Integrating MS-SQL or ORACLE with EntraPass NT Software V1.2.1 +

OBJECTIVE

The *CardGateway* software is a program that creates a mirror copy of the *EntraPass NT* card database in the MS-SQL or ORACLE Server. This interface allows user to modify, add or obtain card-related information, all this in real-time, from the MS-SQL or ORACLE Client version. The mirror card database, which contains cardholder information, will be updated automatically as soon as new information is available in the EntraPass NT card database.

Depending on the client interface that is used (EntraPass NT or MS-SQL/ORACLE Client) to add or modify a card, the *CardGateway* software ensures that the modifications is conveyed to the EntraPass NT Server's database through the mirror database and vice versa and that the information, whatever its origin, is updated in both databases. (For more information, see the "exchange data process" diagram on page 3).

1.   Software Installation

It is recommended to install the *CardGateway* software on a computer where use is at its minimum, since the data exchange process is processed through the computer running the software. Depending on the size of the database and the number of transactions, the updating process may require more memory. Furthermore, the computer on which the software will be installed must meet the same requirements as an ordinary *EntraPass NT workstation* (see your EntraPass NT user manual - System Information).

1.1   Install the *CardGateway* program by following the installation procedure in the EntraPass NT User Manual (use the serial number intended for the installation),

1.2   You MUST install *MS-SQL/ORACLE client* on the **same computer** as the *CardGateway*. You can also install the CardGateway on a computer where an existing *MS-SQL/ORACLE client* software is already installed,

1.3   Create the *CardGateway* interface in the *EntraPass NT Server* (Step 2); use the same serial number used during the *CardGateway* installation (same procedure as creating a workstation),

1.4   To complete the installation, you must create the database in the *MS-SQL/ORACLE Server*. To do so, you can manually create the database (see step 3) or you can use the automatic integrated function to automatically create the database in the Server (see step 2.4).

2.   CardGateway Configuration

The configuration of the *CardGateway* can be done at an ordinary *EntraPass NT workstation* or by using the *"Wrk Config Syst"* program which can only be launched from the *EntraPass NT Server* (see your EntraPass NT User Manual).

2.1   Log in to the workstation and select the **Devices** tab, click on the **Workstation** button to edit the Workstation Definition window,

2.2   From the **Workstation** definition menu list, select the **CardGateway***,* if it is not included in the list, this means that it has not been entered in the server. In this case, add it in the server using the proper serial number (Workstation Registration in your EntraPass NT User Manual),

2.3   Click on the page 2 tab, enter the *MS-SQL/ORACLE Server* name in the *"xxxx Server"* name field. In the event where the ORACLE server is selected, there will be 2 versions: 7.3 or 8. Make sure you select the correct server version since the BDE database configuration is different. In the event where the wrong version of the server is selected, the *CardGateway* interface will not communicate and will not be able to connect to the ORACLE server,

2.4   If the **"Use Administrator Password"** field is selected, the "database access" fields will be enabled. Enter the user name and password of the *MS-SQL/ORACLE administrator* and the *CardGateway* program will automatically create the database, user name and password in the *MS-SQL/ORACLE server*.

If the **"Use Administrator Password"** field is **not** selected, you must manually create the database, the user name and password in the *MS-SQL /ORACLE server* (see **step 3** for information).

Page : 1

2.5   Click on the "**Save**" button, you are now ready to start the *CardGateway* program.

3.   Manually create the database, user name and password in MS-SQL / ORACLE Server

The first step in integrating *MS-SQL/ORACLE* with *EntraPass NT* is to create the database that will be used.

MS-SQL:

Right-click on the *Database* folder and select *New Database.* The database <u>must</u> be named **KanCard**. No other changes are needed, so simply click OK once you have entered the name of the database.

Creating the KANTECH operator in MS-SQL:

We now need to create an operator that the CardGateway workstation will use to log in the MS-SQL server.

