

CMG Server System Process Description

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Introduction

This document describes the system architecture of CMG Server.

This document is intended for installation and support professionals of CMG Server. It is a reference guide for advanced technical information and should be considered as a complement to CMG Installation Guide [1].

System Overview

List of Processes

The following detached processes are part of the CMG database server:

- DBTOPBX - Dispatches PBX transactions from the database out to the appropriate PBXSTD process.
- DELIR - Runs once per day and checks through all intercept messages in the database and removes the expired messages. It also creates new intercept messages for scheduled messages, which will be active the current day.
- FLASH<net> - Sends the server based flash messages to the NOW operator clients. Only used in special PBX configurations since normally the pop-up messages are instead triggered on the client side from transactions received by the PBX connection
- FUTURE - Scans the database and activates "future updates", "future adds" and removes expired records.
- IRTIMER - A program that runs once per minute in order to activate/deactivate the intercept messages according to their valid period.
- MRTIMER - Runs once per minute and checks messages with action time set to current time. Action is taken depending on the message status. The action could be e.g. RETRY of distribution due to a failure or DELETE message after successfully delivery.
- MSGSND - Dispatches messages to the appropriate message server. There is one message distribution server for each message distribution mechanism E.g.;
 - MAILSRV - to send the messages to mail systems; Exchange, Lotus Notes etc.
 - MINICALL - to distribute messages onto the Minicall paging system.
 - SMS - to send messages to GSM telephones.
- NICESRV - Waits for requests from a client and executes the requested operation on the CMG database.
- PBXIR - Stores in the database the intercept messages keyed in via the telephones.
- PBXSTD - Receives and sends data from/to the PBX. There is one process for each PBX connected to CMG Server.
- PBXSYNC - Synchronizes the PBX database with the CMG database by sending intercept messages and message waiting frames to the PBX on request from the PBX.
- PBXUPDATE - Does the same as PBXSYNC except it could be run on demand from the operator or at a scheduled time.

For tools, see chapter 2.2.

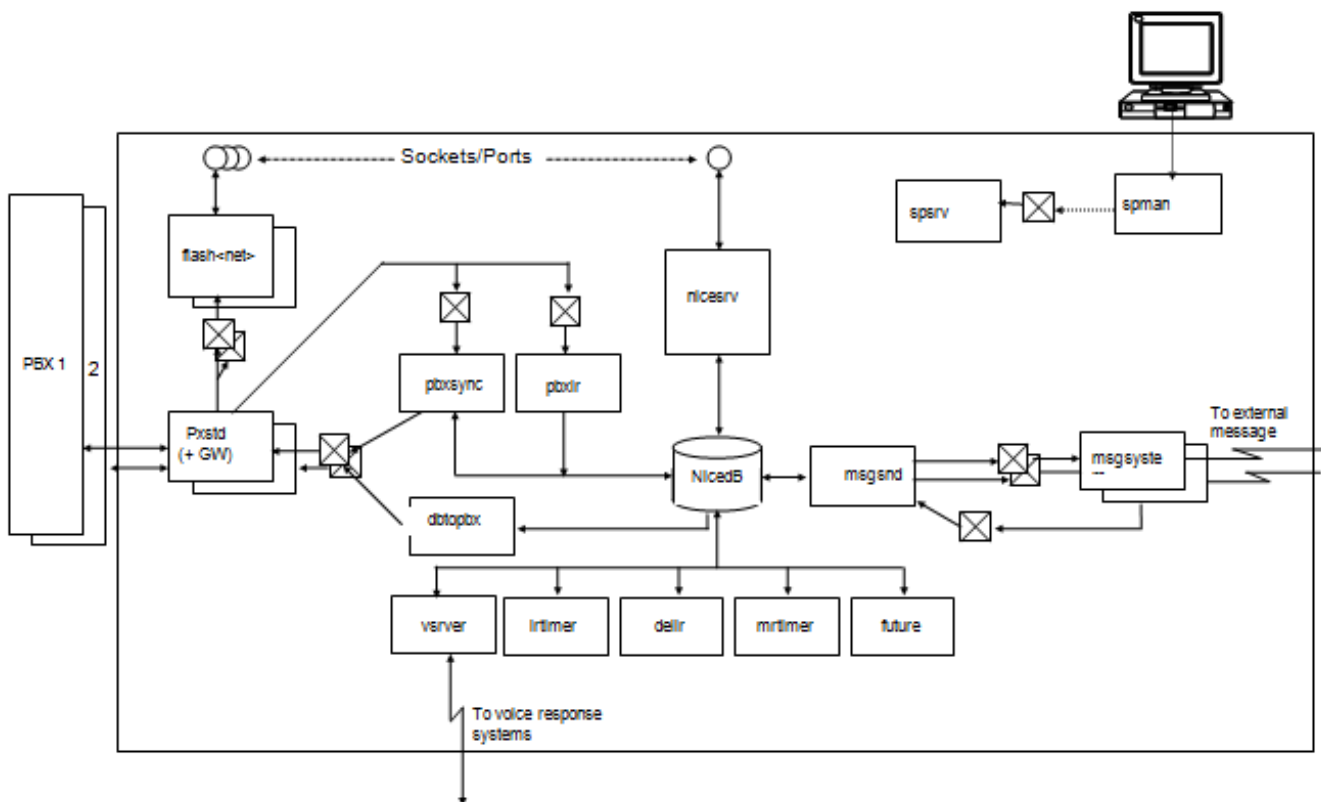
List of Tools

The following GUI tools (*.exe) can be found in C:\nicesrv\pgm folder:

- IMPEXPCFG - Configure exports and imports.
- IMPEXP_CONVERT - Modify text files to fit IMPEXPCFG.
- NICECOPY14-6 - Convert nice database 1.4 to 6.0.

- NICEVER - Extract file version from files in a folder.
- SMTP_DOTNET_TESTER - Tool for test sending SMTP mail.
- SPEECHIMPORTCMG - Import CMG-users to a user group in CMG Speech.
- SPMAN - Client program, used to communicate with the service program SPSRV.
- SPSRV - Supervisor, which starts all other processes and makes sure they are restarted if they for any reason crash. This program run's as Windows "service".
- TAIL - Display last lines of a file and trace/monitor file or log's change. Useful when debugging.
Windows command line (DOS prompt) examples:
 - tail.exe -f filename = traces/monitors file or log's change
 - tail.exe -n filename = displays the last n lines of the file/log
 - tail.exe +n filename = displays the file/log tail beginning with n line
- WRITEREG - Used by SQL jobs to backup windows registry (DOS prompt).

CMG Server System Diagram



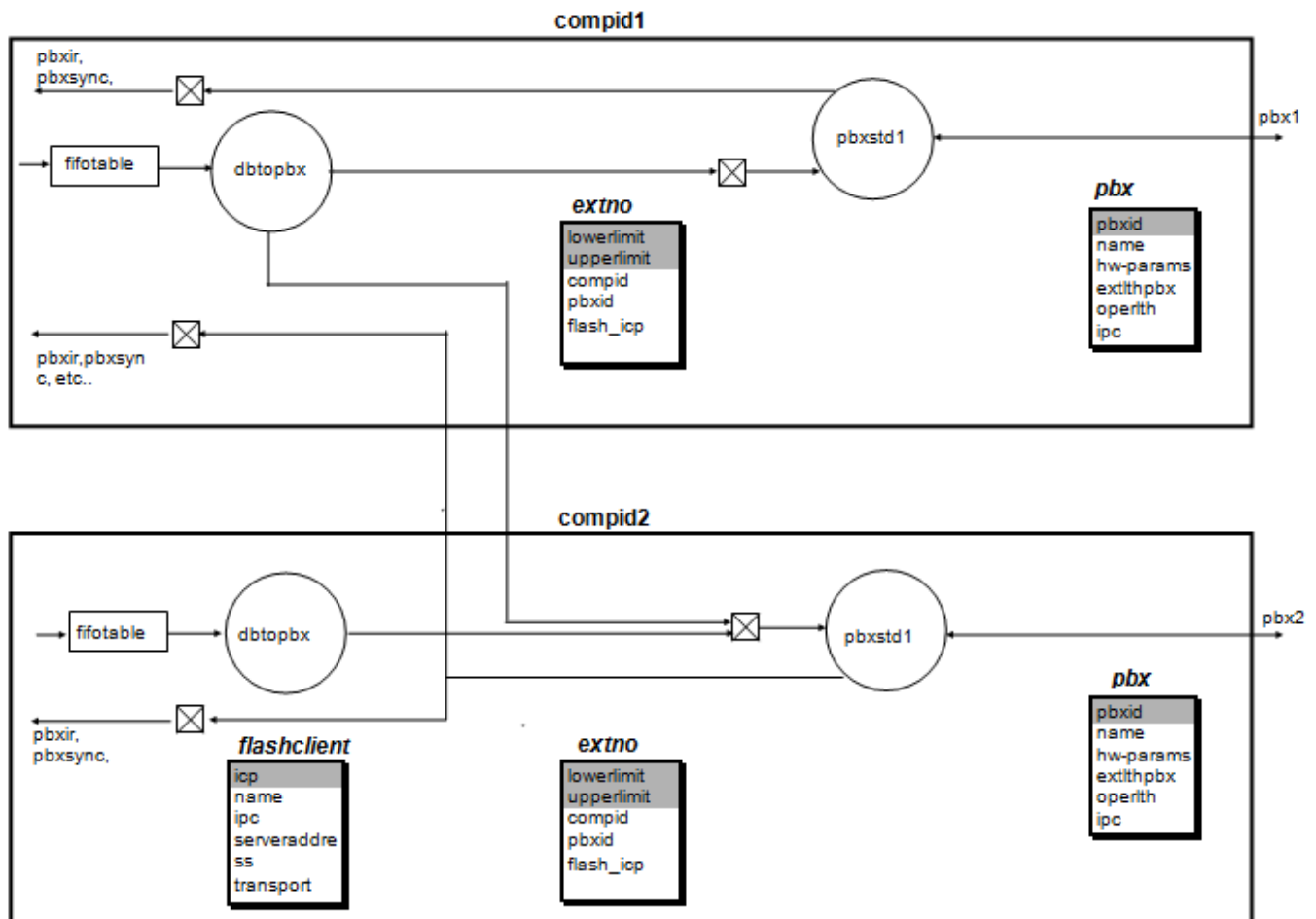
The Call Manager Communication

All communication from CMG to the call manager (also called PBX in this document) is initiated by the database triggers and is completely concealed from the application programs. The database triggers will

write PBX messages to a table named "pbxfifo". A special process, DBTOPBX, reads the FIFO table and dispatches the message to the appropriate PBXSTD named pipe.

Each record from the DBTOPBX to the "pbxstd"-pipe is 39 or 54 bytes long and has the following layout:

1. Message type (2 bytes)
 - 01 - Activate the intercept
 - 02 - Deactivate the intercept
 - 03 - Set message waiting on
 - 04 - Set message waiting off
 - 05 - Call set-up
 - 06 - Update start
 - 07 - Update end
2. Extension number, left adjusted. (16 bytes)
3. Intercept position, left adjusted. (16 bytes)
4. Database Id. Right adjusted, with leading zeroes. (5 bytes)
5. Date to open the telephone considering all pending intercept messages. (8 bytes)"
6. Time to open the telephone considering all pending intercept messages (4 bytes).
7. Reason code of last valid intercept message (2 bytes).
8. Date/Time format to send to the PBX (BLANK=0, DATE=1, TIME=2)
9. Flag indicating if this transaction was generated due to a transaction originally received from the PBX.
10. Mobile number (16 bytes).
11. Flag indicating if the owner of the extension is a FlexIPanUser or not.



Message Distribution

Included in the database tables are triggers for message distribution. When a row is added to the table 'message' a row is automatically inserted into the table 'delivchanfifo'. The insert trigger of this table will signal a named event and thereby wake the process MSGSND that will scan the table 'delivchanfifo' and produce a message that it will dispatch to the named pipe of an appropriate message server process.

When the selected message server process has tried to distribute the message an acknowledge record might be sent back to the process MSGSND which will update the status of the original message row.

The layout of the records sent to the named pipes are defined in the include file `msg.h`.

No Longer Supported Processes

These programs/processes were phased out in CMG Server 8.0.

The list is for historical reasons only.

- ALCATELGW - Program for communication with an Alcatel A4400 PBX equipped with an A.H.L (Alcatel Hotel Link) serial connection.
- BROADCAST - Send a message to a group of receivers using the NT utility NET SEND.

- CDRCOM (Mitel TMG) -
- CMGVOICESRV - Handles Call information for incoming calls on analog lines connected to Meridian or MD110. Also handles Call information for outgoing calls to switchboard operators.
- CONVTOOEM (Philips)
- EXPORTLDIF - Processes CMG export file to LDIF. The executable file is SyncSrv.exe
- FAXSRV -
- HICOMGW - Program for communication with a Siemens Hicom 300 PBX equipped both with a MSVA Trieber card and a serial asynchronously connection.
- IMPORTLDIF - Processes an LDIF file to CMG import file. The Executable file is SyncSrv.exe
- IRCTONOTES - Sends intercept information from CMG to a Lotus Notes database.
- MSVAWNT -
- NETCOMLSS -
- NICEPOLLNT -
- NWPOLLNOTES -
- PBXASG -
- PBXDEFINITY - Program for communication with the Avaya Communication Manager using the Avaya CTserver middleware.
- PBXSOPHOCTI - Program for communication with the NEC/Philips Sopho PBX:es iS3000 and 2000 IPS using the Sopho CTI middleware.
- PBXSOPHOPMS - Program for communication with the NEC/Philips Sopho PBX 2000 IPS using the Sopho PMS IP protocol.
- PBXSTDCENTREX - Program for communication with the Telia Centrex PBX's.
- PBXSTDCISCO (Cisco) - Program replaced by PBXSTDCTC.
- PBXSTDCISCO309 (Cisco) - Program replaced by PBXSTDCTC.
- PBXSTDOIS - Program for communication with the Thales OIS.
- PRATOR - Interface program to the interactive voice response system Tellme 3000 from Telia Promotor.
- PSP800 - Program for communication with an Ericsson PSP800 Paging system.
- SOPHOCOM (Philips) -
- SOPHOFLASH (Philips) -
- SOPHOFLASHGW (Philips)
- SOPHOGW - Program for communication with a Philips Sopho PBX 300 equipped with an OM serial interface.
- SOPHOTELNETGW - Program for communication with a Philips Sopho PBX 300 equipped with an OM Telnet interface.
- SYNC_SRV - Executable file for IMPORTLDIF and EXPORTLDIF program.
- TELECONNECTSER - Interface program to the interactive voice system Teleconnect from Objecta Elektronik & Data AB.
- TESTFLASH -
- VIATEL -
- VIMTEST32 -
- VIPROUTERUDP - Analog version of viprouter<net>.
- VSRVER - Communicates with an external "Voice Response System".

- NOTESSRV – This send email process is replaced by SMTPSRV. The same replacement as earlier performed for MAPISRV.
- IMAPSRV – This send email process is replaced by SMTPSRV. The same replacement as earlier performed for MAPISRV.

Program Parameters

Overview

The behavior of the server-based programs is controlled by parameters that are stored either in SQL tables, in the registry and/or on the command line when the programs are started.

The rules where to pick up their parameters (from the SQL tables, the registry or from the command line) are as follow:

- The message distribution processes like SMS, MAILSRV etc., due to the design, cannot access the database at all and therefore they get their parameters from the registry or the command line.
- If a parameter can be specified both on the command line and in the registry, the command line parameter will take precedence.

General Registry Parameters

Depending on operative system (OS), the registry key path differs where the parameters are stored:

- 32-bit OS:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Netwise\Nice<dbid>
```

- 64-bit OS:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Netwise\Nice<dbid>
```

<dbid> is the local database identity. This key contains the following sub keys:

- \Database
- \Directory
- \Programs

NOTE: In this document, only the registry key path for the 32-bit OS is written. If using a 64-bit OS, use the registry key path for a 64-bit OS as described above.

HKEY_LOCAL_MACHINE\SOFTWARE\Netwise\Nice<dbid>\Database

This registry key contains four values. The three first are used by all CMG server-based programs, which access the SQL server CMG database.

- Server - Windows server name.
- Username - SQL Server login name.
- Password - SQL Server login password.
- Language - Specify the language to be used in the CMG system.
- LoginMode - "Windows" or "SQL". If set to "Windows" the username and password keys are not relevant since the system will use "Windows Trusted"-connections to connect to the SQL database.

HKEY_LOCAL_MACHINE\SOFTWARE\Netwise\Nice<dbid>\Directory

This registry key defines by four values the file system directories to be used by the CMG system:

- CwdPath - The “Current Work Directory” to be given to all programs started by the SPSRV program.
- LogPath - Specify the directory to be used for trace files
- ProgramPath - Specify the directory where the executable files are.
- RootPath - Defines the macro \$ROOT which might be used by the three other values. This value also defines the location of the subdirectory DATA\ (This is the directory where the database files are stored).

HKEY_LOCAL_MACHINE\SOFTWARE\Netwise\Nice<dbid>\Programs

This branch contains one sub-key for each program started and supervised by the CMG service SPSRV. Each sub key contains the following values:

- Enabled - If yes, the service program SPSRV will try to keep this program running.
- MaxRestart - Specify how many times the program SPSRV will try to restart this program after a crash before it will be disabled.
- Parameters - Input argument(s) to the program.
- ProgramPath - Defines which program (exe) file to be used. If no directory part is given the 'Program-Path' above will be used.
- StartOrder - An optional parameter that may be used to define the order to start the programs. (Default start order is alphabetical).
- Wait - Number of seconds for SPSRV to wait before starting the next program in the list.

General Command Line Parameters

All programs have support for the -L parameter, which defines the trace level.

The programs which access the CMG database have the following parameters which, if specified, will override the values defined in the registry DATABASE key above;

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.

Program Descriptions

AlcatelHlciP

Program for communication with an Alcatel A4400 PBX equipped with an A.H.L (Alcatel Hotel Link) TCP/IP connection.

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-p pbxid	The PBX identification number, 1-999. The PBX id:s are defined in the PBX table. Default is 1.
-l <level>	Trace level. 1 - Only errors. 6 - Everything.
-c <connections>	Defines how many client processes that simultaneous can connect to the input named pipe. Default is 1.

Description

The AlcatelHLCIP program handles the communication with the Alcatel A4400 configured with an A.H.L (Alcatel Hotel Link) TCP/IP connection.

The communication with the PBX is made on a TCP/IP communication line according to the protocol described in the document AHL (Alcatel.Hotel.Link connection between Alcatel 4400 Hospitality PABX and Front office Computer.).

Internally the program communicates with several other processes through IPC, which are implemented as named pipes.

On start-up the pbxcom program will build some internal tables, later used to perform syntax check and to determine the destination of the messages received from the PBX. The information needed are located in the tables company, extno, pbx and flashclient.

All requests to send a message to the PBX are received on a named pipe (IPC), with the name `\\.\pipe\<nn>pbx<mmm>` where <nn> is defined by the dbid and <mmm> by the PBX id (e.g. `\\.\pipe\01pbx001`).

