software users (service providers and end-users) are fully responsible for ensuring that the services provided using this software do not violate or are not used in contravention of local legislation.
> The software users must acknowledge that the software collects identification data for enabling the services and their invoicing, security and troubleshooting, protecting the services against misuse and misappropriation, and further improvement of the software and services, and they must assume the full responsibility for the use of the data collected.

Note

In this document, the name used for data staging database is DSArea and for data warehouse database VWU. In real life, database names have prefix [CustomerName], which is provided during “Reporting database Server” installation. For example, if the customer’s name is Sinch, database names would be Sinch_DSArea and Sinch_VWU.

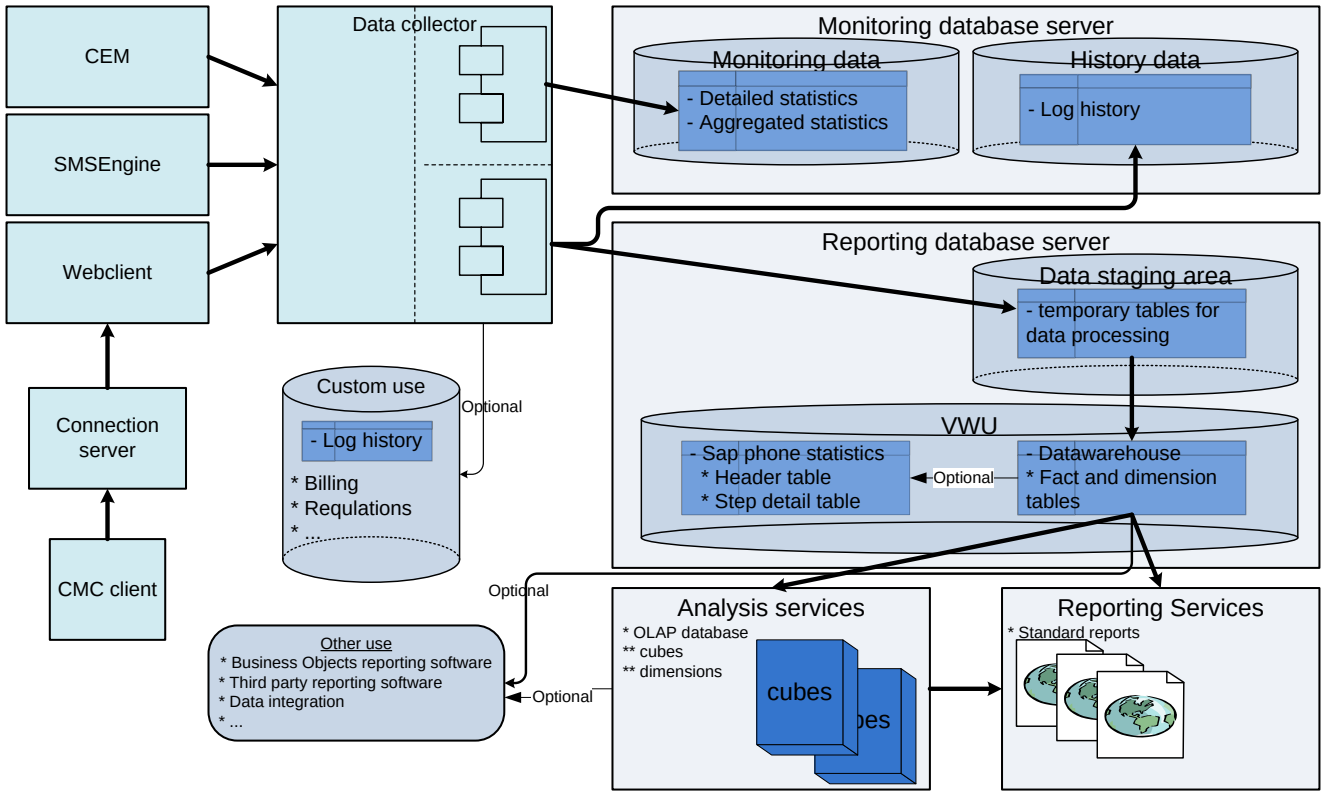


Figure: Overall Reporting Data Flow

2 Change history

2.1 Version 7.0 Changes

The version 7.0 changes are:

- Possibility to install many Sinch Contact Pro Reporting systems on same SQL server instance
- Agent statistics / improved simultaneous multi-conversation handling reporting
- Queue serving status reporting data and default reports
- Integrated Outbound campaign conversation reporting data and default reports
- Skill reporting data and default reports
- Integrated scripting results' reporting data
- Save conversation's recording file name
- Removed Task manager (TM) and Absence information (AI) reporting data collection (since the version 7.0 does not have Task Manager)
- Simplified reporting structure: there will be two reporting databases: VWU for data and configuration settings, and DSArea for data staging area.
- Improved dimension attribute handling
    - On change, parameterized if reporting creates a new member or update existing one.

2.2 Version 7.0 SP04 Changes

2.2.1 Queuing Time Feature

Related to script reporting improvement, a new feature /calculated value `FactCEMContacts.QueueTimeInSeconds` has been implemented to provide more exact queuing time for data calculations.

2.3 Version 7.0 SP06 Changes

To enable reporting new multi-chat and agent utilization issues, several new calculated facts have been added to `FactCEMAgents`, see Calculated Facts. A new column `MaxCountOfMultiChatSessions` has been added to inform about maximum number of allowed simultaneous chats.

2.4 Version 7.0 SP06 Patch 1 Changes

2.4.1 Contact Facts CountofArrivedEmails and CountOfArrivedCBRs

7.0 SP6 Patch1 does not collect data anymore into the fields `FactCEMContacts.CountOfArrivedEmails` and `FactCEMContacts.CountOfArrivedCBRs` since same statistics are provided on table `FactCEMContactsArrived`. Columns still remain in the data warehouse.

2.4.2 FactCEMContacts: TransferTimeInSeconds, CountOfDeletedEmailsContacts and TalkingTimeAgentInSeconds

`TransferTimeInSeconds`: contain transferring time for completed consultation calls as well.

New column `CountOfDeletedEmailsContacts`: Count of email conversations, which are marked as deleted by agent.

New column `TalkingTimeAgentInSeconds`: Agent's handling time for a conversation.

For a detailed description, see Calculated Facts.

2.5 Version 7.0 SP08 Change: Reporting History Data Clean-Up Changed

Job's "XXX: Reporting Data Transformation Process" last step "History Database cleanup" changed.

Procedure Reporting_History_Cleanup changed:

- "Row count" check fixed. Now process "continue looping" until end.
- Added check to remove really old hanging conversations from XXX_DSArea. There is a new parameter @DeleteOldDataDays, which has default value 180. All data older than 180 days is deleted.

2.6 Version 7.0 SP10 Changes

- **FactCEMContactsArrived** table got a new column **FK_Agent**.
- **FreeTimeInSeconds** definition changed.

2.7 Version 7.0 SP12 Changes

- **DimChannel** got **TechnicalChannelType** and **TechnicalChannelSubtype**

2.8 Version 2008 Changes

- **FactCEMContacts** table got a new column **Subject**.

2.9 Version 21Q2 Changes

- **FactCEMContacts** table got a new column **ChatContent**.
- **FactCEMContacts** table got a new column **ScriptResultContent**.
- **FactCEMContacts** table got a new column **IsImported**.

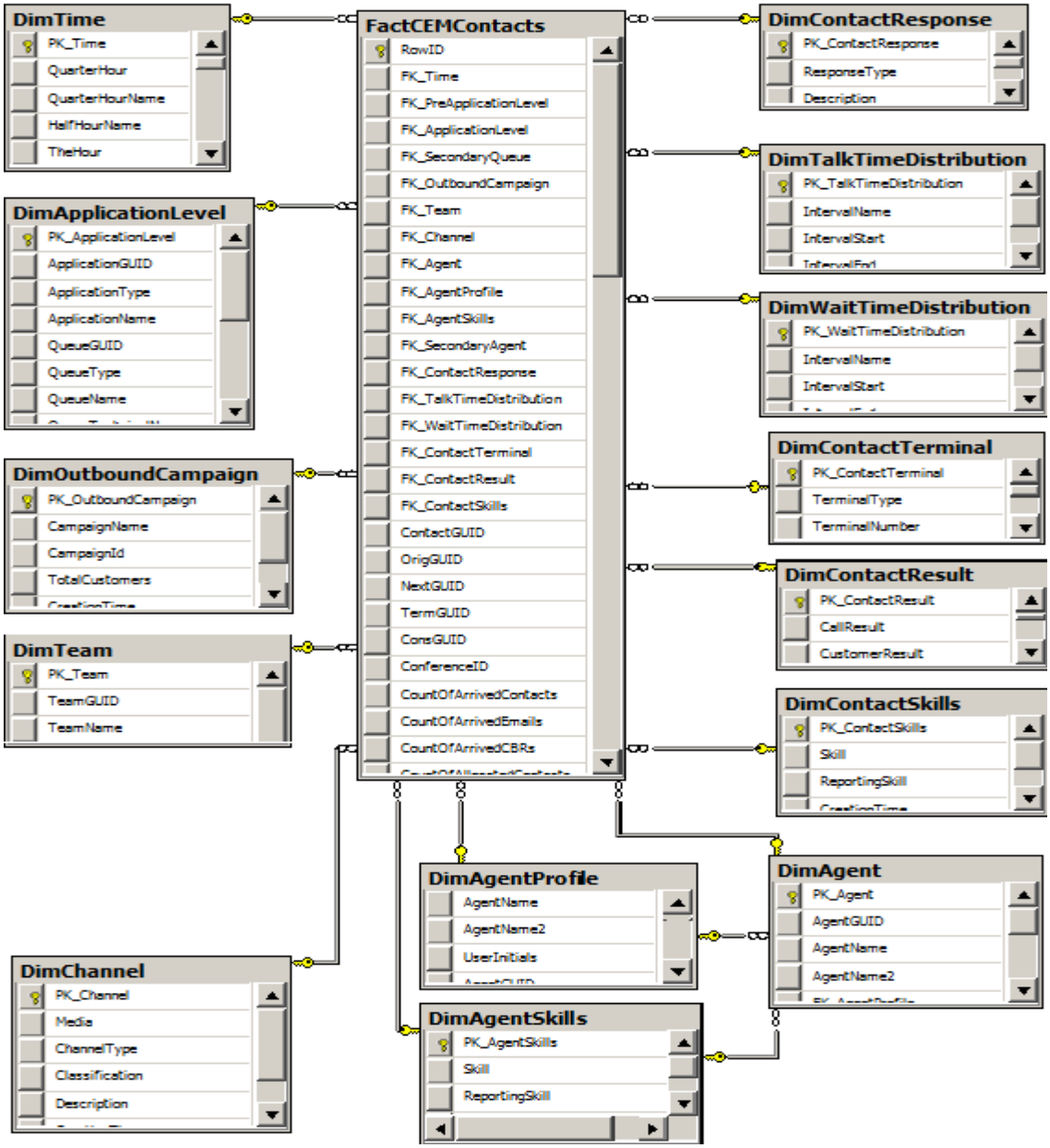
2.10 Version 21Q3 Changes

- **FactCEMContacts** table got a new column **CADContent**.
- **FactCEMContacts** table got a new column **InternalRemarkContent**.

3 Reporting Data Warehouse

3.1 FactCEMContacts

Conversation-related statistics are saved in the `FactCEMContacts` table. Each conversation writes a row into `FactCEMContacts` with all links and fact values.



3.1.1 Row Identifier

RowID => Unique row identifier

3.1.2 Foreign Key References to Dimension Tables

FK_Time => Link to *DimTime* table. Link is set up by handling time (disconnection time).

- **FK_Time** always has a reference to UTC time

FK_Time_Default or **FK_Time_XXX** => Link to *DimTime* table. Column contains calculated formula for timezones.

- **FK_Time_Default** is the reference to the time zone that has been set as default time zone during Reporting installation. FK_Time_XXX is another time zone reference that a reporting administrator may have created as another time zone and given it a name “XXX”.

FK_PreApplicationLevel => Link to *DimApplicationLevel* table. Link points to previous application’s queue, where the conversation has arrived. For example, if a call arrives through IVR into a contact center application, for contact center application contact report, FK_PreApplicationLevel points to IVR’s queue and FK_ApplicationLevel points to contact center’s queue.

FK_ApplicationLevel => Link to *DimApplicationLevel* table. Link points to the queue, where the conversation has arrived.

FK_SecondaryQueue => Link to *DimApplicationLevel* table. Link points to the queue, where the conversation was handled or ended (in overflow situation, secondary queue differs from *DimApplicationLevel* queue).

FK_OutboundCampaign => Link to *DimOutboundCampaign* table that offers information if the call belongs to any Outbound campaign. On default values are linked to “undefined” campaign

FK_Team => Link to the *DimTeam* table: Link points to handling agent’s reporting group.

FK_Channel => Link to the *DimChannel* table (Static values). Points to corresponding channel category, see the table below.

Media, channel type and classifications

Media	ChannelType	Classification	Description
undefined	undefined	undefined	Unresolved media type and/or classification
EMAIL	EMAIL	EXTERNAL-IN	E-mail conversation from outside to the contact center system
EMAIL	EMAIL internal	INTERNAL	Internal e-mail conversation inside the contact center system
PHONE	CallIn	EXTERNAL-IN	Inbound call from outside to the contact center system
PHONE	CallIn internal	INTERNAL	Internal inbound call inside the contact center system
PHONE	CallOut	EXTERNAL-OUT	Outbound call from the contact center system to outside the system
PHONE	CallOut internal	INTERNAL	Outbound internal call inside the contact center system
PHONE	CallOut MTD	EXTERNAL-OUT	Multi terminal desktop outgoing call to external (or internal) number
SMS	SMS	EXTERNAL-OUT	SMS conversation from the contact center system to outside
VOICEMAIL	VOICEMAIL	EXTERNAL-IN	Voicemail conversation from outside to the contact center system

VOICEMAIL	VOICEMAIL internal	INTERNAL	Internal voicemail conversation inside the contact center system
IVR	IVR	EXTERNAL-IN	Inbound IVR call from external number
IVR	IVR internal	INTERNAL	Inbound IVR call from internal number
IVR	SPS POP	EXTERNAL-IN	CMC call service
IVR	SPS VM	EXTERNAL-IN	CMC recording functionality
EMAIL	EmailOut GSM	EXTERNAL-OUT	Sent e-mail from CMC
CHAT	ChatIn	EXTERNAL-IN	Inbound chat conversation from an external source
CHAT	ChatIn internal	INTERNAL	Inbound chat conversation from an internal source
CHAT	ChatOut internal	INTERNAL	Outbound chat conversation from an internal source
CBR	CBR	EXTERNAL-IN	Callback request from outside to the contact center system
PHONE	CallOut CBR	EXTERNAL-OUT	Outbound call to customer for a callback request
PHONE	CallIn CBR Int.	INTERNAL	Internal inbound call to reach agent for callback request
PHONE	CallOut OB	EXTERNAL-OUT	Outbound campaign call contact
EMAIL	EmailOut	EXTERNAL-OUT	Email conversation from Sinch Contact Pro system to outside

FK_Agent => Link to the *DimAgent* table. Points to agent who handled the conversation (or a direct call owner). If agent is not available, linked to "undefined" name (*FK_Agent = 1*)

FK_AgentProfile => Link to the *DimAgentProfile* table. Points to agents who handled the conversation (or direct call owner) latest configuration in *DimAgentProfile* table (table contains history of changes)

FK_AgentsSkill => Link to the *DimAgentSkill* table that contains agent's skills.

FK_SecondaryAgents => Link to the *DimAgentProfile* table: the secondary agent is linked if the conversation is internal. If the conversation is incoming, the secondary agent is A-Agent; if it is outgoing, the secondary agent is B-Agent.

FK_ContactResponse => Link to the *DimContactResponse* table (Static values!). Information if the conversation is *Handled*, *AnsweredOnTime*, *FalseAttempt*, *Abandoned* or *ServiceClosed*.

ResponseType	Description
Handled	Conversation has been handled
AnsweredOnTime	Conversation has been handled and serving has started before the configured answered-on-time limit has been exceeded.
FalseAttempt	Conversation has been disconnected before false-attempt time, not included in abandoned ones.
Abandoned	Conversation has not been responded before disconnecting, waiting time exceeds the false-attempt time limit.
ServiceClosed	Conversation has arrived outside scheduled service time.

FK_TalkTimeDistribution => Link to the *DimTalkTimeDistribution* table (Static values). Table hold talking time *0*, *5*, *10* … *595*, *600* and > *600* seconds.

FK_WaitTimeDistribution => Link to *DimWaitTimeDistribution* table (Static values). Table hold waiting time *0*, *5*, *10* … *595*, *600* and > *600* seconds.

