



Monitoring Data Guide

Version 2.0 – June 2022



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1.0	25.03.22	Created document for version 22Q1
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1 Introduction

This document describes the contents of the monitoring database for Sinch Contact Pro. In Sinch Contact Pro cloud, this document is only needed when using the [reporting data replication](#) feature.

Online Monitoring and Dashboard are real-time reporting tools for conversation/contact flow in the contact center system. The monitoring data is collected and stored into monitoring tables. This enables fast and effective database queries. In addition, some configuration tables are described in chapter Configuration Tables for solving names and group hierarchies.



2 Monitoring Tables

Monitoring maintains tables in the Monitoring Database Server. The tables store statistics of the current day's contacts/conversations. The *TAMContactHistory* table stores statistics of 30 days.

2.1 TAMContactDetail

Info: Stores detailed information for contacts. The table has one row for each contact.

Input: The table is maintained by the Data Collector component.

Output: -

Maintenance: Cleans old data from the table (not active contacts)



Figure 1 TAMContactDetail Table Columns

dbo.TAMContactDetail	
Columns	
GUID (PK, uniqueidentifier, not null)	Busy (bit, null)
ContactLogGUID (uniqueidentifier, not null)	Prompt (bit, null)
CallId (varchar(64), null)	ShortWait (bit, null)
DirectoryGUID (uniqueidentifier, null)	Forwarded (bit, null)
ApplicationGUID (uniqueidentifier, null)	Recorded (varchar(256), null)
QueueGUID (uniqueidentifier, null)	Notes (bit, null)
SecondaryQueueGUID (uniqueidentifier, null)	MailSent (int, null)
TeamGUID (uniqueidentifier, null)	OperDirectHandle (bit, null)
Source (nvarchar(128), null)	OrigGUID (uniqueidentifier, null)
Destination (nvarchar(128), null)	ScheduleBasedWarningTime (datetime, null)
Type (varchar(16), null)	ScheduleBasedCriticalTime (datetime, null)
UserGUID (uniqueidentifier, null)	ScheduleBasedWaitingTime (int, null)
Number (varchar(64), null)	ScheduleBasedHandlingTime (int, null)
PreviewTime (datetime, null)	ChangeTimeStamp (datetime, not null)
ArrivalTime (datetime, null)	RestingTimeInSeconds (int, null)
WelcomePromptTime (datetime, null)	ArrivalQueueTime (datetime, null)
ConnectTime (datetime, null)	Consultation (uniqueidentifier, null)
PendingTime (datetime, null)	OutboundCampaign (uniqueidentifier, null)
PickTime (datetime, null)	Recorded2 (varchar(64), null)
DisconnectTime (datetime, null)	OverflowCount (int, null)
AllocatedCount (int, null)	ActiveAfterwork (bit, null)
NotesTime (datetime, null)	TransferTime (datetime, null)
ConsultBeginTime (datetime, null)	AgentRequiredExpirationTime (datetime, null)
ConsultEndTime (datetime, null)	AgentRequiredCancelledTime (datetime, null)
AfterworkBeginTime (datetime, null)	SubType (varchar(16), null)
AfterworkEndTime (datetime, null)	IsDeleted (bit, null)
ServiceClosed (bit, null)	

Column descriptions:

- **GUID:** Unique row identifier (primary key)
- **ContactLogGUID:** Contact's unique identifier
- **CallId:** Contact's lifetime unique identifier
If a contact is transferred, *ContactLogGUID* is changed but *CallId* remains the same.
- **DirectoryGUID:** Not in use
- **ApplicationGUID:** The GUID of the application to which the queue belongs
- **QueueGUID:** *QueueGUID* is the queue's GUID to which the contact has arrived.
If the contact arrived in an agent's direct number, the queue's *Oper_Direct* GUID is used.



- **SecondaryQueueGUID:** The GUID of the queue from which the agent picked up the contact or from which the contact was disconnected for some reason (abandoned)
- **TeamGUID:** The GUID of the agent's reporting group. If the agent does not belong to any group or the contact is abandoned (no agent), *TeamGUID* is "null".
- **OutboundCampaign:** Given if the contact belongs to an Outbound Campaign. The value is the Outbound Campaign's GUID. If the contact is not Outbound Campaign related, the value is null.
- **Source:** A number (calls) or an email address (emails)
- **Destination:** B number (calls) or an email address (emails)
- **Type:** The possible values of a contact type:
 - **CallIn:** inbound call
 - **CallIn/Forwarded:** inbound call transferred by the system (not by an agent)
 - **CallOut:** outbound call
 - **CallOutOB:** outbound call belonging to Outbound campaign activity
 - **CallOutTerm:** terminal call, generated by multiterminal desktop (MTD) usage
 - **EMAILIN:** email (inbound)
 - **EMAILOUT:** email (outbound, sent by agent)
 - **SMS:** Short Message Service contacts (outbound)
 - **VOICEMAILIN:** inbound voicemail contacts
 - **SPSPOIVR:** call routing IVR contact
 - **ChatIn:** inbound chat
 - **ChatOut:** outbound chat
 - **CBR:** callback request
 - **CBRCallOut:** outbound call made for callback request to retrieve customer
 - **CBRIntCallIn:** internal call made to queue to get agent to handle callback request
- **UserGUID:** Agent GUID
- **Number:** Agent's (internal phone) extension
- **ArrivalTime:** The time when the contact arrived in the contact center system
- **WelcomePromptTime:** The time when welcome prompt playing ended



- **ArrivalQueueTime:** The time when the contact has arrived in a queue
For example, emails and callback requests have some time between the arrival time and the time they reach queues. This time is used to count waiting times instead of *ArrivalTime*.
- **ConnectTime:** The time when the contact has been picked by agent or call forwarding started
If the contact is not picked or forwarded, *ConnectTime* is null (the contact is abandoned).
- **DisconnectTime:** The time when the contact has been disconnected
- **AllocatedCount:** The number of times the contact was allocated to agents
- **NotesTime:** The time notes logged for a contact
If there are no notes, *NotesTime* is null. Currently not in use and value is null.
- **Consultation:** If a call is a consultation call related to a customer call, the consultation call has a GUID reference to the customer call.
- **ConsultBeginTime:** The time the consultation call began
If there is no consultation call, *ConsultBeginTime* is null. If there are many consultation calls, only the first one is reported.
- **ConsultEndTime:** The time the consultation call ended. If there are no consultation calls, *ConsultEndTime* is null. If there are many consultation calls, only the first one is reported.
- **AfterworkBeginTime:** The time the wrap-up started
Currently not in use and value is null.
- **AfterworkEndTime:** The time the wrap-up ended. Currently not in use and value is null.
- **RestingTimeInSeconds:** Resting time in seconds
This duration is included in the duration counted from the wrap-up begin and end times. Resting time is the configured time for agents after a contact has been handled and it may occur after scripting as well.
- **ServiceClosed:** If the contact arrived outside service times, the value is 1. Otherwise the value is 0.
- **Busy:** If the reason for disconnection is a busy line, the value is 1. Otherwise the value is 0.



