T · · Systems · · ·

rvsXP

Version 5.07

User Manual

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rvsXP
Version 5.07
User Manual

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Contents

Change History

The following changes of User Manual were made in the previous releases (including the current release):

Version 5.07

– New command: `check_conn`

– minor changes

Version 5.06

– rvs supports operating systems Windows Vista, Windows 7 and WS 2008

– minor changes

Version 5.05

– new chapter about uninstall rvsXP and minor Updates

Version 5.0

– Alternative Networks: A neighbour station can be reached via different networks. See chapter 4.1.9 "Alternative Networks"

– Online Decryption (Type of decription wenn receiving a file) is as a new ODETTE parameter implemented. See chapter 4.1.2 "Setting up ODETTE parameters"

– new ODETTE parameter Crypt.version (CRYPFLAGS). See chapter 4.1.2 "Setting up ODETTE parameters".

– rvs® parameters are now described in the Reference Manual, because they are common for all rvs® portable platforms

Version 4.05:

– XOT connection in the chapter 4.1.8 "Setting up XOT parameters"

Version 4.0:

– size limit of files to be transferred is now 10 GB.

– new parameters in the OP table: OFTP Version and User Separation (See chapter 4.1.2 "Setting up ODETTE parameters").

– new supported platform HP Itanium (See chapter 1.2 "History").

– new feature: Backup and Recovery (See chapter 10 "Backing Up and Recovering rvsXP Data").

1 Introduction

The present chapter gives a brief introduction to the rvs® system, describes the structure of the rvs® manuals and defines the target group. It explains the typographic conventions used in the present manual.

1.1 Short description of the system

What is rvs®?

rvs = Rechner-Verbund-System

The abbreviation rvs® stands for the German word Rechner-Verbund-System. The rvs® computer communication system is a well established base service for electronic data interchange, EDI.

rvs® serves to ensure transmission of electronic data between heterogeneous computer platforms using different network protocols. To do so, rvs® implements a universal network model, which you can configure in each network node.

rvs® provides an efficient and reliable transport service for both standardized EDI message types and files of any format or contents. You can receive only such files that are explicitly destined for rvs®. This means that rvs® does not allow any unauthorized access to remote or to own data files.

1.2 History

The system was originally developed by Volkswagen AG and has been used in the German and European automobile industries for a number of years but also by banks, insurances and industry worldwide.

rvs® uses the OFTP protocol. An extension to the OFTP standard was developed for Volkswagen AG: It has been enhanced by a line driver for SNA LU 6.2.

This “portable” version of rvs® has been developed in order to complement the classical rvs® product line, which is based on MVS and VSE mainframes, for use on midrange, mini systems and personal computing. Though the design and make of this product line differs considerably from the mainframe versions, the functional spectrum is almost exactly the same as that of rvs® MVS.

Supported platforms

The following versions of portable rvs® are currently available:

Platforms *(continued)*

- rvsX for AIX using X.25, XOT, ISDN and TCP/IP
- rvsX for HP-UX using X.25, ISDN and TCP/IP
- rvsX for Linux using ISDN, XOT and TCP/IP
- rvsX (Linux/zSeries) using ISDN and TCP/IP from rvsX 2.06 onwards
- rvsX for Solaris using ISDN and TCP/IP
- rvs400 for IBM OS/400 systems using X.25, ISDN and TCP/IP
- rvsNT for MS Windows NT / 2000 using X.25, ISDN and TCP/IP

– rvsXP for MS Windows 2000 / XP / Vista / 7 and WS 2003 / 2008 / 2008 R2 using X.25, XOT, ISDN and TCP/IP.

What rvs® is not

rvs® is not an online system. It neither supports direct terminal-like access to other sites, nor does it provide a communication pipe from application to application on a data record level. You cannot use rvs® to directly execute transfers in your own application. You rather can place send orders from within you application to rvs® which will be handled asynchronously.

rvs® is not a job scheduling system.

rvs® does not care about the contents of the files it is transporting. It only acts as a transparent transport medium and performs no semantic interpretation of the data it carries.

rvs® is not an EDI converter. You can, however, purchase additional components for converting between specific message formats (e.g. VDA, ODETTE, EDIFACT, XML) using rvs® as transport service viaT-Systems GmbH.

rvs® is not a network control or monitoring tool.

Basic rvs® functions

Reliable transmission, cross-platform

The main function of rvs® is the reliable transfer of files. rvs® is suitable for transferring both large files and many small files. rvs® supports communication between different networks with many stations based on different platforms. In other word: rvs® supports various data formats.

The key features of rvs® are:

– The Monitor, the central rvs® component, controls all work to be done. rvs® works asynchronously: You place a send order with rvs®. rvs® executes this send order as fast as possible. Benefit: You or your application need not wait for the transmission to terminate.

– The connection to the communication partner is automatically established when necessary.

– The automatic submission of jobs after reception of a file is controlled by means of resident receive entries (follow-on processing). Usage of file name, user IDs, and station IDs is supported.

– The file transfer is possible for the following record formats:
  U unstructured
  T text,
  F fixed record length,
  V variable record length.

– Extensive security and authorization checking is performed.

Basic functions *(continued)*

– rvs® automatically repeats the transmission after an unsuccessful connection attempt or disruption of a connection. rvs® only transmits

the parts of a file not yet transmitted when a disrupted transmission is resumed. Therefore it is suited particularly to transmit large quantities of data even under difficult conditions. The compression of data during transfer increases transmission line throughput.