Registry parameters

The AlcatelHLCIP program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\pbxstd<pbxid>\Config` the value;

- **ExternalSys** - If enabled, the process will connect to an external system other than a PBX. The check for the extension in the extno table will be disabled, and the message type sent to pbxir will be different. Default is DISABLED.
- **GetLinePrefix** - Prefix to be added to the destination number in a forward transaction. The prefix will only be added if the number of digits in the destination number is higher than what is specified as "extension length" for the PBX. Default is "".
- **ListenOnly** - If 1, the communication to the PBX should not be sent. If the A.H.L (alcatel link) is used in Hospitality mode. Default is 0.
- **NetworkPbxAndNoPrefix** - If enabled, the "port"-column of the PBX table should contain a list of PBXes that may generate overflow flashes to the current one.
- **PbxAddress** - The IP address to send messages to the Alcatel PBX.
- **PbxPort** - The TCP/IP port to send messages to the Alcatel PBX. Default is 2561.
- **UpdateReasonDisp** - Only relevant if "Display Support" in CMG CM is enabled. Set to 1 if the phone display should be updated by reason information. Set to 0 if only updated by name. Default is 1.

NOTE: The following registry parameters should NOT be modified:

- **ForwardDest** - PBX code to connect to the operator. Default is 10.
- **ForwardMsg** - PBX code to set forwarding to any number. Default is 11.
- **ForwardDnd** - PBX code to connect to the operator. Default is 12.
- **ForwardPrefix** - Key strokes from phone to set forwarding. Default is *23*.
- **CancelPrefix** - Key strokes from phone to reset forwarding. Default is #23.

If the PBX length defined in CMG Configuration Manager is less than 5, this process sets PBX length to 5. If the PBX length is > 5 and < 8 the length is 8.

If "Display Support" is enabled (checked) in CMG CM, phone is updated by Reason text or owner name of the phone. Please see parameter **UpdateReasonDisp** above.

CmgVoiceSync

Handles synchronization of CMG Voice Users and CMG Users when added, modified or deleted in the CMG database.

Program arguments

-n <name>	Name of process as defined in the registry. Default is CmgVoiceSync.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level. 1 - Error and startup information. 6 - Everything.

Description

The CMGVoiceSync program updates CMG Voice User data in the CMG Voice database when a corresponding CMG User is stored, updated or deleted.

CMG Voice components installed on CMG Server handles the communication. On a CMG Server without any CMG Voice applications installed, the CMG Voice Components Package must be installed.

When user data in the CMG databases is modified, a record will be inserted into the mainfifo table. CMGVoiceSync polls the table for new CMGVoice related records and depending on whether an Insert, Update or Delete has been made, the corresponding action is taken towards the Voice database using the CMGVoice6xCom component.

It is possible to control the behavior using a misc field in CMG. The field used is defined by the registry parameter **UsrGrpDef**. This feature makes it possible to e.g. add a CMG Voice user with a defined User Group using the Import utility.

Field Content	Action
i#<User Group id>	Insert a Voice user corresponding to the current CMG user with the defined User Group
u#	Update the Voice user corresponding to the current CMG user
d#	Delete the Voice user corresponding to the current CMG user

NOTE: The letter l, u or d must be in lower case.

Registry parameters

The CMGVoiceSync program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config` the value;

- **PollTimeout** - Specify the time interval for polling of the mainfifo table for CMGVoice records. Default is 60 (seconds).
- **CmgHost** - Only used if the CMG Server host name in the CMG company settings differ from the host name in the Voice Database Servers configuration. E.g. the CMG Server hostname is set to a name in CMG, and to an IP address in the Voice server configuration, this parameter should state the IP Address.
- **UsrGrpDef** - Defines a Misc field in CMG used to state which action to be taken and optionally the User Group Id for a user that shall be added to CMG Voice.

NOTE: The following parameters should be used for test purposes only. The values will override the CMG Voice database connection information configured in CMG CM.

- **CMGVoiceDatabase** - Default is CMGVoice.
- **CMGVoiceHost** -
- **CMGVoicePassword** -
- **CMGVoiceProvider** - Default is SQLOLEDB.
- **CMGVoiceUser** -

CTR

Standard access control system interface.

Program arguments

-n <name>	Name of process as defined in the registry. Default is CTR.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name
-w <password>	SQL Server login password
-l <level>	Trace level. 1 - Log start and stop messages and errors. 2 - Log incoming stampings. 5 - Log all events.

Description

The CTR program listens to a serial port and stores access control messages in the database. There are a few options:

- Store intercept message or not.
- Only update a special flag field in the CMG database. The only way to see this mark is in the main list of the switchboard operator program.

The cardkey number from the access control system should be matched with a cardkey field in the CMG database. These are the alternatives:

- CARDKEY Use table main and misc to find record_id (miscno = 16 AND mtext = 'XXXX' .AND misc.recno = main.record_id)
- TELN Use field telno in table main to find record_id (telno = 'XXXX')
- MISC1 Use field misc1 in table main to find record_id (misc1 = 'XXXX')
- MISC3 Use field misc3 in table main to find record_id (misc3 = 'XXXX')
- EMPNO Use table main and misc to find record_id(misc.miscno = 17 AND misc.mtext = 'XXXX' AND misc.recno = main.record_id)

Description of ctr format:

<STX>65XXXX<CR><LF>	# Access in
<STX>66XXXX<CR><LF>	# Access out
<STX>67XXXXY<CR><LF>	# Access out with reason code
<STX>68XXXXZZZZ<CR><LF>	# Access out with return time
<STX>69XXXXZZZZ<CR><LF>	# Access out with return date

XXXX = cardkey

Y = reason code

ZZZZ = return time/date

Registry parameters

The CTR program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config` the value;

- **Accimsg** - Specify if create normal intercept message or not. Default is ENABLED.
- **CardKeyLen** - Specify number of digits in the cardkey number received from the CTR system. Default is 4.
- **CardNoPrefix** - Only relevant if KeyType = CARDNO. Defines if the field CARDNO of the employee contains a prefix in addition to the number received from the CTR system.
- **CheckCardKey** - If enabled, the first character in the "cardkey" field will be removed if it is equal "0". Default is DISABLED.
- **Code<n> = <mapped_code>** - Parameter can be repeated and is used for mapping between access control system reason codes to CMG reason codes.
- **Databits** - [5, 6, 7, 8, 9] Specify the number of data bits in the serial communication. Default is 8.
- **DefaultReturn** - [TV,NWD,M<n>] Specify a default return time when a person leaves the office and enters a reason code but no date/time. Default is TV.
- **Forward** - Specify if the message should divert the extension. Default is DISABLED.
- **KeyType<n>** - [TELNO,CARDKEY,CARDNO,MISC1,MISC3,EMPNO]. Defines the type of key used to locate the subscriber in CMG database. Default is CARDKEY .
- **Parity** - [NOPARITY, ODD, EVEN, MARK, SPACE] Specify the use of parity in the serial communication. Default is NOPARITY.
- **Port** - The COM port to be used (e.g. COM1, COM2). The parameter must be defined!
- **ReasonCode** - [Reasoncode,time] Specify a default reason code when person leaves office.
- **ReasonCode<n>** - [<code>, <from time>, <to time>, TV|NWD|M<n>] Specify a default reason code when a person leaves the office. Up to four optional default reason codes (1-4) which depends on the time of day can be specified. Example: ReasonCode1 = 0,1100,1230,M60 Lunch for 60 minutes if person leaves office between 11 00 to 12:30.
ReasonCode2 = 1,1230,1800,NWD
Person will return next working day.
If no optional parameter is given DefaultReturn is used.
- **Sesam** - If disabled, the extension will NOT automatically open when an intercept message expires. Default is ENABLED.
- **Speed** - [50,75,110,134,150,200,300,600,1200,1800,2400,4800,9600,19200,38400]. The baud rate of the COM port. This parameter must be defined!
- **Stopbits** - [1, 2] Number of stop bits. Default is 1.

DBTOPBX

Dispatches PBX transactions from the database to the appropriate 'pbxcom' process.

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-p	If defined the program will NOT connect to any pbxcom process.
-l <level>	Trace level.1 - Log start, PBX messages and undefined extensions.2 - Log incoming and outgoing IPC messages, flash excluded.3 - Log flash IPC messages.
-f	If defined also failed pipe writes will be error logged.
-n <name>	Name of process as defined in the registry. Default is dbtopbx.

Description

Whenever a modification to the data in the CMG database calls for a status change of the extension in the PBX, the database triggers will insert a transaction into the table pbxfifo.

The insert trigger of the table pbxfifo will set the named event "<dbid>pbxfifo" which will tell the process dbtopbx to wake up and read the newly inserted data. The process dbtopbx will dispatch the read data to the appropriate named pipe of the pbxcom processes.

The logic used to locate the named pipe is;Is there anything defined in the ipc column of the PBX table for the row pointed out by the transaction? If yes send the transaction to that named pipe else send it to the IPC \\<server>\pipe\<dbid>pbxcom<pbxid>.

The parts <server> and <dbid> are derived from the <pbxid> using the tables extno and company.

All processed rows of the table pbxfifo will thereafter be deleted.If the program argument -p is defined this process will not send any transaction further but only make sure the pbxfifo will be kept empty.

Installing more than one instance of this process:(Only for advanced installations to improve performance)

Do the following:

1. Make a Registry export of the DbToPbx process.
Use the file to create a DbToPbx02 instance. Example: [HKLM\SOFTWARE\Netwise\Nice01\Programs\DBTOPBX02]
"Parameters"="-n DbToPbx02"
[HKLM\SOFTWARE\Netwise\Nice01\Programs\DBTOPBX02\Config]
"PBXList"="3,4,5 " or a single PBX "PBXList"="2"
"PBXFifoPort"="1002"
NOTE: Only one port.
2. In Spman tool, add the -n switch to the parameter row for the existing dbtopbx.
Example: -n DbToPbx.
3. Set the registry parameter **PbxList** to for example 1,2
4. Set the registry parameter **PBXFifoPort** to for example 1001

5. Set the **PBXFifoPort** under System Parameters in CMG CM to for example 1001,1002 (comma separated list)

Registry parameters

The DBtoPBX program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\pbxstd<pbxid>\Config` the value;

- **Alcatel** - If enabled, the forward transaction to pbxstd will specify the reason as the internal CMG reason code instead of the PBX code. Default is DISABLED.
- **HttpEnabled** - If enabled, a HTTP transaction is sent to the URL defined by parameter `HttpUrl` for each FORWARD/Cancel Forward.
- **HttpINContactMode** - If enabled, the URL-string will contain an extension number controlled by attribute `ExternalNumberField` and also the format of the URL will be INContact specific. Default is ENABLED.
- **HttpUrl** - The first part of the URL. This string is appended by the string "<extension number>&routing=<icp>" in run time.
- **InternationalPrefix** - If a "+" sign is used in an extension it will be replaced with the contents of `InternationalPrefix`, for example 00. Default value is empty.
- **MultiMsgSys** - If disabled, this process drops all Message Wait transactions that refers to a message System different from 0.
- **PBXFifoPort** - The TCP/IP port to receive messages FROM the pbxfifo table in the database. Only one port / process. The system parameter `PbxFifoPort` has to be configured in CMG CM.
- **PbxList<1,2,n>** - a comma separated list of PBXes an instance of dbtopbx should dispatch data to. Default is empty. (Take care of all PBXs in the system).
- **PollTimeout** - Maximum sleep time in seconds before it checks if there is any new data in the pbxfifo. Normally the triggers notify this process as soon as new data is inserted into the table.
- **TimeZone** - Specify if time zone support is activated. Default is DISABLED.

DELIR

Cleanup program for intercept messages.

Program arguments

-n <name>	Name of process as defined in the registry. Default is delir.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-r <time>	Reschedule at specified time.

-f	Wait until next scheduled time. I.e. do not execute at once.
-i <interval>	Interval in seconds between execution times.

Description

The DELIR program runs once per day to remove the expired intercept messages. It also creates new intercept messages for scheduled messages, which will be active the current day.

Registry parameters

The DELIR program supports all of the registry parameters described in section 3.2.

Expdelta

Processes delta between two CMG export files.

Program Arguments

-n <name>	Name of process as defined in the registry. Default is expdelta.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-r <time>	Reschedule at specified time.
-f	Wait until next scheduled time. I.e. do not execute at once.
-i <interval>	Interval in seconds between execution times.

Description

The name of the output file, the mapping of the fields are all defined in the registry.

Registry Parameters

The EXPDELTA program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config` the value;

- FieldSepChar - Field separator.

Example: FieldSepChar = “;”.

- FileSpecExt - Specify the file extension of the output ASCII file.
Default = “txt”.
- IncludeChangesOnly - Default is ENABLED.
- includeKeys -
Example: IncludeKeys = “Field16”
- InFileSpec -
Example: InFileSpec = “Export”
- NumOfKeptFiles - Specify the number of files to be kept. Default is 20.
- OutFileSpec - Specify the file name prefix of the output ASCII file.
Example: OutFileSpec = “Expdelta”
- RecentDeltaDate - Specify the date (format YYMMDD) of the output ASCII file.
Example: RecentDeltaDate = “040616”

export

Export CMG subscriber data to an ASCII file.

Program arguments

-n <name>	Name of process as defined in the registry. Default is export.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.1 - Log start, PBX messages and undefined extensions2 - Log incoming and outgoing IPC messages, flash excluded.3 - Log flash IPC messages.
-r <time>	Reschedule at specified time.
-f	Wait until next scheduled time. I.e. do not execute at once.
-i <interval>	Interval in seconds between execution times.

Description

The Export program extracts subscriber data from the CMG database and writes it to an ASCII file as one row for each selected subscriber.

The program can be scheduled to run at regular intervals or at a specific time of the day as defined by the program arguments above.

The name of the output file, the format of the data, the fields to extract, the subscribers to be selected and the sort order is all defined in the registry.

Registry parameters

The EXPORT program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config` the value;

- **Field<nn>** - "<Field Name>, <Length>".
Where <nn> is a number 00-99 which specifies the order of the field.
<Field Name> is one of the field described below,
<Length> is Maximum length, or the length of the fixed field if FixedLength is enabled
- **FieldSepChar** - Field separator. If the separator is a non-printable character it shall be entered as the decimal ASCII code (9 = HT).
If no separator is wanted, enter "". Default is 9.
- **FileSpec** - The file specification of the output ASCII file.
Default = <LogPath>export.txt.
- **FixedLength** - Enabled|Disabled. If set to 'Enabled' each field in the text file will be of the length specified in the FIELD<nn> parameter below.
Default is DISABLED.
- **OrderBy** - The order by clause of the resulting SQL statement.
Default is l_name, f_name.
- **OrgFieldSepChar** - Separator between organization unit fields. If the separator is a non-printable character it shall be entered as the decimal ASCII code (9 = HT). If no separator is wanted, enter "". Default is "\".
- **OrgFullPath** - If set to enabled the orgfield in the exported data will be construed by the complete path in the organization tree.
E.g. "Netwise>Denmark>Marketing>Presales" instead of just "Presales"
- **OrgInclDesc** - Specify if the exported field ORGUNITS should include the description part of the organization units. Default is ENABLED.
- **OrgInclOrg1** - Specify if the exported field ORGUNITS should include the "Org Code 1" part of the organization units. Default is ENABLED.
- **OrgInclOrg2** - Specify if the exported field ORGUNITS should include the "Org Code 2" part of the organization units. Default is ENABLED.
- **ORGInclPri** - Specify if the exported field ORGUNITS also should include the "Org Priority". Default is DISABLED.
- **OrgInclSortidx** - Specify if sort index for full path should be included or not. Default is ENABLED.
- **OrgSubFieldSepChar** - Only relevant if **OrgFullPath** is enabled. Specify the separator between organization path fields. If the separator is a non-printable character it shall be entered as the decimal ASCII code (9 = HT).
If no separator is wanted, enter "". Default is ">".
- **SubjFieldSepChar** - Separator between subject fields. If the separator is a non-printable character it shall be entered as the decimal ASCII code (9 = HT). If no separator is wanted, enter "". Default is "\".
- **SubjFlags** - Enabled|Disabled. If set to 'Enabled' each subject will get a flag expression at the end. The flag expression starts with a '#' character followed by four digits where each digit can be either one or zero.
If position 1 is set to '1' – The subject is visible for the switchboard operators.
If position 2 is set to '1' – The subject is included in the directory "Work task" list.
If position 3 is set to '1' – The subject is included in the directory "index" list.
If position 4 is set to '1' – The subject is visible for CMG Office users.

- **Table** - The table clause of a SQL select statement. This value has only to be specified if fields other than main table fields are part of the OrderBy or the Where parameter.
- **ValidThisDate** - An optional parameter which specifies which date view shall be used. In other words - only subscriber data valid at that specific date will be exported.
- **Where** - The where clause of the resulting SQL select statement. Default is "".

Field Names from the table main

Field Name	Length	Comments
Actdate	19	Date when this record becomes/became active.
deactdate	19	Date when this record shall be deleted.
modtm	19	Date/time of last modification.
list_name	1	Set if this record shall be listed according to the alphabetical spelling of the name and not according to the phonetic spelling.
search_name	1	Set if this record shall be included in a name search.
directory_name	1	Set if this record shall be included in name section of the printed directory.
directory_dep	1	Set if this record shall be included in the department section of the printed directory.
class_ext	1	Set if the extension number shall be treated as classified.
class_cordless	1	Set if the cordless number shall be treated as classified.
message_wait	1	Set if the message wait function shall be enabled for this subscriber. This column is relevant only for those records where 'telnopri'=1.
voice_mail	1	Set if the subscriber has got any messages in the voice mailbox.
info_message	1	Set if the subscriber has got any information message stored in the intercept table.
voicemail_con	1	Set if the subscriber is connected to voice mail.
irc_text	1	There is text in at least one of the intercept messages.
secretary	1	Set if the subscriber is a secretary.
search_office	1	Set if this record shall be visible for the office users.
VisitorHostEnabled	1	Set to 1 if the subscriber has the rights to act as a Host for visitors

Field Name	Length	Comments
ProfileLevel	1	Set to 0 if the user is not permitted to forward his extension at all. Set to 1 if the user is only permitted to forward the extension to the fixed intercept position in the PBX (normally to the operator) Set to 2 if the user is permitted to forward the extension to fixed icp, IVR and VM. Set to 3 if the user is permitted to forward the extension to fixed icp, IVR, VM and cordless. Set to 4 if the user is permitted to forward the extension to any number.
TimeZone	3	ID of the "home"-time zone of the user
transtype	1	=1 if the record is active right now.=2 if the record is a future add.=4 if the record is a future update.
telno	60	Extension number of the employee. Normally this is the extension number in the company's PBX.
telnopri	1	=1 if this employee is the "owner" of the telephone number 'telno' and he is the only one which shall be displayed during a search on 'telno'. =3 if this employee is NOT "owner" of the telephone number.
pbxid	3	PBX identity. NULL if 'telno' is NOT part of any connected PBX.
showlist	1	Set if 'telnopri'=1 and all other employees which are connected to this 'telno' shall as well be displayed during a search on 'telno'.
custgrp	3	Customer group (1-999)
l_name	60	Last name (Alphabetical)
f_name	60	First name (Alphabetical)
division	30	Division
dep1	30	Department
dep2	30	Department (Alternative)
deppri	3	Priority within a department unit
icp1	60	Intercept position
icp2	60	Intercept position (Alternative)
Cordless	60	Mobile telephone number.
Misc1	255	Miscellaneous
Misc2	255	Miscellaneous
Misc3	255	Miscellaneous
Misc4	255	Miscellaneous
Sign	16	Operator signature

Field Name	Length	Comments
Password	16	Password
Returndate	19	Return date according to the last valid intercept message.
Schimsg	1	Set if the subscriber has got any periodical intercept messages.
Absent	1	0 = Not absent 1 = Absent according to an intercept message 2 = Out according to the flextime system.
Forward	1	Set if the extension 'telno' is forwarded right now. (This column is replicated to all records with the same 'telno').
Reason	2	Reason of absence for the last valid intercept message.
Oprmsgstate	1	Status of the operator messages 0: There are no messages at all. 1: There are messages not yet distributed. (Priority 1 if there are messages with different statuses) 2: There are messages distributed which are waiting for an ack. (Priority 2) 3: There are messages distributed and done since they are not expected to be ack:ed. (Priority 3) 4: There are "ack:ed" messages. (Priority 4)
nonoprmsgstate	1	(Not yet implemented) Status of the non-operator messages 0: There are no messages at all. 1: There are messages not yet distributed. (Priority 1 if there are messages with different statuses) 2: There are messages distributed which are waiting for an ack. (Priority 2) 3: There are messages distributed and done since they are not expected to be ack:ed. (Priority 3) 4: There are "ack:ed" messages. (Priority 4)
access_out	1	Set if out according to the flex-time system
accreason	2	Reason of absence from the flex-time system
subject_cnt	4	Number of subjects related to this record.
multi_subscriber	bit	Set if there is more than one subscriber with the same 'telno'.