- **Prompt:** If the reason for disconnection is a prompt, the value is 1. Otherwise the value is 0.
- **ShortWait:** If the call was ended by the caller before the welcome prompt has been played, the value is 1. Otherwise the value is 0.
- **Forwarded:** If the contact is forwarded, the value is 1. Otherwise the value is 0.
- **Recorded:** If the contact has a recording, the value for the first recording is *[Owner class id];[Owner GUID]*. Otherwise *Recorded* is null.
- **Recorded2:** If the contact has two recordings, the value for second recording is *[Owner class id];[Owner GUID]*. Otherwise *Recorded2* is null.
- **Notes:** Customized use only
If the contact has notes, the value is 1. Otherwise the value is 0.
- **MailSent:** The number of emails sent for inbound email handling
- **OperDirectHandle:** If the contact arrived in the agent's direct number, the value is 1. Otherwise the value is 0.
- **OrigGUID:** If the contact has been forwarded, for example, from an application to another (IVR -> CallCenter), for the latter application monitoring marks *OrigGUID* to point to the previous application's contact.
- **ScheduleBasedWarningTime:** Counted warning time for emails
When the current time is more than the warning time, Online Monitoring shows a warning type alert for contacts in the Contact Details view (the value provided by CEM).
- **ScheduleBasedCriticalTime:** Counted critical time for emails
When the current time is more than the critical time, Online Monitoring shows a critical type alert for contacts in the Contact Details view (the value provided by CEM).
- **ScheduleBasedWaitingTime:** Waiting time based on service times for emails
This is different from *ConnectTime – ArrivalTime* when “service closed” time has been scheduled between the arrival and connection time.
- **ScheduleBasedHandlingTime:** Handling time based on service times for emails
This is different from *DisconnectTime - ConnectTime* when between the connection and disconnection time “service closed” time has been scheduled.
- **ChangeTimeStamp:** Timestamp of the last change done on this row



- **OverflowCount:** Count of how many times the contact has overflowed from one queue to another
- **PreviewTime:** The timestamp of preview of outbound campaign
- **PendingTime:** The timestamp when email has been set as pending (email saved)
- **PickTime:** The time when an email has been picked
- **ActiveAfterwork:** The value is 1 when the contact has been handled and possible wrap-up will occur (wrap-up request for the contact may have been cancelled; for example in a resting case there are multiple active contacts). Otherwise the value is 0.
- **TransferTime:** If the contact has been transferred, the timestamp of the transfer
 - Timestamp is set when the event *CallsJoined*, *MailForwarded*, *CallTransfer*, or *BlindTransfer* occurs.
 - Timestamp is reset (set null) when the event *BlindTransferFailed* or *MailConnected* occurs.
- **AgentRequiredExpirationTime:** The time when a routing demand for a required agent will expire
- **AgentRequiredCancelledTime:** The time when a routing demand for a required agent was cancelled
- **SubType:** The sub type of the contact
In a chat contact, the value is “*TextChat*” or “*VideoChat*”, according to the chat type. For all other contacts the value is the same as *Type*.
- **IsDeleted:** Tells if an inbound or outbound email has been marked as deleted.
- **Subjects:** Saved given contact’s subject. Picjked from event ContactSubject Value1 field value.
- **AgentRequiredType:** Required type: 1= required, 2 = preferred
- **AgentRequiredGUID:** List of required agent guids. Max 6 guid listed
- **TransferAgent:** o agent to whom contact has been transferred



2.2 TAMCurrentContactList

Info: Stores information of the active contact. Contact information is logged to this table when it has arrived and cleared when the contact has been disconnected (handled).

Input: The table is maintained by the Data Collector component.

Output: When the contact is handled (ended), statistic will be cleared from this table.

Maintenance: Clean-up possibly corrupts contact information

Figure 2 TAMCurrentContactList Table Columns

Column Name	Data Type	Nullability	Other Attributes
GUID	uniqueidentifier	not null	PK (Primary Key)
ContactLogGUID	uniqueidentifier	null	
DirectoryGUID	uniqueidentifier	null	
ApplicationGUID	uniqueidentifier	null	
QueueGUID	uniqueidentifier	null	
TeamGUID	uniqueidentifier	null	
Type	nvarchar(32)	null	
ArrivalTime	datetime	null	
ConnectTime	datetime	null	
ChangeTimeStamp	datetime	not null	
ArrivalQueueTime	datetime	null	
SecondaryQueueGUID	uniqueidentifier	null	
ActiveAfterwork	bit	null	

Column description:

- **GUID:** Unique row identifier (primary key)
- **ContactLogGUID:** Contact's global unique identifier
- **DirectoryGUID:** Not in use
- **ApplicationGUID:** The GUID of the application to which the queue belongs
- **QueueGUID:** *QueueGUID* is the GUID of the queue in which the contact has arrived. If the contact arrived in the agent's direct number, the queue's "Oper_Direct" GUID is used.



- **TeamGUID:** The GUID of the agent’s reporting group. If the agent does not belong to any group or the contact is abandoned (no agent), *TeamGUID* is “null”.
- **Type:** The type of the contact, has the same values as in the *TAMContactDetail* table
- **ArrivalTime:** Arrival time for contact
- **ArrivalQueueTime:** Time when the contact has arrived in the queue. For example, emails and callback requests have some time between the arrival time and the time they reach queues. This time is used instead of *ArrivalTime* to count waiting times.
- **ConnectTime:** The time when the contact has been picked by agent or call forwarding started
If the contact is not picked or forwarded, *ConnectTime* is null (the contact is abandoned).
- **ChangeTimeStamp:** Time stamp of the last change done on this row
- **SecondaryQueueGUID:** The GUID of the queue where the agent picked the contact or where the contact disconnected from the system for some reason (abandoned)

2.3 TAMContactSummary

Info: Stores cumulative information on application/queue in 15-minute periods for the current day. There is one row for each queue for each 15-minute interval. If no contacts have arrived in the queue during the 15-minute interval, there are no rows.