- Online or offline compression more effectively uses the transmission line capacity.
- The rvs® encryption ensures data security during network data transmission.
- The graphical user interface features menu control.
- Besides a graphical, menu controlled interface the rvs® batch interface (rvsbat) is provided. That means that you can call rvs® from within batch or command files.
- With a C-Call interface application programs can call functions of the C language to directly generate rvs® command entries.
- The ODETTE File Transfer Protocol, OFTP, is used.
- The ISDN, X.25, TCP/IP and SNA LU6.2 line protocols communication are supported; however, not all system environments support the complete range of protocols.
- Message LOG files are provided for revision purposes.
- rvs® supports multiple languages in messages, operator console and user interfaces (presently English and German).
- The data conversion, if wanted, can be carried out. Text files are automatically converted to the code (EBCDIC or ASCII) used on the target partner system.
- The earliest date/time of a transmission can be defined for each file to be transferred.
- A serialization facility allows the transfer of files in a sequence which you can define.
- rvs® automatically generates receipt acknowledgments (EERP as per the ODETTE standard) and supports partner-related control mechanisms during acknowledgment transmission. The user can choose to have the acknowledgments immediately sent by default, when suitable, or after manual intervention only; he can also delete individual receipts without sending them.
- rvs® supports the integration of applications and users as “virtual stations”. These do not exist as real stations but as a representation can receive or send data.

1.3 Encryption and offline compression

Encryption even from V2.05 onwards

rvs® provides powerful, customizable functions that add useful features to the rvs® data transmission solution:

– rvs® is able to encrypt and decrypt files in order to ensure privacy of the data when being transmitted over a network. This is especially useful for none-private wide area networks, e.g. when using the internet.
– Data may be compressed offline before network connection is established, in this way network costs are significantly reduced.
– All formats and character sets are supported.
– You can also configure compulsory encryption.

Both – encryption and offline compression – work automatically after having been configured once on a station by station base. The described features work directly between sender and receiver. Routing stations conveniently forward the encrypted and compressed files.

Sender and receiver use rvs®

Compression and encryption are available if both partner stations (sender and receiver) use rvs®. OFTP routing is not affected, i.e. encryption does not affect the routing stations on the way.

On MVS systems the encryption and compression subsystem enables extended file format information which prevents loss of file format information (e.g. block size, blocked, ASA).

Product independent of rvs®

Com-Secure is an independent product for offline encryption and compression developed by rvs® that also runs with other OFTP products (other than rvs®).

Encryption features

Symmetric and asymmetric encryption

The security of rvs® uses both symmetric (3DES) and public-/private-key encryption (RSA). Symmetric encryption uses the same key for both encryption and decryption. The public-/private-key manner uses two different keys each for encryption and decryption.

Symmetric encryption is stronger from a security standpoint, and the public/private-key encryption and decryption are more expensive than the corresponding operations in symmetric systems. The primary problem with symmetric encryption is not their security but with key exchange and the number of the keys. With a private and public key pair it is possible to distribute the public key by using insecure communication channels and use one key with different partner stations.

New key for each session

rvs® performs symmetric encryption on the files to be sent. The actual file being sent is then encrypted using the session key and sent to the recipient. The sender sends this session key, secured by public/private encryption, to the receiver prior to file transmission. It is possible to create and use private and public keys with a size ranging from 768 to 2048 bit.

Digital signature

Furthermore rvs® provides a digital document signature protecting the transmitted file against changes and verifying the ownership of the transmitted data. The implementation of this feature uses a hash function (SHA1). A hash function is a many-to-one function that maps its input to a value in a finite set. This value is encrypted with the private key of the sender to guarantee the identity of the file owner.

Offline compression features

Algorithm: GNU zip

Compression is performed using the GNU zip algorithms[1]. rvs® applies a compression compatible with gzip (rfc. 1952). The compression method reduces the data size in the best case down to a level of 30% and essentially never expands the data.

Only very small files grow in size due to the process information added. The compression is independent of the CPU type, operating system and character set and performs an integrity check of the decompressed data.

1.4 Target group

For rvsXP users and administrators

This manual is meant for regular users of rvsXP as well as administrators. It provides an overview of the basic rvsXP functions and also background information on rvs®.

The rvsXP concept generally does not require an administrator. There are, however, tasks that cannot do without manual intervention. There is, for example, the very important task of maintaining the database. This requires regular cleanups and backups.

[1] 1995-1998 Jean-Loup Gailly and Mark Adler; for more information see Glossary

To use rvsXP the following skills are required:

– good knowledge of the current operating system

– knowledge of the communications techniques in use (X.25 native communications, ISDN, XOT and/or TCP/IP).

Before starting to work with rvsXP it is advisable to have read this book.

1.5 Structure of the rvs® documentation

The rvs® documentation consists of the following manuals:

User Manual The User Manual contains all important steps about installing and configuring rvs®. It shows you how to transfer files and handle the rvs® database and describes integrated features such as rvs® encryption, off-line compression, and code conversion. For this purpose, the rvs® administrator has unrestricted access to all functions. The rvs® user has access to all functions dealing with the transmission and reception of files.