Pseudo Field Names

Field Name	Length	Comments
Subjects	1024	A concatenated string of all subjects of the current subscriber. The different subjects are separated by the character defined by parameter "SubjFieldSepChar"

Field Name	Length	Comments
Misc1 – Misc30	255	The field mtext in the table misc where miscno=1-30
Msgsys1	40	The message system name as defined by table deliverychan.
Msgid1	100	Message system address.Field address from table deliveryaddress where pos=1.
Msgsys2	40	The message system name as defined by table deliverychan.
Msgid2	100	Message system address.Field address from table deliveryaddress where pos=2.
Msgsys3	40	The message system name as defined by table deliverychan.
Msgid3	100	Message system address.Field address from table deliveryaddress where pos=3.
Msgsys4	40	The message system name as defined by table deliverychan.
Msgid4	100	Message system address.Field address from table deliveryaddress where pos=4.
Phonetic_L1	60	The first spelling alternative of the surname
Phonetic_L2	60	The second spelling alternative of the surname
Phonetic_L3	60	The third spelling alternative of the surname
Phonetic_F1	60	The first spelling alternative of the Christian name
Phonetic_F2	60	The second spelling alternative of the Christian name
Phonetic_F3	60	The third spelling alternative of the Christian name
OrgUnits	1024	A concatenated string of all organization units of the current subscriber. The different elements are separated by the character defined by parameter "OrgFieldSepChar"
'<text>'	255	Any constant ASCII text
Getdate()	19	Current date and time

Examples

Example 1, registry setting

```
"FileSpec"=reg_sz:"CMGExport.txt"
"FieldSepChar"=reg_sz:";"
"SubjFieldSepChar"=reg_sz:"$"
"Where"=reg_sz:"telno like '83%'"
"OrderBy"=reg_sz:"telno"
"Field01"=reg_sz:"telno, 20",
```

```
"Field03"=reg_sz:"l_name, 10",
"Field04"=reg_sz:"f_name, 30",
"Field05"=reg_sz:"search_office, 2",
"Field06"=reg_sz:"Subjects, 30",
"Field07"=reg_sz:"MSGID1, 20",
"Field08"=reg_sz:"MISC15, 20",
"Field09"=reg_sz:"MSGSYS1, 20",
"FixedLength"=reg_sz:"Disabled",
```

Would produce an ASCII file named CMGExport and with contents:

```
832;Bauer;Lennart;1;OS/2$Hänvisning$Integrerad tel;Lennart
Bauer;Systemutvecklare;Internet mail
833;Davidson;Stefan;1;Nice NT$NT Nice;Stefan
Davidson;Systemutvecklare;Internet mail
834;Nilsson;Billy;1;Nice NT;Billy Nilsson;Systemutvecklare;Internet mail
```

Example 2, registry setting

The registry settings will be more complex if the where clause or the order by clause refers to fields which are not in the main table, e.g. if we just would like to export subscribers having the string 'chef' in their title field. (As you can see from the table above the title information is stored in the misc table where miscno=15.);

```
"FileSpec"= reg_sz:"CMGExport.txt"
"FieldSepChar"= reg_sz:";"
"SubjFieldSepChar"= reg_sz:"$"
"Table"= reg_sz: "main m, misc m15"
"Where"= reg_sz:"m15.mtext like '%chef%'
AND m.record_id = m15.recno AND m15.miscno=15"
"OrderBy"= reg_sz:reg_sz:"telno"
"Field01"= reg_sz: "telno, 20",
"Field03"=reg_sz:"l_name, 10",
"Field04"=reg_sz:"f_name, 30",
"Field05"=reg_sz:"search_office, 2",
"Field06"=reg_sz:"Subjects, 30",
"Field07"=reg_sz:"MSGID1, 20",
"Field08"=reg_sz:"MISC15, 20",
"Field09"=reg_sz:"MSGSYS1, 20",
"FixedLength"=reg_sz:"Disabled",
```

Would produce an ASCII file named CMGExport and with contents:

```
826;Cedervall;Peter;1;försäljning$Marknadsfrågor$frå;Peter
Cedervall;Försäljningschef;Internet mail
828;Blomkvist;Ulf;1;Marknadschef$Försäljning$Offer;Ulf
Blomkvist;Marknadschef;Internet mail
```


FaxMail

Program used to create a fax message, and send it as message to the mail process as an attached mail file to a third party fax provider (TellusTalk - efax.nu).

Program arguments

-n <name>	Name of process.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-c <connections>	Defines how many client processes that simultaneous can connect to the input named pipe. Default is 1.

Description

This process receives a named pipe (IPC) transaction from the msgsnd process on a specified channel. It creates a RTF (rich text format) document using a template and replaces the tags within that template and saves a copy of that file in a specific location on the hard disk where after it sends a transaction to a mail server pipe.

The mail server process will receive this transaction on its named pipe (IPC) and send a mail with the Fax as an attachment to the fax provider.

The customer needs to have an account to send fax at TellusTalk (fax.nu) or with any provider that could accept and send a fax based on an RTF document.

Format from FaxMail to mail server:<PATH>C:\nicesrv\faxmail\FaxTo(record_id).rtf</PATH>
<SUBJ>Fax Meddelande </SUBJ><DistAndDel>0</DistAndDel>

All requests to the message server are received on a named pipe (IPC). The pipe name is defined in the registry. FaxMail must be set up as its own system channel in CMG Server. There is no support for 'acknowledge'

Do not forget to increase the number of connection parameter (-c) in the mail process. The mail process itself will use one plus one extra for this process.

If the mail is sent properly then an ICP notification will be sent to the Msgsnd process. This process will mark the original message as "distributed and done".

Create a path called FaxMail in the root of NiceSrv.

Modify the Fax Cover example to suit the customer's needs. Use Microsoft word, see example.

Registry parameters

The FaxMail program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General the value;

- IPC - The name of input named pipe (e.g. \\.\pipe\01FaxMail).
In the sub key: HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config the value;
- FaxFile - Specify the name of the fax cover file that will be used as a master.
Default is 'FaxHeader.rtf'.
- MailAddressPrefix - If the subscriber's mail address field does NOT specify a complete mail address but merely the cordless number the MailAddressPrefix will be added to complete the internet mail address.
E.g. the mail address field contains cordless number 08 1234567 and MailAddressField defines efax.nu the complete mail address will eventually be 081234567@efax.nu.
- MailPipe - The named pipe to the used mailsrv process at the CMG Server(e.g. \\.\pipe\01mapisrv).
This parameter must be defined.
- Path - Specify the path where FaxFile is located and where to save the FaxFile that is not yet sent e.g. C:\nicesrv\faxmail
This parameter must be defined and include the FaxFile above
- Room - Specify subscriber database field that contains the room information.
Default is 18 (for misc field 18 in the database).
- Subject - Specify the text that will be sent in the subject field of the fax message.
Default is 'Fax Meddelande'.

Test and verify

Make a copy of the faxheader.rtf file and fill it with the company data.

Make a new copy and send it as an attachment using the mail client installed on the CMG Server to the fax provider.

The mail address must be in the format fax number @ provider e.g. 086337508@efax.nu, add the new file 'faxheader.rtf' as an attachment to the mail and try to send to a fax that could be verifying that it works.

Example of fax cover page

Use Microsoft Word and modify the **FaxHeader.rtf** file. It is important to save it in the RTF format. Use your own company logo as a graphic, but ensure that the file is less than 100 kb in size. Use the predefined keywords:

<ToFax>, <ToName>, <pFaxTo->, <ToTelno>, <ToCompany>, <Date> ", <Sign>, <Subject>, <ToRoom>



<Date>(Date when this message was created)

(Own text with company data)

From:

CompanyName Ltd.

Phone:+46 8 123 45 66
 Fax: +46 8 123 45 99
 (Own text fax receiver data)
 To:
 Name: <ToName>
 Fax: <ToFax>
 Company: <ToCompany>
 Subject:
 <Subject>
 Regards
 <Sign>
 CompanyName Ltd.

Flash

Sends out the flashes to the NOW operator clients.

Program Arguments

-n <name>	Name of process as defined in the registry. Default is flash.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.1 - Log start, PBX messages and undefined extensions.2 - Log incoming and outgoing IPC messages, flash excluded.3 - Log flash IPC messages.
-c <connections>	Defines how many client processes that simultaneous can connect to the input named pipe. Default is 1.
-p <port>	Defines the TCP/IP port to listen on. Default is 7199.

Description

When an operator answers e.g. a diverted call the PBX will send a flash-record to the pbxstd process which will pass it on to the named pipe of a flash process. There should be one flash process per network type (flashudp, flashipx).

All this process has to do is to find the network address of the operator using the data in the table flash-client and send a transaction to that address.

The name of the input named pipe to this process is `\\.\pipe\<dbid>flash<net>`.

If the client uses TCP to connect to `flash<net>`, then the network address specified in `flashclient` is not used.

Reigstry parameters

The FLASH program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config` the value;

- `LogFlash` - If enabled, all flashes will be logged to a trace file in a directory specified by the parameter `LogFlashPath`. Default is `DISABLED`.
- `LogFlashPath` - Specify path, where to save the flash file.
- `Port` - The TCP/IP port to listen on (for client connections). Default is 7199.
- `Transport` - [IPX, UDP] The name of transport protocol. Default is UDP.

Flexsim

Interface to flexsim 4000 access control system.

Program arguments

<code>-n <name></code>	Name of process as defined in the registry. Default is flexsim.
<code>-s <server></code>	Defines the Windows server name.
<code>-u <username></code>	SQL Server login name.
<code>-w <password></code>	SQL Server login password.
<code>-l <level></code>	Trace level. 1 - Log start and stop messages and errors. 2 - Log incoming messages from the flexsim system. 5 - Log all events.

Description

This program communicates with the flexsim access control system. Please see documentation `Connecting FLEXSIM 4000 to a telephone...`, section 1.4 Message send by FLEXSIM. Brief description of protocol:

`<STX>X<TAB>Y<TAB><Z><TAB>DDMM<TAB>HHMM y <CR>`

STX	HEX 02 message begin
X	Reason Code character 1-9 or a, b
TAB	All option are separated by TAB. (HEX 9)

X	Phone number / Card number / Id number range 1 to 11 characters
Z	Other reason code length 0-3
DDMM	day and month
HHMM	hour and minute
y	Checksum
CR	End of message.

Examples: <STX>2<TAB>1234<TAB><TAB><TAB> <CR> - Normal

login<STX>3<TAB>1234<TAB><TAB><TAB> <CR> - Normal

logout<STX>6<TAB>1234<TAB><TAB>1010<TAB>0800<CR> - Holiday back 10 Oct

8:00<STX>0<TAB>1234<TAB>1<TAB>1010<TAB>0800<CR> Other reason Out.

Reason codes by FLEXSIM:

2	In	6	Vacation	0	Other reason out
3	Out	7	Sick out	a	Lunch out
4	Trip in	8	Overtime out	b	Personal out
5	Trip out	9	Other reason in		

Registry parameters

The FLEXSIM program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config` the value;

- **Accimsg** - Specify which type of message to be stored in the CMG database. If it is enabled a normal intercept message is stored, otherwise only a flag is set in the subscriber record. Default is ENABLED.
- **Acknowledge** - Specify if the flexsim process should send ack to the time system. Default is ENABLED.
- **Cardnoprefix** - Specify if a prefix should be used with the card number.
- **Checksum** - [ENABLED, DISABLED] Specify if program should handle checksum in the protocol between the systems.
- **Code<n>** = "Flexsimreason,CMGreason,in | out,Default return,Forward" Map flexsim reason codes to CMG reason codes. Also mark if the code is incoming or outgoing. Default return specifies a return time if no time is given. Could be a value TV , NWD or M<n> n is minutes. If the optional last parameter Forward is set to '0' the extension will not be forwarded. Example:
Code1 = "a,0,out,M60" Lunch out default time 60 min.
Code2 = "7,9,out,TV" Sick until further notice.
- **CodeOther<n>** = "Flexsim Other reason,CMGreason,in | out,Default return,Forward" Map flexsim Other reason (See parameter z in brief description of protocol) codes to CMG reason codes. Also mark if the code is incoming or outgoing. Default return specifies a return time if no time is given. Could be a value TV , NWD or M<n> n is minutes. If the optional last parameter Forward is set to '0' the extension will not be forwarded. Example:
CodeOther0 = "190,4,out,M60".

CodeOther1 = "3,3,out,M60"

CodeOther2 = "70,8,out,NWD"

- Databits - [5, 6, 7, 8, 9] Specify the number of data bits in the serial communication. Default is 8.
- Default_Return - Specify if program should handle default return parameters given for Code<n>. Default is DISABLE.
- ESMI - Specify if program should support ESMI protocol. Default is DISABLE.
- Forward - Specify if the time system messages should divert the extension or not. Default is DISABLED.
- Parity - [NOPARITY, ODD, EVEN, MARK, SPACE] Specify the use of parity in the serial communication. Default is NOPARITY.
- Port - The COM port to be used (e.g. COM1, COM2).
This parameter must be defined!
- Speed - [300, 1200, 2400, 4800] The baud rate of the COM port.
This parameter must be defined!
- Stopbits - [1, 2] Number of stop bits. Default is 1.
- XonXoff - Specify the software flow control. Default is DISABLED.

FlexsimTCPClient

Similar logic as the flexsim process above, but instead of setting up a communication channel on an asynchronous COM interface, this process connects to a TCP server where it acts as a TCP client.

Program arguments

-n <name>	Name of process as defined in the registry. Default is flexsim.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.1 - Log start and stop messages and errors.2 - Log incoming messages from the flexsim system.5 - Log all events.

Description

This program communicates with the flexsim access control system using a TCP connection. Brief description of protocol:

<STX>X<TAB>Y<TAB><Z><TAB>DDMM<TAB>HHMM y <CR>

STX	HEX 02 message begin
X	Reason Code character 1-9 or a, b
TAB	All option are separated by TAB. (HEX 9)

X	Phone number / Card number / Id number range 1 to 11 characters
Z	Other reason code length 0-3
DDMM	day and month
HHMM	hour and minute
y	Checksum
CR	End of message.

Examples:<STX>2<TAB>1234<TAB><TAB><TAB> <CR> - Normal
login<STX>3<TAB>1234<TAB><TAB><TAB> <CR> - Normal
logout<STX>6<TAB>1234<TAB><TAB>1010<TAB>0800<CR> - Holiday back 10 Oct
8:00<STX>0<TAB>1234<TAB>1<TAB>1010<TAB>0800<CR> Other reason Out.

Reason Codes by FLEXSIM:

2	In	6	Vacation	0	Other reason out
3	Out	7	Sick out	a	Lunch out
4	Trip in	8	Overtime out	b	Personal out
5	Trip out	9	Other reason in		

Registry parameters

The FLEXSIMTCPClient program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config the value;

- Accimsg - Specify type of message to be stored in the CMG database.
If enabled, a normal intercept message is stored, otherwise only a flag is set in the subscriber record.
Default is ENABLED.
- Acknowledge - Specify if the flexsim process should send an ack back to the time system. Default is ENABLED.
- Cardnoprefix - Specify if a prefix should be used with the card number.
- Checksum - [ENABLED, DISABLED] Specify if program should handle checksum in the protocol between the systems.
- Code<n> = "Flexsimreason,CMGreason,in | out,Default return,Forward"
Map flexsim reason codes to CMG reason codes. Also marks if the code is incoming or outgoing. Default return specifies a return time if no time is given. Could be a value TV, NWD or M<n> n is minutes. If the optional last parameter Forward is set to '0' the extension will not be forwarded. Example:
Code1 = "a,0,out,M60" Lunch out default time 60 min.
Code2 = "7,9,out,TV" Sjuk tillsvidare
- Default_Return - Specify if program should handle default return parameters given for Code<n>. Default is DISABLE.
- ESMI - Specify if program should support ESMI protocol.

Default is DISABLE.

- Forward - Specify if the time system messages should divert the extension or not. Default is DISABLED.
- IpAddress - The IP address to connect to.
- IpPort - The TCP/IP port to connect to.

future

Scans the database and activates "future updates", "future adds" and removes expired records.

Program arguments

-n <name>	Name of process as defined in the registry. Default is future.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-r <time>	Reschedule at specified time.
-f	Wait until next scheduled time. I.e. do not execute at once.
-i <interval>	Interval in seconds between execution times.
-h	Enable transfer to visitor history database

Description

This program runs once per day to check for future records. There are three different types of future:

Future new record - Subscriber does not exist in CMG database.

Future update record - Subscriber exists, but some data will be updated on a specific date.

Future delete record - Subscriber record will be deleted on a specific date.

Registry parameters

The FUTURE program supports all of the registry parameters described in section 3.2.

ICUCOMGW

Program for communication with a MD110 PBX equipped with a NIU serial interface.

Program arguments

-n <registry section>	Name of process as defined in the registry.E.g. – n PbxGwHvd01
-install <Name>	Install this process as a Windows Services
-remove <Name>	Remove this process from Windows Services manager

Description

Internally the program communicates with the CMG process PbxStd, see section 4.26 for more information.

This process could not take the normal log parameter (-l) at the command prompt. Instead use the registry parameter TraceLevel to set log level.

Registry parameters

The ICUCOMGW program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\PBXGWHVD<pbxid>\Config` the value; Where <pbxid> is a 2 digit number e.g. 01,02...

- Bits - [5, 6, 7, 8, 9] Specify the number of data bits in the serial communication. Default is 8.
- Localport - The TCP/IP port to receive messages FROM the PBXSTD. This parameter must respond to the port that is given by the registry value **gwAddress** for the process PBXSTD process. Default is 6001.
- LogPort - The TCP/IP port to send trace messages to the “LogReader” program. Default is 6099.
- Parity - [NONE, ODD, EVEN] Specify the use of parity in the serial communication. Default is NONE.
- Port - The COM port to be used (e.g. COM1, COM2). If the COM port is above 10 then set the value to \\.\COM10. This parameter must be defined!
- SendXonXoff - Specify the software flow control. Default is FALSE.
- Speed - The baud rate of the COM port. Default is 9600.
- Stopbits - [1, 2] Number of stop bits. Default is 1.
- TraceLevel - Sets the level of Trace to get a log file. Level 0 is no log and 6 log everything. Default is 0.