FK_ContactTerminal => Link to the *DimContactTerminal* table. Links to information which kind of terminal has been used for serving the conversation (Soft phone, MTD, ExternalAgent)

FK_ContactResult => Link to the *DimContactResult* table. Points to case of Outbound Campaign conversation to conversation result member, which have same Call result, Customer result and Classifier information.

FK_ContactSkill => Link to the *DimContactSkill* table. Points to conversation skill member, which has the same skill requirements

3.1.3 Calculated Facts

ContactGUID => Conversation's unique identifier from operative logs.

OrigGUID => If conversation has been (internally) transferred to application, link to call's previous ContactGUID

NextGUID => If conversation has been internally transferred to application, link to call's next ContactGUID

TermGUID => If MTD used, MTD outgoing call (call that is made to MTD terminal) linked to "original call"

ConsGUID => Tells which call is made as consultation call

ConferenceID => If call belongs to a call conference, this tells the conference id

CallId => Conversation's lifetime unique identifier. ContactGUID may change if conversation is transferred to another application but CallId remains same.

CountOfArrivedContacts => Count of arrived conversations. Each conversation has the value 1 except e-mails, see CountOfArrivalEmails

CountOfArrivedEmails => E-mails are reported based on arrival time as well, so they may have two rows. When only arrived information for e-mail is reported: only CountOfArrivedEmails =1, StartTime and Endtime (time for both is arrival time) are reported into facts.

Note

Starting from 7.0 SP6 Patch 1: no data collected to this column anymore since arrival information for all conversations is provided with `FactCEMContactsArrived`.

CountOfArrivedCbrs => Callback requests (CBR) are reported based on arrival time as well, so they may have two rows. When only arrived information for CBR is reported: only CountOfArrivedCbrs =1, StartTime and Endtime (time for both is arrival time) are reported into facts.

Note

Starting from 7.0 SP6 Patch 1: no data collected to this column anymore since arrival information for all conversations is provided with `FactCEMContactsArrived`.

CountOfAllocatedContacts => Count of allocations, i.e. how many times conversation has been allocated before handling or disconnection, calculated from the events *DestAllocated* for a conversation.

CountOfHandledContacts => Count of handled, successfully transferred, or joined conversations. If any of events *'ConnectedToOper', 'Connected', 'OBConnected', CBRConnected, 'ExternalTransfer', 'Transfer', 'ApplTransfer'* or ‘CallJoined’ (for MTD call) exist then the value is *1*, otherwise *0*. For SMS it is always *1*.

CountOfExternalHandledContacts => Count of conversations handled by external agents. If the event *ConnToExtAgent* exists, the value is *1*, otherwise *0*. Note: Allocating to external agent is not counted in this value.

CountOfDivertedContacts => Count of conversations diverted by the contact center system (not transferred by agent, that is already answered). If any of events *ExternalTransfer*, *Transfer* or *ApplTransfer* exists, the value is *1* otherwise *0*.

CountOfConsultedContacts => Count of consultation calls made during original call (outgoing consultation calls). If the event *ConsConnected* exists, the value is *1* otherwise *0*.

CountOfOverflowedContacts => Count of overflowed conversations. If a conversation arrived in the queue, and is picked or hang-up from another queue, the value is *1*, otherwise *0*.

CountOfAnsweredOnTimeContacts => Count of conversations picked up before the threshold value is reached. These conversations are always handled. Connection time - arrival time value is less or equal to “answered on time” parameter value.

CountOfFalseAttemptContacts => Count of conversations that are not handled and waiting time (disconnection time - arrival time) is less or equal to false attempt time.

CountOfAbandonedContacts => Count of conversations that are not handled and waiting time (disconnection time - arrival time) is more than the false attempt time.

CountOfAbandonedBusyContacts => Count of conversations that are not handled and reason of disconnection is “Busy”.

CountOfAbandonedPromptsContacts => Count of conversations that are not handled and reason of disconnection is “Prompt”.

CountOfAbandonedQueueFullContacts => Count of conversations that are not handled and reason of disconnection has been full queue situation.

CountOfRecordedContacts => Count of recorded conversations. If the event "*FileRecorded*" or "*FileRecordedH*" exists then the value is *1*, otherwise *0*.

CountOfNotedContacts => Count of conversations, which include notes. If the event *Notes* exists, the value is *1* otherwise *0*. Note: This is not use anymore with generic version. This is for customization purposes.

CountOfServiceClosedContacts => Count of conversations, which arrived outside service time (schedule). If the event *ServiceClosed* exists, the value is *1*, else *0*. Note: When the call has arrived outside service time, no statistics are reported. Even if the conversation has been transferred and handled, these values are not reported.

CountOfAgentDisconnectedContacts => Count of conversations that are handled, and agent has disconnected.

CountOfDeletedEmailsContacts => Count of email conversations, which are marked as deleted by agent.

MaxConcurrentApplicationContact => How many active, concurrent incoming conversations have been on application level. For a conversation categorized as a call, concurrent call count for a specific application at the disconnection moment.

MaxConcurrentQueueContact => How many active, concurrent incoming conversations have been on queue level. For a conversation categorized as a call, concurrent call count for a specific queue at the disconnect moment.

PreWaitingTimeInSeconds => Waiting time that a caller has waited earlier (OrigGUID exists too). Value is from previous conversation's **WaitingTimeInSeconds**

PreTalkingTimeInSeconds => Talking time that a caller has talked (handled) earlier (OrigGUID exists too). Value is from previous conversation's **TalkingTimeInSeconds**

WelcomeTimeInSeconds => Prewelcome message duration for conversation

WaitingTimeInSeconds => Waiting time for conversations. If the connection time exists, the value is *connection time - arrival time*, otherwise *disconnection time - arrival time*. Note that this value contains possible **WelcomeTimeInSeconds**.

QueuingTimeInSeconds => Queuing time for conversations. If the connection time exists, the value is *connection time - queuing time*, otherwise *disconnection time - queuing time*. Queuing time solved using new event "Queuing"; which appear at the moment conversation arrived to queue for allocation. This time for outbound conversations is 0. For inbound conversations this is different from waiting time in case pre-welcome message or Opt-IN IVR is/are used for contact center's queue. See more info from section "12.1 FactCEMContacts.QueueTimeInSeconds"

TalkingTimeInSeconds => Handling time for a conversation. When the connection time exists then *disconnection time - connection time*, otherwise *0*. Note that this time contains possible transferred call's duration, **TransferTimeInSeconds**.

TalkingTimeAgentInSeconds => Agent's handling time for a conversation. This value tells how long the agent has participated in handling the conversation. When the conversation has been transferred buy agent, duration is *transfer request time - connection time*. When conversation has not been transferred; this value is equal to **TalkingTimeInSeconds**.

AfterworkTimeInSeconds => Wrap-up ("Afterwork") time for a conversation. Value is the time difference between the events *AfterworkBegin* and *AfterworkEnd*. This time contains the possible "resting time".

RestingTimeInSeconds => Resting time that the agent consumed after conversation ends. (Parameter for Queue/CDT setting: “Wrap-up Time”). Note AfterworkTimeInSeconds contains this duration.

HoldTimeInSeconds => Duration of a conversation being set to hold (*CallPark/ call transfer starts*). Duration from event *Hold/CallTransfer* to next event (such as *UnHold*, or any transfer event).
NOTE: Possible *HoldTimeInSeconds* value is included in *HandlingTimeInSeconds*.

AllocationTimeInSeconds => Allocation time; how long has a call been allocated to agent(s). Duration from event’s “*DestAllocated*” to next event’s times (sum of allocations).

CostOfContacts => Not in use in generic version. For customization purposes.

StartTime => Arrival time for conversations. The timestamp value from tables *TAContactLog*, *TASMSLog* or *TACMCLog*.

EndTime => Disconnection, handling, or deleting timestamp from history data tables (For SMS messages, this is the same as the *StartTime* value).

Source => Caller's number (A-Number/address of conversations), in case of e-mail it is the sender’s address.

Destination => (B-Number/address of conversation) Called number or a receiver’s e-mail address.

DestinationRouted => (B-Number/address of conversation) Called number after number manipulation (based on routing rules). This is the number the contact center sends to gateway. This is reported according to CD’s LogDestination parameter value (The default value is 0.):
0 = does not log
1 = The BNumber is informed after routing rule modifications. The number is reported as it was before the route or destination modifications.

2 = The BNumber is informed after route and destination modifications, the number is reported as it is passed to the gateway.
3 = logs both 1 and 2

DestinationGW => IP-address of the gateway. This is reported according to CD's LogDestination parameter value (The default value is 0.):
0 = does not log
1 = The BNumber is informed after routing rule modifications. The number is reported as it was before the route or destination modifications.
2 = The BNumber is informed after route and destination modifications, the number is reported as it is passed to the gateway.
3 = logs both 1 and 2

TransferTime => Transfer time for conversations that are "blind transferred" by agent or transferred by the contact center system to other application or to an external number. Timestamp is only for successful transfers.

TransferNumber => Transferred number for conversations (only for successful transfers).

Note

When consultation call is complete *TransferNumber* is not reported.

TransferTimeInSeconds => Transferred call duration, calculated as *disconnection time - transfer time*, if the *TransferTime* exists, otherwise *0*. Contains "warm transferred" (completed) consultation calls transfer time as well. Note that this time is included in *TalkingTimeInSeconds*.

PointsOfSkillMatch => Match point for conversation skill requirement compared to allocated agent's skills. Value is between 0 and 100. CEM provides skill match value with the event "SkillReq".

SchedulebasedWaitingTimeInSeconds => For e-mails: schedule-based waiting time. For example, if a queue is open from 08:00 – 16:00, and e-mail has arrived 06:50 and been taken into handling at 08:10, the value is 10 minutes => 600 seconds (WaitingTimeInSeconds = 80 minutes => 4800 seconds)

SchedulebasedHandlingTimeInSeconds => All time when e-mail has been in "active modification". If agent leaves an e-mail open in CDT for night, all time is counted for *SchedulebasedHandlingTimeInSeconds*. For example, if a queue is open from 08:00 – 16:00 and e-mail has arrived 15:50 and been taken into handling at 15:55 and is handled to end at 16:05; this value is 10 minutes => 600 seconds (TalkingTimeInSeconds = 18h 10 min = 65400 seconds).

OB_CountOfTotalHandledCustomers => Outbound campaign call statistics: how many campaign customers (cumulative) have been handled when this specific call has ended.

OB_CountOfHandledCustomers =>Outbound campaign call statistics: is customer handled during this call. "Customer result" have been different from 'CALL','MAXCALLS', '', and CallResult different from ‘’

OB_CountOfUnknownCTIHandledCustomers => Outbound campaign call statistics: customer result has been an external error code (CTI code). "Customer result" has been different from 'CALL', 'MAXCALLS', 'SUCCESS', 'REFUSAL', 'HANGUP', 'NO_BNUMBERS_LEFT', 'WRONG_PERSON', 'AGENT_REJECTED',''

OB_CountOfSuccesfulCalls => Outbound campaign call statistics: right customer reached, and conversation was "successful" (for example: bought a magazine). "Customer result" has been 'SUCCESS'.

OB_CountOfRefusalCalls => Outbound campaign call statistics: right customer reached and customer refused (for example: did not buy a magazine). "Customer result" has been 'REFUSAL'.

OB_CountOfSkipped => Outbound campaign call statistics: Agent has skipped the customer call.
“Call result” has been ‘SKIP’.
NOTE: “Conversation” is created even though a call was not made due to skip!

OB_CountOfRejected => Outbound campaign call statistics: Agent has rejected to call customer.
“Customer result” has been ‘AGENT_REJECTED’.
Note: “Conversation” is created even though a call was not made due to rejection!

OB_CountOfHangups => Outbound campaign call statistics: Agent has classified the call as “Hangup”.
“Customer result” has been ‘HANGUP’.

OB_CountOfRedials => Outbound campaign call statistics: Agent has classified the call to be redialed.
“Customer result” has been ‘CALL’.

OB_CountOfMaxcalls => Outbound campaign call statistics: Customer has been tried to be reached maximum of times. “Customer result” has been ‘MAXCALLS’.

OB_CountOfWrongNumbers => Outbound campaign call statistics: Agent has classified customer number to be a wrong number. “Call result” has been ‘WRONG_NUMBER’.

OB_CountOfWrongPersons => Outbound campaign call statistics: Agent has classified the number owner to be a wrong person. “Customer result” has been ‘WRONG_PERSON’.

OB_CountOfNoBNumbers => Outbound campaign call statistics: If the customer has had “wrong number”, system may result to case there is no other number for customer. “Customer result” has been ‘NO_BNUMBERS_LEFT’.

OB_CallRetryNumber => Outbound campaign call statistics: Order number how many times the customer has been tried to be reached and failed because of busy or no answer situations.

OB_CallOutAccessTimeInSeconds => Outbound campaign call / Predictive dialler statistics: Duration between when the dialler has started a call and when the call has been allocated to agent or disconnected.

OB_PreviewTimeInSeconds => Outbound campaign call / Preview dialler statistics: how long has an agent been in preview state before a customer call.

OB_Value => Not in use in generic version. For customization purposes.
Subject => Subject given to the conversation. Saved from event ContactSubject field Value1.

IsImported => Info of whether chat conversation events have been imported.

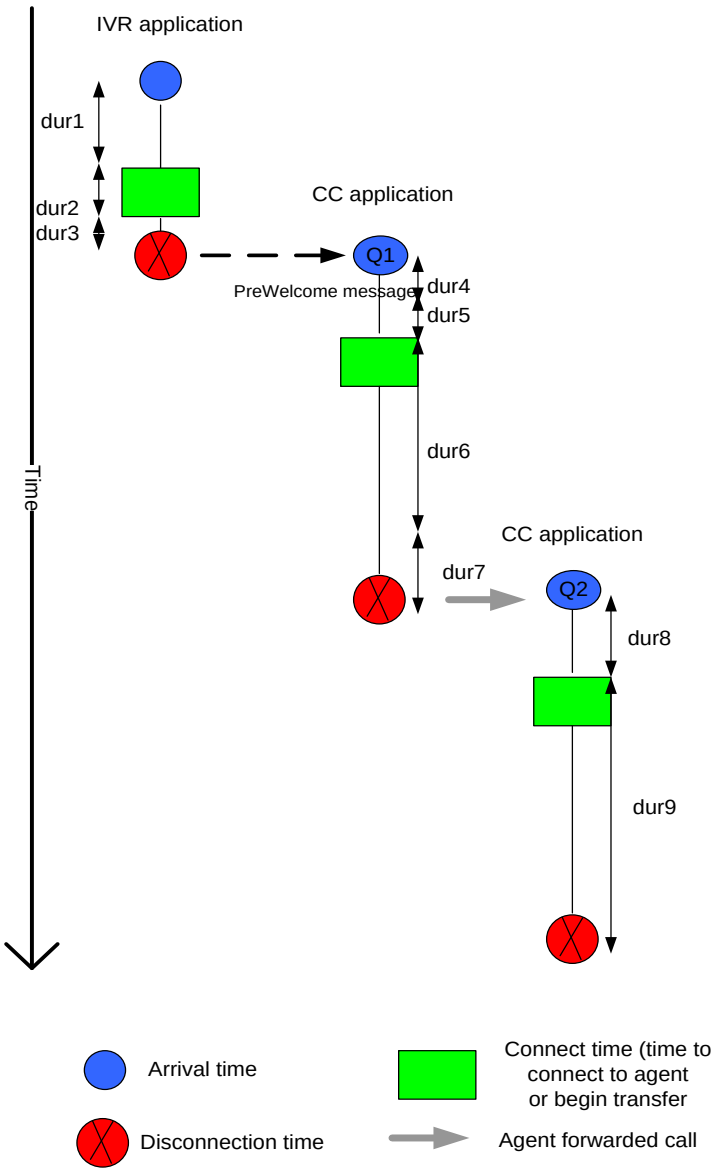
ChatContent => Chat transcript in compact JSON format.

ScriptResultContent => Script result details in compact JSON format.

InternalRemarkContent => Internal notes in JSON format.

CADContent => Attached data in JSON format.

Note: Contents of chats, internal remarks, and CAD are saved with conversation group id (call id). If the conversation is transferred and the contents change, this change is seen for all other earlier conversations in the conversation chain as well.