Input: The table is maintained by the SQL procedure
TAMContactDetail_Summary_Proc

Output: -

Maintenance: Cleans old data from the table



Figure 3 TAMContactSummary Table Columns

dbo.TAMContactSummary	
Columns	
GUID (PK, uniqueidentifier, not null)	ChatInArrived (int, null)
DirectoryGUID (uniqueidentifier, null)	ChatInHandled (int, null)
ApplicationGUID (uniqueidentifier, null)	ChatInAnsweredOnTime (int, null)
QueueGUID (uniqueidentifier, null)	ChatInAbandoned (int, null)
TeamGUID (uniqueidentifier, null)	ChatInFalseAttempt (int, null)
HourTime (datetime, null)	ChatOut (int, null)
CallInArrived (int, null)	ChatInHandleTimeTotal (int, null)
CallInHandled (int, null)	ChatInHandleTimeMax (int, null)
CallInAbandoned (int, null)	ChatInQueueTimeTotal (int, null)
CallInFalseAttempt (int, null)	ChatInQueueTimeMax (int, null)
CallInAnsweredOnTime (int, null)	ChatInAbandonedTimeTotal (int, null)
CallInDiverted (int, null)	ChatInAbandonedTimeMax (int, null)
CallInTalkTimeTotal (int, null)	ChatOutHandleTimeTotal (int, null)
CallInTalkTimeMax (int, null)	ChatOutHandleTimeMax (int, null)
CallInQueueTimeTotal (int, null)	EmailArrived (int, null)
CallInQueueTimeMax (int, null)	EmailHandled (int, null)
CallInQueuePromptTimeTotal (int, null)	EmailAnsweredOnTime (int, null)
CallInAbandonedTimeTotal (int, null)	EmailTalkTimeTotal (int, null)
CallInAbandonedTimeMax (int, null)	EmailTalkTimeMax (int, null)
CallInBusy (int, null)	EmailQueueTimeTotal (int, null)
CallInPrompt (int, null)	EmailQueueTimeMax (int, null)
CallInShortWait (int, null)	SMSHandled (int, null)
CallOutTries (int, null)	CBRArrived (int, null)
CallOutHandled (int, null)	CBRHandled (int, null)
CallOutTalkTimeTotal (int, null)	CBROut (int, null)
CallOutTalkTimeMax (int, null)	CBRAnsweredOnTime (int, null)
	CBRTalkTimeTotal (int, null)
	CBRTalkTimeMax (int, null)
	CBRQueueTimeTotal (int, null)
	CBRQueueTimeMax (int, null)
	ServiceClosed (int, null)
	ChangeTimeStamp (datetime, not null)

Column description:

- **GUID:** Unique row identifier (primary key)
- **DirectoryGUID:** The GUID of the directory to which the application belongs
- **ApplicationGUID:** The GUID of the application to which the queue belongs
- **QueueGUID:** The GUID of the queue in which the contact has arrived
If the contact arrived in the agent’s direct number, the queue’s “*Oper_Direct*” GUID is used.
- **TeamGUID:** The GUID of the reporting group of the agent who has handled the contact or to whom the direct call has been made. If the agent does not belong to any group or the contact is abandoned (no agent), *TeamGUID* is “null”.
- **HourTime:** 15-minute interval start time



- **CallInArrived:** Number of arrived inbound calls
- **CallInHandled:** Number of handled inbound calls (includes successfully forwarded calls)
- **CallInAbandoned:** Number of not handled inbound calls (not answered or forwarded). A call is considered abandoned when the waiting time is longer than or the same as the **False-Attempt Limit** threshold value defined in System Configurator (Queue Management > Queues > Reporting and Monitoring block for the phone queue).
- **CallInFalseAttempt:** Number of not-handled calls (not answered or forwarded). A call is considered a false attempt when the waiting time is shorter than the **False-Attempt Limit** threshold value defined in System Configurator (Queue Management > Queues > Reporting and Monitoring block for the phone queue).
- **CallInAnsweredOnTime:** Number of handled calls that have a waiting time shorter than defined in the *AnsweredOnTime* parameter
This also includes the number of transferred calls if the waiting time criteria have been fulfilled.
- **CallInDiverted:** Number of successfully forwarded calls
- **CallInTalkTimeTotal:** Total inbound call talking time
- **CallInTalkTimeMax:** Longest inbound call talking time
- **CallInQueueTimeTotal:** Total inbound call waiting time for handled contacts
- **CallInQueueTimeMax:** Longest inbound call waiting time for handled contacts
- **CallInQueuePromptTimeTotal:** Total time of the pre-welcome message prompt
- **CallInAbandonedTimeTotal:** Total inbound call waiting time for abandoned contacts
- **CallInAbandonedTimeMax:** Longest inbound call waiting time for abandoned contacts
- **CallInFalseAttemptTimeTotal:** Total inbound call waiting time for false attempt contacts
- **CallInFalseAttemptTimeMax:** Longest inbound call waiting time for false attempt contacts
- **CallInBusy:** Number of calls that have been disconnected with the reason “busy” (the busy signal prompt is played for the caller). This function is available only for FrontEnd IVR applications. In case a parent application and queue(s) have been



configured, data will be copied to the queues of the parent CallCenters application as well.

- **CallInPrompt:** Number of calls that have been disconnected with the reason “prompt” (configured prompt played for the caller). This function is available only for FrontEnd IVR applications. In case parent application and queue(s) have been configured, data will be copied to the queues of the parent CallCenters application as well.
- **CallInShortWait:** Total inbound call count for calls which the caller has hung up before the welcome prompt has ended
- **CallOutTries:** Number of outbound call attempts (connected and not connected)
- **CallOutHandled:** Number of connected outbound calls
- **CallOutTalkTimeTotal:** Total outbound call talking time for handled contacts
- **CallOutTalkTimeMax:** Longest outbound call talking time
- **ChatInArrived:** Number of arrived inbound chat contacts
- **ChatInHandled:** Number of handled inbound chat contacts
- **ChatInAnsweredOnTime:** Number of handled chat contacts that have a shorter waiting time than defined in the *AnsweredOnTimeChat* parameter
- **ChatInAbandoned:** Number of not-handled chat contacts (not answered). A chat is considered abandoned when the waiting time is longer than or equal to the defined “false attempt time” threshold value
- **ChatInFalseAttempt:** Number of not-handled chat contacts (not answered). A chat is considered a false attempt when the waiting time is shorter than the defined “false attempt time” threshold value.
- **ChatOut:** Number of outbound chat contacts
- **ChatInHandleTimeTotal:** Total inbound chat handling time
- **ChatInHandleTimeMax:** Longest inbound chat handling time
- **ChatInQueueTimeTotal:** Total inbound chat waiting time for handled contacts
- **ChatInQueueTimeMax:** Longest inbound chat waiting time for handled contacts
- **ChatInAbandonedTimeTotal:** Total inbound chat waiting time for abandoned contacts
- **ChatInAbandonedTimeMax:** Longest inbound chat waiting time for abandoned contacts