There are other parameters in the registry but they are only ‘display information’:

ExtLthPbx, OperLth, Reconnect, RemoteHost, RemotePort, RestartTime, State, IdleInterval, LastUp, LastDown.

import

Import CMG subscriber data from an ASCII file.

NOTE: While an import is ongoing, you may have trouble viewing the Licenses page in CMG Configuration Manager.

Program arguments

-n <name>	Name of process as defined in the registry. Default is import.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-r <time>	Reschedule at specified time.
-f	Wait until next scheduled time. I.e. do not execute at once.
-i <interval>	Interval in seconds between execution times.

Description

This program inserts/updates and/or deletes subscriber data in the CMG database according to the contents of an ASCII file.

The program can be scheduled to run at regular intervals or at a specific time of the day as defined by the program arguments above.

The name of the input file, the format of the data, the fields to update, the search keys to use etc. is all defined in the registry.

Registry parameters

The IMPORT program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config the value;

- AddUserInCalSync - If enabled, for users set as main record and have valid e-mail addresses, the settings from calendar parameters in CMG CM is used to create entries in calendar sync.
- AppendSubject - If enabled, the new subjects defined by the update transaction will be appended to the list of existing subjects. Default is DISABLED.
- CalSyncChannel - System channel where e-mail addresses are stored for calendar synchronization, for example 1 for e-mail. Default is 4.
- DefaultClass_Cordless - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultClass_ext - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultCustgrp - Will be used when inserting data for new subscribers if the field is not defined in the Field section.

- DefaultDeppri - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultDirectory_dep - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultDirectory_name - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultFixedPhoneExists - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultMessage_wait - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultPbxid - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultProfileLevel - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultSearch_Name - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultSearch_office - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultSecretary - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultShowlist - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultSubjectFlags - If the subjects in the ASCII file do not have the trailing information defining type of subject, the inserted subject will be classified according to the setting of "DefaultSubjectFlags". Valid types are "TKS and/or O";
 - T - The subject is visible for the switchboard operators.
 - K - The subject is included in the directory "Work task" list.
 - S - The subject is included in the directory "index" list.
 - O - The subject is visible for Office users.
 Default is TK.
- DefaultTelnoPri - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultTimeZone - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DefaultVisitorHostEnabled - Will be used when inserting data for new subscribers if the field is not defined in the Field section.
- DeleteDelay - Number of days to add to the current date when subscribers are marked for deletion by function code 5 described above.
- Field<nn> - "<Field Name>, <Length>,[key]".
 - Where <nn> is a number 00-99 which specifies the order of the field.
 - <Field Name> is one of the field described below,
 - <Length> is Maximum length, or the length of the fixed field if **FixedLength** is enabled
 - If the field is marked as "key" the field will be used to locate any existing subscriber record for update or delete operations.
 - A Maximum of four fields can be marked as "key" fields!
- FieldSepChar - Field separator. If the separator is a non-printable character it shall be entered as the decimal ASCII code (9 = HT). If no separator is wanted, enter "".

Default is 9.

- FileSpec - The file specification of the input ASCII file. Default = <LogPath>export.txt.
- FixedLength - If enabled, each field in the text file is of the length specified in the FIELD<nn> parameter below. Default is DISABLED.
- FunctionCode - If there is no CTRL field in the ASCII file defining type of operation this parameter will be used;
 - 1 - Create a new subscriber.
 - 2 - Update all fields defined as Field<nn>.
 - 3 - Delete subscribers.
 - 4 - Update or Create. Only fields where data is present in the ASCII file will be updated. To clear a field the input data must contain at least one space. **NOTE: If fixed field length is used, all fields will be updated.**
 - 5 - Mark subscriber for delete after the number of days specified by the parameter "DeleteDelay".
 - 6 - Update or Create. All fields defined as Field<nn> will be updated.
 - 7 - Update. Only fields where data is present in the ASCII file will be updated. To clear a field the input data must contain at least one space. **NOTE: If fixed field length is used, all fields will be updated.**
 - 8 - Same as 4, with the addition to delete all diversion messages for the updated subscriber.
- KeepSign - If enabled, the subscriber sign field will be untouched otherwise it will be set to the string Import. Default is DISABLED.
- MultipleRecordMode - If enabled and there are more than one subscriber matching the key field(s) all subscribers will be updated. Otherwise none will be updated and an entry will be written into the system event log since the situation will be considered to be a kind of error. Default is DISABLED.
- OrgFieldSepChar - Separator between organization fields. If the separator is a non-printable character it shall be entered as the decimal ASCII code (9 = HT). If no separator is wanted, enter "". Default = "\"
- OrgInclOrg2 - If the import field ORGUNIT is defined as a FIELD<nn> the subscriber will be attached to zero or more nodes of the existing organization tree.
If OrgInclOrg2 is enabled the logic to find the node(s) uses org1 in combination with org2 otherwise only org1 will be used.
- OrgUseOnlyDesc|OrgUseOnlyOrg2|OrgUseDescAndOrg1 - If the import field ORGUNIT is defined as a FIELD<nn> the subscriber will be attached to zero or more nodes of the existing organization tree. The parameter that is set to "Enabled" out of these three alternatives defines the field to be used to locate the relevant organization unit(s).
(Only the Description field, only the **Org2**-field or the Description field in combination with the Org1-field). If none of these parameters are set to "Enabled" the next parameter below **Org1InclOrg2** specifies the link.
- RenameFile - If enabled, the input file will after processing be renamed to "<path of input file>\imp<yymmddhhmm>.txt"
- SubjFieldRemoveLeadingSpace - If enabled, any leading space(s) in the new subject columns will be trimmed before being processed. Default is ENABLED.
- SubjFieldSepChar - Separator between subject fields. If the separator is a non-printable character it shall be entered as the decimal ASCII code (9 = HT). If no separator is wanted, enter "". Default = "\"

Field names from the table main

Field Name	Length	Comments
Actdate	19	Date when this record becomes/became active.

Field Name	Length	Comments
Deactdate	19	Date when this record shall be deleted.
list_name	1	Set if this record shall be listed according to the alphabetical spelling of the name and not according to the phonetic spelling.
search_name	1	Set if this record shall be included in a name search.
directory_name	1	Set if this record shall be included in name section of the printed directory.
directory_dep	1	Set if this record shall be included in the department section of the printed directory.
class_ext	1	Set if the extension number shall be treated as classified.
class_cordless	1	Set if the cordless number shall be treated as classified.
message_wait	1	Set if the message wait function shall be enabled for this subscriber. This column is relevant only for those records where 'telnopri'=1.
voicemail_con	1	Set if the subscriber is connected to voice mail.
secretary	1	Set if the subscriber is a secretary.
search_office	1	Set if this record shall be visible for the office users.
transtype	t1	=1 if the record is active right now.=2 if the record is a future add.=4 if the record is a future update.
telno	60	Extension number of the employee. Normally this is the extension number in the company's PBX.
telnopri	1	=1 if this employee is the "owner" of the telephone number 'telno' and he is the only one which shall be displayed during a search on 'telno'. =3 if this employee is NOT "owner" of the telephone number.
pbxid	3	PBX identity. NULL if 'telno' is NOT part of any connected PBX.
showlist	1	Set if 'telnopri'=1 and all other employees which are connected to this 'telno' shall as well be displayed during a search on 'telno'.
custgrp	3	Customer group (1-999)
l_name	60	Last name (Alphabetical)
f_name	60	First name (Alphabetical)
division	30	Division (obsolete field)
dep1	30	Department (obsolete field)
dep2	30	Department (Alternative) (obsolete field)
deppri	3	Priority within a department unit
icp1	60	Intercept position

Field Name	Length	Comments
icp2	60	Intercept position (Alternative)
Cordless	60	Mobile telephone number.
Misc1	255	Miscellaneous
Misc2	255	Miscellaneous
Misc3	255	Miscellaneous
Misc4	255	Miscellaneous
Password	16	Password
FixedPhoneExists	1	Set to 1 if the subscriber has got a fixed office phone
VisitorHostEnabled	1	Set to 1 if the subscriber has the rights to act as a Host for visitors
ProfileLevel	1	Set to 0 if the user is not permitted to forward his extension at all. Set to 1 if the user is only permitted to forward the extension to the fixed intercept position in the PBX (normally to the operator) Set to 2 if the user is permitted to forward the extension to fixed icp, IVR and VM. Set to 3 if the user is permitted to forward the extension to fixed icp, IVR, VM and cordless. Set to 4 if the user is permitted to forward the extension to any number.
TimeZone	3	ID of the "home"-time zone of the u

Pseudo Field Names

Field Name	Length	Comments
Subjects	1024	A concatenated string of all subjects of the current subscriber. The character defined by parameter "SubjFieldSepChar" shall separate the different subjects. Each subject might have a trailing flag field defining type of subject. This flag field shall start by the character '#' followed by four digits of ones and zeroes where each position matches the subject type TKSO as described for the parameter DefaultSubjectFlags above.
OrgUnits	1024	A concatenated string of all organization codes the subscriber shall be part of in the existing organization tree. Either only org1 codes or a pair of org1 and org2 codes.N.B. The tree itself will NOT be modified by this field.
Misc1 – Misc30	255	The field mtext in the table misc where miscno=1-30
Msgsys1	40	The message system name as defined by table deliverychan.

Field Name	Length	Comments
Msgid1	100	Message system address.Field address in the table deliveryaddress where pos=1.
Msgsys2	40	The message system name as defined by table deliverychan.
Msgid2	100	Message system address.Field address in the table deliveryaddress where pos=2.
Msgsys3	40	The message system name as defined by table deliverychan.
Msgid3	100	Message system address.Field address in the table deliveryaddress where pos=3.
Msgsys4	40	The message system name as defined by in the deliverychan.
Msgid4	100	Message system address.Field address in the table deliveryaddress where pos=4.
Phonetic_l<n>	60	Alternative spellings (max 3) of the last name.
Phonetic_f<n>	60	Alternative spellings (max 3) of the first name.
CTRL	1	Control field. This field defines type of operation as described for the parameter "FunctionCode" above. If the FunctionCode parameter is specified it is NOT permitted to also have a CTRL field and vice versa.

Example

A typical registry setting;

```
"FileSpec"=reg_sz:"CMGImport.txt"
"FieldSepChar"=reg_sz:";"
"SubjFieldSepChar"=reg_sz:"$"
"FunctionCode"=reg_sz:"4"
>DeleteDelay"=reg_sz:"50"
"DefaultSubjectFlags"=reg_sz:"TKSO"
"DefaultCustgrp"=reg_sz:"1"
"DefaultSearch_Name"=reg_sz:"1"
"DefaultDirectory_name"=reg_sz:"1"
"DefaultDirectory_dep"=reg_sz:"1"
"DefaultClass_ext"=reg_sz:"0"
"DefaultClass_Cordless"=reg_sz:"0"
"DefaultMessage_wait"=reg_sz:"1"
"DefaultSecretary"=reg_sz:"0"
"DefaultSearch_office"=reg_sz:"1"
"DefaultDeppri"=reg_sz:"499"
"DefaultDeleteDelay"=reg_sz:"1440"
```

```
"DefaultTelnoPri"=reg_sz:"1"
"DefaultShowlist"=reg_sz:"0"
"DefaultPbxid"=reg_sz:"1"
"AppendSubject"=reg_sz:"Disable"
```

```
"Field01"=reg_sz:"telno, 20,key"
"Field03"=reg_sz:"l_name, 30,"
"Field04"=reg_sz:"f_name, 30"
"Field05"=reg_sz:"division, 30"
"Field06"=reg_sz:"depl, 30,key"
"Field07"=reg_sz:"dep2, 30"
"Field08"=reg_sz:"deppri, 3"
"Field09"=reg_sz:"icpl, 16"
"Field10"=reg_sz:"icp2, 16"
"Field11"=reg_sz:"cordless, 16"
"Field12"=reg_sz:"Misc1, 20"
"Field13"=reg_sz:"Misc2, 20"
"Field14"=reg_sz:"Misc3, 30"
"Field15"=reg_sz:"Misc4, 30"
"Field16"=reg_sz:"Misc5, 20"
"Field17"=reg_sz:"Misc6, 20"
"Field18"=reg_sz:"Misc7, 40"
"Field19"=reg_sz:"Misc8, 40"
"Field19"=reg_sz:"Misc9, 60"
"Field20"=reg_sz:"Misc10, 255"
"Field21"=reg_sz:"Misc11, 20"
"Field22"=reg_sz:"Misc12, 20"
"Field23"=reg_sz:"Misc13, 20"
"Field24"=reg_sz:"Misc14, 20"
"Field25"=reg_sz:"Misc15, 30"
"Field26"=reg_sz:"Misc16, 10"
"Field27"=reg_sz:"Misc17, 10"
"Field28"=reg_sz:"Misc18, 20"
"Field30"=reg_sz:"msgsys1, 40"
"Field31"=reg_sz:"msgid1, 60"
"Field32"=reg_sz:"msgsys2, 40"
"Field33"=reg_sz:"msgid2, 60"
"Field34"=reg_sz:"msgsys3, 40"
"Field35"=reg_sz:"msgid3, 60"
"Field36"=reg_sz:"msgsys4, 40"
"Field37"=reg_sz:"msgid4, 60"
"Field40"=reg_sz:"subjects, 1024"
"Field41"=reg_sz:"pbxid, 3"
```



```
"Field42"=reg_sz:"telnopri, 3"
"Field46"=reg_sz:"search_name, 1"
"Field47"=reg_sz:"directory_name, 1"
"Field48"=reg_sz:"directory_dep, 1"
"Field49"=reg_sz:"class_ext, 1"
"Field50"=reg_sz:"class_cordless, 1"
"Field51"=reg_sz:"search_office, 1"
"FixedLength"=reg_sz:"Disabled"
```

Would expect an input file containing lines like:

```
816;Larsson;Tomas;Teknikstöd;Interna System;;;499;;;0708-15 53
08;;;;;;;;;;;;;Systemansvarig;;;Exchange;Tomas Larsson;Meddelande väntar;
;;;SMS Europolitan;0708155308;Systemansvarig#1110$Ansvarig systemet#1110$Interna
systemet#1110$Nt#1110$Nätverk#1110$Säkerhet#1110$IT-strategi#1110$Internet#1110$
Intranet#1110;1;1;1;1;1;0;1;1
```

ImportOrg

Import a CMG organization tree data from an ASCII file.

Program arguments

-n <name>	Name of process as defined in the registry. Default is importorg
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-r <time>	Reschedule at specified time.
-f	Wait until next scheduled time. I.e. do not execute at once.
-i <interval>	Interval in seconds between execution times.

Description

This program deletes the current organization tree and builds a new one using data from an ASCII file. If the system contains more than one organization structure it is possible to just affect a specific tree.

When the old tree is deleted all references to it from the employee data will be lost. Next time the import of the employee data is done the links to the new tree will be re-establish.

The program can be scheduled to run at regular intervals or at a specific time of the day as defined by the program arguments above. The name of the input file, the format of the data, and the fields to update is all defined in the registry.

There are two supported formats of ASCII-file:

<Org description><FieldSeparator><Org description of parent>E.g.YourCompany;Market; YourCompanyDenmark;MarketNorway;Market

<Org description><FieldSeparator><Org1-code><FieldSeparator><Org description of parent><FieldSeparator><Org1-code of parent>E.g.YourCompany;YC;Market;Mrk; YourCompany;YCDenmark;DMrk;Market;MrkNorway;NMrk;Market;Mrk

Registry parameters

The IMPORTORG program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config the value;

- FieldSeparator - Field separator. If the separator is a non-printable character it shall be entered as the decimal ASCII code (9 = HT). If no separator is wanted, enter "". Default is HT.
- FileSpec - The file specification of the input ASCII file.
Default = <LogPath><program name>.txt.
- Org1Included - If enabled the latter input format described above is expected else the first format is used.
NOTE: Org1Included and ParentPath cannot both be enabled.
- OrgFieldSepChar - Org field separator. Character to separate multiple organizations.
- OrgRoot - An optional parameter that should point out the description field of the old tree if there is more than one and only a specific tree shall be redefined.
- ParentFullPath - Full path to the branch in which the orgname should be under.
Example: Support; CompanyName AB\Sweden put the organization Support under Sweden which is under CompanyName AB.
NOTE: ParentPath and Org1Included cannot both be enabled.

IRTIMER

Opens and closes the extensions according to the active and pending intercept messages.

Program arguments

-n <name>	Name of process as defined in the registry. Default is irtimer.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-r <time>	Reschedule at specified time.

-f	Wait until next scheduled time. I.e. do not execute at once.
-i <interval>	Interval in seconds between execution times.

Description

This program shall be executed every 60 seconds.

The main task is to check whether the extensions shall be opened or closed the current minute.

Registry parameters

The IRTIMER program supports all of the registry parameters described in section 3.2.

mailsrv

Distributes CMG messages using the company mail system.

Program arguments

-n <name>	Name of process as defined in the registry. Default is mapisrv.
-c <connections>	Defines how many client processes that simultaneous can connect to the input named pipe. Default is 1.
-l <level>	Trace level.
-e <event log>	Log errors in the Event Log even if the program is started from the command prompt (Yes or No). Default is No.

Description

NOTE: This is a general mail server program. Please refer to imapsrv, notessrv, or smtpsrv, respectively, instead of using mailsrv.

This program is a part of CMG Server. The mail server program distributes CMG messages to the company mail system.

NOTE: The receipt function is not supported in MSmail and SMTP-only mail.

If the mail server does not succeed to send the message, the mail server (msgsnd) will retry to send the message a number of times (configurable).

Mail messages contains additional information about the date and time when the messages where stored in CMG Server. The operator signature is also added to the mail message to enable the recipient to contact the operator for further information.

All requests to the message server are received on a named pipe (IPC). The pipe name is defined in the registry.

Registry parameters

The MAILSRV program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General` the value;

- IPC- The name of input named pipe (e.g. `\\.\pipe\01mapisrv`).

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Database` the value;

- Country- The country. (E.g. Swedish)
This parameter defines the date format. Date is added to the mail message.