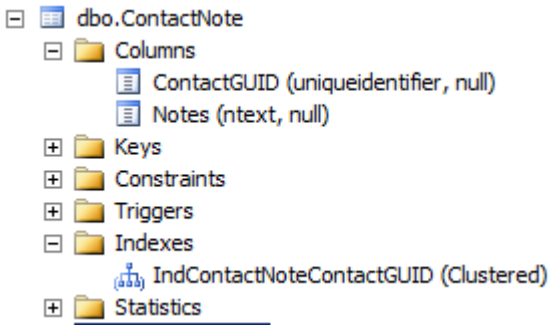


		Pre Welcome Duration InSeconds	{Pre Waiting Time}	{Pre Talking Time}	Waiting Time	Talking Time	{Forward Time}	{Forward Duration In Seconds}	{Forward Number}
Current	IVR	-	-	-	dur1	dur2 + dur3	-	-	-

	CC / Q1	-	-	-	dur4 + dur5	dur6 + dur7	-	-	-
	CC / Q2	-	-	-	dur8	dur9	-	-	-
Requirement changes	IVR	-	-	-	dur1	dur2	t3	dur3	number(Q1)
	CC / Q1	dur4	dur1	dur2 + dur3	dur5	dur6	t7	dur7	number(Q2)
	CC / Q2	-	dur4 + dur5	dur6 + dur7	dur8	dur9	-	-	-

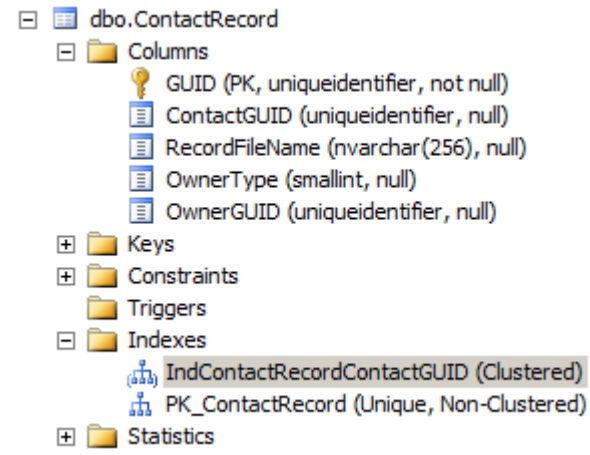
3.1.4 ContactNote Table

This is for customization purposes, since “Notes” are no more available in Sinch Contact Pro.



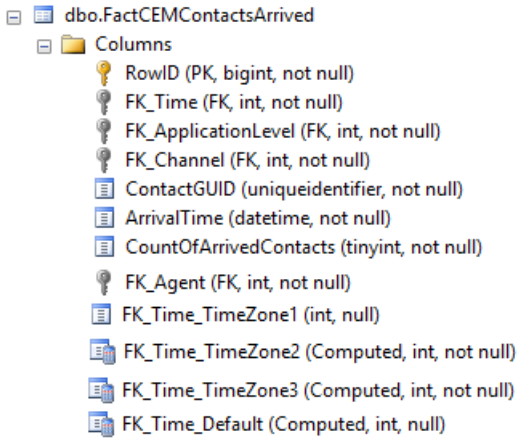
3.1.5 ContactRecord Table

This is for customization purposes. When a call has been recorded, call’s GUID, record file name, record owner type (1 = user, 60 = queue and 121 = outbound campaign) and owner guid are saved in ContactRecord table.



3.2 FactCEMContactsArrived

Table provides conversation arrival count based on arrival time (FactCEMContacts arrival is based on handling time).



3.2.1 Row Identifier

RowID => Unique row identifier

3.2.2 Foreign Key References to Dimension Tables

FK_Time => Link to *DimTime* table. Link is set up by arrival time.

- FK_Time always has a reference to UTC time.

FK_Time_Default or **FK_Time_XXX** => Link to *DimTime* table. Column contains calculated formula for time zones.

- FK_Time_Default is the reference to the time zone that has been set as default time zone during Reporting installation. FK_Time_XXX is another time zone reference that a reporting administrator may have created as another time zone and given it a name “XXX”.

FK_ApplicationLevel => Link to *DimApplicationLevel* table. Link points to the queue, where the conversation has arrived.
FK_Channel => Link to the *DimChannel* table (Static values). Points to corresponding channel category, see more details in FactCEMContacts.FK_Channel description.

FK_Agent => Link to the *DimAgent* table. Points to agent who handled the conversation (or a direct call owner). If agent is not available, linked to "undefined" name (FK_Agent = 1).

3.2.3 Calculated Facts

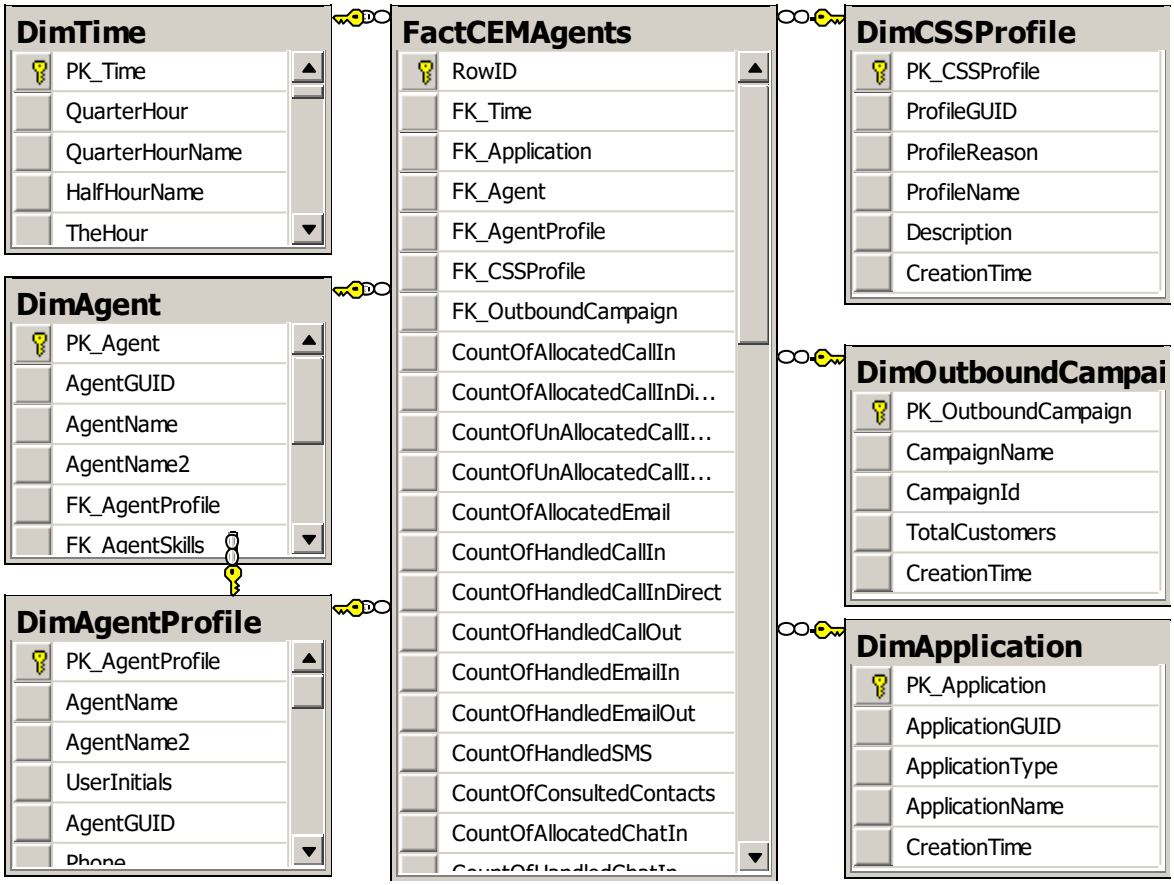
ContactGUID => Conversation’s unique identifier from operative logs.

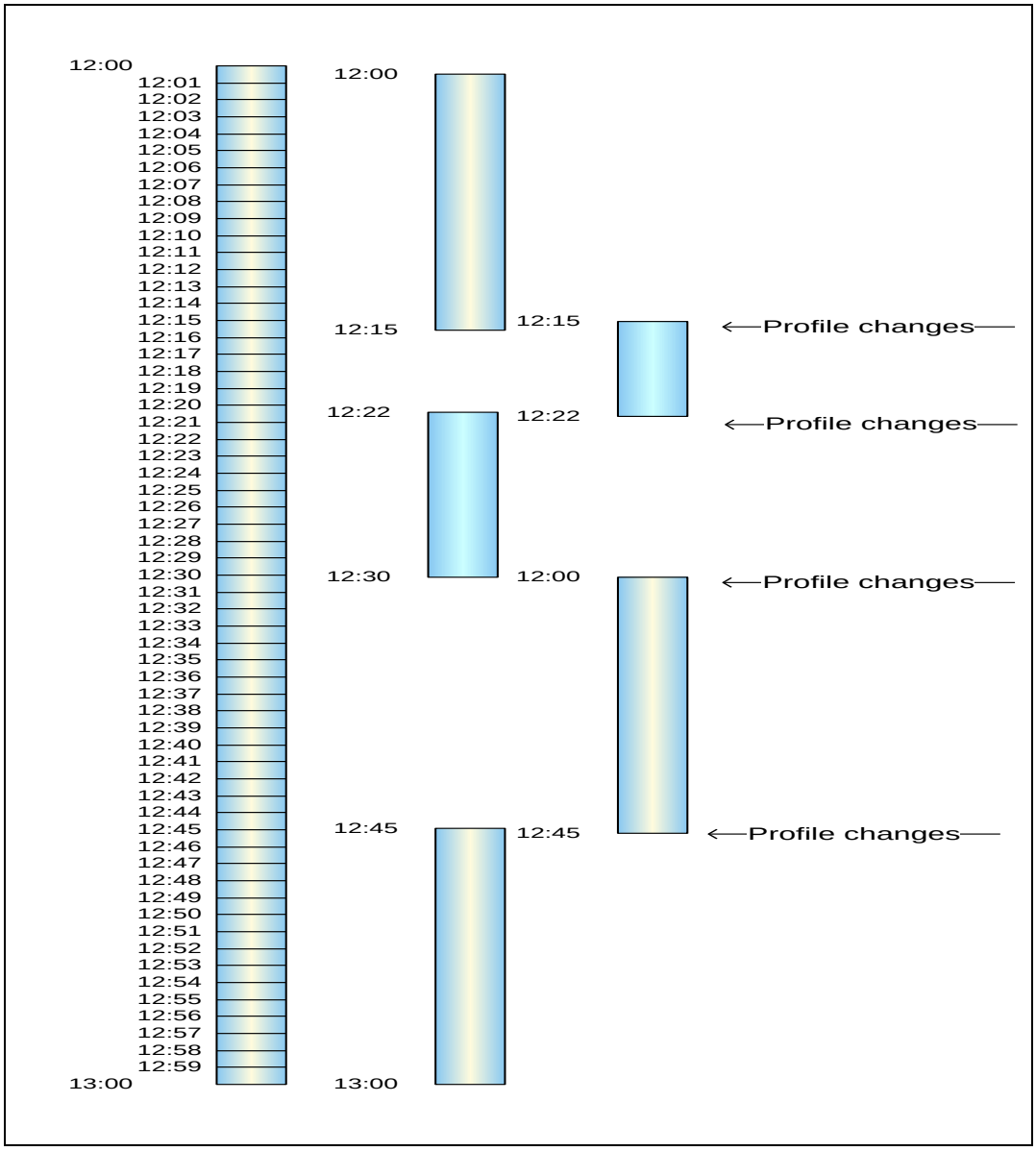
CountOfArrivedContacts => Count of arrived conversations. Each conversation has the value 1.

ArrivalTime => Conversation’s arrival time.

3.3 FactCEMAgents

Data is cumulated for 15-minute periods. Exception: when agent changes profile, or joins an Outbound Campaign, period will be divided into different profiles/Outbound Campaign(s), and all calculations are made for shorter periods.





3.3.1 Row Identifier

RowID => Unique row identifier

3.3.2 Foreign Key References to Dimension Tables

FK_Time => Links reported values to 15-minute time periods.

FK_Application => Link to the DimApplication table that tells in which application the agent has been serving (For versions older than 7.0, which included many applications)

FK_Agent => Link to the DimAgent table

FK_AgentProfile => Link to the DimAgentProfile table, points to agent latest member having current agent's attributes

FK_CSSProfile => Links fact to used (presence) profile.

FK_OutboundCampaign => Links fact to Outbound Campaign, where agent has been serving. If agent has not served in Outbound Campaign, value is 1 (CampaignName = "No outbound campaign")

3.3.3 Calculated Facts

CountOfAllocatedCallIn => How many calls have been allocated to an agent. Count of *DestAllocated* events for agent from *TAContactLogDetail* table (column *Value1* link to the agent). This contains direct call allocations as well.

CountOfAllocatedCallInDirect => How many direct calls have been allocated to an agent. Count of *DestAllocated* events for agent from *TAContactLogDetail* table (column *Value1* link to the agent).

CountOfUnAllocatedCallInRejected => How many calls agent has rejected himself/herself (not handled).

CountOfUnAllocatedCallInTimeOut => How many calls have been unallocated from agent because of timeout.

CountOfAllocatedEmail => How many e-mail conversations have been allocated to an agent. Count of *MailAllocated* events for an agent. *MailAllocated* from *TAContactLogDetail* table (column *Value1* link to the agent).

CountOfHandledCallIn => How many inbound calls an agent has handled. Count of the *ConnectedToOper* events from *TAContactLogDetail* table. This count includes direct inbound calls to agent as well.

CountOfHandledCallInDirect => How many direct inbound calls an agent has handled. Count of the *ConnectedToOper* events from *TAContactLogDetail* table.

CountOfHandledCallOut => How many outbound calls an agent has handled. Count of the *Connected* events from *TAContactLogDetail* table.

Note

Consultation calls are counted separately.

CountOfHandledEmailI => How many inbound e-mails an agent has handled. Count of the *MailHandled* events from *TAContactLogDetail* table (column *Value1* link to the agent).

CountOfHandledSMS => How many SMS messages an agent has handled (sent). Count of rows from *TASMSLog* table (column *UserGUID* link to agent).

CountOfConsultedContacts => How many consultation calls an agent has made. Count of the *ConsConnected* events.

CountOfAllocatedChatIn => How many chat conversations have been allocated to an agent. Count of *ChatAllocated* events for an agent from *TAContactLogDetail* table (column *Value1* link to the agent).

CountOfHandledChatIn => How many chats an agent has handled agent. Count of *ChatConnected* events for an agent from *TAContactLogDetail* table (column *Value1*

link to the agent). Note: This count tells how many chat allocations the agent has accepted and joined to chat-conversation. This does not tell for sure if chat has been finished by this agent.

CountOfHandledChatOut => How many outbound chats an agent has handled. Count of *ChatOutConnected* events for an agent from the *TAContactLogDetail* table (the column *Value1* links to the agent).

CountOfAllocatedCBR => How many “Callback Request” conversations have been allocated to an agent. Count of *CBRAllocated* events for an agent from *TAContactLogDetail* table (column *Value1* link to the agent).

CountOfCBRCalls => How many “Callback Request” calls have been connected to an agent. Count of *CBRConnectedToOper* events for an agent from *TAContactLogDetail* table (column *Value1* link to the agent).

CountOfHandledCBR => How many “Callback Request” conversations an agent has handled during “Callback Request” calls. Count of *CountOfHandledCBR* events for an agent from *TAContactLogDetail* table (column *Value1* link to the agent).

CountOfAllocatedCallOB => How many “Outbound Campaign” conversations have been allocated to an agent. Count of *OBAllocated* events for an agent from TAContactLogDetail table (column Value1 link to the agent).

CountOfHandledCallOB => How many “Outbound Campaign” conversations have been connected to an agent. Count of *OBConnected* events for an agent from *TAContactLogDetail* table (column *Value1* link to the agent).

CountOfLogin => How many times an agent has been logged into the Sinch Contact Pro system. Count of events *LoggedIn* and *LoggedInEP* from *TAOperatorLogDetail* table.

MaxCountOfQueueRights => No longer valid. The value is always 0.

CountOfQueueAttachment => How many times an agent has been attached to queues. Count of the event *AttachQue* from *TAOperatorLogDetail* table.

CountOfPaperworkState => How many times an agent has been in the “Not Ready” (paperwork) status. Count of event *StatusPaperWork* from *TAOperatorLogDetail* table.

CountOfPauseState => How many times an agent has been in the pause status. Count of event *StatusPause* from *TAOperatorLogDetail* table.

ServingTimeInSeconds => How long an agent has been serving in the Sinch Contact Pro system. Sum of *ReadyTimeInSeconds* + *PaperworkTimeInSeconds* + *PauseTimeInSecond*.

FreeTimeInSeconds => The time an agent has been waiting for conversation allocation in phone status “Ready” (no active conversations).

WaitingTimeInSeconds => How long an agent has been waiting, regardless of phone status (Ready, NotReady, or Pause, and no active conversations).

PreviewTimeInSeconds => Outbound campaign related statistics: how long an agent has been in preview mode before making a call to customer.

WrapTimeInSeconds => Outbound campaign related statistics: how long an agent has been in wrap-up (classify call results) mode before making a call to customer.

ContactHandlingTimeInSeconds => How long an agent has been handling conversation(s)

CallInTimeInSeconds => How long an agent has been handling inbound call conversations. If there are parallel inbound calls, parallel time is counted only once. This also contains the duration of direct inbound call.