Reference Manual The Reference Manual is the common manual for rvs® portable (rvsX, rvsNT, rvsXP, rvs400). It contains descriptions of the C-Cal interface (`rvscal`), the rvs® batch interface (`rvsbat`) and of the rvs® utilities (mostly for rvsX, rvsNT, and rvsXP). Furthermore, this manual contains information on the technical background of rvs®.

Messages and Return Codes Manual This manual describes all messages and error codes which could be displayed on the rvs® Monitor and in the log file.

Media The User Manual and the Reference Manual are available as printed and as electronic documents (PDF). The Messages and Return Codes Manual is only available as electronic document.

1.6 Representation means

This chapter contains the description of the typographic conventions which are used in this manual and the explanation of the expressions which are marked.

Typographic conventions

- Instructions begin with a bullet.

– Other lists begin with the en dash.

Character styles

`Courier`	Commands, menu commands, file names, path names, programs, examples, scripts, options, qualifiers, data sets, fields, modes, window names, dialog boxes and statuses
BOLD and **IN CAPITAL LETTERS**	Parameters, environment variables, variables
“Inverted commas”	Links to other manuals, sections and chapters, literature
Bold	Important terms, names of operating systems, proper names, buttons, function keys.

Terms and variables

Program names

rvsXP is the synonym of rvs® for **Windows XP / 2000 / Vista / 7** and **WS 2008** systems.

rvsNT is the synonym of rvs® for **Windows NT** systems.

rvsX is the synonym of rvs® for **UNIX** systems.

rvs400 is the synonym of rvs® for **OS/400** systems.

Here the “naming” operating system is mentioned only.

Directories

As user directories are found on different locations for the different operating systems and respective hardware/software environments we use the **$RVSPATH** variable in this manual. Default values are:

– `C:\rvs` for **Windows XP, 2000**, **Vista, 7, WS 2003** and **WS 2008**
– `/home/rvs/` for **AIX**, **Solaris**, **Linux**, and **SCO**
– `/users/rvs/` for **HP-UX**
Substitute the variable with your correct path.

2 Installation of rvsXP

This chapter describes the system requirements, installation of ISDN, X.25 and TCP/IP protocols and of rvsXP.

2.1 System requirements

Hardware and software

You need the following equipment in order to operate rvsXP:

– PC (i386 platform), 300 MHz clock rate, at least 128 MB RAM and 1.5 GB of free hard disk space

– Microsoft Windows XP / 2000 / Vista / 7 / WS 2003 / WS 2008 or WS 2008 R2

– Communication line based on ISDN, TCP/IP, X.25 or XOT

– Hard disk storage for data transmission.
Recommended value: at least twice the size of the files to be transmitted.

Internal communication is based on TCP/IP. For this purpose the TCP/IP protocol must be installed. Instead of a network adapter the MS Loopback Adapter can be used.

2.2 Connection type installation

ISDN connection

If you want to use rvsXP to exchange data via the **ISDN network** you need the following equipment:

– ISDN type telephone connection with s_0 bus having at least two data channels (B-channel) and one control channel (D-channel)

– ISDN adapter

– CAPI 2.0 driver software for operation of the ISDN card under your Windows system.

This is how you install the ISDN interface:

- Install the ISDN card into your computer and attach the ISDN card to the ISDN connection.
- Make sure that the ISDN card works properly.

  Note: Many card manufacturers supply suitable software for a self-test, such as a call from one data channel to another. Restart your computer after installation and the test in order to make the CAPI 2.0 driver available for other applications.

External ISDN router

If you use an external ISDN router (e.g. BinTec Brick), you do not need an internal ISDN card. In this configuration, several applications can share the same Brick router. The Brick router supports the "Remote CAPI" interface. This means that every computer in your LAN uses the Brick router as if it were a local ISDN card in the computer.

Note: T-Systems GmbH has successfully tested the following ISDN devices for use with rvsXP:

Device	Manufacturer	Remarks
EICON DIVA Server BRI-2M	Eicon, http://www.eicon.de	
EICON DIVA Pro 2.0	Eicon, http://www.eicon.de	
EICON DIVA 2.0	Eicon, http://www.eicon.de	
Longshine LCS-8051A	Longshine, http://www.longshine.de	
BIANCA/BRICK-XS, -XL2, -XM, X4100, X4300, R1200, R4100 and R4300	Funkwerk EC, http://www.funkwerk-ec.com	
XOT compatible Router (z.B. CISCO 801, CISCO 2600, CISCO 2800, BINTEC X4300, R1200, R4100 oder R4300)	Cisco, http://www.cisco.com BinTec, http://bintec.de	X.25 über TCP/IP

– rvs® Support will provide you with the current list of tested devices

(phone from Germany 0800 664 77 45
phone from other countries +49 375 606 19 902
telefax: +49 30 / 3497-4139
email: rvs-service@t-systems.com

X.25 connection

If you want to use rvsXP to exchange data via an **X.25 type network** you need the following equipment:

– X.25 network connection

– Interface hardware for interfacing the X.25 network in your computer.

– Driver software for operation of the X.25 card under your Windows system.

If you already have this equipment then you install the X.25 interface as follows:

- Install the interface card in your computer and attach it to the X.25 network connection according to the installation instructions that came with the X.25 card.
- Make sure that the X.25 connection works properly. To do so use the X.25 diagnostic or operating software provided by the card manufacturer.