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config` the values;

- AddressPrefix - Only relevant for MAPI. This parameter holds the common part of the direct address and is used to reduce the direct address part in the CMG register.
This parameter is only relevant if the DirectAddress switch is enabled or if the CheckAddress switch is enabled.
Example:
AddressPrefix = EX:/o=CompanyName AB/ou=COMPANYNAME/cn
- AscomPagingSystem - Set to enabled or 1 if the mail process should send mail notifications to Tateco minicall system.
- CheckAddress - [DISABLED, ENABLED] Only relevant for MAPI.
This parameter enables a combination of symbolic and direct mail addresses in the CMG register. If enabled the direct address mode will be used if the specific address contains a '/. This switch could be useful if some of the symbolic addresses are not unique in the CMG register.
- DirectAddress - [DISABLED, ENABLED] Only relevant for MAPI.
This parameter enables the direct address mode. If enabled, the CMG register must contain the complete mail address. If disabled, the symbolic address will be used.
The direct address could be useful if the symbolic addresses are not unique. The symbolic address mode is normally used.
- ForwardInfoText - Specify the text that will be added to a forwarded mail.
Example:
ForwardInfoText = Message forwarded by CMG. Originator:
(The mail server will add the mail originator in the end of this text.)
- ForwardMailTo - Specify the receiver of mails that are sent back to the CMG system (replies). To be sure that these messages are read by the PABX operators select a mail address to the PABX operator group.
Example:
ForwardMailTo = Telefonväxeln
- KeepInBoxClean - [DISABLED, ENABLED] If disabled, only the receipt mails will be deleted. If enabled, all mail sent to the mailbox will be deleted. This parameter is normally enabled to prevent the mailbox to be filled with replies from the mail message receivers. This could happen since there is no user connected to this mailbox.
To make sure that important replies are not deleted, all messages sent to this mailbox must be forwarded to the switchboard operator group. See switch "ForwardMailTo".
- LogonUserDomain - Specify domain name for the **LogonUserName** account.
This is an additional parameter that normally should not be used.
Example:

LogonUserDomain = NETWISE

- LogonUserName - Specify the user name for the Windows account to use.
This is an additional parameter that normally should not be used.
Example:
LogonUserName = Nice
- LogonUserPwd - Specify the password for the LogonUserName account.
This is an additional parameter that normally should not be used.
Example:
LogonUserPwd = hjhj33jjh
- MailCharset - Specify the character set to use when sending IMAP/SMTP mails.
Any registered character sets on the system can be used.
Examples: ISO-8859-1, UTF-8, US-ASCII etc. Default is US-ASCII.
- MailFrom - The verbatim string used by the IMAP/SMTP system as a mail-sender. If not specified, the registry values <MailUsername>@<SmtpHomeDomain> will be used.
Example:
MailFrom = "Telefonväxeln" <nicemail@CompanyName.com>
- MailImapHost - The host name of the IMAP4/SMTP system.
- MailImapPort - The TCP/IP port of the IMAP4/SMTP system. Default is 143.
- MailImapTrace - If enable the all IMAP protocol traffic will be written to the log file (at debug level). This can be used to find the exact reason of some IMAP-level problems. It should not be left running for a longer period of time since all IMAP traffic is stored in memory. Default is DISABLED.
- MailInboxName - The name of the IMAP mail-box to read receipts and mails from. Defaults is INBOX.
- MailProfile - Only relevant for MAPI and SMTP.
Name of the used mail profile configured in Control Panel / E-mail.
Example:
MailProfile = CMG Mail
- MailUserName - Only relevant for VIM or IMAP/SMTP. Mail account name configured in VIM mail client or the mail-account name used by the IMAP/SMTP.
Example:
MailUserName = CMG Mail
- MailUserPwd - This parameter holds the mail account password. The parameter should normally be empty when a mail profile is used (MAPI and SMTP). The network security is normally used in these cases. If there is a VIM or IMAP/SMTP based system this parameter should contain the mail account password.
Example:
MailUserPwd =xyz9530
- MailSmtpHost - The host name of the IMAP/SMTP system.
- MailSmtpPort - The TCP/IP port of the IMAP/SMTP system. Default is 25.
- MailSmtpTrace - If enabled the all SMTP protocol traffic will be written to the log file (at debug level). This can be used to find the exact reason of some SMTP-level problems. It should not be left running for a longer period of time since all SMTP traffic is stored in memory. Default is DISABLED.
- PagingSubject - (Only used if AscomPagingSystem = 1 or enabled).
Default is "Paging mail" used for Tateco minicall.
- PostOfficePath - Only relevant for cc:Mail. This parameter should be configured if the target mail system is cc:Mail. Specify where the post office is located.
Example:
PostOfficePath = \\NICE_NT\\CCDATA

- **ReceiptTimer** - This parameter defines the interval which the mail system is checked for receipts. Normally every 30 seconds. This parameter must be set to a value even if receipts are not supported since this timer also handles the “forwarding” of mail messages and the “keep in box clean” function.
Example:
ReceiptTimer = 30
- **SepChar** = <c> - (Only used if AscomPagingSystem = 1 or enabled).
This message system has support for sending only the beginning part, of an entered message. To define which part to send, a separation character shall be entered into the message text. Specify which character to use.
- **SepCharPos** = <n> - (Only used if AscomPagingSystem = 1 or enabled).
If a separation character position is defined, the separation character must be in exactly that position to be considered. If the position is set to zero (or undefined), the position is insignificant. Default is 0.
- **SMSChannel** - Specify channel to send SMS to a SMS Provider.
- **SMSProvider** - Specify the SMS providers e-mail address. If this features is used, the subject field will contain the mobile number.
Example:
SMSProvider = sms@smsprovider.com
- **SMTPAckAll** - If enabled, then messages with a SMTP address (address that includes '@') be set to the final state 'distributed and done'. Default is ENABLED.
NOTE: If the IMAP/SMTP system is used and receipts are desired then this switch must be set to disabled.
- **SmtpAuthentication** - Only used by the IMAP/SMTP system. Specify if the SMTP session should be authenticated with username and password. If so the values in **MailUsername** and **MailPassword** are used. Default is DISABLED.
- **SMTPHomeDomain** - If the key SMTP home domain is specified and the address is an SMTP address (address that includes '@'), then will the receipt request be activated if the address is inside the home domain. If that's the case then will the message status be set to “waiting for ack”.
Example:
SMTPHomeDomain = @CompanyName.com
NOTE: Note: SMTPAckAll must be set to disabled otherwise will all SMTP mails be set to the final state "distributed and done". This parameter is used if the customer uses SMTP address as delivery address.
- **SmtpSessionKeep** - Used by the IMAP/SMTP system. Normally the system creates a SMTP session for each mail it sends. If an installation has high throughput the system can be configured to keep the SMTP session open by setting this value to enabled. Default is DISABLED.
- **Subject** - Specify the text that will be sent in the subject field in the mail.
Example:
Subject = Meddelande från växel
- **Suffix** - This parameter holds text that appears in the end of the body text.
Example: Suffix = Do not replay on this message.

minicallaps

Server for distribution of sms and minicall messages using a Web service supplied by Generic Systems AB

Program arguments

-n <name>	Name of process as defined in the registry. Default is minicall.
-l <level>	Trace level.
-c <connections>	Defines how many client processes that simultaneous can connect to the input named pipe. Default is 1.

Description

Message server for distribution of sms, minicall text or minicall numeric messages to an internet-based WEB service supplied by Generic Systems AB

Registry parameters

The MINICALLAPPS program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General` the values;

- ChannelNumeric - Msgsystem number (channel) for numeric paging system.
- ChannelSMS - Msgsystem number (channel) for SMS system.
- ChannelText - Msgsystem number (channel) for alfa numeric paging system.
- ChannelTone - Msgsystem number (channel) for tone paging system.
- DefaultPagingNo = <text string> - If the paging numbers are specified by only 6 digits the first 4 digits could be specified here.
- IPC - The name of input named pipe (e.g. `\\.\pipe\minicall`).
- MinPageLen - Messages shorter than this value will be rejected
(One exception to the rule is if the message is longer than 4 characters and the defaultpagingno is exactly 4 digits)
- SepChar = <c> - This message system has support for sending only the beginning part, of an entered message. To define which part to send, a separation character shall be entered into the message text. Specify which character to use.
Default is UNDEFINED.
- SepCharPos - If a separation character position is defined, the separation character must be in exactly that position to be considered. If the position is set to zero (or undefined), the position is insignificant.
Default is 0.
- TransmitterID - Subscriber code. A 5-digit string used to login to the UCP services.
- TransmitterPsw = <string> - Authentication code for sender subscription.
- ValidPagingNo = <text string> - If the program shall verify first part of paging number. The list of valid numbers should be separated by a comma.
(e.g.: "0042,0044,0740,0746")
Only use this parameter if you are sure to include all of number that could be found.
Default is "".

mrtimer

Retransmits or deletes messages.

Program arguments

-n <name>	Name of process as defined in the registry. Default is mrtimer.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-r <time>	Reschedule at specified time.
-f	Wait until next scheduled time. I.e. do not execute at once.
-i <interval>	Interval in seconds between execution times.

Description

This program is executed every 60 seconds. The main task is to check whether there shall be any activity for the messages the current minute.

There are two possible actions to be taken:

- **Retransmit the message** - When a message in the first place is inserted into the table, a distribution of the message is initiated. If that distribution fails the message will be updated with a retry count and an action time according to the parameters defined for that particular message system. Every time the action time matches the current time this program will initiate retransmission of the message and also decrement the retry count. If the message distribution is successful the message server will make sure the message record gets the field 'nextevent' set to delete which will cause a deletion of the message at next actiontime.
- **Delete the message** - When the message has been successfully distributed (and ack:ed) the message server will set nextevent to delete and action time to a value according to the parameter delete_delay for the current message system.

Registry parameters

The MRTIMER program supports all of the registry parameters described in section 3.2.

MSGSEND

Distributes messages from the database to message server processes.

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name
-w <password>	SQL Server login password
-l <level>	Trace level.
-c <connections>	Defines how many message server processes can connect simultaneously to the input named pipe. Default is 1.

Description

Whenever a message is inserted or updated in the table message the triggers will insert a row into the table delivchanfifo.

The insert trigger of this table will set the named event “<dbid>delivchanfifo” which will tell the process msgsnd to wake up and read the newly inserted data. The process msgsnd will dispatch the read data to the appropriate named pipe of the message server processes.

To find out the name of the named pipes the table deliverychan is scanned to get the column ‘progrname’ which will point out an entry in the registry HKLM\SOFT-

WARE\Netwise\Nice<dbid>\Programs\<progrname>\General\IPC.

When a message server has sent (or failed to send) the message, it is supposed to send back a transaction to the msgsnd’s input named pipe. This transaction tells msgsnd how to set the columns state, nextevent and actiontime of the original message.

Furthermore, as soon as msgsnd has sent a record to the server process it will set nextevent and actiontime to the appropriate default “retry of distribution” values. This will cover the situation when the message server fails to return a transaction to this process.

Registry parameters

The MSGSEND program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<progrname>\General\ the value

- IPC - The named pipe for each message server process.

In the sub key HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<progrname>\Config\ the values

- DelivChanFifoPort - The UDP port to use as communication channel between the insert trigger of table delivchanfifo and the msgsend process in order to wake up this process as soon as there is new data in the table.

If this parameter is not defined the trigger will instead signal a named event to get the same effect.

The former configuration is the recommended way when the database and the application are in separate servers.

- MsgLogPath - If this parameter has got a value all messages for a channel that has the attribute “Log And Delete” will be logged before being deleted. The log file will be placed in the directory specified by this parameter.

- PollTimeout - Max number of seconds this process will sleep before it by itself (i.e. without being triggered) looks if there is any new data in the table delivchanfifo.
- SaveLog - Number of days old log files will be kept before being purged.
(Default = 0 meaning no automatic purging will be done).

NICESRV

CMG database access server for clients.

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-n <name>	Name of process as defined in the registry. Default is nicesrv.
-p <port>	TCP/IP port for client connect requests.
-c <connections>	Defines the number of logical SQL server connections to set up. Each logical connection consists of two real connections.
-i <initial #threads>	Number of server threads to set up initially
-x <max #threads>	Max number of threads that can be created by the server.
-t <sec timeout>	Timeout for a thread before it will release its logical connection.
-Z	Enable client to specify time zone.
-d <delta time in minutes>	Default client delta time.
-y	Use stored procedures.
-a <process affinity mask>	Specify which processors to run on.

Description

This program is responsible for giving access to the CMG database to all CMG clients that communicates using the RDA-interface.

Main tasks that must be carried out by the program are;

- Pooling of process worker threads.
- Pooling of SQL server connections
- Access provider to the VIP2000 IVR system.
- Time zone handling logic

Pooling of process worker threads

There might be thousands of clients that send requests to this server process. One solution to support such a large number of clients would be to start a new thread for each new client and let that thread die when the clients has not sent another request within a specified timeout. Since starting threads might take several hundred milliseconds, timed-out threads are saved in a thread pool and reused at the next connect request from a client, thereby improving server response time.

The program parameters “Initial Number of threads” and “Max number of threads” control the limits of the thread pool. As their names indicate “Initial number of threads” is created at startup of the program and “Max number of threads” is the upper limit of the growth space.

Pooling of SQL server connections

Since logging in to the SQL server might take several seconds, there must be a pool of pre-logged in connections to choose from whenever a thread needs one.

To execute a requested operation from the clients a thread needs in many cases two SQL statements and due to some restrictions in the SQL server each statement calls for a separate SQL connection. Therefore each logical connection in the pool consists of two real SQL connections. The parameter “connections” specifies number of logical connections.

In a system where there is no VIP2000 IVR system the parameter “connections” should be set to same value as “max number of threads”. If there is a VIP2000 IVR system “connections” could be set to 90 percent of the value of “max number of threads” assuming approximately 10 percent of the connected clients in average has got a dialogue with the VIP2000 system going on.

Access provider to the VIP2000 IVR system

If the clients have the possibility to communicate with the VIP2000 IVR system the nicesrv process thread just acts as a link between the two end points. This link has got a much longer timeout compared to the other nicesrv threads. To optimize the use of the preallocated SQL-connection a thread in this state releases any allocate SQL-connection.

Time zone handling logic

When the Window Clients communicating with this process is located in a time zone different from the server’s time zone all dates× has to be adjusted if they are to be entered/presented in the time zone of the client.

The nicesrv-process can be set up to handle the time zone-logic in one out of three ways. In all three alternatives the time-date values in the network transactions are adjusted either by adding or subtracting a “calculated delta-minutes” depending on if the transaction is inbound or outbound.

What distinguishes the three alternatives is the way the delta-minutes are calculated.

- Fixed definition of the time zone difference between the server and the client. This means that all date× are adjusted either by adding or subtracting the fixed minutes-delta. The delta value can be different for each instance of the nicesrv process

The advantage with this alternative is that the window clients do not have to be aware of any time zone handling as long as it connects to the appropriate TCP port that is served by a process that is setup for that client's time zone.

The drawback is that it will only work if the client's time zone changes to/from the Daylight saving time exactly the same time as the server does.

- The client supplies its expected time zone expressed as delta minutes from UTC in each transaction to the server.

The advantage compared to alternative 1 is that all clients might connect to the same instance of the nicesrv process.

The drawback is the same as in alternative 1.

- The client supplies its expected time zone expressed as an identity fetched from the time zone table in the CMG database.

The advantage compared to alternative 1 & 2 is that it can handle time zones where the switching to/from daylight saving time differs in time from the server's time zone. All clients can, as in alternative 2, connect to the same instance of the nicesrv process.

The drawback is that the clients have to be time zone-aware.

Registry parameters

The NICESRV program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>` tune the values;

- **ShortTimeout** - Defines the thread timeout in seconds to be used when the last request was NOT a 'getnext' operation. Default is 2 (seconds).
- **LongTimeout** - Defines the thread timeout in seconds to be used when the last request was a 'getnext' operation. Default is 10 (seconds).
- **Connections** - Defines the number of logical SQL server connections to set up. Each logical connection consists of two real ones. Default is 10.
- **Minthreads** - Number of server threads to set up initially. Default is 1.
- **Maxthreads** - Max number of threads that can be created by the server.
Default = number of connections.
- **Port** - The TCP/IP port for clients connect requests.
- **Transport** - [TCP, SPX] The transport protocol to use.
Default is TCP.
- **lpc** - The name of the named pipe to receive flash information from an IVR process such as teleconnectser, viprouter or CMGVoice.
- **AckOnDistribute** - If enabled, messages which are "distributed and done" will be acked from the CMG client's point of view. Default is DISABLED
- **VipAndNow** - Set to ENABLED, if it is a CMG system that includes both a VIP2000 connection and one or more operator workstations running the NOW client.
- **MarkedKeywords** - If enabled, the info keywords are supposed to be embraced by "{}". Default is DISABLED.
- **CMGVoice** - Set to ENABLED if the voice system is CMGVoice.
Default is DISABLED
- **FlashFiller** - Might be used when the extension number from the Voice system contains too few characters compared to the parameter `extlthpbx` in table `pbx`. The extension number in the IPC transaction

coming from the Voice system will be left filled by this character until the full length extlthpbx is achieved.

- **SQLTimeout** - Max number of seconds the process will wait for a result set from the database. Default is 30.
- **DirtyRead** - If disabled, only committed transactions will be read. Since this implies that “read locks” are applied onto the database the default behavior is that the process will read uncommitted transactions.
- **MsgPipeName** - If the operator ack:s a message by CTRL-K and that message has the attribute “Log And Delete” the nicesrv process has to send a transaction to the process msgsnd to request this logging. The parameter MsgPipeName specifies the input pipe to the process msgsnd (e.g. \\.\pipe\01msgsnd).
- **ClientTimezone** - Set to ENABLED to enable clients to specify which time zone to use. Default is DISABLED.
- **ClientDeltaMinutes** - Sets the default offset in minutes from the server’s time zone to use for client connections. This can be overridden by the clients if ClientTimezone is enabled. Default is 0 (no offset).
- **ClientTimezone** - Set to ENABLED if the time zone logic shall be activated according to alternative 2 or 3 as described above. Default is DISABLED.
- **AdvancedTZ** - Only relevant if ClientTimezone is enabled. Set to enabled if the time zone logic shall be activated according to alternative 3 as described above. Default is ENABLED.
- **MobileChars** = <n> - Number of rightmost characters of a cell phone number that shall be used when trying to locate a subscriber record for a popup transaction. The reason why the process cannot use all digits of the number is that the A-number to look for is presented by the PBX in different ways depending on from where the call originates.
E.g. if a subscriber use his cell phone 070-1234567 and calls to the office from abroad the PBX might present the A-number as 0046701234567 but if he calls from than same city it could be presented by the PBX as 701234567. Default is 7.
- **AuditLog** - Set to ENABLED, if each CMG logon transaction shall generate an Audit entry in the system application log. Default is DISABLED.
- **IPAddressOverride** - Set this parameter to override the server name in the company table. This parameter should only be used in some special proxy server environments. It should contain an IP address to the proxy server.
- **IPPortOverride** - The same as IPAddressOverride but but for port instead.

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Vip` the values;

- **viphvd** - The IP address to the VIP and its hvd function.
- **vipmail** - The IP address to the VIP and its voice mail function.
- **viptimeout** - The thread timeout to be used when a VIP session is active.

OneBoxVSI

Interface program to the interactive voice system Mitel Onebox (AVST CallXpress) or the phased out Ericsson VAA system. VSI = Voice System Interface.

Program arguments

-n <name>	Name of process as defined in the registry. Default is oneboxvsi.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-p <pbxid>	Defines pbxid. If this parameter is defined as – p 0 (Zero) then all extensions in database will be searched. Default is 1.

Description

This program acts as the interface between a Onebox system and CMG Server. The communication between the two systems is based on TCP/IP where the OneboxVSI acts as the server that handles requests from the Onebox Voice system.

When a user's intercept information (absence) is sent to the MX-ONE / MD110 a 'secondary pbx' transaction will be sent to OneBox through the interface called VSI.

When this process is started / restarted or OneBox sent a request, a full synchronization of absence information will be send (Transaction 90).

The program can handle the following requests;

- 60 / 61 - Insert/Delete intercept messages for an extension. This transaction makes it possible to administrate your intercept information from a remote place using a standard telephone set by calling in to the IVR system.
- 90 - A full synchronization of absence information will be send.
- 13 - Return the intercept information. Reason, forward, start and end time.
- 14 - Remove intercept information.