CallInDirectTimeInSeconds => How long an agent has been handling direct inbound call conversations. If there are parallel inbound calls, parallel time is counted only once.

CallOutTimeInSeconds => How long an agent has been handling outbound call conversations. If there are parallel outbound calls, parallel time is counted only once. Callouts, CallBack Request (CBR) callouts, and consultation calls are counted separately. CallOutTimeInSeconds does not contain CBR calls or consultation calls.

CallOutCBRTimeInSeconds => How long an agent has been handling outbound call conversations that are callback requests. If there are parallel calls, parallel time is counted only once. This also contains dialing duration of callback request calls.

ConsultationTimeInSeconds => How long an agent has spent in consultation calls.

ChatInTimeInSeconds => How long an agent has been handling any chat conversations (multiple chat times are counted only once).
For example, if an agent handles one chat from 10:00:00 until 10:10:00 and another chat from 10:05:00 until 10:15:00, this counts as 900 seconds (15 min: 10:00:00 -> 10:15:00)

EmailInTimeInSeconds => How long an agent has been handling inbound e-mail conversations. The time contains only active handling time, not the time e-mail has been on personal pending list.

EmailOutTimeInSeconds => How long an agent has been handling outbound e-mail conversations. The time contains only active handling time, not the time e-mail has been on personal pending list.

ReadyTimeInSeconds => How long an agent / phone has been in the status “Ready”.

PaperworkTimeInSeconds => How long an agent / phone has been in the “Not Ready” (paperwork) status.

PausedTimeInSeconds => How long an agent / phone has had the paused status.

AfterworkTimeInseconds => How long an agent has been in the wrap-up status. This contains both scripting and resting times. Scripting time can be counted AfterworkTimeInSeconds – RestingTimeInseconds.

RestingTimeInseconds => How long an agent has been in the wrap-up status because the system has been configured to have resting time after call handling.

ResponseTimeInseconds => How long inbound calls have been allocated to an agent before they have been picked up or re-allocated.

ResponseTimeCBRInseconds => How long callback request calls have been allocated to an agent before they have been picked up or re-allocated.

ResponseTimeChatInseconds => How long inbound chats have been allocated to an agent before they have been picked up or re-allocated.

ResponseTimeEmailInseconds => How long inbound e-mails have been allocated to an agent before they have been picked up or re-allocated.

FirstLoginTime => Time of the first logon for an agent. This is not a member of the cube. The column is for later customization purposes. The *Login* or *LoginEP* event's time for the current session.

LastLogoutTime => Time of an agent's last logoff. This is not a member of the cube. The column is for later customization purposes. The *Logout* or *LogoutEP* event's time for the current session if they exist.

ChatInMultipleTimeInSeconds => How long an agent has handled multiple inbound and outbound chats simultaneously.

For example, if an agent handles one chat from 10:00:00 until 10:10:00 and another chat from 10:05:00 until 10:15:00, this counts as 300 seconds (5 min: 10:05:00 -> 10:10:00)

ChatInTotalTimeInSeconds => How long an agent has handled multiple inbound and outbound chats totally.
For example, if an agent handles one chat from 10:00:00 until 10:10:00 and another chat from 10:05:00 until 10:15:00, this counts as 1200 seconds (20 min: 10:00:00 -> 10:10:00 = 10 min + 10:05:00 -> 10:15:00 = 10 min)

CountOfChatInReply => Distinct count of agent's chat responses to customer. If an agent gives two replies before a customer reply, that increases the count by 1 (value provided with reporting event "ChatResponseInfo"). Note: This column is shared for inbound and outbound chats.

CountOfChatInTotalReply => Total count of agent's chat responses given to a customer. If an agent gives two replies before a customer reply, that increases the count by 2 (value provided with reporting event "ChatResponseInfo"). Note: This column is shared for inbound and outbound chats.

ChatInReplyTimeInSeconds => Response time in seconds for distinct count of agent's chat responses given to a customer (value provided with reporting event "ChatResponseInfo"). Note: This column is shared for inbound and outbound chats.

ChatInReplyMedianInSeconds => Median time in seconds for distinct count of agent's chat responses given to a customer (value provided with reporting event "ChatResponseInfo"). Note: This column is shared for inbound and outbound chats.

MaxCountOfMultiChatSessions => The maximum number of multiple chats an agent is configured to handle simultaneously. Note: This column is shared for inbound and outbound chats.

AfterworkCallInTimeInSeconds => How long an agent has been in the wrap-up status for inbound calls. This contains both scripting and resting times.

AfterworkCallOutTimeInSeconds => How long an agent has been in the wrap-up status for outbound calls. This contains both scripting and resting times.

AfterworkEmailInTimeInSeconds => How long an agent has been in the wrap-up status for inbound emails. This contains both scripting and resting times.

AfterworkChatInTimeInSeconds => How long an agent has been in the wrap-up status for inbound chats. This contains both scripting and resting times.

AfterworkCBRInTimeInSeconds => How long an agent has been in the wrap-up status for callback request calls. This contains both scripting and resting times.

3.4 FactCEMQueue

In addition to Contact and Agent dimensions, the analytics can be done also from the Queue dimension perspective.

The Queue dimension provides contact center service metrics especially from the queue perspective:

- How many agents on average were serving in a specific queue on a specific timeframe?
- Was there a time when no agents were serving in a specific queue, and if yes, for how long?
- What was the maximum number of agents serving in a specific queue?

The queue serving reports are available in daily, hourly, and quarter-hourly formats.

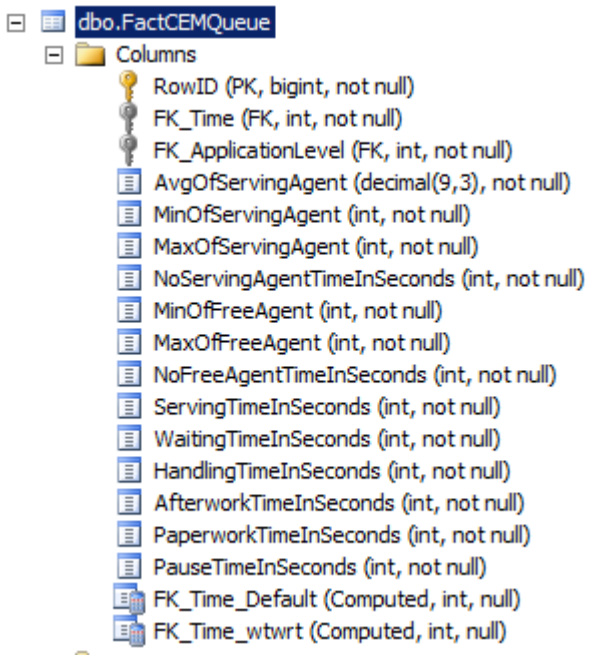
Queue serving reports contain the following data:

- Number of serving agents (average, min, max)
- Number of free serving agents (min, max)
- Time with no serving agents
- Time with no free agents

- Cumulative time with serving agents
  - Handling
  - Wrap-up
  - Waiting
  - Not Ready
  - Pause

Note

Only intervals when there has been a serving agent in a queue are reported.



3.4.1 Row Identifier

RowID => Unique row identifier

3.4.2 Foreign Key References to Dimension Tables

FK_Time => Links reported values to a 15-minute time period

FK_ApplicationLevel => Link to the *DimApplicationLevel* table, link to queue.

3.4.3 Calculated Facts

AvgOfServingAgent => Average of agent serving time per queue per interval. Calculated as a sum of agent serving time divided by 15 minutes.

Example

> Reporting interval is 10:00 – 10:15. Agent 1 has logged in and is serving in Q1 starting from 09:45:00. Agent 2 has logged in and is serving in Q1 starting from 10:07:30.
> This means Agent 1 has served 15 minutes, agent 2 has served 7,5 minutes, sum of agent serving time is 22,5 minutes.
> **AvgOfServingAgent** is 22,5 / 15 = 1,5

MinOfServingAgent => Minimum number of serving agents per queue per interval.

MaxOfServingAgent => Maximum number of serving agents per queue per interval.

NoServingAgentTimeInSeconds => Duration when there have been no serving agents.

MinOfFreeAgent => Minimum number of free agents (agent's phone status "Ready" and no active conversations) per queue per interval.

MaxOfFreeAgent => Maximum number of free agents (agent's phone status "Ready" and no active conversations) per queue per interval.

NoFreeAgentTimeInSeconds => Duration when there has been no free agent.

ServingTimeInSeconds => Sum of agents' serving time in a queue.

WaitingTimeInSeconds => Sum of agents' waiting time (regardless of agent phone statuses) when they have served in a queue.

HandlingTimeInSeconds => Sum of agents' handling time (handling any kind of conversation) when they have served in a queue.

AfterworkTimeInSeconds => Sum of agents' wrap-up time (regardless of agent phone status), containing the duration of both scripting and rest, when they have served in a queue.

PaperworkTimeInSeconds => Sum of agents' "Not ready" (paperwork) time when they have served in a queue.

PauseTimeInSeconds => Sum of agents' "Pause" time when they have served in queue.

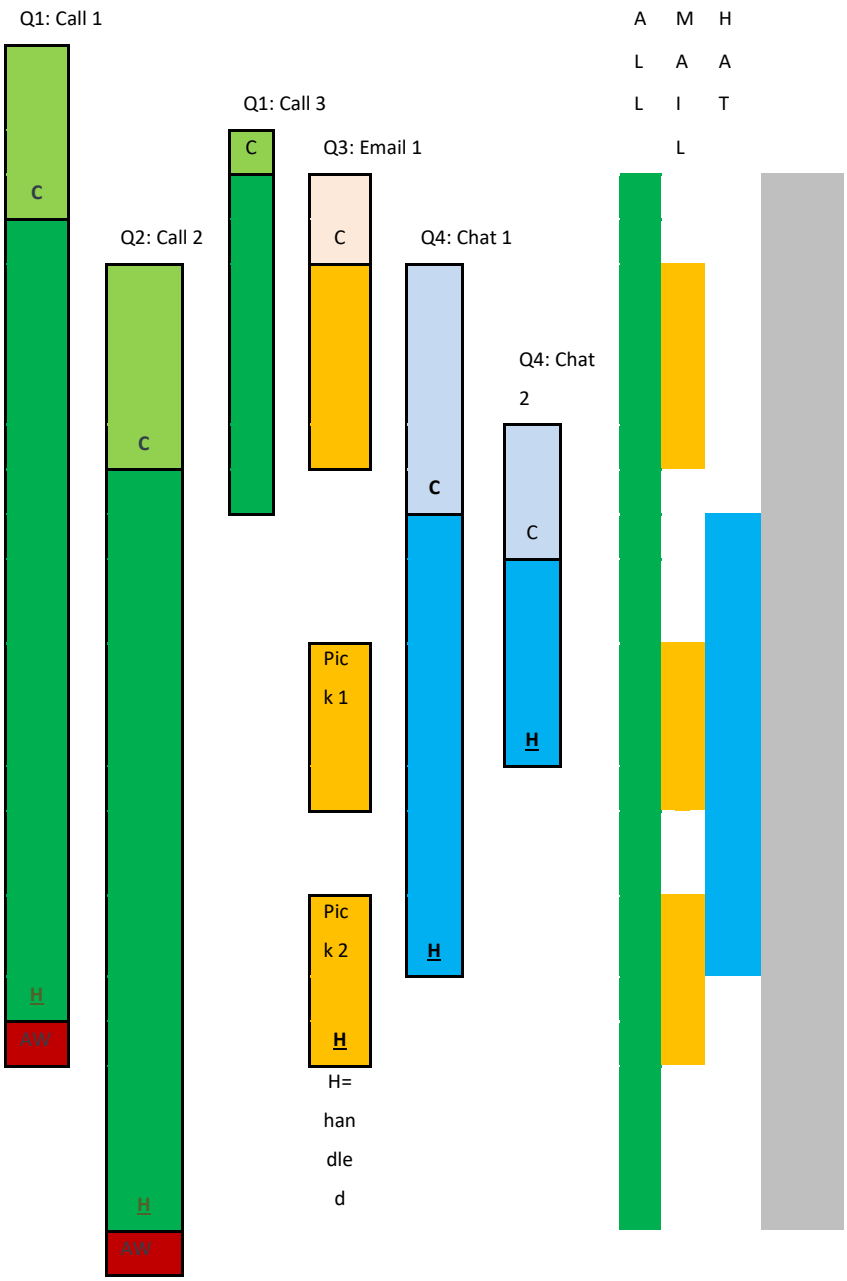
When an agent handles conversations or does wrap-up, events are queue specific and agent time is reported only for specific queue(s). At that time, they will not have any task duration for other queues.
When an agent's status is "Not Ready" or "Pause", times are reported for all queues that the agent has been attached to.

3.4.4 Example of Agent and Queue Fact Calculation

The example shows agent work, in which queues agent has been serving, and when the agent has handled conversations.

Presence	User status	Serving in queues	"Total statuses"			
			C	E	C	CONT.HAND.
DEFAULT	Not ready	-				
AWAY	Pause	Q1, Q2				
DEFAULT	Ready	Q1, Q2, Q3				

DEFAULT	Ready	Q1, Q2, Q3
DEFAULT	Ready	Q1, Q2, Q3
DEFAULT	Ready	Q1, Q2, Q3
DEFAULT	Ready	Q1, Q2, Q3, Q4
DEFAULT	Ready	Q1, Q2, Q3, Q4
DEFAULT	Ready	Q1, Q2, Q3, Q4
DEFAULT	Ready	Q1, Q2, Q3, Q4
DEFAULT	Ready	Q1, Q2, Q3, Q4
DEFAULT	Ready	Q1, Q2, Q3, Q4
DEFAULT	Ready	Q4
DEFAULT	Ready	Q4
DEFAULT	Ready	Q4
DEFAULT	Ready	Q4
DEFAULT	Ready	Q4
DEFAULT	Ready	Q4
DEFAULT	Ready	Q4
DEFAULT	Ready	Q4
DEFAULT	Ready	Q4
DEFAULT	Ready	Q4
DEFAULT	Not ready	Q4
DEFAULT	Not ready	-
DEFAULT	Not ready	-
DEFAULT	Not ready	-
DEFAULT	Not ready	-
DEFAULT	Not ready	-
DEFAULT	Not ready	-
AWAY	Pause	-
AWAY	Pause	-
AWAY	Pause	-
AWAY	Pause	-

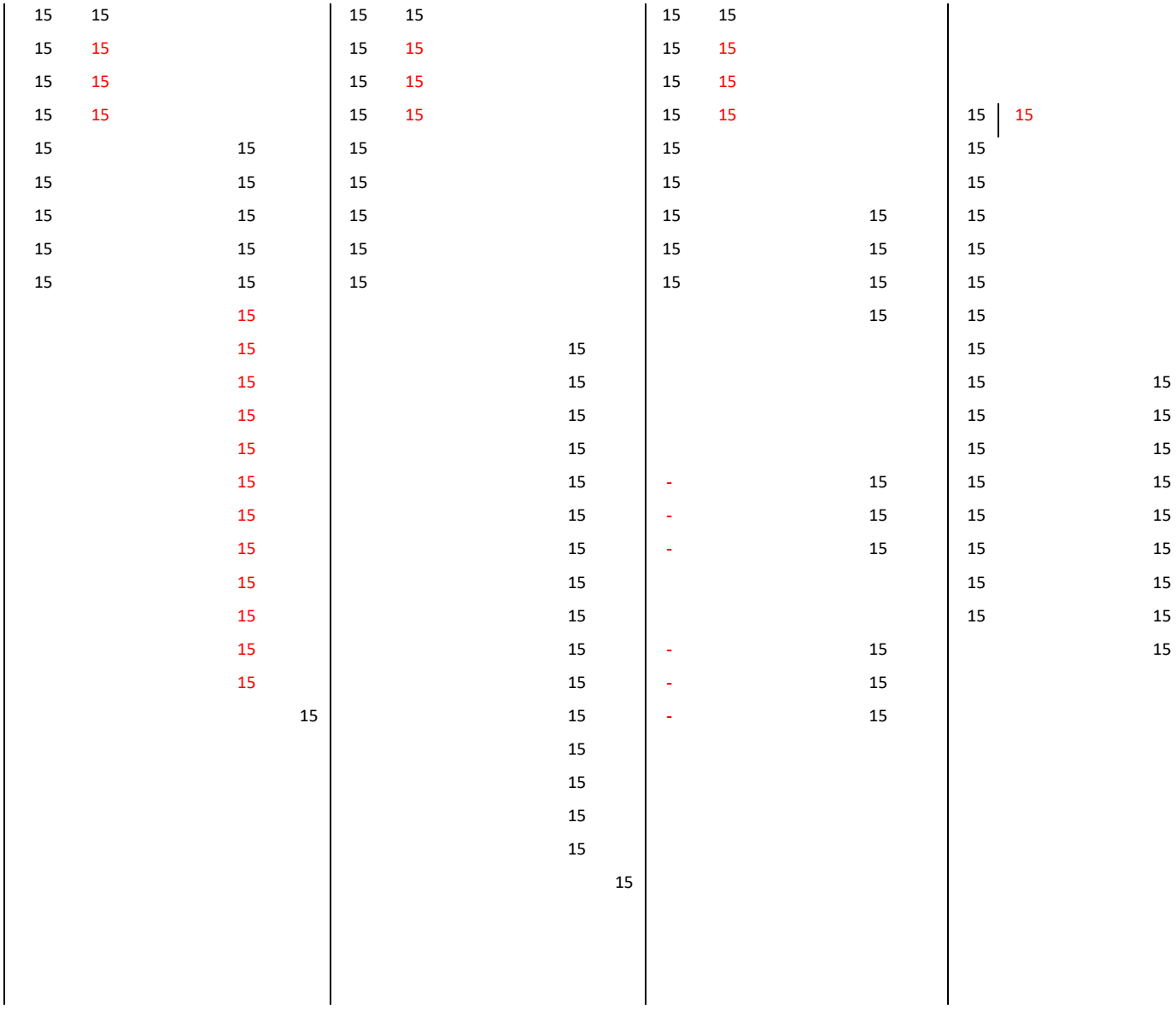


Agent fact

Ready	Not Ready	Pause	Wait. Time	Free time	Alloc.call (resp. time)	Hand. call	Talk time	Alloc. email (resp. time)	handl. email	Email time	Alloc. chat	Hand. chat	chat time	After work	Cont. Hand. Time
	15		15												
		15	15												
15			15	15											
15			15	15											
15				15											15

