Mitel MiContact Center Enterprise

DATABASE INTERFACE KIT – USER GUIDE RELEASE 9.3



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INTRODUCTION

The MiCC Enterprise Database Interface Kit contains a SQL backup file of an empty MiCC Enterprise database. The database can be used to view the schema of a MiCC Enterprise database without the requirement to purchase and install a complete MiCC Enterprise system. The kit is located in the DBInterfaceKit folder on the installation media.

The Database Interface Kit consists of:

- Readme File (Readme.htm)
- User's Guide (dbkit_ug.pdf)
- MiCC Enterprise Database (nextccdb.bak)

DATABASE SETUP

The MiCC Enterprise database (nextccdb.bak) is supplied in the form of a Microsoft SQL Server 2008 backup file. The file should be restored to an existing Microsoft SQL Server version 2008 or later. The file can be restored using SQL Server Management Studio. Refer to the SQL Server documentation for help on restoring databases.

ACCESSING THE DATABASE

The MiCC Enterprise system uses Microsoft SQL Server as its Database Management System (DBMS). This provides an open interface to the MiCC Enterprise database. For example, you can combine your existing applications together with information from the MiCC Enterprise by fetching the data via ODBC or you can develop your own applications to meet your specific requirements.

The easiest way to connect to a database is probably by means of ODBC. In this section we will discuss how to:

- 1. Set up the ODBC Data Source
- 2. Access the MiCC Enterprise database through Access or OSQL

WHAT IS ODBC

ODBC or Open Database Connectivity is a de facto industry standard. It provides a more userfriendly and homogeneous interface to DBMS.

ODBC SDK

Microsoft provides an SDK (Software Development Kit) for ODBC. The SDK contains all the information needed to help develop your own ODBC-enabled applications and ODBC drivers. In this SDK you will, for example, find ODBC Programmers Reference and ODBC SDK Guide, Online Help, test utility, samples, drivers and the ODBC Administrator.

SETUP OF ODBC

In order to use, for instance, Excel or Access to retrieve data from the SQL database, the data source must be defined within ODBC.

1. Locate and double-click the Data Source (ODBC) from Administrative Tools. Mostly, you will find ODBC Data Source Administrator in the Control Panel. After starting up the ODBC Data Source Administrator, the following screen appears.

ODBC Data Source A	dministrator	? ×
User DSN System DSN	File DSN Drivers Tracing Connection	Pooling About
User Data Sources:		
Name	Driver	A <u>d</u> d
dBASE Files Excel Files MS Access Database	Microsoft dBase Driver (*.dbf) Microsoft Excel Driver (*.xls) Microsoft Access Driver (*.mdb)	<u>R</u> emove
	·······	<u>C</u> onfigure
An ODBC Us the indicated and can only	ser data source stores information about how t I data provider. A User data source is only vis y be used on the current machine.	o connect to sible to you,
[OK Cancel Apply	Help

2. In the ODBC Data Source Administrator dialogue box, click the Add button to invoke the Create New Data Source dialogue box where you can add the new MiCC Enterprise data source.



- 3. In the Create New Data Source dialogue box, select SQL Server and click the Finish button. The Create a New Data Source to SQL Server dialogue box will appear.
- 4. In the Create a New Data Source to SQL Server dialogue box:
 - a. Enter MiCC Enterprise in the Name text box.
 - b. Enter MiCC Enterprise Kit in the Description text box.
 - c. Make sure that the machine name selected in the Server drop-down list is the NT machine name of the PC where SQL Server resides.
 - d. Click the Next button.

Create a New Data Sourc	e to SQL Server
Selacit a driver nov me oli dasse i oli da	How should SQL Server verify the authenticity of the login ID? With Windows NT authentication using the network login ID. With SQL Server authentication using a login ID and password entered by the user. To change the network library used to communicate with SQL Server, click Client Configuration Client Configuration Client Configuration Client Configuration Login ID: nccguest Password: *******
	< <u>B</u> ack <u>N</u> ext > Cancel Help

e. Enter **nccguest** in the **Login ID** and **Password** text boxes and click the **Next** button.