In Configuration Manager (CM):

1. Site Configuration -> System Parameters

Set parameter SecondaryPbxField to 'Telno'

SecondaryPbxId must be set. (e.g. 90, default value for OneBoxVSI)

2. Site Configuration -> Pbx's / Flash clients

Create a new PBX with follow values:

Pbxid = 90

Type = OneBox

IPC = 01pbxcom090

Add the rest of parameters with appropriate values.

Ensure that you add a PBX Extension range that fits to the extension length.

Configuration to use a Second Onebox or to a VAA System:

(Install a second instance of this process:)

Make a Registry export of the OneboxVSI process.

Use the file to create a OneBoxVSI002 instance. Example:

```
[HKLM\SOFTWARE\Netwise\Nice01\Programs\ OneBoxVSI002]
```

"Parameters"="-n OneBoxVSI002"

```
[HKLM \SOFTWARE\Netwise\Nice01\Programs\ OneBoxVSI002\Config]
```

"SecondaryPBX"="91" or ThirdPbx = "91"

In Configuration Manager (CM):

1. Site Configuration -> System Parameters

Set parameter ThirdPbxField to 'Telno'

ThirdPbxId must be set. E.g. 91.

2. Site Configuration -> Pbx's / Flash clients

Create a new PBX with follow values:

Pbxid = 91

Type = OneBox

IPC = 01pbxcom091

Add the rest of parameters with appropriate values.

Do not forget to add a PBX Extension range that fits to the extension length!

Registry parameters

The ONEBOXVSI program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config the values;

- AbsentOverlappedCode - Set this parameter to give Onebox a "Common reason code". If CMG has overlapping reason codes it is better to be able to give the response "Not available" or similar. Default is 0.
- ExtLthPbx - Set this parameter if the CMG database parameter Pbx extension length for some reason should be overridden. Default is 0.
- OneBoxDateFormat - If 1, the date format in the OneBoxVSI protocol is in European style DDMMYYYY (Day, Month, Year). Default is 0, for date format YYYYMMDD, which is the default date format in the OneBoxVSI protocol.
- PbxID - Set this parameter to a defined PBX id, this parameter is useful if there are overlapping extension numbers in the customer environment.
- SecondaryPBX - PBX id of the 'secondary pbx id' defined in CM – System parameters. This parameter is used to create a OneboxVSI input named pipe (e.g. \\.\pipe\01pbxcom090). Default is 90.
- SendDelay - Number of millisecond delay between the transactions to the OneBox. Default is 10.
- ThirdPBX - PBX id of the 'secondary or third pbx id' defined in CM – System parameters. This parameter is used to create a OneboxVSI input named pipe (e.g. \\.\pipe\01pbxcom091).
- VoicePort - The TCP/IP port of the Onebox system. This parameter must be defined!

pbxCSTA_XML

Program for communication with the PBXs through a vendor middleware program using CSTA for XML (outgoing messages) and the PBX Gateway process (incoming messages).

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-p pbxid	The PBX identification number, 1-999. The PBX id:s are defined in the pbx table. Default is 1.
-l <level>	Trace level. 1 - Log start, PBX messages and undefined extensions 2 - Log incoming and outgoing IPC messages, flash excluded. 3 - Log flash IPC messages.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-v	Connected to a voice mail port

Description

This program handles the outgoing communication with the PABX's through CSTA phase III for XML protocol. The messages are sent to a vendor application through TCP/IP.

The solution is made for Siemens PABX's. The Siemens CSTA application is named Siemens HiPath CTI.

Incoming messages is received through the PBX Gateway. The gateway can handle Siemens Hicom PBXs and Siemens HiPath PBXs. If there is more than one gateway connected to a CMG Server, there will be a pbxcsta_xml process running for each gateway process. The PBX Gateway have to use the registry value "UseMsva"="0".

The communication with the PBX Gateway is made on a TCP/IP communication line according to the protocol described in the document PbxGateway. Internally the program communicates with several other processes through IPC, which are implemented as named pipes.

All requests to send a message to the PBX are received on a named pipe (IPC), with the name \\.\pipe\<nn>pbx<mmm> where <nn> is defined by the dbid and <mmm> by the PBX id (e.g. \\.\pipe\01pbx001).

Information about log levels:

```
TRACE_STARTSTOP 1
TRACE_ERROR 1
TRACE_EXTERNAL_COMMUNICATION_ERROR 2
TRACE_INTERNAL_COMMUNICATION_ERROR 3
TRACE_EXTERNAL_COMMUNICATION_INFO 4
```



```
TRACE_INTERNAL_COMMUNICATION_INFO 5
TRACE_INFO 5
TRACE_EXTERNAL_COMMUNICATION_INFO_LOWPRIO 6
TRACE_DEBUG 7
```

Registry parameters

The PBXCSTA_XML program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\pbxstd<pbxid>\Config` the value:

- **CAPserverAddress** - Defines the IP address which this process expects to send CSTA messages to. If the vendor program is on the local host and the vendor is Siemens and it is installed in with default parameters, the value should be "localhost.26535".
- **CAPVersion = <n>** - Defines if the CAP version is 2 or 3. Default is 2.
- **CAPLogon <userid>; passwd=<password>** - Defines the userid and password used to logon to the CAP server. Default is SimplyPhone W;passwd=123.
- **DelayIfPbxBusy** - Defines the time in milliseconds before resending data to the PBX. Default is 1000.
- **ExternalSys** - If set to 'Enabled' * the process will connect to an external system other than a PBX. The check for the extension in the extno table will be disabled, and the message type sent to pbxir will be different. Default is DISABLED.
- **GetLinePrefix** - Prefix to be added to the destination number in a forward transaction. The prefix will only be added if the number of digits in the destination number is higher than what is specified as "extension length" for the PBX. Default is "".
- **gwAddress** - The IP address and port for messages sent TO the gateway. Default is localhost.6001.
- **localport** - The TCP/IP port to receive messages FROM the gateway. Default is 6002.
- **MaxRetriesToPbx** - Specify how many times a transaction will be resent to the PBX. Default is 6.
- **ReadDelay** - Defines the delay to wait before a read transaction. Default is 50 (msec).
- **UsePBXGWHVD** - If set to 0 the pbxcsta_xml ignores to contact the PbxGwHvd (PbxGateway) software.

pbxCSTA_AVAYA

Program for communication with Avaya Aura PBX equipped with TSAPI interface.

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.

-p pbxid	The PBX identification number, 1-999. The PBX id:s are defined in the pbx table. Default is 1.
-l <level>	Trace level. 1 - Log start, PBX messages and undefined extensions 2 - Log incoming and outgoing IPC messages, flash excluded. 3 - Log flash IPC messages.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-v	Connected to a voice mail port

Description

This program handles the communication with AVAYA Aura PABX with TSAPI interface.

The communication with the PBXCSTA_AVAYA is made through a TCP/IP connection line. Internally, the program communicates with several other processes through IPC, which are implemented as named pipes.

On start-up the PBXCSTA_AVAYA program will read the configuration and setup connections to all configured line state servers.

The information needed is located in the company, extno and pbx tables.

All requests to send a message to the PBX are received on a named pipe (IPC), with the name `\\.\pipe\<nn>pbx<mmm>` where `<nn>` is defined by the dbid and `<mmm>` by the PBX id (e.g. `\\.\pipe\01pbx001`).

Information about log levels:

TRACE_STARTSTOP 1
TRACE_ERROR 1
TRACE_EXTERNAL_COMMUNICATION_ERROR 2
TRACE_INTERNAL_COMMUNICATION_ERROR 3
TRACE_EXTERNAL_COMMUNICATION_INFO 4
TRACE_INTERNAL_COMMUNICATION_INFO 5
TRACE_INFO 5
TRACE_EXTERNAL_COMMUNICATION_INFO_LOWPRIO 6
TRACE_DEBUG 7
TRACE_DEBUG_LOWPRIO 8

Registry parameters

The PBXCSTA_AVAYA program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\pbxstd<pbxid>\Config` the value:

- **TSAPIUser:** Defines user configured in Avaya for connecting to TSAPI
- **TSAPIPassword:** Defines password configured in Avaya for connecting to TSAPI

- **TSAPITserver:** Defines a string configured In Avaya t-server link. The string contains four values separated by Hash(#)
 - AVAYA#CM#CSTA#LAB-AVAYA-AES
 - AVAYA (Fixed value)
 - CM The name assigned to the Switch Connection
 - CSTA (Fixed value)
 - LAB-AVAYA-AES is Server name
- **TSAPIVDN:** The extension number of the VDN assigned to receive the intercept codes.
- **IdleDelay :** Defines the delay to provide heartbeat, Default 120 sec,
- **GetLinePrefix -** Prefix to be added to the destination number in a forward transaction. The prefix will only be added if the number of digits in the destination number is higher than what is specified as “extension length” for the PBX. Default is “”.

pbxir

Stores the intercept messages the users have keyed in via their telephone sets into the database.

Program arguments

-n <name>	Name of process as defined in the registry. Default is pbxir.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-p	If defined the program will NOT connect to any pbxcom process.
-l <level>	Trace level.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.

Description

When a user keys in an intercept message on his telephone set (e.g. *23*0*1200#) that transaction will be received by the process `pbxcom<pbxid>` which will send it on to the named pipe of a **pbxir** process. It is up to this process to make sure that the intercept message gets a reasonable return time (i.e. calculating the “Next Work Day” considering weekends, or round the given return time to an even 5 minutes boundary).

If the intercept message passes all validations by this program it will be inserted into the intercept table.

The name of the input named pipe to this process is `\\.\pipe\<dbid>pbxir`.

Registry parameters

The PBXIR program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config` the value;

- **ForwardIfInvDT** - Set to Enabled if also transaction containing an invalid Date and/or time shall generate an intercept message with the “Forward” flag set.
Default is DISABLED.
- **TimeZone** - Defines whether or not the time zone support is activated.
Default is DISABLED.
- **Star21** - Defines that the *21 and #21# functionality be enabled only when the Cisco call manager CUCM is used.
RegKey “Star21” config should be created in SPMAN for PBXIR to enable it.
Set the default value to 25. Value can be dynamic, or can be specified by administrator depending on the available CMG codes.

PbxProffNet

Program for communication with the ProffNett ASG gateway.

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-p pbxid	The PBX identification number, 1-999. The PBX id:s are defined in the pbx table. Default is 1.
-l <level>	Trace level. 1 - Log start, PBX messages and undefined extensions 2 - Log incoming and outgoing IPC messages, flash excluded. 3 - Log flash IPC messages.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.

Description

This program handles the communication with the ProffNett ASG gateway.

There are only two transactions supported

- Set forward.
- Cancel forward.

The communication with the CM is made through a dll named McxCTICl.dll supplied by the ProffNett vendor. This DLL has to be located either in the application directory or in the system path.

All requests to send a message to the PBX are received on a named pipe (IPC), with the name `\\.\pipe\<nn>pbx<mmm>` where `<nn>` is defined by the dbid and `<mmm>` by the PBX id (e.g. `\\.\pipe\01pbx001`).

Registry parameters

The PBXPROFFNET program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\pbxstd<pbxid>\Config` the value;

- ASGClientId - The id of the ProffNett customer.
- ASGExchId - The id of this PBX in the ProffNett terms.
- ASGHost - The IP address of the ProffNett ASG gateway.
- ASGKey1 - Login user name.
- ASGKey2 - Login password.
- ASGPort - The ASG gateway TCP/IP port used for this particular ASGExchId.

pbxstd

Program for communication with the PBXs through the PBX Gateway process

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-p pbxid	The PBX identification number, 1-999. The PBX id:s are defined in the pbx table. Default is 1.
-l <level>	Trace level. 1 - Log start, PBX messages and undefined extensions 2 - Log incoming and outgoing IPC messages, flash excluded. 3 - Log flash IPC messages.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-v	Connected to a voice mail port.

Description

This program handles the communication with the PABX's through the PBX Gateway. If there is more than one gateway connected to a CMG Server, there will be a pbxstd process running for each gateway process.

The communication with the gateway is made on a TCP/IP communication line according to the protocol described in the document **PbxGateway**

Internally the program communicates with several other processes through IPC, which are implemented as named pipes.

On start-up the pbxcom program will build some internal tables, later used to perform syntax check and to determine the destination of the messages received from the PBX.

The information needed are located in the tables: company, extno, pbx and flashclient.

All requests to send a message to the PBX are received on a named pipe (IPC), with the name `\\.\pipe\<nn>pbx<mmm>` where `<nn>` is defined by the dbid and `<mmm>` by the PBX id (e.g. `\\.\pipe\01pbx001`).

Registry parameters

The PBXSTD program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\pbxstd<pbxid>\Config` the value:

- **Alcatel** - If set to "Enabled" the forward transaction to the PBX gateway will specify the reason as a string instead of as the PBX code. The cancel forward transaction will in such a case also contain the name of the subscriber.
Default is DISABLED.
- **AlcatelSendReason** - If set to "Enabled" the reason text will be sent to the Alcatel PBX as part of the "Set Forward" transaction sequence. Otherwise the Name of the subscriber will be sent. Default is ENABLED.
- **ExternalSys** - If set to 'Enabled' * the process connects to an external system other than a PBX. The check for the extension in the extno table is disabled, and the message type sent to pbxir is different. Default is DISABLED.
- **ExtPRIPrefix** - Prefix to the forward number to get the extension routed to the FlexIPAn system. Default is '*'.
- **GetLinePrefix** - Prefix to be added to the destination number in a forward transaction. The prefix will only be added if the number of digits in the destination number is higher than what is specified as "extension length" for the PBX. Default is ''.
- **gwAddress** - Defines the IP address and port for messages sent TO the gateway Default is local-host.6001.
- **HTTPEnabled** - If enabled, routing information will be sent to an external system as HTTP transactions. This parameter is only relevant in a FlexIPAn system.
Default is DISABLED.
- **localport** - The TCP/IP port to receive messages FROM the gateway.
Default is 6002.
- **NetworkPbxAndNoPrefix** - If set to "Enabled" the "port"-column of the PBX table should contain a list of PBXes that may generate overflow flashes to the current one.

- SonofonUrl - URL address used by the Http transaction above.
This parameter is only relevant in a FlexIPlan system.

PbxstdBP

Program for communication with a BusinessPhone equipped with a BusinessLink interface.

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-p pbxid	The PBX identification number, 1-999. The PBX id:s are defined in the pbx table. Default is 1.
-l <level>	Trace level. 1 - Log start, PBX messages and undefined extensions 2 - Log incoming and outgoing IPC messages 6 - All.
-c <connections>	Defines how many client processes that can connect to the input named pipe simultaneously. Default is 1.

Description

This program handles the communication with the PBX BusinessPhone configured with a BusinessLink interface.

The communication with the PBX is made on a TCP/IP communication line according to the protocol described in the document **BusinessPhone – BusinessLink for Windows NT**. Internally the program communicates with several other processes through IPC, which are implemented as named pipes.

To establish the PBX communication, Mitel BusinessClient has to be installed and configured.

On start-up the pbxcom program will build some internal tables, later used to perform syntax check and to determine the destination of the messages received from the PBX. The information needed are located in the tables company, extno, pbx.

All requests to send a message to the PBX are received on a named pipe (IPC), with the name `\\.\pipe\<nn>pbx<mmm>` where <nn> is defined by the dbid and <mmm> by the PBX id (e.g. `\\.\pipe\01pbx001`).

Registry parameters

The PBXSTDPB program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\pbxstd<pbxid>\Config` the value;

- BPLinkIPAddress - The IP address to send messages to the BusinessLink. Default is localhost.
- BPLinkPort - The TCP/IP port to send messages to the BusinessLink. Default is 2555.
- CheckDialStart - Set this parameter to 1 if the Business Phone for some reason send double transactions from keystrokes, e.g. (*23*1#). Default is 0.
- PbxDelayIn - Defines a delay in milliseconds to wait when a keystroke (*23*) is received before sending it to PbxIR process. If this delay is too short it could impact the phone display update, i.e. date or time will not be displayed on phone. Default is 100 (msec).
- PbxOperatorQue - Defines the number to the PBX Operator Queue. Default is 9.

Configuration of Diversions (PBXCodes) in CMG CM

Business phone use keystroke (e.g. *23*1#) 1 to 7 and not 0 – 9 that is common. At the first installation Business Phone, PBX settings will be preconfigured with mapped values like this (only a proposition).

Business Code (CMG Pbxcode)	CMG Reason Code	Time/Date
1	0 - Lunch	Time
2	8 - Back Soon	Time
3	3 - Meeting	Time
4	4 - Business Trip	Time
5	9 - Sick-leave	Date
6	6 - Vacation	Date
7	1 - Left for day	Time

These PBXCodes are found in CMG CM -> Diversion -> PbxCodes:

If a Business Phone PBX is added later:

CMG CM -> PbxCodes must be configured with suitable PBX codes and matched to CMGCodes. If this PBX is not the primary PBX in the CMG system, use the Diversion Inbound and Diversion Outbound configurations in CMG CM -> Pbx:s & Flash clients -> Pbx.

Diversion Inbound is from business keystroke (*23*1#) into the CMG system.

Diversion Outbound is from CMG system reason codes to PBX.

pbxstdctc (Cisco)

Program for communication with the CTC server.

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-p pbxid	The PBX identification number, 1-999. The PBX id:s are defined in the pbx table. Default is 1.
-l <level>	Trace level. 1 - Log start, PBX messages and undefined extensions. 2 - Log incoming and outgoing IPC messages, flash excluded. 3 - Log flash IPC messages.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-x <prefix>	Specify a prefix to append to all outgoing numbers.
-f <destination>	Specify a default forward destination.

Description

This program handles the communication with the CTC server.

The communication with the CTC is made through a TCP/IP connection. Internally, the program communicates with several other processes through IPC, which are implemented as named pipes.

On start-up the PBXSTDCTC program will read the configuration and setup connections to all configured line state servers.

The information needed is located in the company, extno and pbx tables.

All requests to send a message to the PBX are received on a named pipe (IPC), with the name `\\.\pipe\<nn>pbx<mmm>` where `<nn>` is defined by the dbid and `<mmm>` by the PBX id (e.g. `\\.\pipe\01pbx001`).

This process requires the LSSClient package to be installed to work.

Registry parameters

The PBXSTDCTC program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Configurations` the value;

- `IPTelephonyConfigurationPath` - Specify the location and name of the XML configuration file. The XML configuration file is normally distributed by the Configuration Service.
- `NCLAConfigurationPath` - Specify the location and name of the XML configuration file. The XML configuration file is normally distributed by the Configuration Service. This key is used if the `UseNCLA` parameter is set to Enabled.