Note: T-Systems GmbH has successfully tested the following X.25 cards for use with rvsXP: EiconCard - EICON Technology Corporation (http://

www.eicon.de): Eicon C 90/91 PCI; cards manufactured by Net Open, Rua da Assembleia, 10, sl. 1201, Centro - Rio de Janeiro - RJ, Brasil Connectionto (http://www.net-open.com.br).

TCP/IP connection

The **TCP/IP protocol** is required for exchanging data using rvsXP and also for internal rvs® communication. For the data exchange you have to do the following:

- Install the network hardware with which you want to connect your computer to the network. For more detailed information consult the documentation provided by your hardware supplier.
- Display Network Connections:
  `Start -> Control Panel -> Network Connections`.

The right window section displays existing dial-in and network connections.

- Click the right mouse button on the desired connection and choose `Properties`.
- Choose the `Network` tab when you have chosen a dial-in connection.

Windows automatically installs the TCP/IP protocol. If the TCP/IP protocol is not contained in the list shown:

- Click the **Install** button.
  Highlight the TCP/IP protocol in the window displayed and confirm your selection with **OK**.
- Highlight the TCP/IP protocol and click the **Properties** button.
- Set the IP addresses for your environment and confirm with the **OK** button.
  Note: The network administrator will provide you with the IP addresses.
- Confirm the entries by pressing the **OK** button and close the `Network connections` window.

2.3 Installing rvsXP

If an installation is an update, please make a backup of your old rvsXP data. Make a copy of your licence key (file `rdkey.dat`), of your stations, users and Jobstarts (See chapter 7 "rvsXP database maintenance").

Hint for installation on Windows Vista, Windows 7 and WS 2008 Systems: Depending on configuration of Windows User Management you will be asked for the Windows administrator account and password before or during installation.

Start installation

- Start Windows and log in as an user with administrator rights.

- Insert the data medium labeled **rvsXP** in a drive.
- Skip the next three instructions if the rvsXP Installer starts automatically.
- Choose `Start -> Run`.
- Enter `D:\setup.exe` to run the installation program (if your CD ROM drive is drive D:).
- Confirm the entry by pressing **OK**.

The rvsXP installer now starts and guides you through the installation.

- Follow the installer instructions. You can confirm the `C:\rvs` target folder or select another.

  Please note that file and path names are not allowed to contain any spaces.
- You may choose between German or English as user languages.
- We recommend LOC as the station ID for the local station. However, you may choose a different ID.

  Important: The installer automatically enters the current XP user as rvsXP user with rvsXP administrator privileges in the rvsXP database. Heed the appropriate dialog during installation if you wish to use another user account for the rvsXP service.

The installation program creates the `rvs` folder in the `All Programs` start menu folder along with the required links (icons) to rvsXP applications.

Hint for using rvsXP on Windows Vista, Windows 7 and WS 2008 Systems:

If this applications should be executed by all users you have to set up the properties of the icons `rvsXP Administrator, rvsTrayIcon` and `rvs Monitor` with administrator privileges.

Tip: Read the `Readme.txt` file before you start the rvsXP-Administrator.

- Start the rvsXP-Administrator.

After your acknowledgement the rvsXP-Administrator generates the rvs database. This database is required to operate rvsXP. The program `Init Database` initializes this database and saves it in the database folder (`C:\rvs\db`).

extern database

rvsXP runs normally with a intern C-ISAM database. If you would like to install rvsXP with an extern database (e.g. Oracle or Microsoft SQL), please read the chapter 11 "rvsXP HighPerformance" for more information.

Specifying rvsXP Monitor / startup mode

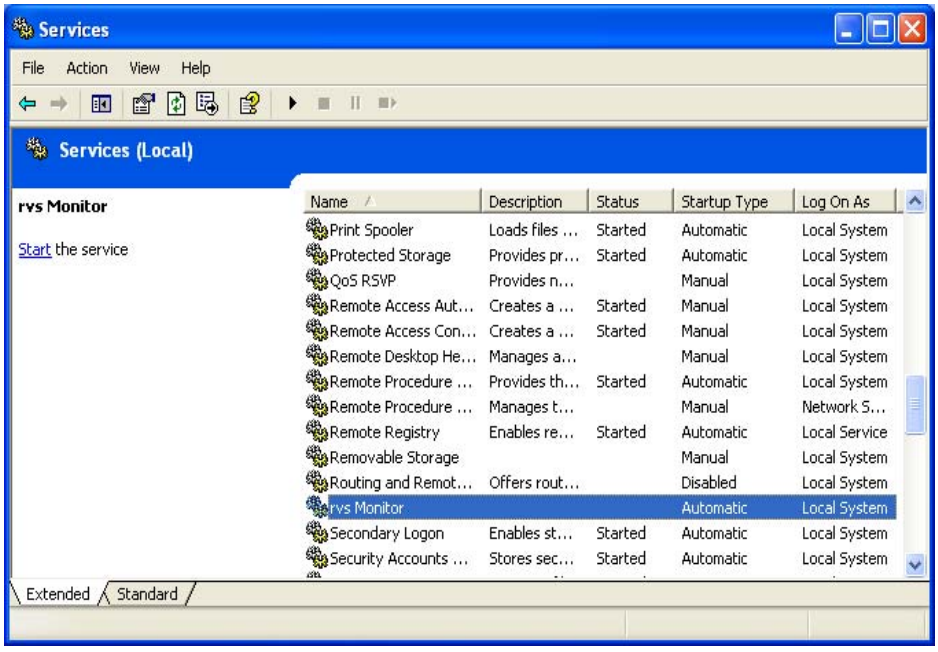
The `rvs Monitor` service provides the applications with information on the current data exchange processes. **Note**: The term Service means a program that can be started from the operating system and works in the background.