- **ChatInFalseAttemptTimeTotal:** Total inbound chat waiting time for false attempt contacts
- **ChatInFalseAttemptTimeMax:** Longest inbound chat waiting time for false attempt contacts
- **ChatOutHandleTimeTotal:** Total outbound chat handling time
- **ChatOutHandleTimeMax:** Longest outbound chat handling time
- **EmailArrived:** Number of arrived emails
- **EmailHandled:** Number of handled emails
- **EmailAnsweredOnTime:** Number of handled emails that have been waiting less than the *AnsweredOnTimeEmail* parameter value
- **EmailTalkTimeTotal:** Total handling time for emails
- **EmailTalkTimeMax:** Longest handling time for emails
- **EmailQueueTimeTotal:** Total waiting time for emails
- **EmailQueueTimeMax:** Longest waiting time for emails
- **SMSHandled:** Number of sent SMS (outbound)
- **CBRArrived:** Number of arrived/created callback request inbound calls (*CBRIntCallIn*)
- **CBRHandled:** Number of completed callback request inbound calls (*CBRIntCallIn*)
- **CBROut:** Number of generated outbound calls for callback requests (*CBR*)
- **CBRAnsweredOnTime:** Number of callback request inbound calls (*CBRIntCallIn*) with the waiting time less than the *AnsweredOnTimeCBR* parameter value
- **CBRTalkTimeTotal:** Total duration for callback request inbound calls (*CBRIntCallIn*) talking (handling) time. The time is calculated from the first allocation to the end of the contact.
- **CBRTalkTimeMax:** Longest talking (handling) time for callback request inbound calls (*CBRIntCallIn*).
- **CBRQueueTimeTotal:** Total duration of callback request queueing (waiting) time. The time is calculated from the creation of a callback request inbound call (*CBRIntCallIn*) to the first allocation (if not allocated, from creation to call disconnection).



- **CBRQueueTimeMax:** Longest queuing time for callback request inbound calls (*CBRIntCallIn*).
- **ServiceClosed:** Number of calls that arrived outside the service times
- **ChangeTimeStamp:** Time stamp of the last change done on this row

NOTE: Arrived emails and callback request inbound calls (*CBRIntCallIn*) are reported with arrival time as well. The *TAMContactSummary* table gets values for *EmailArrived* and *CBRArrived* after the contact has been handled. When the contact is still active and not yet handled, statistics can be read from the *TAMCurrentContactList* table.

2.4 TAMContactHistory

Info: Stores cumulative information on directory/application/queue in 15-minute periods for the last 30 days. There is one row for each queue for each 15-minute interval. If no contacts arrive to a queue during the 15-minute interval, there are no rows.

The table structure is similar to *TAMContactSummary* and is maintained with information saved there.

Input: The table is maintained with information stored in the *TAMContactSummary* table: data deleted from *TAMContactSummary* is copied into *TAMContactHistory*.

Output: -

Maintenance: Cleans up old data and saves the current day statistics into the history table

See the column descriptions from the *TAMContactSummary* column descriptions (this table has the same structure).



2.5 TAMOperatorStats

Info: Stores information about agent statuses. Statistics are maintained in the table *TAMOperatorStatsHistory*.

The table contains one row for each agent. When the agent logs on to the application, *OperatorLogGUID* is updated with the newest session value.

Input: Data Collector maintains operator statuses.

Output: -

Maintenance: *TAMClearMonitoringTables* verifies the agent information.

Figure 4 TAMOperatorStats Table Columns

Column Name	Data Type	Nullability
GUID (PK)	uniqueidentifier	not null
UserGUID	uniqueidentifier	not null
OperatorLogGUID	uniqueidentifier	not null
ApplicationGUID	uniqueidentifier	null
Number	nvarchar(64)	null
GSMNumber	nvarchar(64)	null
ExternalNumber	nvarchar(64)	null
ExternalLogged	bit	null
TimeStamp	datetime	null
Status	varchar(32)	null
UserStatusTimeStamp	datetime	null
UserStatus	varchar(32)	null
OutboundServing	uniqueidentifier	null
SPSServing	bit	null
SPSStatus	bit	null
ActiveIbCall	uniqueidentifier	null
ActiveIbCallCnt	tinyint	null
ActiveIbCallStartTime	datetime	null
ActiveIbOperDirCall	uniqueidentifier	null
ActiveIbOperDirCallCnt	tinyint	null
ActiveIbOperDirCallStartTime	datetime	null
ActiveObCall	uniqueidentifier	null
ActiveObCallCnt	tinyint	null
ActiveObCallStartTime	datetime	null
ActiveObCampaignCall	uniqueidentifier	null
ActiveObCampaignCallCnt	tinyint	null
ActiveObCampaignCallStartTime	datetime	null
ActiveObCbrCall	uniqueidentifier	null
ActiveObCbrCallCnt	tinyint	null
ActiveObCbrCallStartTime	datetime	null
ActiveIbEmail	uniqueidentifier	null
ActiveIbEmailCnt	tinyint	null
ActiveIbEmailStartTime	datetime	null
ActiveObEmailCnt	tinyint	null
ActiveObEmail	uniqueidentifier	null
ActiveObEmailStartTime	datetime	null
ActiveIbChat	uniqueidentifier	null
ActiveIbChatCnt	tinyint	null
ActiveIbChatStartTime	datetime	null
ActivePreviewStartTime	datetime	null
ActiveWrap	uniqueidentifier	null
ActiveWrapStartTime	datetime	null
ProfileGUID	uniqueidentifier	null
ProfileReason	nvarchar(128)	null
TeamGUID	uniqueidentifier	null
SignOn	datetime	null
ChangeTimeStamp	datetime	not null
ActiveCnsCall	uniqueidentifier	null
PhoneCapacity	tinyint	null
WebRtcCapacity	tinyint	null
TaskCapacity	tinyint	null
TextChatCapacity	tinyint	null
VideoChatCapacity	tinyint	null
ActiveIbVideoChatCnt	tinyint	null

Column descriptions:

- **GUID:** Unique row identifier (primary key)
- **UserGUID:** GUID (global unique identifier) of the user