3.1   To create the operator, right-click on *Logins* and select *New Login*.

3.2   The name of the operator (name field) has to be **KANTECH** (in uppercase),

3.3   Make sure that **SQL Server Authentication** field is checked,

3.4   Enter **KANTECH** (in upper case) as the password (password field),

3.5   Click on **Database Access** tab,

3.6   Check mark (Permit field) the **KanCard** database. After you have checked the field, the bottom part of the screen will be displayed (**Database Roles** - Permit in database role),

3.7   In order to modify the database, the fields **public** and **db_owner** must be checked,

3.8   Once done, click on **OK** to save and exit,

3.9   A screen will be displayed prompting you to confirm the password,

3.10   Enter **KANTECH** (upper case) and click on **OK** to exit.

ORACLE SERVER:

3.1   Log in the *ORACLE* server as the administrator,

3.2   Create a database. The database <u>must</u> be named **KanCard**,

3.3   Create a log in profile using the user name and password "**KANTECH**",

3.4   Assign the *KANTECH* user the permission "**Owner**".
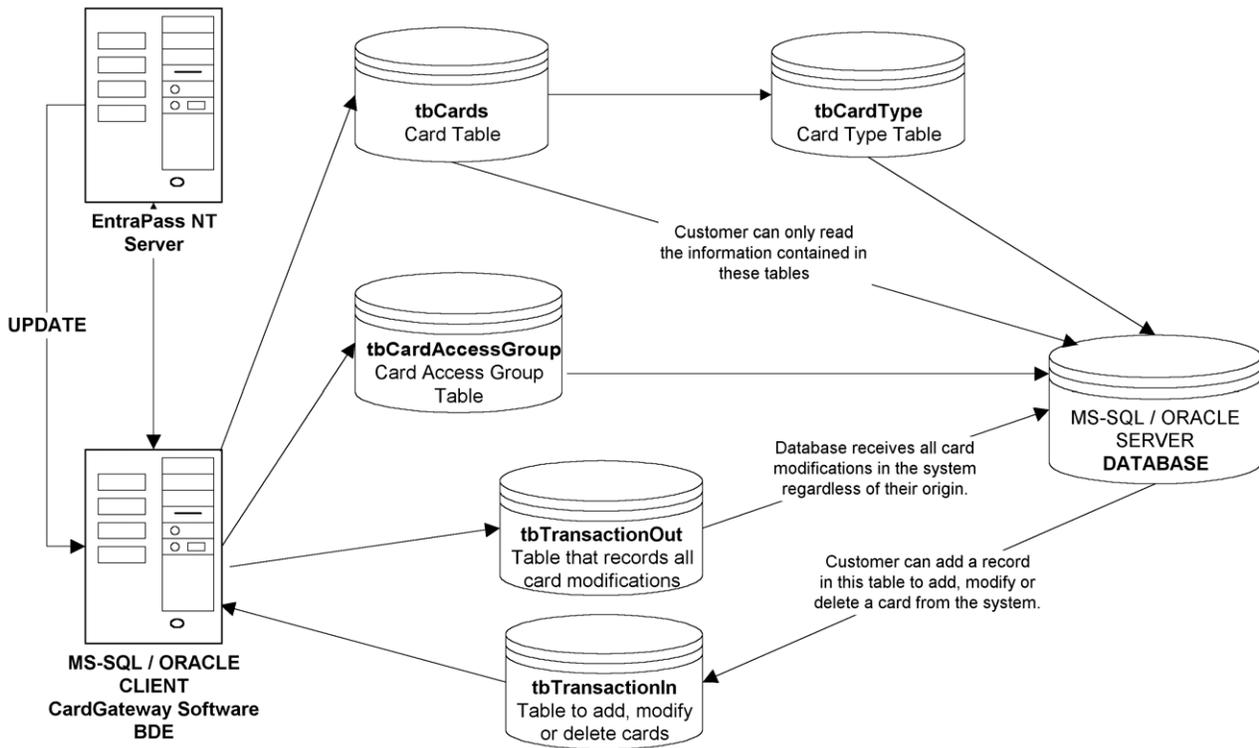
4.   The workings of the CardGateway

When the CardGateway connects to the MS-SQL/ORACLE server for the first time, it creates 5 tables in the KANCARD database named: **tbCard**, **tbCardType**, **tbCardAccessGroup**, **tbTransactionIn** and **tbTransactionOut**.

The first three tables (tbCard, tbCardType, tbCardAccessGroup) are filled at the first connection with all the Cards, Card Access Groups and Card Types (Figures 1, 2 & 3). Writing in these tables is not necessary because the CardGateway periodically updates them. They should only be read.

The **tbTransactionIn** table (Figure 4) is used to create, modify or delete cards from the *MS-SQL/ORACLE server*. The *CardGateway* scans this table periodically. When it finds a card, it creates, modifies or delete this card in the EntraPass NT server depending on the value of the State column of the tbTransactionIn record (a state value of 0 will create or modify the card and a state value of 1 will delete the card). Once this is done, the *CardGateway* will delete the card from the tbTransactionIn table.