15				15											15
15				15											15
15					1 (15)		15								15
15					1 (60)		(2*15) = 15								15
15							(2*15) = 15	1 (10)	0	15					15
15							(2*15) = 15			15					15
15							(2*15) = 15			15					15
15							(2*15) = 15			15					15
15					1 (60)	1	(3*15) = 15				1(75)				15
15							(2*15) = 15				1(45)		15		15
15							(2*15) = 15						(2*15) = 15		15
15							(2*15) = 15						(2*15) = 15		15
15							(2*15) = 15			15			(2*15) = 15		15
15							(2*15) = 15			15		1	(2*15) = 15		15
15							(2*15) = 15			15			15		15
15							(2*15) = 15						15		15
	15						(2*15) = 15						15		15
	15						(2*15) = 15			15		1	15		15
	15					1	(2*15) = 15			15					15
	15						15		1	15				15	15
	15						15								15
	15						15								15
	15						15								15
		15				1	15								15
		15												15	
		15	15	15											
		15	15	15											

Queue fact Q1						**Queue fact Q2**						**Queue fact Q3**						**Queue fact Q4**					
Serving	Free	Not ready	Pause	Conversation handling	After work / wrap	Serving	Free	Not ready	Pause	Conversation handling	After work / wrap	Serving	Free	Not ready	Pause	Conversation handling	After work / wrap	Serving	Free	Not ready	Pause	Conversation handling	After work / wrap
15			15			15			15														
15	15					15	15					15	15										



3.5 FactCallStatistic & DimCallStatistic: “Scripting Result Statistic” Reporting

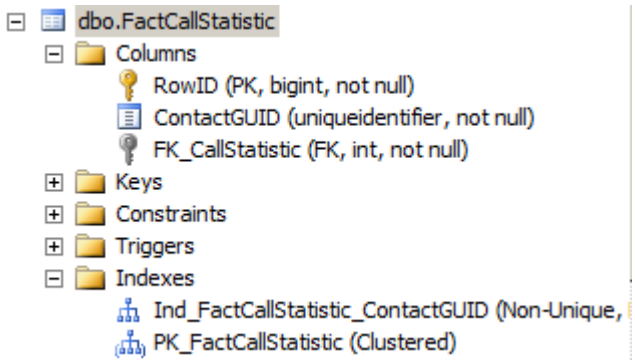
Scripting result statistic will be integrated to CEM conversation statistic (into the data warehouse table `FactCEMContacts`). Operational statistics are saved into the `TAContactStatistics` table and statistics are queried by procedure calls. Because the number of scripts, questions, and answers per conversation is not restricted, scripting result statistic reporting (call statistic) must be (fully) dynamic. This is possible by using OLAP Many-Many relationship for dimension.

Reporting statistics are saved in intermediate fact table and dimension table.

OLAP cube and dimension are built using a Many-Many relationship.

3.5.1 FactCallStatistics (intermediate fact table)

- New Intermediate fact table FactCallStatistics:



FactCallStatistic table has as many rows as there are answers received in one conversation.

Conversations that do not have any scripting statistics, are linked to No statistic.

Example

Call has been handled, and a script (formerly infocard) “MyScript” has been filled. Question1 has 1 answer “Answer 1:1”, question2 have 2 answers “Answer2:1” and “Answer2:2”.

DimCallStatistic has the following values (first row is “no statistic row”):

PK_CallStatistic	Infocard	Question	Answer
0	No statistic	No statistic	No statistic
1	MyScript	Question1	Answer1:1
2	MyScript	Question2	Answer2:1
3	MyScript	Question2	Answer2:2

FactCallStatistic has the following values:

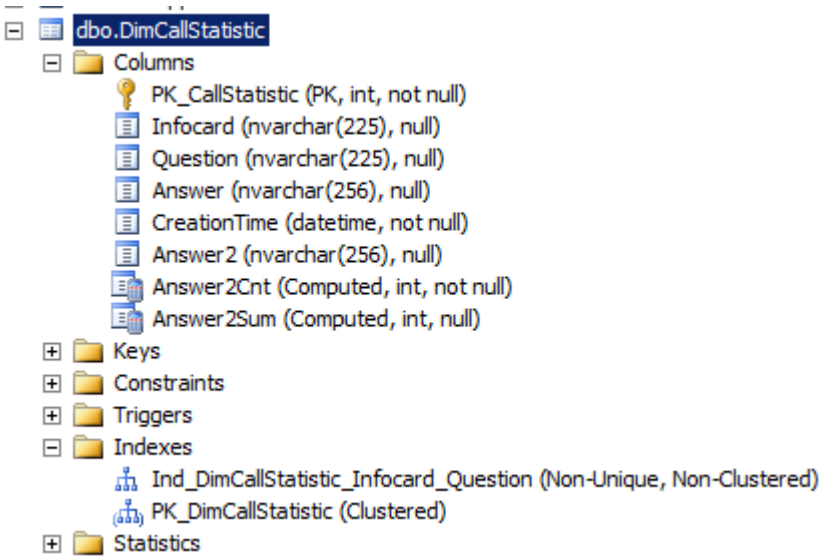
RowID	ContactRowID	FK_CallStatistic
n	x	1
n+1	x	2
n+2	x	3

FactCEMContact has the following value:

RowID	...
x	..

3.5.2 DimCallStatistics

- New dimension table `DimCallStatistic`:



Default statistic row 0, “No statistic”, “No statistic”, “No statistic” will be added by installation.

The `DimCallStatistic` table has a row for all different Script (formerly “Infocard”) – Question – Answer combinations. The script may have a numeric answer in the **Answer2** column. When the answer is numeric, **Answer2Cnt** gets value *1* and **Answer2Sum** gets the numeric value.

3.5.3 OLAP Database / CubCSSContacts Cube / “Many-Many” Dimension Members

For OLAP cube `CubCSSContacts` call statistic data are implemented using “Many-Many” dimension hierarchy.

- Dimension DimCallStatistic is built using content from table DimCallStatistic.
- Intermediate (hidden) dimension DimCallStatisticIM is built using FactCallStatistic table.

Table: Example of “Many-Many” hierarchy calculation (total 26 calls arrived, 17 handled)

Repo, Jouni	CS_Infocard_2	Question_2:1	Answer: 2:1:1	6	3
			Answer: 2:1:2	9	5
			Answer: 2:1:3	16	9
			Total	16	9
		Question_2:2	Answer: 2:2:1	26	17
			Answer: 2:2:2	26	17
			Total	26	17
		Total		26	17
	Total			26	17

3.5.4 Script Reporting for SurveyIVR

Custom, Opt-In, and Survey IVRs enable counting averages based on DTMF selections. Only DTMF selections (that are defined for choices in menus) are sent to the data collector and written into the TAContactStatistic table.
The exception is DTMFs that are max two digits and have no respective choice: they are sent for reporting as well. This is to avoid a situation where the IVR collects, for example, users’ phone numbers that are of no reporting use. For example, if a customer answers with DTMF 200 and there is no choice with “ordinal number 200”, no statistics are sent for reporting.

When scripting, or OptIn or Survey IVR, sends “scripting statistics” for reporting, the data contains script name, question, answer, and answer2. If Answer2 value is

provided and it is numeric, for that specific question reporting reports an average value based on selected DTMFs. This can be used in survey IVRs and “satisfaction questions”; reports show average results as well.

Example

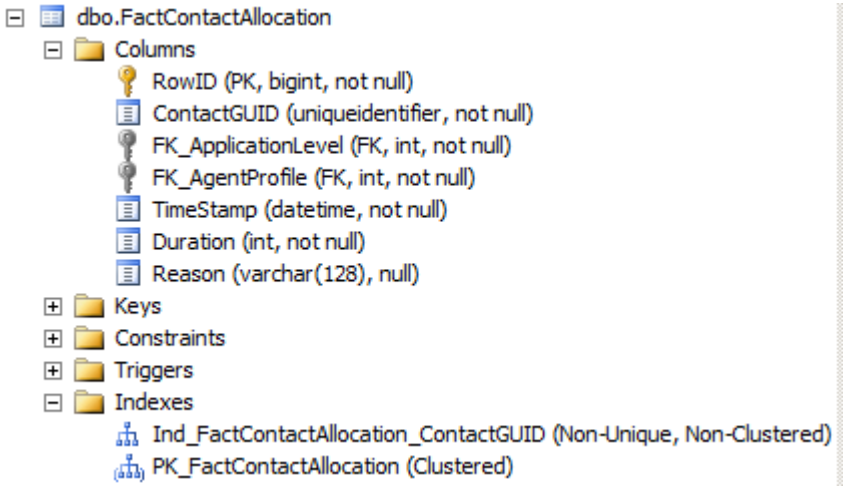
Call arrives to ContactCenter Queue1; Calls is “semi-forwarded” to Opt-In IVR to check if the caller is offered the possibility to join the survey. If possibility is granted, caller selects Yes or No to participate in the survey after the actual call with a contact center agent. Call is forwarded to a contact center queue and will be allocated to Agent1 who handles the call.

If the caller chose to participate in the survey, they are forwarded to Survey IVR after the contact center call. The caller listens to questions and answers with the keypad. If the caller hangs up during any of the questions, IVR logs answer “No answer” for the question.

3.6 FactContactAllocation

The table answers the following needs:

- Allocation must be reported in detail.
- Detailed information for queues and agents with time must be reported.
- Conversation can have many different agent allocations.
- Data is used for “Reporting Data Interface” (RDI) statistics calculation.



Column descriptions:

- ***RowID***: Unique row id
- ***ContactGUID***: Link into conversation's unique identifier
- ***FK_ApplicationLevel***: Foreign key reference for queue in question
- ***FK_AgentProfile***: Foreign key reference for agent in question
- ***TimeStamp***: Timestamp when allocation started
- ***Duration***: Duration of allocation
- ***Reason***: Reason for unallocation. When a call is allocated, the reason is "Connected". Possible values:

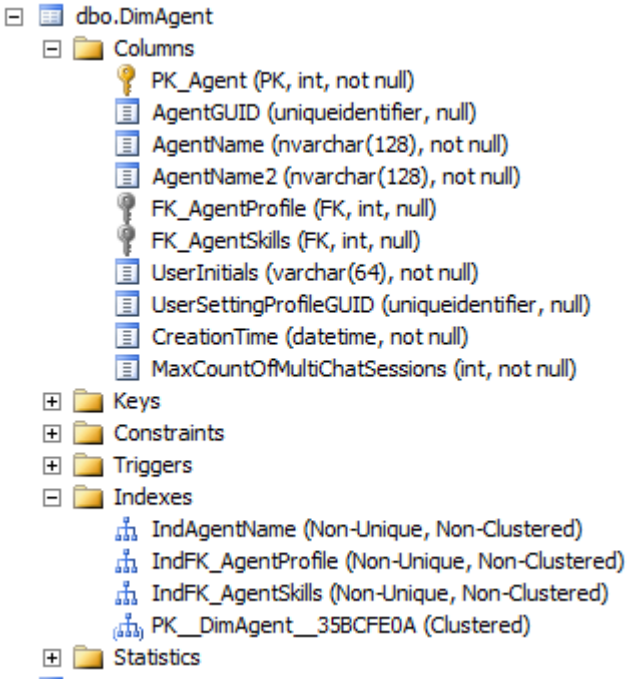
  - AGENT_DISCONNECTED
  - AGENT_REJECTED
  - Connected
  - DetachQueue
  - Disconnected
  - MaxWait
  - MaxWaitTimeout
  - NoAnswer
  - NONE
  - Rejected
  - StatusPaperWork
  - StatusPause
  - TIMEOUT

4 Dimension Tables

4.1 DimAgent

`DimAgent` dimension has one row for each agent. Dimension contains updated agent names.

Agent name 2 is just for Japanese (language code); in that case it contains value for the language tag “jaKA” (japan-kanji)

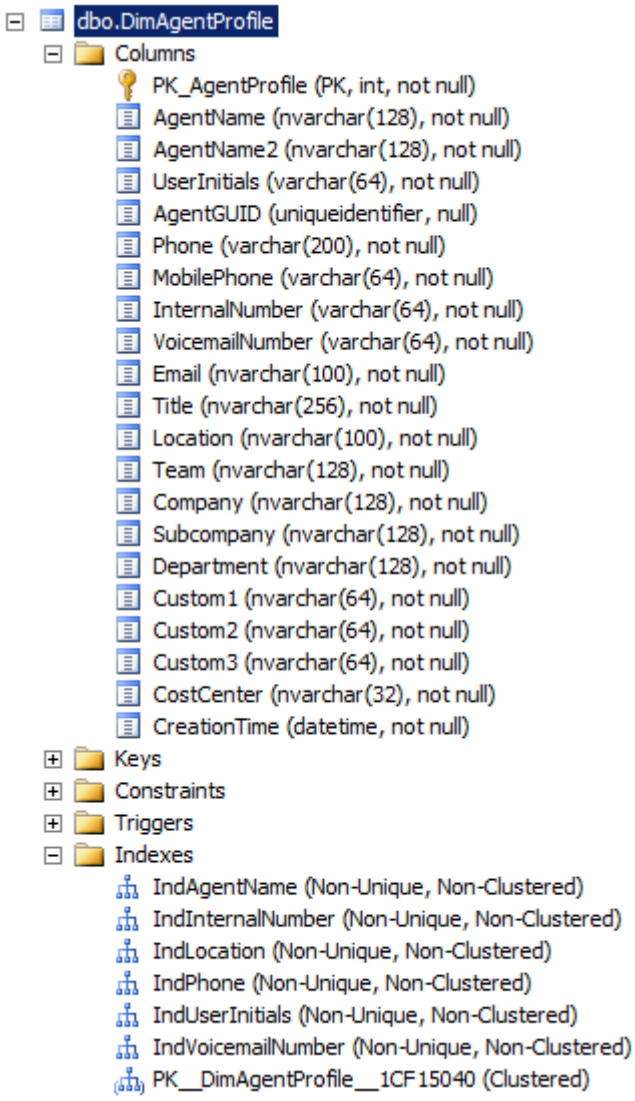


MaxCountOfMultiChatSessions => The maximum number of chats an agent has been configured to handle simultaneously. Used for agent facts counting.

4.2 DimAgentProfile

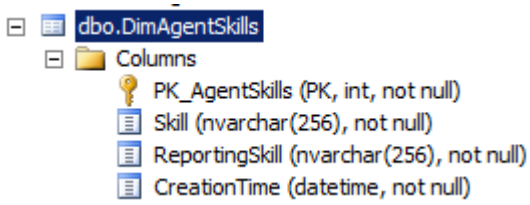
`DimAgentProfile` dimension contains an agent’s attribute values. Some attributes are solved using *Reporting Specifications* from user / user group configurations.

Depending on the `AddNewMemberOnChange` parameter, the latest existing agent row is updated or a new one is created. DimAgentProfile dimension has one or more rows per agent. Data is linked to agent profile and the latest row that has the current attribute values.



4.3 DimAgentSkills

`DimAgentSkills` contains agent's skill and skill level information.



Skill column contains a matrix of skills, in skill name order.