Create a New Data Sou	rce	to SQL Server	×
Selaci a diwer to	•	Change the <u>d</u> efault database to:	
oft dBase I soft Excel I		Attac <u>h</u> database filename:	
National Control Contr	<u>-</u>	Create temporary stored procedures for prepared SQL statements and drop the stored procedures: ①	
SOL Serv	•	C When you disconnect and as appropriate while you are connected.	
	☑	Use ANSI nulls, paddings and warnings.	
	Γ	Use the failover SQL Server if the primary SQL Server is not available.	
		< <u>B</u> ack <u>N</u> ext > Cancel Help	

- f. Enter nextccdb in the Change the Default Database to: text box. This is the name of the MiCC Enterprise database.
- g. Click the Next button. The Create a New Data Source to SQL Server dialogue box will appear as follows:

Create a New Data Source to SQL Server
 Change the language of SQL Server system messages to English Use strong encryption for data Perform translation for character data Use regional settings when outputting currency, numbers, dates and times. Save long running queries to the log file: C:\DOCUME Log QDBC driver statistics to the log file: C:\DOCUME Log QDBC driver statistics to the log file:
< <u>B</u> ack Finish Cancel Help

- h. In the Create New Data Source dialogue box, select Perform translation for character data and click the Finish button. The ODBC Microsoft SQL Server Setup dialogue box will appear.
- i. Click the Test Data Source button. The SQL Server ODBC Data **Source Test** dialogue box will appear.

SQL	Server ODBC Data Source Test	×
∟T	est Results	
	Microsoft SQL Server ODBC Driver Version 03.86.1830	<u> </u>
	Running connectivity tests	
	Attempting connection Connection established Verifying option settings Disconnecting from server	
	TESTS COMPLETED SUCCESSFULLY!	
	OK	

j. The **SQL Server ODBC Data Source Test** dialogue box lists the result of the test connection. Click the **OK** button.

- k. You will return to the **SQL Server ODBC Data Source Test** dialogue box. Click the **OK** button.
- I. You will return to the **ODBC Data Source Administrator** dialogue box. The MiCC Enterprise data source that you have just added will appear in the dialogue box. Click the **OK** button.
- 5. The ODBC part is now completed. Applications using ODBC (for example, Microsoft Excel or Access) can now retrieve data from the MiCC Enterprise database.

EXAMPLE USING ACCESS

This example gives you step-by-step instructions on how to retrieve MiCC Enterprise data when using Microsoft Access.

- 1. Start Access by double-clicking the Microsoft Access icon.
- 2. To create a new database, select **New** from the **File** menu or press CTRL+N. The **New** dialogue box will appear.

New				? ×
General Data	bases			
Database	Data Access Page	Project (Existin	Project (New Database)	Preview
				No preview available
			ОК	Cancel

3. Select (double-click) on the Database icon from the **New** Dialog box. The **File New Database** dialog box will appear.

File New Datab	ase	? ×
Save <u>i</u> n:	📄 Ericsson 💽 🔶 🖻 🧟 🗙 📸 🕶 Tools 🗸	
() History	DBSample Doc Help	
Personal		
Desktop		
Favorites		
	File name: db1.mdb	
	Save as type: Microsoft Access Databases (*.mdb)	

4. In the **File name** box, enter the desired name (for example, **nextcc.mdb**) and select the file path where you want the database to reside. Click the **Create** button. The **(Name): Database** dialogue box will appear.

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Note: In our example, since we have entered **nextcc** in the **File name** box of the **File New Database** dialogue box, the name of this dialogue box will depict **nextcc** : **Database**.

	🏛 nex	tcc : Datab	ase		_ 🗆 ×
	- <u>1</u> 9	ien <u>M D</u> esig	jn 🏪	New 🗙 🖭 🔚 🔠	
	0	bjects	2	Create table in Design view	
		Tables	2	Create table by using wizard	
		Queries		Create table by entering data	
		Forms		<u>V</u> iew	
		Reports		Arrange Icons	
	1	Pages		Line <u>U</u> p Icons	
	2	Macros		🐔 Import	
	-	Modules		◆ ■ Link Tables	
	(Groups		🗈 Paste	
	*	Favorites		Relationships	
				😤 Visual Basic Editor	
Γ.			1		

5. Click the right mouse button in the Tables tab of the nextcc : Database dialogue box. A shortcut menu will appear. From the shortcut menu, you can select to import or link to the MiCC Enterprise database. In order for the actual values within the MiCC Enterprise database

to be visible, it is recommended that **Link Tables** be selected. Otherwise, the current values will be imported; and only a snapshot of the current MiCC Enterprise components in the SQL database will be provided.