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\pbxstd<pbxid>\Config` the value;

- **CMServerFwd** - The TCP/IP port that serves for incoming transactions from the Call Manager. These transactions are generated when the user keys some special codes on the extension to forward (or cancel forward) his phone. If this parameter is present, it overrides the XML configuration. This key should normally not be used.
- **ExternalSys** - If enabled, the process will connect to an external system other than a PBX. The check for the extension in the extno table will be disabled, and the message type sent to pbxir will be different. Default is DISABLED.
- **ExtPRIPrefix** - Prefix to the forward number to get the extension routed to the FlexIPLan system. Default is '*'.
- **GetLinePrefix** - Prefix to be added to the destination number in a forward transaction. The prefix will only be added if the number of digits in the destination number is higher than what is specified as "extension length" for the pbx. Default is "".
- **HTTPEabled** - If enabled, routing information is sent to an external system as HTTP transactions. This parameter is only relevant in a FlexIPLan system. Default is DISABLED.
- **LSSAddress** - The IP address of the line state server. If this parameter is present, it overrides the XML configuration. This key should normally not be used.
- **LSSPort** - The TCP/IP port of the line state server. If this parameter is present, it overrides the XML configuration. This key should normally not be used.
- **Prefix** - [0, 1] If 1, the string in column DisplayPrefix of table pbx will be added as a prefix to the extension number in outbound transactions and parsed out from inbound transactions. If this logic is enabled then the -x parameter on the command line is ignored.
- **SonofonUrl** - URL address used by the Http transaction above. This parameter is only relevant in a FlexIPLan system.
- **UseNCLA** - Enables the use of NCLA XML for configuration. Default is DISABLED for backwards compatibility.

PbxStdNiu

Program for communication with a MD110 PBX equipped with a NIU-interface.

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-p pbxid	The PBX identification number, 1-999. The PBX id:s are defined in the pbx table. Default is 1.
-l <level>	Trace level. 1 - Log start, PBX messages and undefined extensions 2 - Log incoming and outgoing IPC messages, flash excluded. 3 - Log flash IPC messages.

-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
------------------	---

Description

This program handles the communication with the PBX MD110 configured with a NIU-interface.

The communication with the PBX is made on a TCP/IP communication line according to the protocol.

Internally the program communicates with several other processes through IPC, which are implemented as named pipes.

On start-up the pbxcom program will build some internal tables, later used to perform syntax check and to determine the destination of the messages received from the PBX.

The information needed are located in the tables: company, extno, pbx and flashclient.

All requests to send a message to the PBX are received on a named pipe (IPC), with the name `\\.\pipe\<nn>pbx<mmm>` where `<nn>` is defined by the dbid and `<mmm>` by the PBX id (e.g. `\\.\pipe\01pbx001`).

Registry parameters

The PBXSTDNIU program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\pbxstd<pbxid>\Config` the value;

- **ExternalSys** - If set to 'Enabled' the process will connect to an external system other than a PBX. The check for the extension in the extno table will be disabled, and the message type sent to pbxir will be different. Default is DISABLED.
- **FallBackPNProfile** - Defines a number that corresponds to a default profile to fallback to. Default is 0 i.e. no fallback after an activity is cleared.
- **Localport** - The TCP/IP port to receive messages FROM the NIU.
- **NetworkPbxAndNoPrefix** - If enabled, the "port"-column of the PBX table should contain a list of PBXes that may generate overflow flashes to the current one.
- **HTTPEnabled** - Send routing information to an external system as HTTP transactions. This parameter is only relevant in a FlexIPLan system. Default is DISABLED.
- **PNReadDelay** - Defines a delay to wait in milliseconds for each retry of PNWaitForStatus. Default is 50.
- **PNUrl** - The IP address to CMG Server and the URL to the web service;
`http://xxx.xxx.xxx.xxx/epbxws/epbxws.asmx`
- **PNWaitForStatus** - Defines whether or not to wait for the response from the web service. Default is DISABLED.
- **SendDateAndTime** - If this parameter is set to 1, a transaction 09 like this will be sent: STX 09 NNNN T YYYY XXXX CR LF
YYYY is date or time
XXXX is date or time

First position YYYY is the date or time that will be displayed in the phone display. There are only a few PBXs that support this. Default is 0.

- SonofonUrl - URL address used by the HTTP transaction above.
This parameter is only relevant in a FlexIPPlan system.
- VoicePort - If this parameter is specified, this process will listen on the voice mail port and handle any incoming transactions from that one.

pbxsync

Generates transactions to synchronize the PBX with the database, on request from the PBX.

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-d <seconds>	Delay between the reception of the sync—request until first transaction is sent. Default is 5 (seconds).

Description

When the “midnight” routine runs in the PBX it will first put all extensions to their neutral state (=NOT forwarded, NO message waits indication). Thereafter the PBX will send a SYNC REQUEST to the CMG system. When pbxcom receives that request it will broadcast it out to the pbxsync process of all known CMG databases. The first pbxsync process in the group will be elected by pbxcom to be the ‘master’ process.

When pbxsync receives the sync request transaction it will;

- Answer with a SYNC START transaction if it is the ‘master’ process.
- Generate transactions to the PBX to ‘forward’ and set ‘message waiting’ for the relevant extensions.
- Send a SYNC END transaction if it is the master process.

All these outbound transactions are written to the table pbxfifo for further processing by the program ‘dbtopbx’.

Registry parameters

The PBXSYNC program supports all of the registry parameters described in section 3.2.

pbxupdate

Scans the database and generates transactions to synchronize the PBX with the database.

Program arguments

-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-p <pbxid>	The PBX identification number, 1-999. The PBX id:s are defined in the PBX table. Default is 1.
-d <#digits>	Max number of digits in the extension numbers stored in the database. Default is 5.
-a	Send also cancel transactions.
-r <time>	Reschedule at specified time.
-f	Wait until next scheduled time. I.e. do not execute at once.
-i <interval>	Interval in seconds between execution times.

Description

This program synchronizes the PBX with the CMG database either on particular occasions when started from the SPMAN Tool program or on scheduled occasions by setting the -r or the -i arguments.

When the program runs it will generate transactions to the PBX to 'forward' and set 'message waiting' for the relevant extensions.

All these outbound transactions are written to the table pbxfifo for further processing by the program 'dbtopbx'.

Registry parameters

The PBXUPDATE program supports all the registry parameters described in section 3.2.

PNSync

Synchronizes personal number in MD110 PBX with the CMG database.

Program Arguments

-n <name>	Name of process as defined in the registry. Default is PNSync.
-l <level>	Trace level.
-r <time>	Reschedule at specified time.
-f	Wait until next scheduled time. I.e. do not execute at once.
-i <interval>	Interval in seconds between execution times.

Description

The Personal Number function for MD110/MX-ONE can in its simplest form be used to forward the phone to an external number. It is also possible to create a "chain" of internal and external numbers to be called when you want to.

Registry Parameters

The PNSYNC program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config` the value;

- TimeOutSec - Specify the time-out time in seconds.
- WSIpAddress - Windows Server IP address. Default is "" (i.e. localhost).

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\pbxstd<pbxid>\Config` the value;

- FallBackPNProfile - Defines a number that corresponds to a default profile to fallback to. Default is 0 i.e. no fallback after an activity is cleared. If PNSync is used, set to 1.
- PNReadDelay - Defines a delay to wait in milliseconds for each retry of PNWaitForStatus. Default is 50.
- PNUrl - The IP address to CMG Server and the URL to the web service;
`http://xxx.xxx.xxx.xxx/epbxws/epbxws.asmx`
- PNWaitForStatus - Defines whether or not to wait for the response from the web service. Default is DISABLED. If PNSync is used, set to ENABLED.

SMSHttp

Message system server for distribution of SMS messages to a "Content Gateway" using its HTTP based protocol. The "Content Gateway" is a middleware often used by Telia Sonera Finland or the Swedish SMS provider Maingate (Imez) or a Finnish SMS provider DNA (Message Gateway 2G).

Program arguments

-n <name>	Name of process as defined in the registry. Default is SMSHTTP.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-l <level>	Trace level.

Description

This process makes a connection over the internet. For each message received on the input named pipe it formats a HTTP message and sends it out on the LAN. It waits for a HTTP reply and if that frame contains the string "success" or "delayed" this process will assume the message has been successfully distributed.

1. Configure the registry parameters in SPMAN for **SMS Provider 'Telia Sonera Finland'**:
 <parameter defined part 1>/send?to=<cell phone number>&from=<parameter defined part 2>&msg=<message text>.
 E.g. <http://cg1.teliasonera.fi/send?to=123456789&from=CMG1&msg=Call Home>
 Set registry parameters in Spman tool like this:

HttpAddress	First part of the HTTP address. (<parameter defined part 1>)
HttpSender	<Parameter defined part 2>
SMSMessageGW	"0"
SMSMainGate	"0"
HttpDomain	""
HttpPassword	""
HttpUrl	""
HttpUser	""
CountryCode	"358"

2. Using the Swedish SMS Provider **MainGate from Imez**:

E.g. <https://www.isend.se/httpost/sendsms/?domain=<Login Domain>&user=<Login User>&pwd=<Login Password>&To=123456789&from=<From CompanyName>&msg=Call Home>
 Set registry parameters in SPMAN like this:

HttpAddress	"https://www.isend.se"
HttpUrl	"/httpost/sendsms" (Default is "/httpost/sendsms")
HttpSender	"From CompanyName"

SMSMessageGW	"0"
SMSMainGate	"1"
CountryCode	"46"

Login Parameters provided by Imez Main Gate

HttpDomain	"Login Domain"
HttpPassword	"Login Password"
HttpUser	"Login User"

3. Using the Finnish SMS provider DNA (Message Gateway 2G).

E.g. <https://www.isend.se/httppost/sendsms/?domain=<Login Domain>&user=<Login User &pwd=<Login Password>&To=123456789&from= <From CompanyName>&msg=Call Home>
Set registry parameters in SPMAN like this:

HttpAddress	" 192.49.226.132:80"
HttpUrl	" /sms.cgi"
HttpSender	"From Company Name"
SMSMessageGW	"1"
SMSMainGate	"0"
CountryCode	"358"

Login Parameters provided by **DNA**

HttpDomain	"Login Domain"
HttpPassword	"Login Password"
HttpUser	"Login User"

Registry parameters

The SMSHTTP program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General` the values;

- `IPC` - The name of input named pipe (e.g. `\\.\pipe\01SMSHTTP`).

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\<Config>` the values;

- `CountryCode` - Country specific dial prefix. Default is Swedish: +46.
- `HttpAddress` - First part of the HTTP address.

- HttpDomain - Login parameter Domain.
- HttpPassword - Login parameter password.
Example:
If HttpPassword is xyz9530.
NOTE: The password that is entered will reflect as ***** in SPMAN tool and in the registry, it will reflect in encrypted format.
- HttpSender - Company name or switchboard number or SMS operator or 'From Number' depending on SMS provider.
- HttpUrl - URL part in the HTTP address.
- HttpUser - Login parameter user.
- SMSMainGate - Set parameter to 1 if the SMS provider is the Swedish MainGate from Imez.
- SMSMessageGW - Set parameter to 1 if the SMS provider is Finnish SMS provider DNA (Message Gateway 2G).

Test and verify

Start the process with a log level 6. Cut the Send SMS string and try it in the Internet Explorer. See so no proxy or firewall block the HTTP transaction.

SMSINFOBIP

Message system server for communication with a **Short Message Service Center** referred to as **SMSC**, using the HTTPS Mobile Text protocol provided by Infobip.

Program arguments

-n <name>	Name of process as defined in the registry. Default is SMS_Infobip
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-l <level>	Trace level.

Description

This process makes a connection over the internet. The communication is HTTPS based.

Customer needs to have an account from the Service Provider Infobip. This process sends SMS to Swedish mobile operators.

For each message received on the input named pipe it formats a HTTP message and sends it out on the LAN. It waits for a HTTP reply and if that frame contains the string **pending** or **delivered** this process will assume the message has been successfully distributed.

All requests to the message server are received on a named pipe (IPC), with a name defined in the registry.

Registry parameters

The SMSINFOBIP program supports all of the registry parameters described in section [General Registry Parameters](#), plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General` the values;

- **IPC** - The name of input named pipe (e.g. `\\.\pipe\01SMSHTTP`).

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\<Config>` the values;

- **CountryCode** - Country specific dial prefix. Default is Swedish: +46.
- **HttpAddress** - HTTP address of Infobip SMS Api.
Default is `https://api.infobip.com/sms/1/text/query`
This parameter must be defined.
- **HttpPassword** - Login parameter of Infobip account password.
This parameter must be defined.
- **HttpUser** - Login parameter of Infobip account user.
This parameter must be defined.
- **CheckAddress** - [0, 1] Specify if the mobile phone number should be validated. Characters like space and “-” will be removed before the extension length is compared checked towards the limit specified by the registry parameter. `CellPhoneExtLen`. Default is 0.
- **CellPhoneExtLen = [n]** - The minimum length of extension. Only relevant if **CheckAddress** is set to 1. Default is 8.

Test and Verify

For example: `https://api.infobip.com/sms/1/text/query?username=HTTPUser&password=HTTPEndword&to=MOBILE NUMBER&text=MESSAGE`

Replace strings “HTTPUser, HTTPPassword, MOBILE NUMBER, MESSAGE” with the account details in URL and run in a Web browser, you should receive following if Customers account data is correct.

```
<smsResponse>
<messages>
<message>
<to>Mobile Number</to>
<status>
<groupId>1</groupId>
<groupName>PENDING</groupName>
<id>7</id>
<name>PENDING_ENROUTE</name>
<description>Message sent to next instance</description>
</status>
<messageId>299310034170.....</messageId>
<smsCount>1</smsCount>
</message>
</messages>
```

```
</smsResponse>
```

SmslpUcp (Telia)

Message system server for communication with a Short Message Service Center, SMSC, using the HTTP Mobil Text protocol provided by TeliaSonera Sweden.

Program arguments

-n <name>	Name of process as defined in the registry. Default is SMS_TELIA.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-l <level>	Trace level.

Description

This process makes a connection over the internet. The communication is HTTPS based.

Customer needs to have a Mobile Text SMS account from TeliaSonera.

All requests to the message server are received on a named pipe (IPC), with a name defined in the registry.

Registry parameters

The SMSICUCP program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General` the values;

- IPC - The name of input named pipe (e.g. `\\.\pipe\01SMS_TELIA`).

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\<Config>` the values;

- `HttpAddress` - Address to Telia SMS Server.
Default is `https://telemat.telia.com/aps/APSlet`.
- `TRANSMITTERID` - Short number of the login provided by the Telia account, must be written exactly as from the provided account information.
This parameter must be defined!
- `TRANSMITTERPSW` - Password provided by the Telia account, must be written exactly as from the provided account information.
This parameter must be defined!

Test and verify

For example:

<https://telemat.telia.com/aps/APSlet?id=TRANSMITTERID&passwd=TRANSMITTERPSW&request=sms&text=>

Replace Transmitterid and Transmitterpsw with the customer's login and test.

If you use this string in a Web browser, you should receive the following if customer's account data is correct.

26 in the browser.26 = 'No value in parameter Text'

Error Codes from Telia Mobile Text (in Swedish language):

Error code	Cause
5	Tillfälligt fel i tjänsten, försök igen senare
6	Samma textmeddelande (till samma mottagare) har upprepats inom tidsramen 30 sekunder.
7	Behörighet saknas
8	UCP syntaxfel
9	Tjänsten spärrad
10	3 ggr angivet felaktigt lösenord, tjänsten nu spärrad under 10 minuter
11	Antal tillåtna sessioner har överskridits (max 1 session/abonnemang tillåten)
12	Ogiltigt namn på begäran
20	Inget värde på parametern "request"
21	Parameter "request" saknas
22	Inget värde i parameter "id"
24	Inget värde i parameter "passwd"
25	Parameter "passwd" saknas
26	Inget värde i parameter "text"
27	Parameter "text" saknas

SmsPro (Vodafone)

Message system server for communication with a Short Message Service Center, SMSC, using the SMS Pro XML / HTTP protocol provided by Vodafone/Telenor.

Program Arguments

-n <name>	Name of process as defined in the registry. Default is SMS_Vodafone.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-l <level>	Trace level.

Description

This process makes a connection over the internet. The communication is XML / HTTP based.

Customer needs to have a SMS Pro account from the Service Provider. This process sends SMS to Swedish mobile operators.

All requests to the message server are received on a named pipe (IPC), with a name defined in the registry.

Registry Parameters

The SMSPRO program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General` the values;

- IPC - The name of input named pipe (e.g. `\\.\pipe\01SMS_Vodafone`).

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\<Config>` the values;

- `HttpAddress` - Address to SMS Server. Default is `sms-pro.net`.
- `Company` - Part of the login provided by the SMS Pro account, must be written exactly as from the provided account information.
This parameter must be defined!
- `CustomerID` - ID key provided by the SMS Pro account, must be written exactly as from the provided account information.
This parameter must be defined!

Test and Verifying

E.g. `http://sms-pro.net/services/company/sendsms`, where the part "company" will be replaced with the value from registry parameter `Company`.

Use this string with 'company' replaced with the customers URL in a Web browser, you should receive following if Customers account data is correct.