Example

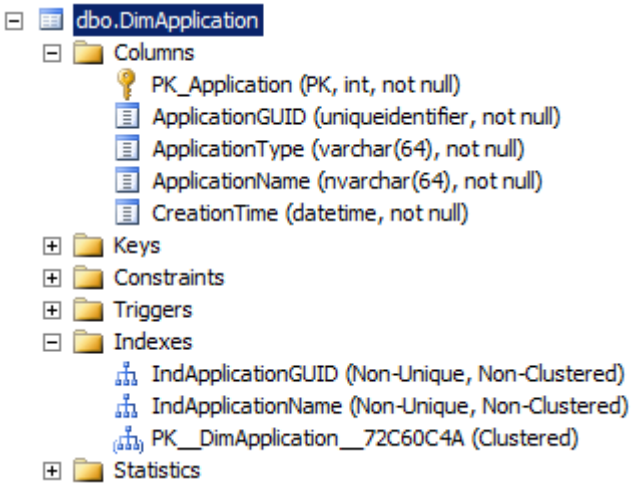
> If an agent has configured skills English=5; Deutsch=1; Svenska=2, skills are reported as Deutsch=1;English=5;Svenska=2.

When a new skill matrix is created, “Reporting Skill” gets the same value as “Skill”. “Reporting Skill” value can be changed and that value is shown on reports.

4.4 DimApplication

Not used in 7.0, dimension is preserved only to support older versions.

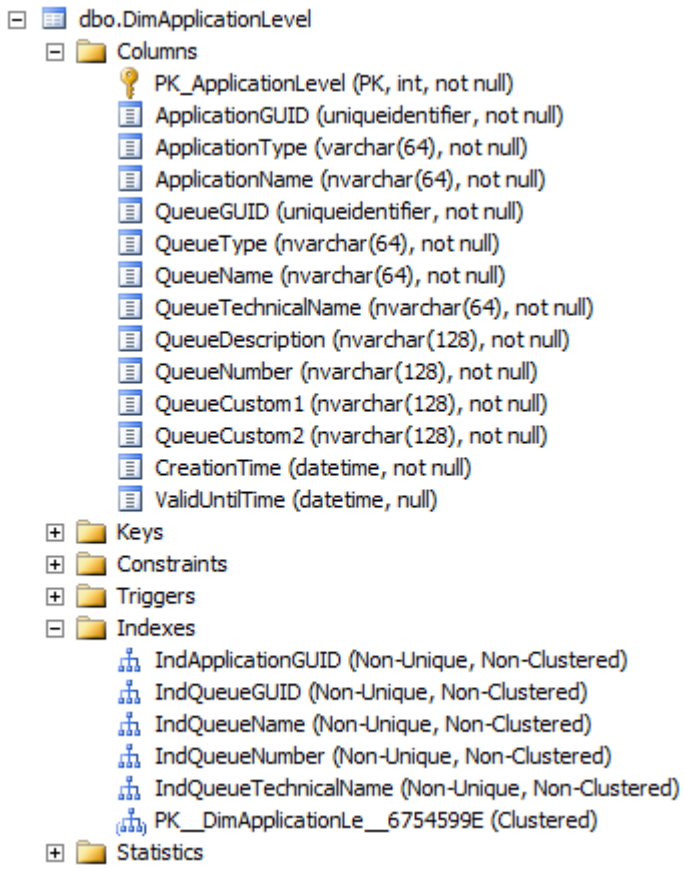
`DimApplication` contains applications names. Dimension is used for agent statistics to tell in which application agent has served. Sinch Contact Pro has only one application “Contact Center” where all agents are allocated.



4.5 DimApplicationLevel

`DimApplicationLevel` contains application – queue – channel information. Dimension has as many rows as there are extensions in the queue. Dimension provides two columns for customization purposes: QueueCustom1 and QueueCustom2.

Dimension is updated using the `AddNewMemberOnChange` parameter. Depending on the parameter's value, the latest existing agent row is updated or a new one created.



4.6 DimCallStatistics

`DimCallStatistic` is described in section DimCallStatistics.

4.7 DimChannel

`DimChannel` provides information about the conversation's channel, direction (inbound or outbound), and if the conversation was internal or external.

Reporting data collection creates statistics based on new channels for chat conversations when a chat conversation has a new subtype (provided with reporting event `NewChat`).

The following table presents the data provided by the dimension:

PK_Channel	Media	Channel Type	Classification	Description	TechnicalChannelType	Technical ChannelSubtype	Creation Time
	undefined	undefined	undefined	Unresolved media type and/or classification	undefined		
	EMAIL	EMAILIN	EXTERNAL-IN	E-mail conversation from outside into the system	EmailIn		
	EMAIL	EMAIL internal	INTERNAL	Internal e-mail conversation inside the system	EmailIn		
	PHONE	CallIn	EXTERNAL-IN	Inbound call from outside into the system	CallIn		

	PHONE	CallIn internal	INTERNAL	Inbound call inside the system	CallIn		
	PHONE	CallOut	EXTERNAL-OUT	Outbound call out of the system	CallOut		
	PHONE	CallOut internal	INTERNAL	Outbound call inside the system	CallOut		
	PHONE	CallOut MTD	EXTERNAL-OUT	Multiterminal desktop outgoing call to external (or internal) number	CallOut	MTD	
	SMS	SMSOut	EXTERNAL-OUT	SMS conversation out of the system	ChatOut	smsout	
	SMS	SMSIn	EXTERNAL-IN	SMS conversation from outside into the system	ChatIn	smsin	
	VOICEMAIL	VOICEMAIL	EXTERNAL-IN	Voicemail conversation from outside into the system	CallIn	Voicemail	
	VOICEMAIL	VOICEMAIL internal	INTERNAL	Internal voicemail conversation inside the system	CallIn	Voicemail	

	IVR	IVR	EXTERNAL-IN	Inbound IVR call from an external number	CallIn	IVR	
	IVR	IVR internal	INTERNAL	Inbound IVR call from an internal number	CallIn	IVR	
	CBR	CBR	EXTERNAL-IN	Callback request from outside into the system	CallIn	CBR	
	PHONE	CallOut CBR	EXTERNAL-OUT	Outbound call to a customer for a callback request	CallOut	CBR	
	PHONE	CallIn CBR Int.	INTERNAL	Internal inbound call to reach an agent for a callback request	CallIn	CBR Int.	
	PHONE	CallOut OB	EXTERNAL-OUT	Outbound campaign call	CallOut	OB	
	EMAIL	EmailOut	EXTERNAL-OUT	E-mail conversation out of the system	EmailOut		
	CHAT	ChatIn [subtype]	EXTERNAL-IN	Inbound [subtype] chat conversation	ChatIn	[subtype]	

				from outside into the system			
	CHAT	ChatIn [subtype] internal	INTERNAL	Inbound [subtype] chat conversation inside the system	ChatIn	[subtype]	
	CHAT	ChatOut [subtype]	EXTERNAL-OUT	[subtype] chat conversation out of the system	ChatOut	[subtype]	
	CHAT	ChatOut [subtype] internal	INTERNAL	Outbound chat conversation inside the system	ChatOut	[subtype]	

4.7.1 Chat Channels Created Based on Statistics

These can be for example video, SMS, and Facebook.

Example of a video chat (subtype=`VideoChat`)

Media	ChannelType	Classification	Description
CHAT	ChatIn Video	EXTERNAL-IN	Inbound video chat conversation from outside into the system
CHAT	ChatIn Video internal	INTERNAL	Inbound video chat conversation inside the system
CHAT	ChatOut Video	EXTERNAL-OUT	Outbound video chat conversation out of the system
CHAT	ChatOut Video internal	INTERNAL	Outbound video chat conversation inside the system

Example of an SMS chat (subtype = `SMSChat`)

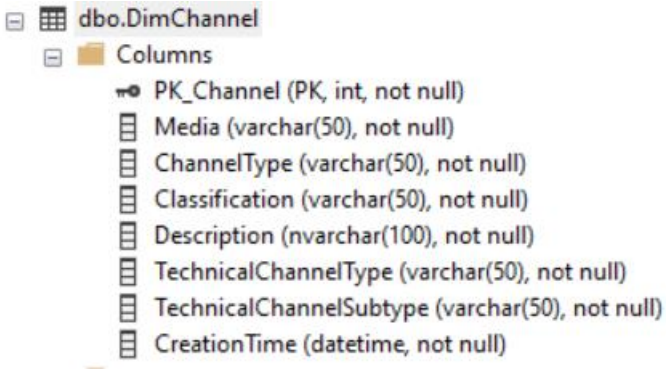
Media	ChannelType	Classification	Description
CHAT	ChatIn SMS	EXTERNAL-IN	Inbound SMS chat conversation from outside into the system
CHAT	ChatIn SMS internal	INTERNAL	Inbound SMS chat conversation inside the system
CHAT	ChatOut SMS	EXTERNAL-OUT	Outbound SMS chat conversation out of the system
CHAT	ChatOut SMS internal	INTERNAL	Outbound SMS chat conversation inside the system

Example of a Facebook chat (subtype = `FacebookChat`)

Media	ChannelType	Classification	Description
CHAT	ChatIn Facebook	EXTERNAL-IN	Inbound Facebook chat conversation from outside into the system
CHAT	ChatOut Facebook	EXTERNAL-OUT	Outbound Facebook chat conversation out of the system

Note

"Internal channels" are created only for video and SMS chats.

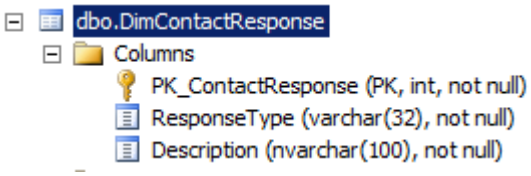


4.8 DimContactResponse

Conversation response categorizes a conversation based on the given response.

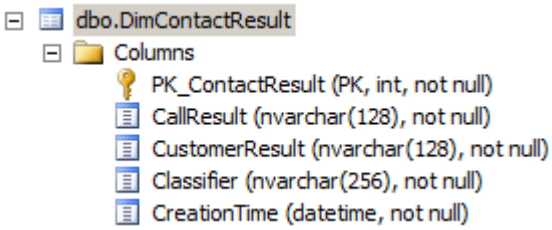
Possible values are given in the following table:

PK_Contact Response	ResponseType	Description
1	undefined	Conversation type has not been resolved
2	Handled	Conversation has been handled
3	AnsweredOnTime	Conversation has been handled and serving started < configured answered on time
4	FalseAttempt	Conversation has been disconnected before false attempt time, count not included in abandoned
5	Abandoned	Conversation has not been responded before disconnecting and queue time > false attempt time
6	ServiceClosed	Conversation has arrived outside service time
7	Arrived	Not in use.



4.9 DimContactResult

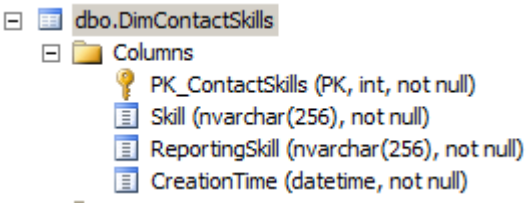
`DimContactResult` is an Outbound campaign-specific dimension that provides information of conversations' "CallResult", "CustomerResult" and Classifier.



4.10 DimContactSkills

`DimContactSkills` provides information of the conversation's skill requirements. If a conversation does not have any skill requirements, conversation refers to value "No conversation skills".

Conversation Skill values are handled in the same way as in `DimAgentSkills`. See section DimAgentSkills.



4.11 DimContactTerminal

`DimContactTerminal` provides information of the used terminal and which extension number the agent has used when handling the conversation.

Table columns:

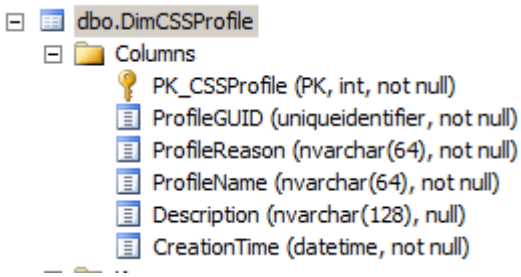
- PK_ContactTerminal (int): Row identifier
- TerminalType (varchar(32)): Soft phone, MTD, ExternalAgent
- TerminalNumber (nvarchar(64)): Extension number of the used terminal. When the number is owned by Sinch Contact Pro, this has the static text "Internal".

New foreign key reference FactCEMContacts.FK_ContactTerminal

Column Name	Data Type	Allow Nulls
PK_ContactTerminal	int	☐
TerminalType	varchar(32)	☐
TerminalNumber	nvarchar(64)	☐
		☐

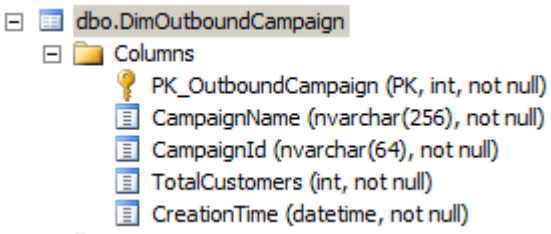
4.12 DimCSSProfile

`DimCSSProfile` provides information on which presence profile the agent has had when working.



4.13 DimOutboundCampaign

`DimOutboundCampaign` offers information on whether a call belongs to any Outbound campaign (FactCEMContacts link) or whether an agent has been serving in any Outbound Campaigns (FactCEMAgent link). By default, values are linked to an “undefined” campaign.

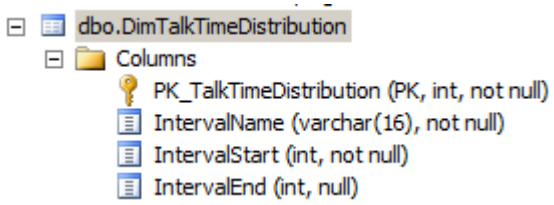


4.14 DimTalkTimeDistribution

`DimTalkTimeDistribution` divides conversations into categories according to handling time. The categories are made of 5-second intervals.

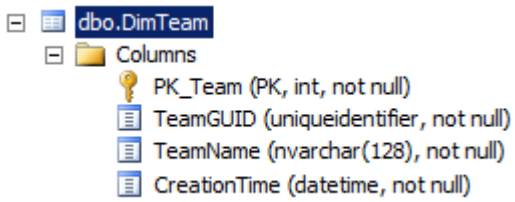
The table below illustrates the contents of the dimension. It has 121 rows to cover handling time in 5-second intervals up to 600 seconds.

PK_TalkTimeDistribution	IntervalName	IntervalStart	IntervalEnd
1	000-005	0	5
2	005-010	5	10
3	010-015	10	15
.	.	.	.
.	.	.	.
.	.	.	.
119	590-595	590	595
120	595-600	595	600
121	600-	600	NULL



4.15 DimTeam

`DimTeam` tells the name of an agent's reporting group.



4.16 DimTime

`DimTime` provides 15-minute categories. Time references from the Fact tables to time dimension FK_Time – PK_Time always point to UTC time.

Facts have also other links to time dimension; for example, if during installation one has selected time zone “GMT +02:00 Helsinki …”, installation creates a new calculated column FK_Time_Default that points to PK_Time having a related link to the selected time zone time.

Example

If FK_Time (UTC link) points to time dimension (PK_Time) value 100:

In non “daylight saving” time (GMT +02:00) FK_Time_Default points to (PK_Time) value 108 (100 + 2 h *4 intervals / h)

In “daylight saving” time (GMT +03:00) FK_Time_Default points to (PK_Time) value 112 (100 + 3 h *4 intervals / h)

Each fact table has 3 new prepared columns (`FK_Time_TimeZone1`, `FK_Time_TimeZone2`, `FK_Time_TimeZone3`) for time zone settings. These must exist even when time zones are not used in data warehouse; otherwise a syntax error occurs. By default, these columns’ computed formula is "just" "FK_Time" (have always the same value as FK_Time; that has the UTC time reference). When users configure a new time zone and if they name the new time zone TimeZone1, TimeZone2, or TimeZone3, configuration modifies the specific FK_Time_ TimeZoneS computed value to return statistics with the selected timezone.

Column Name	Data Type	Allow Nulls
PK_Time	int	☐
QuarterHour	char(1)	☐
QuarterHourName	varchar(50)	☐
HalfHourName	varchar(5)	☐
TheHour	varchar(2)	☐
HourName	varchar(50)	☐
TheDate	varchar(10)	☐
DayName	varchar(50)	☐
DayOfWeek	char(1)	☐
DayOfMonth	varchar(2)	☐
MonthDayName	varchar(50)	☐
Weekend	varchar(50)	☐
WeekOfYear	varchar(2)	☐
WeekOfYearName	varchar(50)	☐
YearAndMonth	varchar(7)	☐
TheMonth	varchar(2)	☐
MonthName	varchar(50)	☐
TheQuarter	char(1)	☐
QuarterName	varchar(50)	☐
TheHalf	char(1)	☐
HalfName	varchar(50)	☐
TheYear	varchar(9)	☐
Holiday	varchar(50)	☐
ServiceTimeCategory	varchar(50)	☐
SellingSeason	varchar(50)	☐
CalendarSeason	varchar(50)	☐
CustomTimePeriod	varchar(50)	☐

PK_Time: Primary key for the table.