Automatic or manual service start

Depending on your choice during the rvsXP installation, the startup type for this service is `Automatic` or `Manual`. The user must manually start the service if the `Manual` startup type was chosen. The rvsXP-Monitor is at first set to `stop` in this case. If you want to start rvsXP-Monitor every time the system starts, you can set the startup type to `Automatic` by choosing `Automatic` from the combo box in the **Startup type** area.

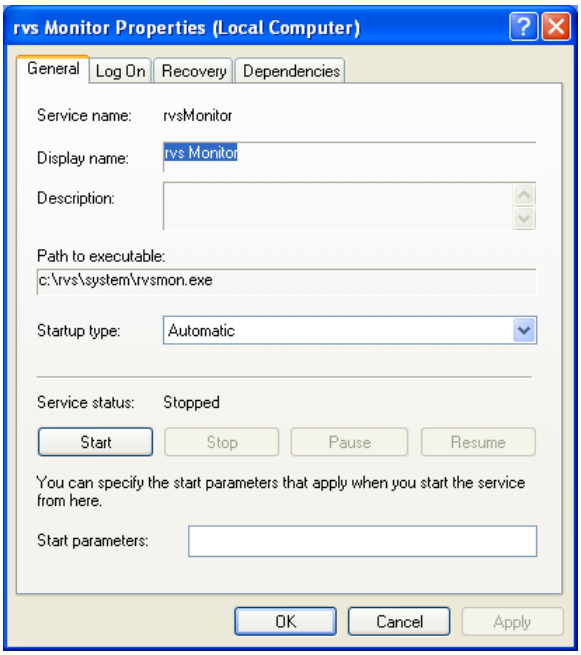
Change startup type

- Choose `Start -> (right mouse) My Computer -> Change a setting`.
- Launch the `Start -> Control Panel -> Administrative Tools -> Services` program. Windows Vista / 7: `Start -> Control Panel -> System and Maintenace -> Administrative Tools -> Services`
- Search the list of services for `rvs Monitor` and select the service by clicking the appropriate line.



- Double click on `rvs Monitor`.

The `rvs Monitor Properties (Local Computer)` window opens.



- Choose `Automatic` in the `Startup type` field and confirm with **OK**. The rvsXP Monitor startup type changes to `Automatic`.

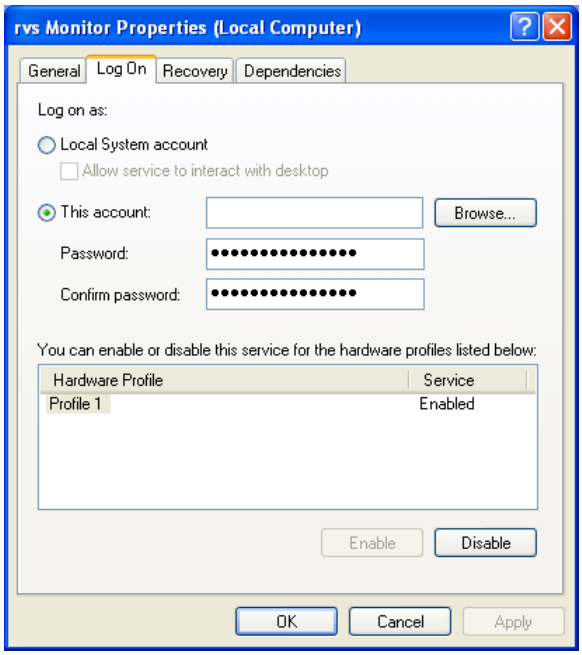
Assigning rvs® Monitor special user rights

Expanding access rights

By default the `rvs Monitor` service runs under the system user of the local machine. He has no access rights for network directories. If it is necessary for the rvsXP Monitor or the processes it controls (e.g. a batch job from a resident receive entry) to access network directories, the `rvs Monitor` service must work under a user authorized to do so.

To this end, proceed as follows:

- Double click on `rvs Monitor`.
  The `rvs Monitor Properties (Local Computer)` window opens.
- Click the `Log On` tab.



- Enable `This Account` and then click the **Browse** button to choose a user. After selecting a user enter the password twice and acknowledge with **OK**. The service will now be assigned to this user and has the same rights.

Starting rvsXP-Monitor for the first time

- Double click on the `rvs Monitor` service.
- Click on the **Start** `button`.

Windows XP will now try to start the service. If the attempt is successful the rvsXP Monitor status will change to `Started`.

The entry is rvs Monitor Started Automatic.

2.4 The rvsXP program environment

After installation

The rvsXP installation program creates a folder with all links required for the rvsXP program environment. The following table shows the program functions and the link instruction with the respective parameters. You can start the program by invoking the associated link, at the command prompt (`Start -> All Programs -> Accessories-> Command Prompt`) or by using the command `Start -> Run`.