- **OperatorLogGUID:** The agent's session GUID. The session GUID identifies the agent's user interface sessions. If the agent logs off and logs on, a new session is created (*TAOperatorLog.GUID*).
- **ApplicationGUID:** GUID of the application in which the agent has been serving.
- **Number:** internal phone number of the agent
- **GSMNumber:** mobile number of the agent
- **ExternalNumber:** External number of the agent for serving as an external agent
- **ExternalLogged:** Flag status to tell if the agent is serving as an external agent
- **TimeStamp:** Time stamp of the last status change
- **Status:** The possible values of agent status:
 - *LoggedOut:* the agent is logged off
 - *Waiting:* the agent is available and free to take the next contact
 - *Admin:* the wrap-up status after the contact has ended
 - *Wrap:* the wrap-up status after the contact has ended, when the call handling belongs to an outbound campaign
 - *Preview:* the agent is serving in an outbound campaign and is in the preview state
 - *Talking_Inbound:* the agent has an inbound call
 - *Talking_Outbound:* the agent has an outbound call
 - *Talking_Outbound_CBR:* the agent has a callback request call
 - *Talking_Outbound_Campaign:* the agent has an outbound call that belongs to an outbound campaign
 - *Chatting_Inbound:* the agent is chatting (inbound chat)
 - *Emailing_Inbound:* the agent is handling an inbound email
 - *Emailing_Outbound:* the agent is handling an outbound email
 - *Dialing_Outbound:* the agent has dialed an outbound call which is not connected yet
 - *Dialing_Outbound_Campaign:* the agent has dialed a campaign-related outbound call which is not connected yet

Since the agent may be concurrently handling multiple different types of contacts and having the statistics state *Wrap-up*, the shown statuses are prioritized in the following order:



1. *Talking_Inbound*
2. *Talking_Outbound*
3. *Talking_Outbound_CBR*
4. *Talking_Outbound_Campaign*
5. *Chatting_Inbound*
6. *Emailing_Inbound*
7. *Emailing_Outbound*
8. *Dialing_Outbound*
9. *Dialing_Outbound_CBR*
10. *Dialing_Outbound_Campaign*
11. *Preview, Wrap or Admin*
12. *Waiting*

- **UserStatusTimeStamp:** Timestamp of the last user status change (see next column for statuses)
- **UserStatus:** User's general statuses: -, Pause, NotReady or Ready
- **UserReadyStatus:** Shows if user is Ready (value 1) or Not Ready (value 0).
- **OutboundServing:** This column tells if the agent is serving in an outbound campaign. It shows the GUID of the outbound campaign the agent is serving in, if any. If the agent is not serving in an outbound campaign, the value is null.
- **ActiveInbCall:** This column tells if the agent is handling an inbound call. It shows the GUID of the queue where the agent's ongoing inbound call has arrived. If the agent is handling several inbound calls, the first call's QueueGUID remains until the last inbound call has ended. When there are no active inbound calls in handling, the value is null.
- **ActiveInbCallCnt:** The number of inbound calls the agent is handling at that moment
- **ActiveInbCallStartTime:** The start time of handling an inbound call. If the agent is handling several inbound calls, the first call's start time remains until the last inbound call has ended. When there are no active inbound calls in handling, the value is null.
- The duration of handling an inbound call is counted from the start time until the last inbound call handling ends in *TAMOperatorStatsHistory.Talking*. This time



also contains direct inbound call duration.

Example: If there have been 2 inbound calls at the same time and both have lasted 5 minutes, 5 minutes are reported for the agent and not 2*5.

- **ActiveInbOperDirCall:** This column tells if the agent is handling a direct inbound call. It shows the GUID, in the reverse order, of the contact center where the contact has arrived. When there are no active inbound calls in handling, the value is null.
- **ActiveInbOperDirCallCnt:** The number of direct inbound calls the agent is handling at that moment
- **ActiveInbOperDirCallStartTime:** The start time of handling a direct inbound call. If the agent is handling several direct inbound calls, the first contact's start time remains until the last inbound call has ended. When there are no active direct inbound calls in handling, the value is null.
- The duration of handling an inbound call is counted from the start time until the last inbound call handling ends in *TAMOperatorStatsHistory.TalkingOperDirect*.
Example: If there have been 2 inbound calls at the same time and both have lasted 5 minutes, 5 minutes are reported for the agent and not 2*5.
- **ActiveObCall:** This column tells if the agent is handling an outbound call. It shows the GUID of the outbound campaign queue. If the agent is handling several outbound calls, the first contact's *QueueGUID* remains until the last outbound call has ended. When there are no active outbound calls in handling, the value is null.
- **ActiveObCallCnt:** The number of outbound calls the agent is handling at that moment
- **ActiveObCallStartTime:** The start time of handling an outbound call. If the agent is handling several outbound calls, the first contact's start time remains until the last outbound call has ended. When there are no active outbound calls in handling, the value is null.
- The duration of handling the outbound call (in *TAMOperatorStatsHistory.CallOut*) is counted from the start time until the last outbound call handling ends.



Example: If there have been 2 inbound calls at the same time and both have lasted 5 minutes, 5 minutes are reported for the agent and not 2*5.

- **ActiveObCampaignCall:** This column tells if the agent is handling an outbound campaign call. It shows the GUID of the queue where the call has arrived. If the agent is handling several outbound campaign calls, the first call's QueueGUID remains until the last outbound campaign call has ended. When there are no active outbound campaign calls in handling, the value is null.
- **ActiveObCampaignCallCnt:** The number of outbound campaign calls the agent is handling at that moment
- **ActiveObCampaignCallStartTime:** The start time of handling the outbound campaign call. If the agent is handling several outbound campaign calls, the first contact's start time remains until the last outbound campaign call has ended. When there are no active outbound campaign calls in handling, the value is null.
- The duration of handling the outbound campaign call (in *TAMOperatorStatsHistory.CallOutOB*) is counted from the start time until the handling of the last outbound campaign call has ended.

Example: If there have been 2 inbound calls at the same time and both have lasted 5 minutes, 5 minutes are reported for the agent and not 2*5.

- **ActiveObCbrCall:** This column tells if the agent is handling an outbound callback call. It shows the GUID of the specific queue where the contact has arrived. If the agent is handling several outbound callback calls, the first contact's QueueGUID remains until the last outbound callback call has ended. When there are no active outbound callback calls in handling, the value is null.
- **ActiveObCbrCallCnt:** The number of callback campaign calls the agent is handling at that moment
- **ActiveObCbrCallStartTime:** The start time of handling the outbound callback call
If the agent is handling several outbound callback calls, the first contact's start time remains until the last outbound callback call has ended. When there are no active outbound callback calls in handling, the value is null.