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<mobilectrl_response>
  <customer_id>CUSTOMERID</customer_id>
  <mobilectrl_id>.1.12:30e551:fcff613b3d:-6f7c</mobilectrl_id>
  <statustype="error">-2</status>
```

```

<code>10</code>
<message>
- <![CDATA[
Error while handling received request. Error message:
No content found (length = 0)
</message>
<datetime>2015-06-18 10:57:36</datetime>
</mobilectrl_response>

```

NOTE: CUSTOMERID is the customers 'login id' provided by the Service Provider.

SmsProffnett

Message system server for communication with a **Short Message Service Center** referred to as **SMSC**, using the protocol 'short message service center 5.0', 'SMS Storkunde' provided by Telenor Norway.

Program arguments

-n <name>	Name of process as defined in the registry. Default is SMS_PROFFNETT.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-l <level>	Trace level.

Description

This process makes a connection over the TCP/IP to the SMSC. The communication is based on the protocol 'Short Message Service Centre 5.0' implemented by Telenor as SMS Storkunde. Access is provided by a VPN connection by Telenor Mobils SMSC.

Customer needs to have a Mobile Text SMS account (SMS Storkunde) from Telenor and it has to be configured as a 'stop and wait' protocol since this process will only handle one windowing at the time.

This process will send a SMT Alert Operation (31) every minute, as default, to maintain the connection to the SMSC. This process is also able to handle message sent from the SMSC.

If a mobile user sends a forwarding SMS using the syntax *23*0# or *23*0*HHMM# a CMG activity record will be created for the user and the extension will be forwarded. There could be only one valid activity record at any moment from the mobile. #23# will cancel the forwarding.

The user will be acknowledged by a SMS sent from this process with information that CMG Server has taking or not taken the requested action. A user will only be notified if he/she exists in the CMG database and the user must in addition have the mobile extension in one of his/hers message system.

It is also possible to receive user data from SMSC. e.g. 'I will work from home today please forward my calls to my mobile...'. This message will be sent to a predefined user with valid mail address in the message system in CMG DM. E.g. a user with extension 1234, and a mail address at **operator@CompanyName.com**

Supported transaction from the protocol:

31 – MT Alert, to keep the SMCS session open. 51 – Submit a message from CMG to SMSC. 52 – SMSC sends a message with user data to CMG. 53 – Notification with delivery status from SMSC. 60 – Session management, establish a connection to SMSC.

All requests to the message server are received on a named pipe (IPC), with a name defined in the registry.

Registry parameters

The SMSPROFFNETT program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General` the values;

- IPC - The name of input named pipe (e.g. `\\.\pipe\01SMS_PROFFNETT`).

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\<Config>` the values;

- Address - Address to Telenor SMSC.
This parameter must be defined!
- Notification – [0, 1] set parameter to 1 if a notification should be sent from SMSC about a delivered SMS to user. This parameter requires that acknowledge support is enabled in CMG CM. Default is 0.
- OperReceivChannel - [n] Mail channel number of the mail system to receive the user data from SMSC see parameter above.
- OperReceiverExt – Extension (Phone number) in CMG DM for e.g. an operator that should receive the user data send from SMSC. This user should also have a message system configured with a valid mail address.
- Port - The TCP/IP port of the Telenor SMCS.
This parameter must be defined!
- TRANSMITTERID - Short number of the login provided by the Telenor account, must be written exactly as from the provided account information.
This parameter must be defined!
- TRANSMITTERPSW - Password provided by the Telenor account, must be written exactly as from the provided account information.
This parameter must be defined!

NOTE: The following registry parameters should NOT be modified:

- AckPipeName - This parameter will be updated by the process.
- Channel - This parameter will be updated by the process.
- OneIntercept - If a previous intercept should be deleted. Default is 1.
- RPID - Remote Party ID. Default is 0065.
- Timeout - Time in seconds to send an alert 31 to SMSC. Default is 60.
- UseCordlessField - If the cordless field in CMG database should be used instead of the address in message system. Default is 0.

SmsSonofon

Message system server for communication with a **Short Message Service Center** referred to as **SMSC** provided by Sonofon Denmark.

Program arguments

-n <name>	Name of process as defined in the registry. Default is SMS_SONOFON.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-l <level>	Trace level.

Description

This process makes a connection over the internet. The communication is HTTP based. Customer needs to be part of the Sonofon FlexIPlan.

All requests to the message server are received on a named pipe (IPC), with a name defined in the registry.

Registry parameters

The SMSSONOFON program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General` the values;

- IPC - The name of input named pipe (e.g. `\\.\pipe\01SmsSonofon`).

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\<Config>` the values;

- CellPhoneExtLen = [n] - The minimum length of extension.
Only relevant if CheckAddress is set to 1.
Default is 8, configuration and test.
- CheckAddress - [0, 1] Specify if the mobile phone number should be validated.
Characters like space and “-” will be removed before the extension length is compared checked towards the limit specified by the registry parameter ‘CellPhoneExtLen’.
Default is 0.
- HttpAddress – HTTP address to Sonofon FlexIPlan server.
E.g. `http://server/FlexIPlan/HttpInterface/SonofonIS.asp`
This parameter must be defined!
- SMSType - [0, 1] Set to 0 if a SMS should be sent as a ‘SMS flash’ instead of a normal SMS. This feature is supported by only a few Cell Phones.
You are recommended not to change this parameter!
Default is 1, a normal SMS notification.

SmsVentelo

Message system server for communication with a Short Message Service Center, SMSC, using the Web service provided by Ventelo.

Program arguments

-n <name>	Name of process as defined in the registry. Default is SMS_Ventelo.
-c <connections>	Defines how many client can connect to the input named pipe simultaneously. Default is 1.
-l <level>	Trace level.

Description

This process makes a connection over the internet. The communication is XML / HTTP based Web-service.

Customer needs to have a SMS account from Norwegian SMS provider Ventelo.

All requests to the message server are received on a named pipe (IPC), with a name defined in the registry.

Registry parameters

The SMSVENTELO program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General` the values;

- IPC - The name of input named pipe (e.g. `\\.\pipe\01SMS_Ventelo`).

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\<Config>` the values;

- HttpAddress – Host name to Ventelo SMS Web-service.
Default is `externalservice.ventelo.no`
- Password - Customer password for Account.
This parameter must be defined!
- URL - Default is `SmsService.asmx`
- UserId - Customer id account. Normally a cell phone extension.
This parameter must be defined

smtpsrv

Distributes CMG messages using the company SMTP mail system.

Program arguments

-n <name>	Name of process as defined in the registry. Default is smtpsrv.
-c <connections>	Defines how many client can connect to the input named pipe simultaneously. Default is 1.
-l <level>	Trace level.
-e <event log>	Log errors in the Event Log even if the program is started from the command prompt (Yes or No). Default is No.

Description

This program is a part of CMG Server. The mail server program distributes CMG messages to the company mail system.

NOTE: The receipt function is not supported in SMTP.

If the mail server does not succeed to send the message, the mail server (msgsnd) will retry to send the message a number of times (configurable).

Mail messages contains additional information about the date and time when the messages where stored in CMG Server. The operator signature is also added to the mail message to enable the recipient to contact the operator for further information.

All requests to the message server are received on a named pipe (IPC). The pipe name is defined in the registry.

Special installation considerations

This process only has MailUserName, MailFrom and MailHost as main parameters to set. If the process does not start the most probable cause is user access rights.

The specified mail user must have access rights to send SMTP mail. Another possible cause to the problem may be that port 25 is blocked.

Registry parameters

The SMTPSRV program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General` the value;

- IPC - The name of input named pipe (e.g. `\\.\pipe\01smtpsrv`).

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Database` the value;

- Country- The country. (E.g. Swedish)
This parameter defines the date format. Date is added to the mail message.

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config` the values;

- MailDebug - Set parameter to 1 to receive extra information about transactions to mail server. Debug data is located in file at 'C:\nismtpdebug.txt'
Example
MailDebug = 0
- MailFrom - Specify the mail account that has access rights to send SMTP mail.
Example:
MailFrom = "CMGMail@CompanyName.com"
- MailHost - Specify host name of the SMTP host used for the IMAP/SMTP system.
- MailTimeout - Specify the time in milliseconds to wait for connection to mailserver.
Example:
MailTimeout = 1000
- MailUserName - Specify the mail address that have access rights to send.
Example:
MailUserName = CMGMail@CompanyName.com
- MailUserPwd- Specify the mail account password if applicable.
Example:
If MailUserPwd = xyz9530,
NOTE: The password that is entered will reflect as ***** in SPMAN tool and in the registry it will reflect in encrypted format.
- ReceiptOnAllMsg - Not used in this configuration.
Example:
ReceiptOnAllMsg = DISABLED
- ReceiptTimer - Not used in this configuration.
Example:
ReceiptTimer = 0
- SMTPAckAll - Not used in this configuration.
Example:
SMTPAckAll = DISABLED
- SMTPHomeDomain - Not used in this configuration.
Example:
SMTPHomeDomain = ""
- Subject - Specify the text that will be sent in the subject field in the mail.
Example:
Subject = Message from operator.
- MailPort- Specify the port through which IMAP/SMTP server listens (Generally it is 25,587 or 465).
Example:
MailPort=465
- IsSSEnabled - Set parameter to 1 to create secure connection with SMTP Server.
Example:
IsSSEnabled =1
- TLSVersion = (Empty when IsSSEnabled=0 but 1.0, 1.1 or 1.2 when IsSSEnabled=1).
Example:
TLSVersion=1.2

Tateco

Message system server for communication with Ascom Tateco paging systems, supporting the ESPA protocol.

Program arguments

-n <name>	Name of process as defined in the registry. Default is tateco.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-l <level>	Trace level.

Description

The paging system communication is made on a serial communication line.

All requests to the message server are received on a named pipe (IPC), with a name defined in the registry.

If there is more than one message system configured for a paging system, all of them can be handled by the same message server. This is a normal case when there is a mix of pagers with different capability, for example different message length or character type support.

Registry parameters

The TATECO program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\General` the values;

- DataBits - [5, 6, 7, 8, 9] Specify the number of data bits in the serial communication. Default is 8.
- IPC - The name of input named pipe (e.g. `\\.\pipe\01tateco`).
- OpenDelay - A time in seconds that the program should wait before send the trans to Tateco. Only used if OpenOnce = 0. Default is 1.
- OpenOnce - Specify if the serial port should be open once or every time a new trans from MsgSnd is received. Default is 1.
- Parity - [NONE, ODD, EVEN] Specify the use of parity in the serial communication. Default is NONE.
- Port - The COM port to be used (e.g. COM1, COM2).
- ReOpen - If an <ACK> is not received from Tateco before the time specified by TimeOut the serial connection will be closed and a reconnection will be done. Default is 0.
- Speed - The baud rate of the COM port. Default is 1200.
- StopBits - [1, 2] Number of stop bits. Default is 1.
- TimeOut - Number of seconds to wait for a <ACK> trans from Tateco. Default is 15.

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Channel` the values;

- AlarmCode - Defines the number of beeps for an alarm paging, see the definition of BeepCode above. Default is 0.
- BeepCode - Defines the number of beeps where 0-9 are valid. 0 is similar to 10 beeps for 800 pagers and siren for 900 pagers. For 900 pagers 5-8 is equal to 5 beeps and 9 equals 10 beeps. Default is 2.
- Channel - The channel number as defined in the table deliverychan.
This parameter must be defined!
- MsgMaxLth - Specify the maximum message length which can be received by a pager. If the length of a message exceeds the maximum, the message is truncated. Default is 16. This parameter must be defined!
- SepChar = <c> - This message system has support for sending only the beginning part of an entered message. To define which part to send, a separation character shall be entered into the message text. If not defined the whole message will be sent.
- SepCharPos = <n> - If a separation character position is defined, the separation character must be in exactly that position to be considered. If the position is set to zero (or undefined), the position is insignificant.
- ToUpperLim - Some pagers only support upper case characters, and some pagers with two displays of which one intended for shorter messages, only support upper case. If this parameter is set, messages with a length shorter or equal to the specified limit is converted to upper case. Default is 30.
- Transmissions - Default is 2.

timecon22

Interface to timecon22 access control system.

Program arguments

-n <name>	Name of process as defined in the registry. Default is timecon22.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-o	Means the transactions will be in the old format.

Description

This program communicates with the flex access control system called timecon22 (a part of TEAM). A short protocol description:

<STX> F CCCC A X TTTT M <ETX> Y

Where:

STX	Start of Text ascii 2
-----	-----------------------

F	Function code. A character which could be either A, B, C or D. All other characters will be ignored.
CCCC	A unique card number. Set parameter Cardnolenght in registry. This is a number in range 1 to 9999999999 (1 to 10 digits) according to the parameter CardNoLength
A	Reason code as a character 'A'-'Z' , or 'a'-'z'. A lower case character implies is an arrival message.
X	A single character which will be ignored since it is not used.
TTTT	Date and time. Old Format: If option “-o” is given as argument then the program will expect the old style format. It means TTTT could hold only time or date. Registry parameter CodeXX contains a trailing value TRUE or FALSE. If set to true, TTTT is assumed to give the date in which case the time will be set according to registry parameter DeftTime. New Format: Date and time will be given in format DDMMYYHHMM.
M	Message waiting indication, not used
<ETX>	End Of Text ascii 3
Y	A one byte checksum character. Used by the program if parameter Checksum is set in the registry.

Example:

<STX> B1234a <ETX> - An arrival message.

<STX> D1234C 1010971300 <ETX> A gone out message, back 1300 10 Oct 97

Registry parameters

The TIMECON22 program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config the values;

- Accimsg- Specify type of message to be stored in the CMG database. If it is enabled a normal intercept message is stored, otherwise only a flag is set in the subscriber record. Default is ENABLED.

- Acknowledge- Specify if the time system messages should send ack to the time system. Default is ENABLED.
- Cardnolenght- Specify the length of cardno, number in range 1 to 10.
This parameter must be defined!
- Cardnoprefix = <str> - Specify a prefix to use in front of cardno. Default is "".
- Checksum- Specify if program should handle checksum in the protocol between the systems. Default is ENABLED.
- Code<n> = <Timecon22 reason, CMG reason> - Parameter can be repeated and is used for mapping between access control system reason codes to CMG reason codes
Default are:
Code0 = A,0
Code1 = B,1
Code2 = C,8
Code3 = D,4
Code4 = E,6
- Databits- [5, 6, 7, 8, 9] Specify the number of data bits in the serial communication. Default is 8.
- DeftTime = <Time> - Specify default return time. If old format is used and parameter TRUE is given at Code<N> option then this time is used as default time.
Default is 0800.
- Forward- Specify if the time system messages should divert the extension or not. Default is DISABLED.
- Parity - [NONE, ODD, EVEN, MARK, SPACE]. Specify the use of parity in the serial communication. Default is NONE.
- Port- The COM port to be used (e.g. COM1, COM2).
This parameter must be defined!
- Speed- [1200, 1800, 2400, 4800, 9600, 19200, 38400] The baud rate of the COM port. No default value. This parameter must be defined!
- Stopbits- [1, 2] Number of stop bits. Default is 1.
- XonXoff- Specify the software flow control. Default is DISABLED.

TimeZoneUpdate

Update (or create) the timezone table in the Nice database.

Program Arguments

-n <name>	Name of process as defined in the registry. Default is timezoneupdate.
-l <level>	Trace level.

Description

The TIMEZONEUPDATE program is executed once, when Nice services is started:

- The program reads timezone from the Windows registry.

- Then create the timezone table in Nice database.

The reference time in database is Universal Metric Time (UMT).

If the timezone table in the database is cleared, it will be re-created the next time when TIMEZONEUPDATE program is executed.

If a new timezone has been added, TIMEZONEUPDATE program will update the Nice database, i.e. each timezone is given a unique numerical ID type.

NOTE: If the timezone table in Nice database is wrong/missing/corrupt, and timezone enabled, it will not be possible to login to CMG Web or CMG.

Registry Parameters

The TIMEZONEUPDATE program supports all of the registry parameters described in section 3.2.

viprouter<net>

Translates operator flashes for calls having passed the IVR system.

Program arguments

-n <name>	Name of process as defined in the registry. Default is viprouter<net>
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.
-w <password>	SQL Server login password.
-l <level>	Trace level.
-c <connections>	Defines how many client processes can connect to the input named pipe simultaneously. Default is 1.
-d <flash delay>	Number of seconds to disable flashes after this process has sent one.
-a <network addr.>	Full TCP/IP address of the VIP2000 process port.
-p <port>	Input port to receive network flashes.
-x <pbxid>	If <> 0; specifies the id of the PBX. If = 0 if there are more than one PBX supported by the system.

Description

The main task of this program is to translate flashes generated by calls that pass the IVR system before reaching an operator. A normal scenario is;

1. Someone calls extension 1234, which is diverted to the VIP2000 system.
2. The VIP2000 system answers the call on its line 6111.

3. VIP2000 asks the vipserver for intercept information for extension 1234 and presents it to the caller.
4. The caller requests to be connected to an operator.
5. VIP2000 sends a 151 transaction to the vipserver. This transaction contains information about the original called extension and the line used to answer the call. (1234 and 6111).
6. The vipserver sends this information to the viprouter, which will store it in an internal table.
7. When the operator answers the call a flash from the process flashudp will be diverted to the viprouter TCP/IP port. This flash contains the operator id and the 6111 extension number in our example. The viprouter scans its table for extension 6111 and picks up the original extension 1234. A new flash for extension 1234 is sent out to the current operator.
8. A transaction 101 is sent to the VIP2000 system to inform it that the operator has answered the transferred call and that the VIP2000 can hang up the line.

Registry parameters

The VIPROUTER<NET> program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Config` the values;

- Delay - Number of seconds to disable flashes after this process has sent one.
Default is 0 (seconds).
- NicesrvPipe - Defines the name of the pipe onto which flashes will be sent if the current icp-client is of NOWTYPE according to the definition in the table flashclient. This pipe is normally read by the nicesrv process which will use this information to be able to answer requests from Now-clients for the original searched extension.
- Pbxid - If <> 0 it specifies the id of the PBX, if it is 0 it indicates there are more than one PBX supported by the system. Default is 1.
- Port - The TCP/IP port to receive network flashes.
- PrefixedExtno - If set to "Enabled" all extension numbers handled by this process is assumed to have a PBX node prefix as defined by the column "DisplayPrefix" of table "PBX".
- vipshvd - IP address of the VIP2000 process port.

vipserver

Interface program to the interactive voice system VIP2000 from InterNordia.

Program arguments

-n <name>	Name of process as defined in the registry. Default is vipserver.
-s <server>	Defines the Windows server name.
-u <username>	SQL Server login name.

-w <password>	SQL Server login password.
-l <level>	Trace level.
-p <port>	TCP/IP port on which the process shall accept connect requests from the VIP2000 system.

Description

This program acts as the interface between a VIP2000 system and CMG Server. The communication between the two systems is based on TCP/IP where the vipserver, as its name indicates, acts as the server that handles requests from the VIP2000 system.

The program support the following requests:

• 150	• Return the intercept information, cordless number, fax number, paging number, department etc. for the specified extension. This request will be generated when a call is answered by the IVR system.
• 151	• Information of the original called number and on what extension in the IVR this call has come to. This information is sent on to the process viprouter to make sure the correct flash screen will be shown if the call later on will be sent to an operator.
• 152	• Insert/Delete intercept messages for an extension. This transaction makes it possible to administrate your intercept information from a remote place using a standard telephone set by calling in to the IVR system.
• 153	<ul style="list-style-type: none"> • Set/reset the "Message waits" indication on the telephone set. When a voice message is stored in the IVR it will send a set "Message Waits" transaction to this program which will pass it on to the PBX (via table pbxfifo/process dbtopbx and process pbxcom). • When the voice message is read the IVR will send a reset "Message waits" request to the vipserver. If there are other non-read messages in the CMG dB for the current subscriber this request will be ignored. Otherwise it will be sent to the PBX by the vipserver process.
• 155	• Page the subscriber and tell him he has got a new Voice Message. This is achieved by inserting a record into the message table.
• 157	• Emulate *23* transactions from the PBX.
• 158	• Return a user's all intercept records, including future ones.
• 159	• Transaction to handle notification on specific message system, (used for unified messaging).

Registry parameters

The VIPSERVER program supports all of the registry parameters described in section 3.2, plus the following:

In the sub key `HKLM\SOFTWARE\Netwise\Nice<dbid>\Programs\<program name>\Vip` the values;

- **AnumberLookup** - If the system supports Unified messaging and the PBX has support to display A-number then this parameter makes it possible to send A-number presentation of the user who leaved the voicemail. Default is DISABLED.
- **MailChannel** - If the CMG system is configured for more than one mail channel this process must be informed which one to use for trans 159 (Unified messaging).
- **PagingMessage** - The message that will be sent to the subscriber to notify him he has got a new Voice Message.
- **Port** - The TCP/IP port of the VIP2000 system.
- **PrefixedExtno** - If set to "Enabled" all extension numbers handled by this process is assumed to have a PBX node prefix as defined by the column "DisplayPrefix" of table "PBX".
- **RouterPipe** - The name of Vip Router's input named pipe (e.g. `\\.\pipe\01VipRouter`).
- **SMSChannel** - Specify CMG Message channel to use as SMS notification channel by trans 155.
- **StoreMessage** - Specify if the message notification should be sent to channel 0 when users get a new voicemail. The normal case is only to send a message wait on / off to the PBX. Default is DISABLED.
- **StoreMessageText** = <some text> - If StoreMessage is enabled then a text has to be specified that tells the user about the voicemail.
Default is "Meddelande finns i röstbrevlåda".
- **SubjectPrefix** <some text> - If AnumberLookUp is enabled then this parameter specifies the text in front of a-number in the mail header.
Default is " från: "
- **VipMailPort** - If AnumberLookUp is Enabled, then the Vip mail port to receive the A-number has to be specified.

Technical Assistance

Mitel provides www.mitel.com as a starting point for technical assistance regarding all products, including CMG. From here, partners can obtain online documentation, FAQs, latest software updates and request further technical assistance.

References

[1]CMG Installation Guide

[2]Enterprise Developers Conference II – GICI in MD110