Program	Function / information	Link = command prompt command or Start / Run...
Init Database	Initializes the rvsXP database. LOC is the standard station ID for your own (local) workstation.	C:\rvs\system\rvsiniNT.exe LOC
Get Machine ID	Reads a three- or four-character machine identification number and displays it on the screen.	C:\rvs\system\rvsgmid.exe
rvsXP administrator	Graphical configuration, administration and operating program for the rvsXP administrator.	C:\rvs\system\rvsmgr.exe
rvsXP	Graphical user interface for the rvsXP user. The tool for daily data exchange.	C:\rvs\system\rvsdiant.exe
Batch	Program for processing batch jobs when anticipated data arrive.	C:\rvs\system\rvsbat.exe
Delete Database	Deletes the rvsXP database.	C:\rvs\system\rvsdbdNT.exe
Monitor parameters	Opens the file with initialization commands.	notepad.exe C:\rvs\init\rdmini.dat
Readme file	Opens the readme file with the latest information that is not included in this manual.	notepad.exe C:\rvs\system\README.TXT
Stop rvs Monitor	Stops the rvsXP Monitor.	C:\rvs\system\rvsstop.exe
rvs Console	Command prompt window for displaying messages and entering operator commands. Has been replaced by the `Monitor Log in the rvsXP Administrator` MDI window.	C:\rvs\system\rvscns.exe
Dialog	rvsXP DOS prompt for creating and receiving send orders. Has been replaced by rvsXP.	C:\rvs\system\rvsdia.exe

2.5 How to obtain a license

You need a license key to work with rvsXP.

Contact

Please contact rvs® after-sales service to receive a license key.
phone from Germany: 0800 664 77 45
phone from other countries: +49 375 606 19 902
email: rvs-service@t-systems.com

Receipt of a temporary key

After initial installation you can receive a key for test purposes for a limited period of time for free:

- Inform your rvs® after-sales service of your rvsXP version (e.g. rvsXP, Version 5.4) and he will send you a license key by email.
- rename the received license key to `rdkey.dat` and copy `rdkey.dat` to the `Init` folder.

License key for a full rvsXP version / License key update

- Start the `Machine ID` application in the `rvs` folder. The program now displays a three- or four- character machine identification number on the screen.
- Inform your rvs® after-sales service of the machine identification number and the rvs version and he will send you a license key by email.
- Make a backup copy of the old `C:\rvs\init\rdkey.dat` file in order to be able to restore the original file status.
- You should save the received license key as `rdkey.dat` file in the `Init` folder.

The license key has now been adapted.

Structure of the license key data

`rdkey.dat` file

```
0000000000          ! Customer Number       00000010
XP                  ! Product               00000020
5.00                ! Release               00000030
5LTX                ! Included Components   00000040
TESTINSTALLATION    ! Customer Name (Part   00000050
                    one)
                                            00000060
                    ! Customer Name (Part
                    two)
                    ! reserved              00000070
                    ! reserved              00000080
                    ! reserved              00000090
                    ! reserved              00000100
                    ! reserved              00000110
                    ! Computer Model        00000120
TESTVERSION         ! PHYSICAL CPU          00000130
                    IDENTIFICATION
94211               ! Expiration Date       00000140
CA580BE5 20189735 612035F9 77AD6591         00000150
162D0D7F 18FAB129 53B14EA4 79390F44         00000160
*******************(C) T-Systems 2007      00000170
*         make a success of rvs             00000180
************************************        00000190
```

“Included Components” may contain two or more feature codes:

T	TCP/IP communications
X	X.25 native / ISDN communications
E	rvs® Engdat (with Engpart)
S	rvs® Client/Server
Y	Encryption
Z	Offline Compression
P10	Number of partner stations

Not all features are available on all platforms at this time.

Expiration date

The license expiration date is designated YYTTT where YY means the year, TTT the day-of-year of the respective year.

Note: Do not modify any of the fields in the license key file unless explicitly asked to do so by T-Systems GmbH.

2.6 Uninstall rvsXP

In order to uninstall rvsXP, please follow the following procedure given below:

- stop all running rvs applications (Administrator, rvsTray Icon etc.)

- we would recommend you to back up the station table, the database and the licensekey
- start the Windows uninstall routine and the first window will open. Answer the question whether you would like to delete rvsXP include all components with **Yes**
- In the following dialog you can decide, whether you would also like to delete the backup files and the user files. We do not recommend this, since you would thus delete the directories arcdir, init and usrdat.
- In the next window, it is displayed, which components have been deleted. Click on **OK** in order to end the uninstall program.

3 Function Tests

Test without network

The present chapter describes two types of function tests. For one of the tests you send a file from your working environment to yourself, thus ensuring rvsXP correctly accepts and processes the jobs. For this test you do not yet need a functional network link because rvsXP-Monitor simply copies the data sets internally when you send to yourself.

Network line test

A second test is a network line test you can execute by activating the local station.

3.1 Sending a file to yourself

To this end, proceed as follows:

- Start the `rvsXP Administrator` program in the `rvs` folder.
- Start rvsXP-Monitor if it has not already been started.
- Start the `rvs` program with the `Start Program Dia` command.

  The `rvsXP rvsDia` window then opens and displays the list of files which have not yet been sent.
- Create a new send entry with **New Send Entry**.