QuarterHour: This is the quarter of an hour. For example: 1

QuarterHourName: This is the name of quarter-hour. Example: 16:15 (new in version 6.0)

HalfHourName: This is the name of half an hour. Example: 16:30

TheHour: This is the hour. For example: 17

HourName: This is the hour's name. For example: *17. Hour*

TheDate: This is the date. The format is yyyy-mm-dd. For example: *2012-01-13*

DayName: This is the weekday's name. For example: Friday

DayOfWeek: This is the number of the weekday. For example: 5

DayOfMonth: This is the number of the day. For example: 13

MonthDayName: This is ordinal number of the day in the month. For example: *13. day of month*

Weekend: This is the name for a weekend. For customizations only.

WeekOfYear: This is the week. For example: 02

WeekOfYearName: This is the ordinal number of the week. For example: *07. week of year*

YearAndMonth: This is the year and month. For example: 2012-01

TheMonth: This is the month. For example: 01

MonthName: This is the month's name. For example: January.

TheQuarter: This is the quarter of the year. For example: 1

QuarterName: This is the name of the year quarter. For example: Q1

TheHalf: This is the year half. For example: 1

HalfName: This is the name of the year half when a new task is registered. For example: H1

TheYear: This is the year. For example: 2012

Holiday: This is the holiday. For customizations only.

ServiceTimeCategory: This is the service time category. For customizations only.

SellingSeason: This is the selling season. This column is not supported, for customizations only.

CalendarSeason: This is the name of the season. For example: Winter

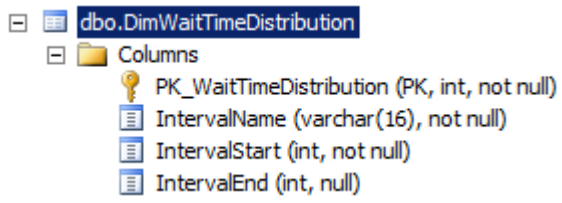
CustomTimePeriod: This is the customized time period. This column is not supported, for customizations only.

4.17 DimWaitTimeDistribution

`DimWaitTimeDistribution` divides conversations into different categories according to waiting time.

The table below has 121 rows to cover waiting time in 5-second intervals until 600 seconds.

PK_WaitTimeDistribution	IntervalName	IntervalStart	IntervalEnd
1	000-005	0	5
2	005-010	5	10
3	010-015	10	15
.	.	.	.
.	.	.	.
.	.	.	.
119	590-595	590	595
120	595-600	595	600
121	600-	600	NULL



5 OLAP Database

Sinch Contact Pro Reporting OLAP database provides aggregated statistics for report queries.

OLAP database is built using the same names that are used in the data warehouse. The OLAP technique is used for aggregating statistics to offer fast responses to queries.

5.1 OLAP Update

OLAP database uses incremental update mode. This means that only new data will be updated into OLAP, instead of refreshing all data.

When OLAP has been successfully updated, the last updated data identity values (fact tables RowId s) are saved in VWU.dbo.Settings table. Next OLAP database update uses these values as criteria to update new values. If no new data is found (saved value is the same as current fact's max RowID), no update will take place.

Data transformation and OLAP database update(s) are scheduled in SQL job "Reporting Data Transformation Process". This job includes 7 steps; first step executes BCM_DTE.exe component to carry out data calculations in the data warehouse. Next steps upgrade new data in OLAP database.

OLAP update steps do not return an error if one occurred during XMLA command execution. These errors are described in a message that execution returns. Settings for logging are configured in advanced settings for each job step. By default, Log to table is selected for OLAP update steps, which means that each step logs a step message into "Log table".

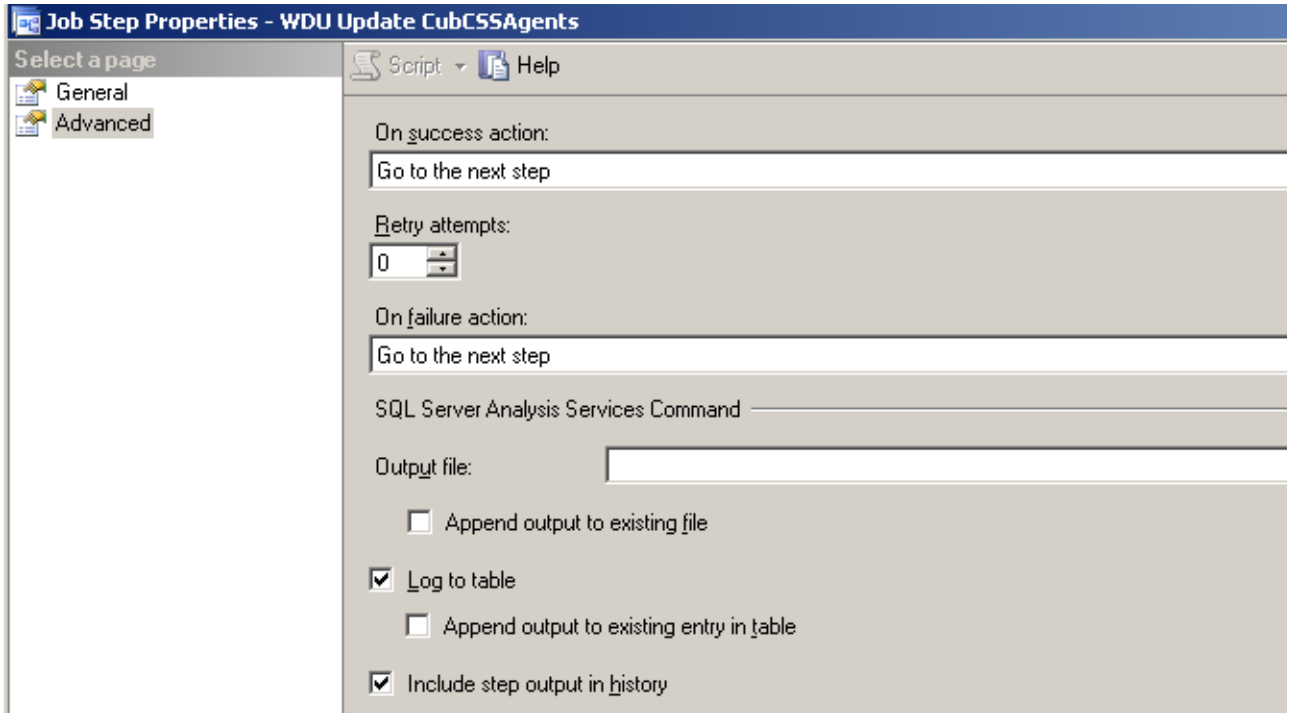


Figure: Settings for log job step output to the sysjobstepslogs table in the msdb database

Step “XXX Report OLAP job status” (where XXX is the specific name of the OLAP database) calls procedure “Refresh_OLAP_Data_Status ‘XXX’” to parse each step’s messages. If a step’s message contains string “`ErrorCode`”, the step is reported as failed.

If any step is reported as failed, only the step “XXX Report OLAP job status” is reported as failed and step names are listed in the description of the last OLAP step.

➔ If an error occurs during dimension or cube update, these steps are reported as successful (in SQL job view). Only the last OLAP step will indicate that an error occurred. You must check the last OLAP step’s message to see what has caused an error and check the error message itself from the messages of the step listed as containing an error.

When OLAP database(s) have been updated successfully, the information is saved into VWU.dbo.Settings with criteria @OLAPDatabaseName + ‘:’ + @CubName. Max RowId value is saved as “Value”.

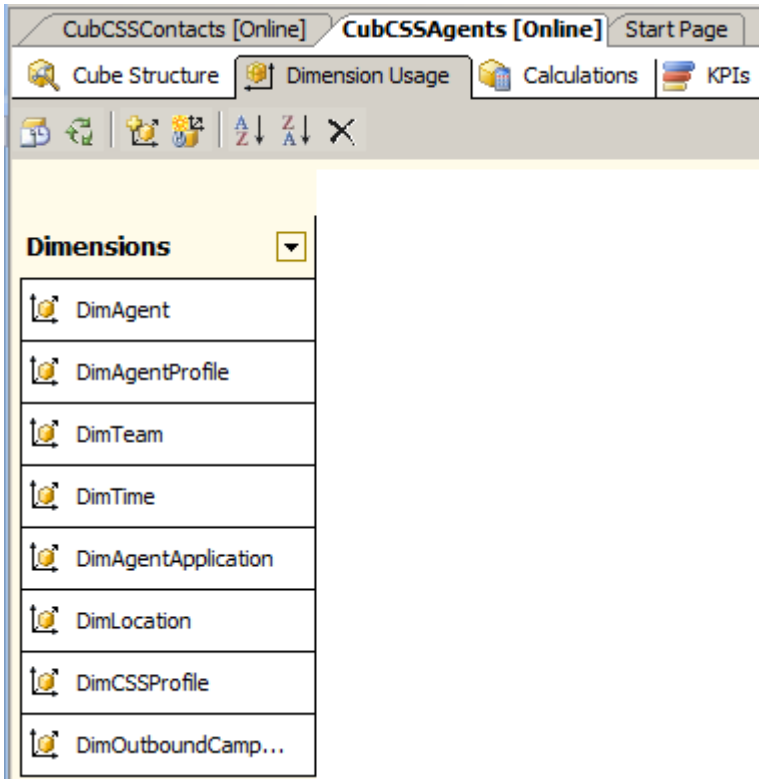
5.2 OLAP Cubes

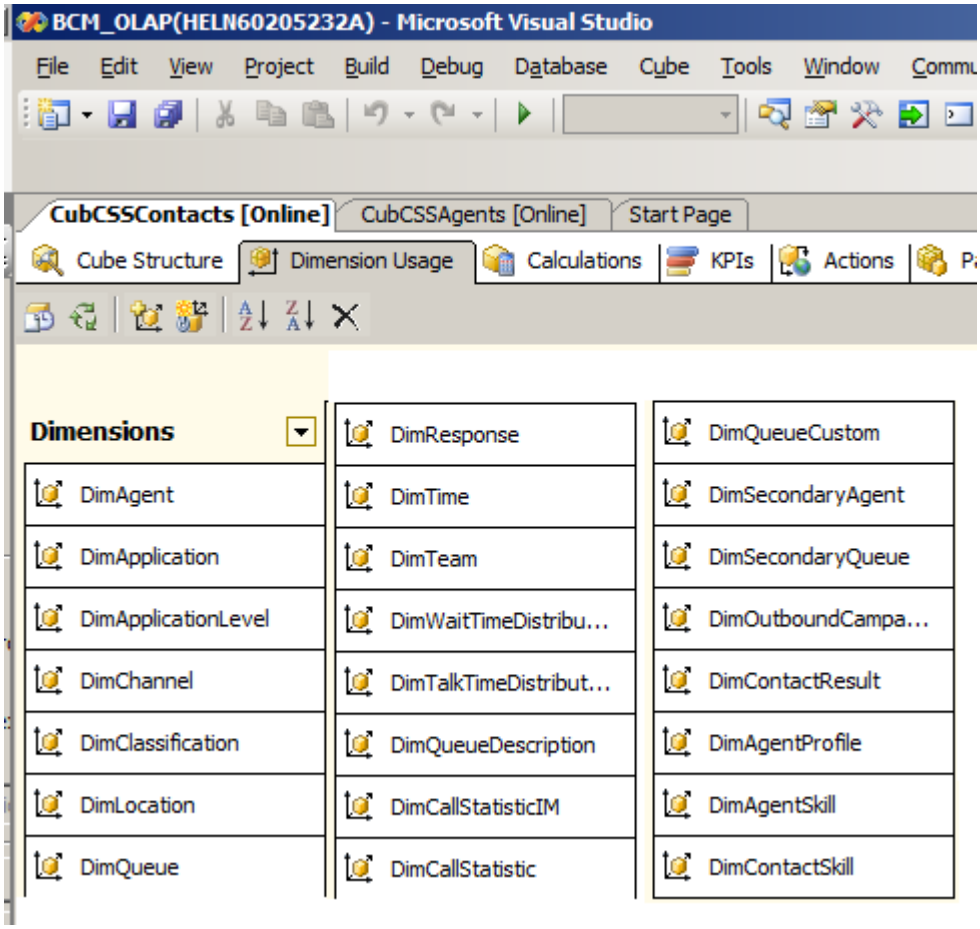
The following OLAP cubes are provided by the installation:

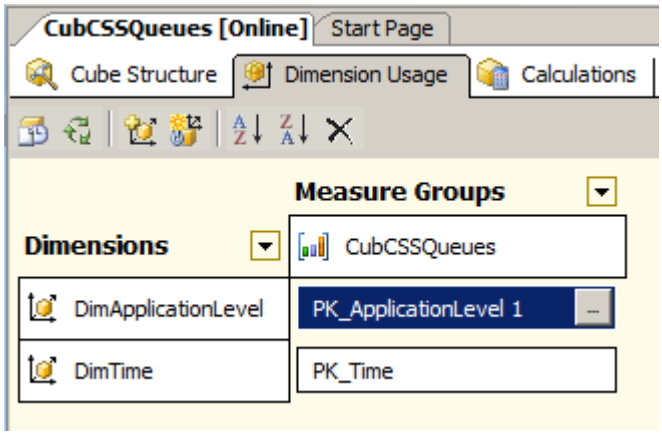
- CubCSSAgents => Agent based data
- CubCSSContacts => Conversation based data
- CubCSSQueues = > Queue based data

5.2.1 Dimensions Used in OLAP Cubes

OLAP cube dimensions are the following:







6 Glossary

This section lists and describes the terminology used in Sinch Contact Pro.

A

Term	Definition
A number	A number from which a call or a message comes
abandoned	Calls that are hung up by customers before they are answered but after the false attempt time
absence	A status in the system when a user is away or not available and cannot be reached
Administration and Configuration Interface (ACI)	A server-to-server interface that provides access to the configuration data stored in Sinch Contact Pro databases
afterwork	An agent status that indicates that the agent is temporarily not able to accept conversations from queues but is able to receive direct calls This is a special status and agents cannot select it manually. After this status the application gives the *Ready* status automatically. The term in the 7.0 version is *Wrap-Up* but the term of the previous versions (*Afterwork*) is still used on the Reporting user interface.
agent	A person who handles inbound or outbound conversations (such as e-mails, calls, and chat requests) in a contact center
Agent Server (AS)	A mandatory server component that carries out communication between Sinch Contact Pro components
answered-on-time limit	In contact centers, time limit for service level calculation Conversations (chats, e-mails, and calls) answered before this time are classified as answered on time.

answering button	The button on a telephony application's (such as Communication Desktop) user interface that can be clicked to accept an incoming call
application service provider (ASP)	A third-party entity that manages and distributes software-based services and solutions to customers across a wide area network (WAN) from a central data center Application Service Providers enable companies to outsource aspects of their information technology needs.
audio file	A recorded file that can be used to make prompt files and prompts.
auto-allocation	Queue mode where calls, chats, or e-mails from queues are automatically allocated to agents

B

Term	**Definition**
B number	A target of a call or a message
bandwidth control	A way to reserve bandwidth for voice stream of a location
bandwidth group	Part of a network defined by IP ranges, subnets, network elements, or specific user groups and which has a specific bandwidth dedicated to its voice streams
barge-in	A supervisor-related function in the Communication Desktop (CDT) application that allows supervisors to participate in a call between an agent and a customer. All parties can hear each other.
barring	A way to restrict outbound calls with predefined call rules, for example, blocking international calls
barring group	A way to attach barring rules to users and user groups
base installation	The complete software package of a certain version

	Each virtual unit uses the specified base installation. Thus, all software packages installed in a virtual unit always use the same software version. Hotfixes (patches) are dedicated to a specific base installation, and the entire software is upgraded by changing the base installation.
Batch Job Server (BJS)	A mandatory server component that handles directory rebuild/synchronization, license reporting, message/file/Outbound campaign cleaning and database-related things.
blind transfer	A function in the toolbar that puts the caller on hold while an agent forwards the call to another agent's extension without first consulting with the agent who is receiving the transferred call
block	A functional entity in a VoiceXML document that consists of elements
bridge	A module for connecting the registered terminal devices and the gateways to the Sinch Contact Pro core module, Call Dispatcher Two main types in use: H.323 and SIP.