The t**bTransactionOut** table (Figure 5) contains the history of all creations, modifications and deletions of cards (since the start of the *CardGateway*). All successful creations, modifications or deletions of a card done by the *CardGateway* after reading this card in the tbTransactionIn table will also be found in the tbTransactionOut table.

The diagram below shows the "DATA EXCHANGE PROCESS" between the **CardGateway** and the MS-SQL / ORACLE database.

EntraPass NT Server

UPDATE

MS-SQL / ORACLE CLIENT CardGateway Software BDE

tbCards Card Table

tbCardType Card Type Table

Customer can only read the information contained in these tables

tbCardAccessGroup Card Access Group Table

MS-SQL / ORACLE SERVER DATABASE

Database receives all card modifications in the system regardless of their origin.

tbTransactionOut Table that records all card modifications

Customer can add a record in this table to add, modify or delete a card from the system.

tbTransactionIn Table to add, modify or delete cards

This diagram displays the structure of the EntraPass NT access control system and the MS-SQL / ORACLE Server and CardGateway/BDE/Client workstation.

Page : 3
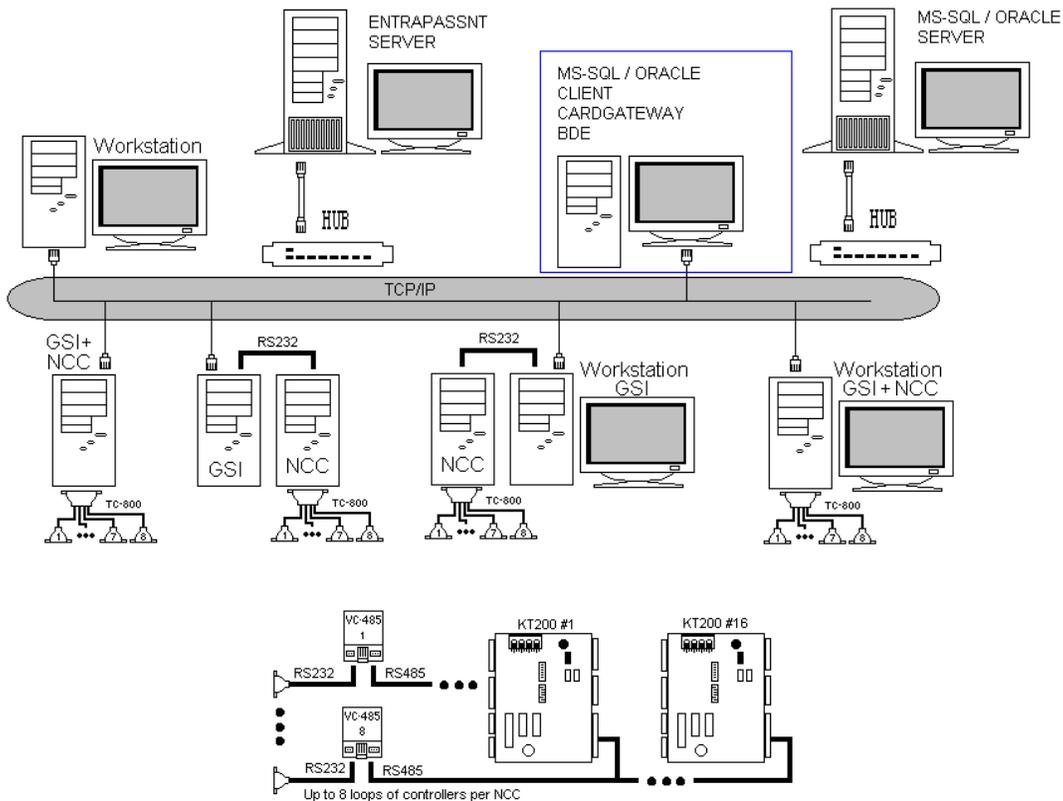
Examples of tables created by CardGateway