  The `Choose file to be sent` dialog box opens.
- Select any file and confirm your selection with **Open**.

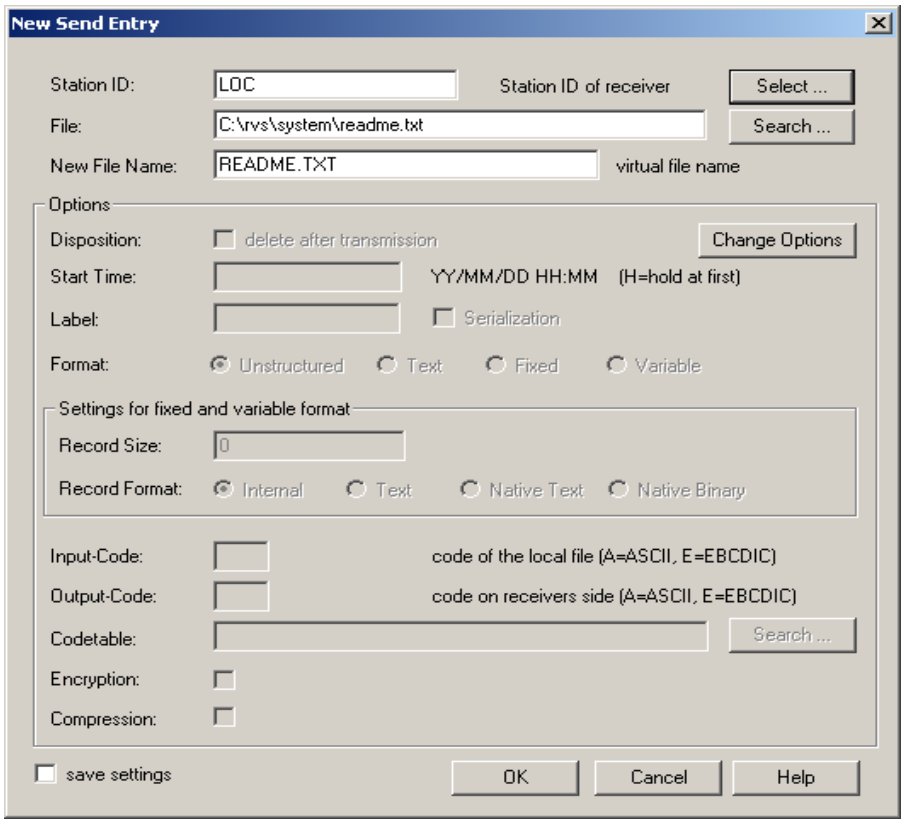
  `Example: C:\rvs\system\readme.txt`

  The `New Send Entry` dialog opens and displays the file name selected in the `File` field.
- Enter the station code for your station in the `Station ID` field.

  or:
- Choose Select... to open the `Select Station` dialog and select the ID.

  `Example: LOC`

  LOC is the default setting.
- To send the file to the recipient with another name, type the new file name in the `New Name` text box. This virtual file name (VDSN) may be lang only 26 characters.



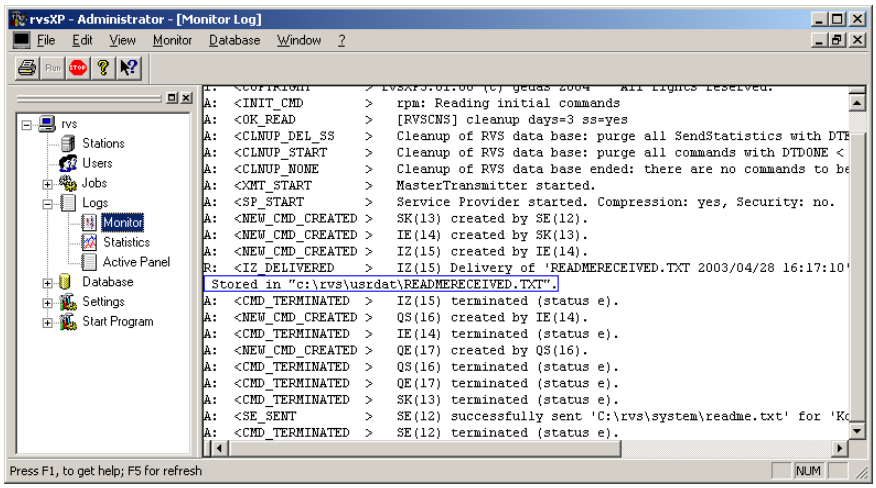
- Confirm your entries with **OK**.

  This will save the send entry for transmission of the file in the rvsXP database. The job to send the `readme.txt` to your station has been created. rvsXP lists the job in the list of files waiting to be sent.

- Go to the `rvsXP-Administrator`.

  The `Monitor Log` window shows the rvsXP Monitor activities.

  The rvsXP-Monitor reads the send job and executes it: Using the LOC station ID rvsXP-Monitor recognizes the own station as the target and copies the file to the `C:\rvs\usrdat` folder.



- Check the output in `Monitor Log` for error messages.
- Eliminate any errors that occur in accordance with the advices in the "Messages and Return Codes" manual.

  Note: Error messages start with `E:` and are written in red.