C

Term	Definition
C number	A target of a call that is transferred from the B number
calendar	A set of days (either weeks, months, years, or specific dates every year) used to schedule when a service is available For example, the "Public Holiday" calendar includes all days of the year when the service is closed, and the corresponding schedule is "Closed 24h".
Call Dispatcher (CD)	The core module for low-level call handling
call out prefix	A set of numbers automatically added to the beginning of the displayed telephone number when making outbound calls

call waiting tone	A file that is played to an agent when the agent has an inbound call waiting
callback	A function in a contact center that allows customers to leave a request to call them back
callback request	A request in the system left by a customer
campaign	An outbound call campaign where the dialer calls customers and agents ask questions according to the script
CEM	The core module in the Sinch Contact Pro system that takes care of conversation routing
channel	Settings that define e-mail, phone, and chat channel behavior
channel type	A way to define the media that a channel is using to pipeline conversations to a queue (for example, chat, e-mail, telephone, or fax) A queue can have more than one channel defined.
Chat Portal Interface (CPI)	Defines the external API that the Internet chat client uses to communicate with Sinch Contact Pro
Chat Portal Server	A server component that must be installed in the system if the chat channel is used
Chat Server	A server component that must be installed in the system if the chat channel is used
child element	A functional step in a VoiceXML document that is nested in a parent element or block
ClientCOM	The communication interface between the client-level applications
ClientCore	The communication interface provides access to the core of the Sinch Contact Pro software telephone
codec	A device or computer program capable of encoding and decoding a digital data stream or a signal
Communication Desktop (CDT)	An application for managing customer conversations in Sinch Contact Pro

conference	Indicates the availability of a user The user is attending a conference call.
conference bridge	A service that connects callers to a conference call and monitors the call
connect	To join calls together in telephony applications such as CDT
Connection Server (CoS)	A mandatory server component that carries out communication to the end-user interface CDT via a TLS-secured connection.
country code	In telephony applications, this means country calling code defined by ITU-T recommendations E.123 and E.164, also called IDD (International Direct Dialling) or ISD (International Subscriber Dialling) code
critical time	The static time value for queuing
customizer	Lines of code that are used to import a function to the system
customizing file	A text file that contains customer-specific values

D

Term	**Definition**
dashboard	The runtime statistics of user's own activities, such as inbound and outbound calls, and e-mail messages
Data Collector (DC)	A server component that collects reporting and monitoring data Required if the Reporting or Online Monitoring applications are used
data item	XL Reporter: Data in the Sinch Business One database that XL Reporter uses to specify a selection. Depending on their relationship to other data in the database and the actions that XL Reporter can perform on them, data items can be of the three following categories: • Dimensions

	• Light Dimensions • Measures
data staging area (DSArea)	One of the databases in DTE Related to the Reporting application
data transformation engineer (DTE)	A tool that runs the transformation process in the Reporting application
data warehouse (DW)	Information organized in datamarts for effective online search Related to the Reporting application
desk phone	A complete device for performing telephonic tasks such as calling, answering, and transferring calls In VOIP, this is an alternative for a soft phone that is run as software on a PC or laptop with suitable audio devices connected. This was earlier referred to as a hard phone.
destination	A number or an address to which a call is made or a chat or an e-mail is sent
destination number	A number to which a call is made
dial pad	Part of the user interface of a telephony application that enables sending DTMF signals, that is, the same numbers and characters as a traditional telephone
dial pad button	A character on the dial pad When the button is clicked, the character is sent as a DTMF signal.
dialing mode	A setting in the campaign management that defines the way the dialer handles a call campaign
directory	A list containing conversation information on persons and companies

Directory and Availability Interface (DAI)	A server-to-server interface that provides directory data and presence information.
Directory Server (DS)	A mandatory server component that is used by CEM Server to show directory information to users
divert delay	Time before a call is redirected to another number (for example, to voicemail)
document	A definition of an IVR application expressed in VoiceXML
dual tone multi-frequency (DTMF)	The technical term describing touch-tone dialing on a telephone It is essentially the combining of two tones: one low frequency and one high frequency

E

Term	Definition
early queuing	Queuing calls before they are connected Can be used for toll-free queuing
element	A functional step in VoiceXML document that is defined with appropriate attributes For example, the audio element requires that the related recorded voice file is defined.
Embedded Communications Framework (ECF)	A concept that provides a way to embed Sinch Contact Pro communications controls to any business application user interface
Email Sender	A server component that can be used to send e-mail messages such as voicemail notifications and e-mail queue replies using the local SMTP server in the operating system

extension	An identifier of a user's or queue's account in the system, such as the unique internal phone number, or e-mail or chat address
extension number	A user's or queue's unique identifier in the system
external agent	A user who is logged on to the software from an external number (mobile or fixed) and receives queue and personal calls to this external number
external IVR interface (EII)	Enables integrating a SIP-enabled speech recognition IVR server into an Sinch Contact Pro system
External Terminal Controller	A core module that translates the protocol used with desk phones into a protocol used with soft phones

F

Term	Definition
false attempt	An unanswered call that is hung up by a customer before the false- attempt limit (typically 5 seconds) is reached
federation bridge	A core module for interconnecting several Sinch Contact Pro systems
File Replication Server (FRS)	A server component that can be used, for example, to copy voicemail files between different locations
forward	To redirect calls to, for example, voicemail or mobile phone

G

Term	Definition
gain	In Outbound campaigns, the percentage of successful results of made calls Can be calculated using all, handled, or reached customer conversations either per campaign or per agent
grammar	A definition of rules for certain functions used in VXML, for example DTMF recognition

grant	To allow users, user groups and roles to assign rights to other user roles and user groups

H

Term	Definition
H323	A standard protocol for audio, video, data, internet phone, and VoIP transmissions
hang-up time	The average duration of abandoned calls
high availability controller (HAC)	A service run on each physical server that constantly monitors and controls the services on the server and networks with other HAC instances on other servers to ensure that if one of the servers fail the services are moved to another server
hold	A function that puts a call on hold.
hunt group	Queue mode where the agents pick the call, chat, or e-mail from a queue

I

Term	Definition
IIS (Microsoft Internet Information Server)	A Microsoft server product used for various web-related tasks, such as managing services and sharing information
immutable	An object whose state cannot be modified after it is created. For example in Sinch Contact Pro Infrastructure Administrator (IA), some of the installation variables are immutable and cannot be changed after they have been entered for the first time.
Infrastructure Administrator (IA)	An administration application for creating the system model, and starting and stopping all components of the system
interactive voice response (IVR)	An automated system that accepts input from a user over the telephone and plays back audio responses

intercept	To take a call from an agent and continue that call. One of the supervising functions
internal range	An additional range to the system PSTN ranges (for example an IVR number)
IP (Internet protocol)	A network protocol that enables computers to communicate using various physical media. This protocol is used for the global Internet but can also be used entirely separately as a communications protocol in any computer network.

L

Term	Definition
License Reporting Interface (LRI)	Provides an access to information related to the current and past provisioning situation and the usage of different functions in a Sinch Contact Pro system

M

Term	Definition
mask	A method of hiding a source or destination number. For example, an agent's individual number can be masked and the contact center queue number is shown as a caller.
MCTABUFF	The core module required for ClientCOM integrations. This ActiveX component is installed on a client workstation.
mobile phone	A hand-held device used for wireless communication
module	A software entity that performs certain functions
monitoring	The process or application for collecting and displaying data and metrics from the system and its users' performance
MRS (Media Routing Server)	A core component in the Sinch Contact Pro system that plays prompts to a voice stream
MTD (Multiterminal desktop)	Functions for defining multiple terminal devices for receiving inbound calls and for selecting which one of the devices is used when making outbound calls

multi-chat	A function that enables a contact center agent to have several active chat sessions simultaneously

N

Term	Definition
NAT location	Part of a network defined by IP ranges, subnets, network elements, or specific user groups that use NAT to route streams to other locations
Network Address Translation	An IP address used in one network (the inside network) and translated to a different IP address known in another network (the outside network)
notification call	A way to inform a user about a new voicemail message
number range	Phone number extensions that can be selected in a Sinch Contact Pro system. A number range contains a PSTN range, an internal range, and a subrange.

O

Term	Definition
OLAP	Online analytical processing. Related to the Reporting application.
Online Interaction Interface (OII)	Provides methods for handling agent statuses and queue assignments, for performing telephony and other communication operations in a Sinch Contact Pro system. OII is dedicated to communication with the Sinch CRM system, but it is not limited to that.
OPTIONS ping	A function for checking if the neighboring device is willing or able to accept calls
Outbound	An element in the Communication Desktop (CDT) application related to predefined outbound call campaigns

outbound management	A way to manage campaigns in the system including dialers, settings, templates, filters, classifiers, call transfer lists, and call lists

P

Term	Definition
P-Asserted Identity (PAI)	A header in SIP message that enables conveying the caller identity within a trusted domain
paperwork	An agent status that indicates that the agent is temporarily not able to accept conversations from queues but is able to receive direct calls. The term in the 7.0 version is *Not Ready* but the term of the previous versions (*Paperwork*) is still used on the Reporting user interface.
pattern	A certain combination of characters or numbers that routes the conversation to a specific route, for example, the calls starting with a plus sign (+) are recognized as international calls. It can also be used for barring calls to numbers starting with the same pattern.
paused	A status in which an agent has activated an absence profile
PRACK	Provisional Response ACKnowledgement method
predictive	Dialing mode where the software makes calls automatically. When a customer answers a call, it is immediately connected to a free agent.
predictive dialing controller (PDC)	A CEM module that runs the outbound campaigns
prerouting policy	Enables calls (and other conversations) to be routed to the Front End application instead of a call center queue in case of a congestion
presence	A status in the system when a user is free and can be reached

presence profile	An absence, a presence or a conference profile which defines how inbound calls are handled when a certain profile is selected
Presence Synchronization Interface (PSI)	Enables synchronization of presence information between Sinch Contact Pro and external systems, such as Microsoft Lync
preview	Dialing mode where an agent can view the customer data and possible scripts before making calls
prewelcome message	An audio prompt type, either a prompt or a prompt file
prewelcome prompt	A customer-specific audio message played once after schedule processing but before the call enters a queue
private branch exchange (PBX)	A traditional corporate telephone system which usually includes switchboard hardware
progressive	Dialing mode where the software selects a new customer automatically and makes the new call immediately when an agent has finished the wrap-up related to the previous call
prompt	Audio or text-based messages that advise the user in the contact center interactions, for example, in an IVR or when waiting in a queue. Also an audio or a text file that is used accordingly. Examples: “You are in queue. Your call will be answered as soon as possible.” and “To select the option xxx, press 1.”
prompt file	A repository for language-specific audio files. In Sinch Contact Pro systems, a prompt file is defined for a prompt, and when this prompt file is used in a certain language, the corresponding audio file is played in that language.
PSTN range	Phone extensions from the public switched telephone network

Q

Term	Definition
Quality Monitoring Interface (QMI)	An integration interface provided by Quality Monitoring Server
Quality Monitoring Server (QMS)	A server module that enables interface to third-party quality monitoring systems
queue mode	A way to direct calls, e-mails, and chats from queues to agents. Administrators define whether agents serve in hunt group or auto-allocation mode.
queue watcher	A tool to monitor queues. It displays information about the number of conversations in queues, queue time, and the number of free agents and agents logged on to the queues.

R

Term	Definition
R number	The original external source number (A number) in the following special case: The system is configured to display the original number even if the call has been forwarded within the system before it is finally forwarded to another external number. Normally the system displays the personal extension number or the queue number as the source number.
recording	Function, or the result of it, where a telephone call is saved as a file and can be listened to later on
redial	Scheduling a new call to a customer who could not be reached in an Outbound campaign
redundancy	A duplication of system components with the intention of increasing availability
redundant	Duplicating the function of another component in a system and providing a backup in the event of a component failure
refresh	Function that updates the displayed view. Can be initiated manually or happens automatically after defined intervals.

	Typically used in views where large amounts of collected information are displayed, as updating those views after each change in any item is not reasonable.
Reporting Data Interface (RDI)	Provides methods for reading history information about calls and e-mail messages that have been handled in a Sinch Contact Pro system
ringback	A reminder made in the Sinch Contact Pro system when the called person cannot be reached. When the person is available, the system indicates it.
ringing time	The time before the system starts to play an audio message to the caller
route	A way to take a call to a specific destination. Typically includes settings for the priority, gateway equipment, codec used, masks, and prefixes.
routing	A procedure that determines the receiver of a call, an e-mail, an SMS, a short message, a chat request, or other conversation
RTP	A standardized packet format for delivering audio and video over the Internet

S

Term	Definition
saved searches	A saved search criterion list for items such as users and queues in the System Configurator application
schedule	A way to define the times when a service is available. Typically includes a related (audio) message that informs customers of the opening hours.
script	A step-by-step questionnaire that gives agents guidance during customer interactions. Agents use these scripts to guide them through each step of a customer conversation and enter the customer's responses in the script. The customer's response dictates the next step that the script displays. These steps may

	include questions with predefined answers, business transactions, or other activities.
Secure RTP	A secure (encrypted) RTP signal used within the Sinch Contact Pro system for transmitting audio signal between terminal clients and the MRS component
service level	Percentage of calls answered on time including all arrived calls except false attempts. The answering time is defined with the answered-on-time limit and the time for false attempts with false-attempt limit. Also the service level of other means of communication, such as chats and e-mails, is monitored. Their service level is calculated from their specific limits.
serving	An agent status that indicates that the agent is free to accept direct calls and conversations from queues. The term in the 7.0 version is *Ready* but the term of the previous versions (*Serving*) is still used on the Reporting user interface.
short message service (SMS)	The method for delivering short messages to mobile phones
SIP	A signaling protocol used for setting up multimedia communication sessions, such as voice and video calls, over the Internet. Other feasible application examples include video conferencing, streaming multimedia distribution, instant messaging, and presence information.
skill	A certain expertise that an agent has (for example language skills)
skill-based routing	A method to route a conversation to the right agent, for example, based on a required language skill
soft phone	Software-based telephone that is operated via the screen and offers the same function as the hardware version of the telephone
source number	A number from which a call is made
SOAP (Simple Object Access Protocol)	The method which allows an exchange of data between applications running on different platforms

spare	A role of the system, or its part, that is inactive but will be started in case of a fault in the corresponding active part
SQL (structured query language)	A programming language used for database queries and updates. May also refer to a database server or program
standby	A role of the system, or its part, that is active but not handling requests. In case of a fault in the corresponding active part, it is able to handle system requests on short notice.
subrange	A certain type of numbers within PSTN or internal ranges For example, in a system, queue numbers can be between 150-250 and voicemail numbers between 300-350.
supervising restriction	A button on the user interface to prevent the supervision of an agent
supervisor	A user with limited administration rights who can monitor other users
suppressed	A state in the audio volume adjustment window
switchboard operator	A person receiving incoming conversations, for example in a company, and connecting (or forwarding) them to the correct extensions
switching	Low-level call handling and delivering calls to different destinations. Should not be mixed with higher level intelligent routing.
switching route	A configuration for making and receiving external calls, and calls to the end points that are reached via a SIP bridge
switching rule	A generic rule that applies to all users in a telephony system. For example, barring calls to expensive service numbers.
System Configurator (SC)	The administration and configuration application of Sinch Contact Pro
system model	A model of the server system hosting customer services. System model describes a particular system of the infrastructure software and it includes managed computer systems, software, access points, and redundancy settings.

T

Term	Definition
talking time limit	A time an agent is allowed to talk in one call. Defined in the setting Handling Time Limit.
Task Management Interface (TMI)	Used for creating new tasks to a Sinch Contact Pro system and for reading task information from the system
TCP/IP (Transmission Control Protocol/Internet Protocol)	A software protocol developed for communication between computers
tear off	To drag and drop certain UI elements from a larger entity for creating a separate UI window
tentative	Indicates the availability of a user. The user is free but not available for all conversations.
transfer	To put a caller through to someone else, for example, an agent can transfer a call to a colleague
transfer on hold	A function in which the transferred call remains in the agent's conversation list so that it can be retrieved by the agent
trunk	In the version SP08, the term *gateway* was changed to *trunk*.

U

Term	Definition
User Datagram Protocol (UDP)	A communications protocol that offers a limited amount of service when messages are exchanged between computers in a network that uses the Internet Protocol (IP)
UTC (Coordinated Universal Time)	The standard time system used in the software. Times in different time zones are calculated in relation to the UTC time.

V

Term	Definition
virtual phone	A telephone account not connected to the device. For example, a virtual phone with the Sinch Contact Pro extension number can be run on a mobile or desk phone (that has another number from the PSTN operator).
virtual unit	A logical group of technical services that are managed as a single unit
voice menu	A list of selections with corresponding numbers that are played to callers in an IVR
voicemail	A system that answers calls and allows callers to leave a recorded message
VoiceXML	A standard format of XML for specifying interactive voice dialogues between a human and a computer
VoIP (Voice Over Internet Protocol)	A method for transferring voice signal over the Internet

W

Term	Definition
waiting time	Time that a conversation event (such as a call, a chat, or an e-mail) is waiting after it has entered a service queue and before it is answered or transferred to another queue or service, or before the caller hangs up
waiting time learning	A process that also takes other defined queues into account when calculating the waiting time
welcome message	An audio message played for a caller entering a call service, or a text displayed for a person entering a chat
wrap-up	The time agents use for finishing up after a call, an e-mail, or a chat with a customer