- The duration of handling the outbound callback call (in *TAMOperatorStatsHistory.TalkingCBR*) is counted from the start time until the last outbound callback call has ended.

Example: If there have been 2 inbound calls at the same time and both have lasted 5 minutes, 5 minutes are reported for the agent and not 2*5.

- **ActiveIbEmail:** This column tells if the agent is handling an inbound email. It shows the GUID of the queue where the email has arrived. If the agent is handling several inbound emails, the first contact's QueueGUID remains until the last inbound email has ended. When there are no active inbound emails in handling, the value is null.
- **ActiveIbEmailCnt:** The number of inbound emails the agent is handling at that moment
- **ActiveIbEmailStartTime:** The start time of handling an inbound email
If the agent is handling several inbound emails, the first email's start time remains until the last inbound email has been handled. When there are no active inbound emails in handling, the value is null.

The duration of handling the inbound email (in *TAMOperatorStatsHistory.HandlingEmailIn*) is counted from the start time until the last inbound e-mail handling ends.

Example: If there have been 2 inbound emails at the same time and both have lasted 5 minutes, 5 minutes are reported for the agent and not 2*5.

- **ActiveObEmail:** This column tells if the agent is handling an outbound email. It shows the GUID of the queue where the email has arrived. If the agent is handling several outbound emails, the first email's QueueGUID remains until the last outbound email has ended. When there are no active outbound emails in handling, the value is null.
- **ActiveObEmailCnt:** The number of outbound emails the agent is handling at the moment
- **ActiveObEmailStartTime:** The start time of handling the outbound email
If the agent is handling several outbound emails, the first email's start time



remains until the last outbound email has been handled. When there are no active outbound emails in handling, the value is null.

The duration of handling the outbound email (in *TAMOperatorStatsHistory.HandlingEmailOut*) is counted from the start time until the last outbound email handling has ended.

Example: If there have been 2 outbound emails at the same time and both have lasted 5 minutes, 5 minutes are reported for the agent and not 2*5.

- **ActiveInChat:** This column tells if the agent is handling an inbound chat. It shows the GUID of the queue where the chat has arrived. If the agent is handling several inbound chats, the first chat's QueueGUID remains until the last inbound chat has ended. When there are no active inbound chats in handling, the value is null.
- **ActiveInChatCnt:** The number of inbound chats the agent is handling at that moment
- **ActiveInChatStartTime:** The start time of handling the inbound chat. If the agent is handling many inbound chats, the first chat's start time remains until the last inbound chat has ended. When there are no active inbound chats in handling, the value is null.

The duration of handling the inbound chat (in *TAMOperatorStatsHistory.ChattingIn*) is counted from the start time until the last inbound chat handling has ended.

Example: If there have been 2 inbound chats at the same time and both have lasted 5 minutes, 5 minutes are reported for the agent and not 2*5.

- **ActiveWrap:** This column tells if the agent is in the wrap-up state and tells which queue's contact has caused this state
- **ActiveWrapStartTime:** The start time of the wrap-up or admin state
- **ProfileGUID:** The GUID of the current agent's profile (presence). When the agent logs out of the system, this is set as null.
- **ProfileReason:** The reason for the agent's current profile. When the agent logs out of the system, the reason is empty.



- **TeamGUID:** The GUID of the agent’s reporting group. If the agent does not belong to any group or the contact is abandoned (no agent), *TeamGUID* is “null”.
- **SignOn:** The timestamp of the last logon
- **ChangeTimeStamp:** The timestamp of the last change done on this row
- **ActiveConsCall:** This is not is use but is reserved for future use.
- **PhoneCapacity:** The number of simultaneous inbound calls the agent can handle
- **WebRtcCapacity:** The number of simultaneous inbound WebRtcs the agent can handle
- **TaskCapacity:** The number of simultaneous inbound tasks/emails the agent can handle
- **TextChatCapacity:** The number of simultaneous inbound text chats the agent can handle
- **VideoChatCapacity:** The number of simultaneous inbound video chats the agent can handle
- **ActiveIbVideoChatCnt:** The number of inbound video chats the agent is handling at that moment

2.6 TAMOperatorStatsHistory

The system collects statistics of the agents who have logged on to the system during the reported time period. Data is kept in the table for the current day. The older data is deleted daily by the data collection process. The table preserves agent statistics for each 15-minute period: a row per agent per 15 minutes (for active sessions).

Input: Data collector procedure called *TAMOperatorLogDetailInsert* with (content) parameters

Output: -

Maintenance: SQL procedures *TAMOperatorLogDetailInsert* / *TAMClearMonitoringTables*



Figure 5 TAMOperatorStatsHistory Table Columns

<ul style="list-style-type: none"> dbo.TAMOperatorStatsHistory <ul style="list-style-type: none"> Columns <ul style="list-style-type: none"> GUID (PK, uniqueidentifier, not null) PeriodStartTime (datetime, not null) PeriodEndTime (datetime, not null) UserGUID (uniqueidentifier, not null) OperatorLogGUID (uniqueidentifier, not null) LoginTime (datetime, null) CallsInAllocated (int, null) CallsIn (int, null) CallsInAllocatedOperDirect (int, null) CallsInOperDirect (int, null) CallsOut (int, null) CallsOutAllocatedOB (int, null) CallsOutOB (int, null) CallOutOB (int, null) 	<ul style="list-style-type: none"> ChatsInAllocated (int, null) ChatsIn (int, null) ChatsOut (int, null) EmailInAllocated (int, null) EmailIn (int, null) EmailInSent (int, null) EmailOut (int, null) EmailOutSent (int, null) SMS (int, null) CallsInGSM (int, null) CallsOutGSM (int, null) Waiting (int, null) Talking (int, null) TalkingOperDirect (int, null) CallOut (int, null) 	<ul style="list-style-type: none"> Ready (int, null) NotReady (int, null) Pause (int, null) Preview (int, null) Afterwork (int, null) Resting (int, null) ChattingIn (int, null) ChattingOut (int, null) TalkingGSM (int, null) CallOutGSM (int, null) CBRAllocatedCalls (int, null) CBRCalls (int, null) CBRHandled (int, null) TalkingCBR (int, null) HandlingEmailIn (int, null) HandlingEmailOut (int, null) ChangeTimeStamp (datetime, not null)
--	---	--

Column descriptions:

- **GUID:** Unique row identifier (primary key)
- **PeriodStartTime:** Start time for the 15-minute period, for example "2006-04-06 10:15:00"
- **PeriodEndTime:** End time for the 15-minute period
- **UserGUID:** User's unique identifier
- **OperatorLogGUID:** Agent's session GUID
- **LoginTime:** Session's logon time
- **CallsInAllocated:** Number of inbound calls allocated to the agent, both queue calls and direct calls.
- **CallsIn:** Number of handled inbound calls allocated to the agent, both queue calls and direct calls
- **CallsInAllocatedOperDirect:** Number of allocated direct inbound calls
- **CallsInOperDirect:** Number of handled direct inbound calls
- **CallsOut:** Number of handled outbound calls
- **CallsOutAllocatedOB:** Allocated outbound customers
- **CallsOutOB:** Number of calls made to outbound customers
- **ChatsInAllocated:** Number of inbound chat contacts allocated to the agent.
- **ChatsIn:** Number of handled inbound chat contacts, both queue chats and direct chats
- **ChatsOut:** Number of handled outbound chat contacts
- **EmailInAllocated:** Number of allocated inbound emails



- **EmailIn:** Number of handled inbound emails
- **EmailInSent:** Number of sent emails during the handling of inbound emails
- **The number is the email recipient count: if the email is sent at the same time to two recipients, this number is 2.**
- **EmailOut:** Number of created / handled outbound emails
- **EmailOutSent:** Number of sent emails during the handling of outbound emails

The number is the email recipient count: if the e-mail is sent at the same time to two recipients, this count is 2.

- **SMS:** Number of sent SMS messages (currently, received SMSs are not monitored)
- **Waiting:** Cumulative waiting time in seconds within the 15-minute period
- **Talking:** Cumulative inbound talking time in seconds within the 15-minute period
This includes both queue and direct calls.

NOTE: If there are many simultaneous contacts, parallel duration is counted only once.

- **TalkingOperDirectr:** Cumulative inbound talking time of direct calls in seconds within the 15-minute period

NOTE: If there are many simultaneous contacts, parallel duration is counted only once

- **CallOut:** Cumulative outbound talking time in seconds within the 15-minute period

NOTE: If there are many simultaneous contacts, parallel duration is counted only once.

- **CallOutOB:** Cumulative outbound campaign call handling time in seconds within the 15-minute period
- **Ready:** Cumulative ready time in seconds within the 15-minute period



NOTE: Agent's total serving time can be counted as follows: Ready + NotReady + Pause

- **NotReady:** (previously Paperwork)

Cumulative not-ready time in seconds within the 15-minute period

- **Pause:** Cumulative pausing time in seconds within the 15-minute period
- **Preview:** Cumulative preview time in seconds within the 15-minute period
- **Afterwork:** Cumulative wrap-up (scripting and resting) time in seconds within the 15-minute period
- **Resting:** Separately counted cumulative resting time

NOTE: This duration is included in *Afterwork*.

- **ChattingIn:** Cumulative inbound chatting time in seconds within the 15-minute period
- **ChattingOut:** Cumulative outbound chatting time in seconds within the 15-minute period
- **CBRAAllocatedCalls:** Number of allocated callback requests (CBR)
- **CBRCalls:** Number of outbound calls based on CBRs
- **CBRHandled:** Number of outbound calls marked as handled based on CBRs
- **TalkingCBR:** Talking time for handled CBR calls
This time has not been included in the outbound or inbound talking times.
- **HandlingEmailIn:** Cumulative inbound email handling time in seconds within the 15-minute period
- **HandlingEmailOut:** Cumulative outbound email handling time in seconds within the 15-minute period
- **ChangeTimeStamp:** Timestamp of the last change done on this row

2.7 TAMQueueStatus

Info: Stores information about queues to which the agent has serve rights and maintains information on queues the agent is attached to.

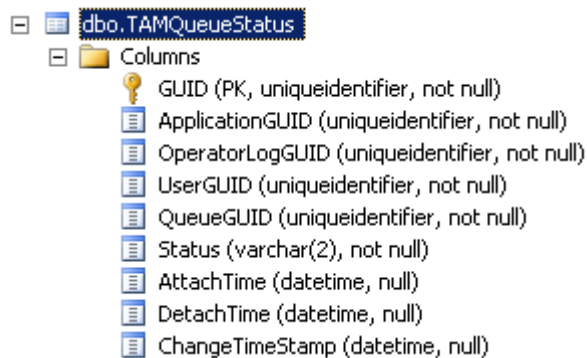


Input: The table is maintained by the Data Collector component / SQL procedures

Output: -

Maintenance: Cleans up deleted agent information

Figure 6 TAMQueueStatus Table Columns



Column descriptions:

- **GUID:** Unique row identifier (primary key)
- **ApplicationGUID:** GUID of the application in which the agent has been configured.

NOTE: If the agent has been configured in more than one application, the agent may appear in the *TAMOperatorStats* table more than once with different *OperatorGUID*, *OperatorLogGUID* and *ApplicationGUID* values (*TAOperator:ApplicationGUID* or *TAApplcation.GUID*).

- **OperatorLogGUID:** The agent's session GUID. The session GUID identifies the agent's user interface sessions. If the agent logs off and on, a new session is created (*TAMOperatorStats:OperatorLogGUID* or *TAOperatorLog.GUID*).
- **UserGUID:** Unique identifier of the agent
- **QueueGUID:** GUID of the queue
- **Status:** The possible values of the agent's activity status for the queue:
 - 1 = Agent has rights but is not serving in the queue
 - 2 = Agent has rights and is serving in the queue



- **AttachTime:** The timestamp of the last logon to the queue
- **DetachTime:** The timestamp of the last logoff from the queue
- **ChangeTimeStamp:** The timestamp of the last change done on this row

2.8 TAMQueueStatsHistory

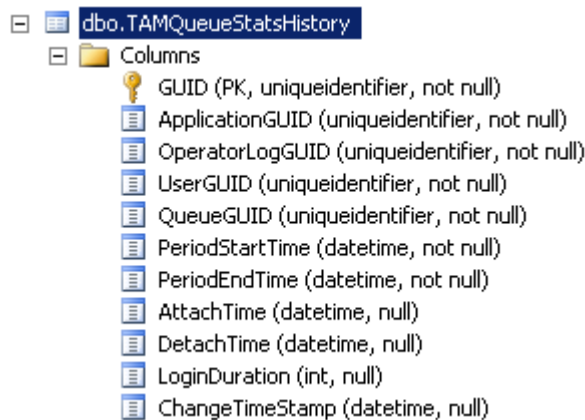
Info: Stores information for agent's serving durations in queues in 15-minute intervals.