tbCard Table

Figure 1

Column Name	Datatype	Length	Precision	Scale	Allow Nulls	Default Value	Identity	Identity Seed	Identity Increment	Is RowGuid
PkCard	int	4	10	0						
CardNumber	char	16	0	0	✓					
UserName	char	40	0	0	✓					
CardInfo1	char	40	0	0	✓					
CardInfo2	char	40	0	0	✓					
CardInfo3	char	40	0	0	✓					
CardInfo4	char	40	0	0	✓					
CardInfo5	char	40	0	0	✓					
CardInfo6	char	40	0	0	✓					
StartDate	datetime	8	0	0	✓					
UsingEndDate	smallint	2	5	0	✓					
EndDate	datetime	8	0	0	✓					
DeleteWhenExpired	smallint	2	5	0	✓					
Trace	smallint	2	5	0	✓					
SupervisorLevel	smallint	2	5	0	✓					
CardState	smallint	2	5	0	✓					
WaitForKeypad	smallint	2	5	0	✓					
KeypadValue	int	4	10	0	✓					
KeypadIndex8000	smallint	2	5	0	✓					
PictureType	smallint	2	5	0	✓					
FkCardType	int	4	10	0	✓					
Picture	image	16	0	0	✓					
Comment	text	16	0	0	✓					
CreationDate	datetime	8	0	0	✓					
ModificationDate	datetime	8	0	0	✓					
State	int	4	10	0	✓					

tbCardAccessGroup Table

Figure 2

Column Name	Datatype	Length	Precision	Scale	Allow Nulls	Default Value	Identity	Identity Seed	Identity Increment	Is RowGuid
PkCardAccessGroup	int	4	10	0						
Description1	char	40	0	0	✓					
Description2	char	40	0	0	✓					
State	int	4	10	0	✓					

tbCardType Table

Figure 3

Column Name	Datatype	Length	Precision	Scale	Allow Nulls	Default Value	Identity	Identity Seed	Identity Increment	Is RowGuid
PkCardType	int	4	10	0						
Description1	char	40	0	0	✓					
Description2	char	40	0	0	✓					
State	int	4	10	0	✓					

tbTransactionIn Table

Figure 4

Column Name	Datatype	Length	Precision	Scale	Allow Nulls	Default Value	Identity	Identity Seed	Identity Increment	Is RowGuid
PkTransactionIn	int	4	10	0						
CardNumber	char	16	0	0	✓					
UserName	char	40	0	0	✓					
CardInfo1	char	40	0	0	✓					
CardInfo2	char	40	0	0	✓					
CardInfo3	char	40	0	0	✓					
CardInfo4	char	40	0	0	✓					
CardInfo5	char	40	0	0	✓					
CardInfo6	char	40	0	0	✓					
StartDate	datetime	8	0	0	✓					
UsingEndDate	smallint	2	5	0	✓					
EndDate	datetime	8	0	0	✓					
DeleteWhenExpired	smallint	2	5	0	✓					
Trace	smallint	2	5	0	✓					
SupervisorLevel	smallint	2	5	0	✓					
CardState	smallint	2	5	0	✓					
WaitForKeypad	smallint	2	5	0	✓					
KeypadValue	int	4	10	0	✓					
PictureType	smallint	2	5	0	✓					
FkCardType	int	4	10	0	✓					
FkCardAccessGroup	int	4	10	0	✓					
Picture	image	16	0	0	✓					
Comment	text	16	0	0	✓					
CreationDate	datetime	8	0	0	✓					
ModificationDate	datetime	8	0	0	✓					
State	int	4	10	0	✓					

tbTransactionOut Table

Figure 5

Column Name	Datatype	Length	Precision	Scale	Allow Nulls	Default Value	Identity	Identity Seed	Identity Increment	Is RowGuid
Pkout	int	4	10	0			✓	1	1	
CardNumber	char	16	0	0	✓					
UserName	char	40	0	0	✓					
CardInfo1	char	40	0	0	✓					
CardInfo2	char	40	0	0	✓					
CardInfo3	char	40	0	0	✓					
CardInfo4	char	40	0	0	✓					
CardInfo5	char	40	0	0	✓					
CardInfo6	char	40	0	0	✓					
StartDate	datetime	8	0	0	✓					
UsingEndDate	smallint	2	5	0	✓					
EndDate	datetime	8	0	0	✓					
DeleteWhenExpired	smallint	2	5	0	✓					
Trace	smallint	2	5	0	✓					
SupervisorLevel	smallint	2	5	0	✓					
CardState	smallint	2	5	0	✓					
WaitForKeypad	smallint	2	5	0	✓					
KeypadValue	int	4	10	0	✓					
PictureType	smallint	2	5	0	✓					
FkCardType	int	4	10	0	✓					
Picture	image	16	0	0	✓					
Comment	text	16	0	0	✓					
CreationDate	datetime	8	0	0	✓					
ModificationDate	datetime	8	0	0	✓					
State	int	4	10	0	✓					