6. Select Link Tables and the Link dialogue box will appear.

Link								? ×
Look in:	Ericsson		-	← 🗈	Q X (<u>*</u> 📰 -	Too <u>l</u> s 👻	
History	DBSample Doc Help Anextcc.md	2						
Personal								
Desktop								
Favorites								
	, File <u>n</u> ame:					•	2	Lin <u>k</u>
Web Folders	Files of type:	Microsoft Acce	ss (*.mdb;*.ad	p;*.mdw;*.	mda;*.mde	e; *.a(💌		Cancel

- 7. In the Files of type drop-down list of the Link dialogue box, select the ODBC database. The Select Data Source dialogue box will appear.
- 8. In the Select Data Source dialogue box, click the Machine Data Source tab.
- 9. The MiCC Enterprise data source that has been defined in ODBC setup will appear on the Machine Data Source tab of the Select Data Source dialogue box. Select the MiCC Enterprise data source and click the OK button.
- 10. The Link Tables dialogue box will appear.

ink Tables	? ×
Tables	
dbo.abdn call num log	ОК
dbo.agent_grp	Cancel
dbo.agent_grp_view dbo.agt_act	
dbo.agt_act_view dbo.agt_avail_act	
dbo.agt_avail_act_view dbo.agt_logon_act	Select <u>A</u> ll
dbo.agt_logon_act_view dbo.agt_sry_grp_act	Deselect All
dbo.agt_srv_grp_act_view	Sa <u>v</u> e password

11. All the MiCC Enterprise tables within the SQL database will appear in the Link Tables dialogue box. Select the table that you want to link and click the OK button. For each table selected, the Select Unique Record Identifier dialogue box will appear.

Select Unique Record Identifier	? ×
Eields in table 'dbo_agt_srv_grp_act_view':	ОК
last name	
first_name	Cancel
middle_name	
srv_grp_name	
tenant_name	
time_from	
time_to	
agt_grp_name	
srv_grp_ring_cnt	
To ensure data integrity and to update records, you must choose a field or fields that uniquely identify each record. Select up to ten fields.	

- 12. In the Select Unique Record Identifier dialogue box, select the field(s) that uniquely identifies each record. You may select up to ten fields. Click the OK button when done. You will return to the nextcc : Database dialogue box.
- **13.** In the nextcc: Database dialogue box, open the desired table by double-clicking it. Once the table is opened, all the columns within the table and all the data within the columns will be available for viewing.

RETRIEVING MICC ENTERPRISE DATA USING OSQL

To retrieve MiCC Enterprise data from the SQL database using OSQL from the command line or a batch file, perform the following procedure.

- 1. Start the CMD window.
- 2. Type C:\>osql /? at the prompt. This command will show you all the options that must or can be used with the OSQL command. See Table 1.

Usage: o	Usage: osql [-U login id] [-e echo input]		
	[-p print statistics] [-n remove numbering]		
	[-c cmdend][-h headers] [-w columnwidth] [-s colseparator]		
	[-m errorlevel] [-t query timeout] [-l login timeout]		
	[-L list servers] [-a packetsize]		
	[-H hostname] [-P password]		
	[-q "cmdline query"] [-Q "cmdline query" and exit]		

Table 1 OSQL command

[-S server] [-d use database name]				
[-r msgs to stder] [-E trusted connection]				
[-i inputfile] [-o outfile]				
[-b On error batch abort]				
[-O use old OSQL behavior disables the following]				
	<eof> batch processing</eof>			
	Auto console width scaling			
	Wide messages			
	default errorlevel is 1 va 1			
[-? Show syntax summary (this screen)]				

For example, if you want to retrieve data from the dbo_acd_abandoned_call_vi ew, using BT-INV1512 as the Server name, nccguest as the username and password, nextccdb as the database, ncc_out.txt as the output text file and exit OSQL after the query "SELECT * FROM agt_act_view", type the following at the command prompt:

C:\>osql -Unccguest -Pnccguest -SBT-INV1512 -dnextccdb -oncc_out.txt

-Q "SELECT * FROM agt_act_view"

The result can be found in the **ncc_out.txt** file.