Input: The table is maintained by SQL procedures

Output: -

Daily maintenance job: Cleans up deleted agent information

Figure 7 TAMQueueStatsHistory Table Columns



Column description:

- **GUID:** Unique row identifier (primary key)
- **ApplicationGUID:** GUID of the application to which the agent has been configured.

NOTE: If the agent has been configured to more than one application, the agent may appear in the *TAMOperatorStats* table more than once with different *OperatorGUID*, *OperatorLogGUID* and *ApplicationGUID* values (*TAMOperator:ApplicationGUID* or *TAAApplication.GUID*)



- **OperatorLogGUID:** The agent's session GUID. The session GUID identifies the agent's user interface sessions. If the agent logs off and logs on, a new session is created. (*TAMOperatorStats:OperatorLogGUID* or *TAOperatorLog.GUID*)
- **UserGUID:** Unique identifier of the agent
- **QueueGUID:** The GUID of the queue
- **PeriodStartTime:** (datetime)
Starting time of the 15-minute interval
- **PeriodEndTime:** (datetime)
Ending time for 15-minute interval
- **AttachTime:** The time when the agent logged on to the queue the previous time (The duration of previous serving in this queue is calculated into the *LoginDuration* field.)
- **DetachTime:** The time when the agent logged off from the queue the previous time (The duration of previous serving in this queue is calculated into the *LoginDuration* field.)
- **LoginDuration:** The duration of previous serving in this queue

NOTE: If an agent is currently serving in a queue, the real-time serving value until the current moment can be calculated with *LoginDuration* + (current time – *AttachTime*)

- **ChangeTimeStamp:** The time stamp of the last change done on this row

2.9 TAMUserQueueRightSnapshot

This table is used for maintenance purposes. It is not used for monitoring statistics.

Info: Snapshot from users and users serve rights to queues

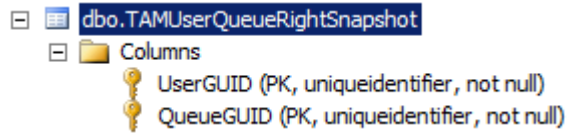
Input: Batch Job Server provides statistics into the table

Output: -



Daily maintenance job: Maintains *TAMOperatorStats* tables and *TAMQueueStatus* tables based on the snapshot data.

Figure 8 *TAMUserQueueRightSnapShot*



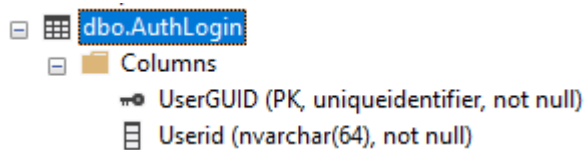


3 Configuration Tables

If you are using the reporting data replication feature for monitoring tables in Sinch Contact Pro cloud version, you can use the following configuration tables to solve names (users, user groups, queues, queue groups, and presence) and group hierarchies (users and queues).

Note: These tables can be used in both Sinch Contact Pro cloud and on-premise versions. However, when monitoring tables are included in reporting data replication, configuration tables are copied to the replicated monitoring database. In Sinch Contact Pro on-premise version you can find these tables in the configuration database.

3.1 AuthLogin table



Provides user login information based on user GUID

In configuration tables this is called UserGUID but in monitoring tables AgentGUID.

3.2 Attribute tables xxxAttr

xxxAttr tables mostly provide names and descriptions for objects.

These tables support several languages. A two-letter language code is used as *Language* value.

Example query to get queue name in English:

```
Select Value from QueueAttr where Name = 'Name', Language = 'EN' and QueueGUID = 'xxx'
```

Example query to get queue description in German:



Select Value from QueueAttr where Name = 'Description, Language = 'DE' and QueueGUID = 'xxx'

dbo.PresenceAttr	Columns	PresenceGUID (PK, uniqueidentifier, not null)
		Name (PK, varchar(64), not null)
		Language (PK, char(4), not null)
		Value (nvarchar(400), null)
dbo.QueueAttr	Columns	QueueGUID (PK, uniqueidentifier, not null)
		Name (PK, varchar(64), not null)
		Language (PK, char(4), not null)
		Value (nvarchar(400), null)
dbo.QueueGroupAttr	Columns	QueueGroupGUID (PK, uniqueidentifier, not null)
		Name (PK, varchar(64), not null)
		Language (PK, char(4), not null)
		Value (nvarchar(400), null)
dbo.UserGroupAttr	Columns	UserGroupGUID (PK, uniqueidentifier, not null)
		Name (PK, varchar(64), not null)
		Language (PK, char(4), not null)
		Value (nvarchar(400), null)

3.3 Group tables

Group tables links objects:

- queues to queue group
- users to user group
- user groups to user groups (group hierarchy)

dbo.QueueGroupQueue	Columns	QueueGroupGUID (PK, uniqueidentifier, not null)
		QueueGUID (PK, uniqueidentifier, not null)



dbo.UserGroupUser
Columns
UserGUID (PK, uniqueidentifier, not null)
UserGroupGUID (PK, uniqueidentifier, not null)
...
dbo.UserGroupGroup
Columns
UserGroupGUID (PK, uniqueidentifier, not null)
ParentGroupGUID (PK, uniqueidentifier, not null)
...

3.4 Queue table

dbo.Queue
Columns
GUID (PK, uniqueidentifier, not null)
Type (int, not null)
UserGUID (uniqueidentifier, null)
ApplicationGUID (uniqueidentifier, not null)
LoginType (tinyint, not null)
DefaultQueue (nvarchar(64), null)
Ordinal (int, null)
Priority (int, null)
QueueLength (int, null)
RingbackTime (int, null)
WarningTime (int, null)
CriticalTime (int, null)
Language (char(4), null)
QueueFullIfNoDest (tinyint, null)
MaxWaitTimeInQueue (int, null)
ForwardOnServiceClosed (nvarchar(64), null)
ForwardNumber (nvarchar(64), null)
ForwardEnabled (bit, null)
ForwardOnUserInput (nvarchar(64), null)
TimeZone (varchar(50), null)
Synchronised (bit, null)
ScriptGUID (uniqueidentifier, null)
ScriptOpeningType (int, null)
ActivityTemplateGUID (uniqueidentifier, null)
...

3.5 QueueParameter

dbo.QueueParameter
Columns
QueueGUID (PK, uniqueidentifier, not null)
Name (PK, varchar(128), not null)
Value (nvarchar(max), null)
...