SAMPLE REPORT FROM MICC ENTERPRISE

The following report is one of the sample reports that can be provided by the MiCC Enterprise system. It can be used as an example on how you can create your own customized reports by accessing views from the MiCC Enterprise database.

<u>E</u> dit <u>V</u> iew F <u>a</u> vorite	es <u>T</u> ools <u>H</u> elp								
ack 🔻 🕘 👻 💌 😰	🏠 🔎 Search 🛭 👷 Favorites 🛛 🕜	沟 - 🌭 💽 - 🕞							
dress 🕼 \\bt-1466w2k2\d\$\Program Files\Ericsson\Solidus eCare\Services\Report\a1\OneTime\DBKit_AgtGrpAct_102705_1635. 🔻 🎅 Go 🛛 Links									
	<u></u>								
Team 3 Productivity									
Agent Group Activity By Agent Group									
eport Date: 10/27/2005 9:35 AM gent Group Activity Selected Names eport Range: 9/1/2005 9/1/2005 8:00 AM 9:00 AM									
	Agent	# of Sessions							
Agent Group	-		Offered	Answered	Rejected	Abandoned			
			(num)	(num)	(num)	(num)			
Report Agents	Antonsson, Mattias	Modems	28	28	0	0			
	Eriksson, Fredrik	Modems	25	25	0	0			
	Gromell, Lee	Modems	18	18	0	0			
	Harrison, Lars		0	0	0	0			
	Jones, David	Modems	22	22	0	0			
	Petersson, Lars	Modems	23	23	0	0			
	Sjorgren, Lars	Modems	26	26	0	0			
	Smith, Dave	Modems	3	3	0	0			
	Windslad Danston	Modems	19	19	0	0			
	winolad, Fontus	INIOCOLLES				1			
Router Agents	Nyberg, Stefan	WOOM	0	0	0	0			
Router Agents	Nyberg, Stefan Chisson, Jens	Service Approval	0	0 4	0	0			
Router Agents	Nyberg, Stefan Chisson, Jens Sjogren, Roland	Service Approval Modems	0 5 3	0 4 3	0 0 0	0 1 0			
Router Agents	Windia, Fontus Nyberg, Stefan Chisson, Jens Sjogren, Roland	Service Approval Modems Service Approval	0 5 3 1	0 4 3 1	0 0 0	0 1 0 0			
Router Agents	Window, Fontus Nyberg, Stefan Chisson, Jens Sjogren, Roland	Service Approval Modems Service Approval	0 5 3 1 173	0 4 3 1 172	0 0 0 0	0 1 0 0			

Figure 1 Agent Group Activity By Agent Group Report shows information regarding agent activity for each agent group. The report above shows information for one or more selected Agent Groups for a selected date and time period.

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Note: Data is collected from the table **agt_act_view**, see **Error! Reference source not found.**

Tabl	e 2
------	-----

REPORT COLUMN		DESCRIPTION			
Agent		Name of the Agent.			
Service Group		Name of service group that the agents serve.			
# of Sessions	Offered	Number of service group calls offered to this agent(s) phone.			
	Answered	Number of service calls answered by the agent.			
	Rejected	Number of calls rejected by the agent.			
	Abandoned	Number of service calls abandoned while the telephone was ringing before being answered by the agent.			

DATABASE DESCRIPTION

The MiCC Enterprise database is named "nextccdb." It consists of a number of tables. SQL Server users can access the MiCC Enterprise database tables by using views.

Views allow the user to see only a selected portion of information in the database. Using views, the user can only select, not insert, update or delete data from the MiCC Enterprise database tables Refer to the document, *Database Views* in the CPI for a description of the available database views and columns.

During the MiCC Enterprise installation, one SQL Server logon ID is created for users of the MiCC Enterprise views. The logon ID is nccguest and the password is nccguest. The sample database provided in the MiCC Enterprise Database kit does not contain the account. Database access must be setup by a SQL Server Administrator.



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