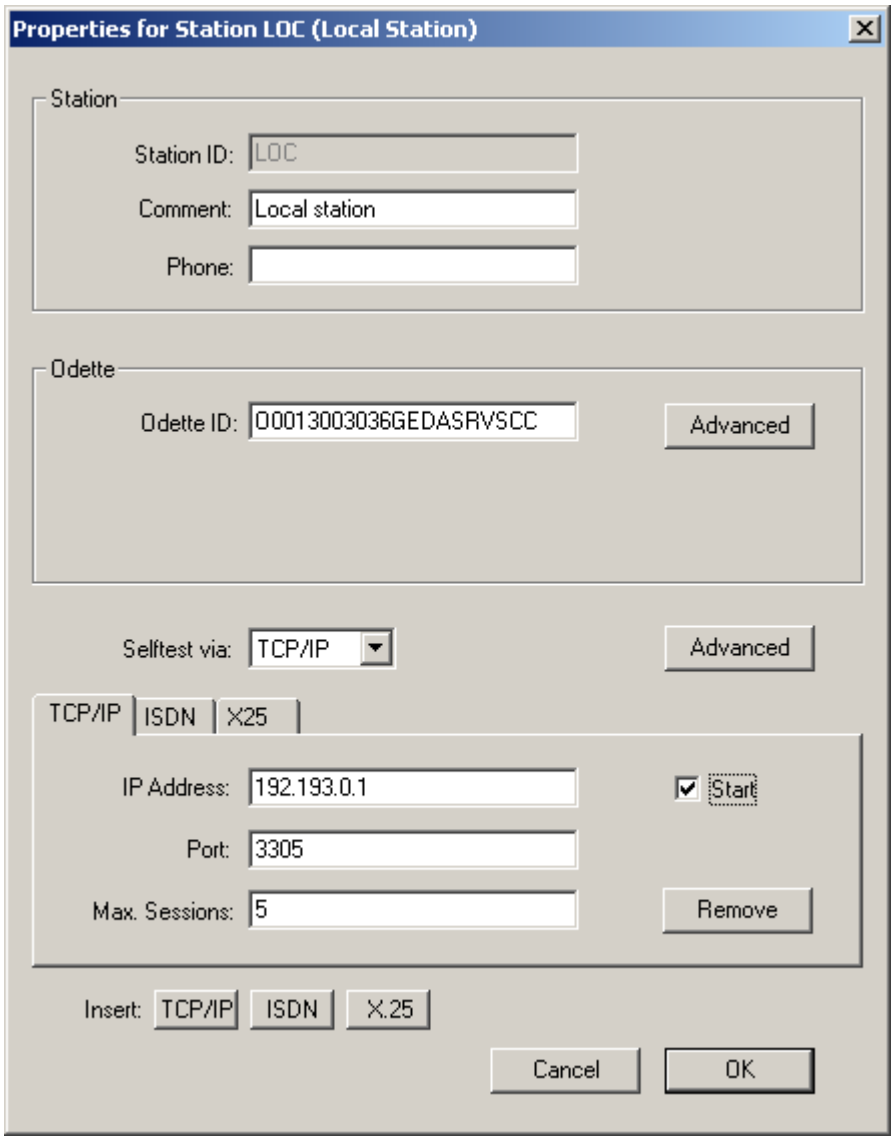
3.2 Testing the connection with the local and the partner stations

To ensure proper functioning of the network link you can use a self test to check the local station's connections. Perform the following steps, first for the local station. When the self test was successful you can perform a connection text with a particular partner station.

Preparing the local station

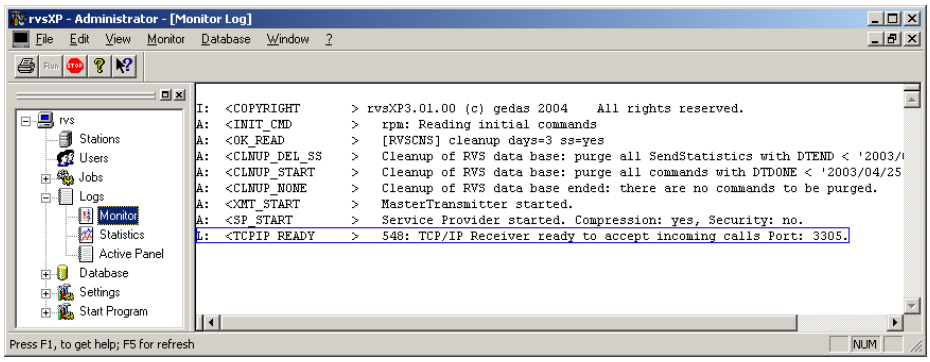
- Open the station table with the `Stations` menu command.

  The window `Station table` for managing the partner stations opens.
- Select the local station.
- Double-click the station entry or choose `Edit -> Update` to edit the station.



- Click the tab at the bottom for the connection you wish to perform a line test with.
  Note: Partner stations have only one tab here.
- Specify all line data.
  Heed the following
  - for TCP/IP: the IP address set for your network interface card
  - for ISDN: the correct phone number
  - for X.25: the correct X.25 address.
- Check the `Start` box.
- Confirm your entries with **OK**.
- Stop and restart rvsXP-Monitor.

- Check the output in `Monitor Log`. A message must indicate the chosen connection is ready to receive.



- Open the station table with the `Stations` menu command.

Link test between local and remote station

To test the link between local and remote station proceed as follows. Start with the local station first unless you are sure it functions correctly.

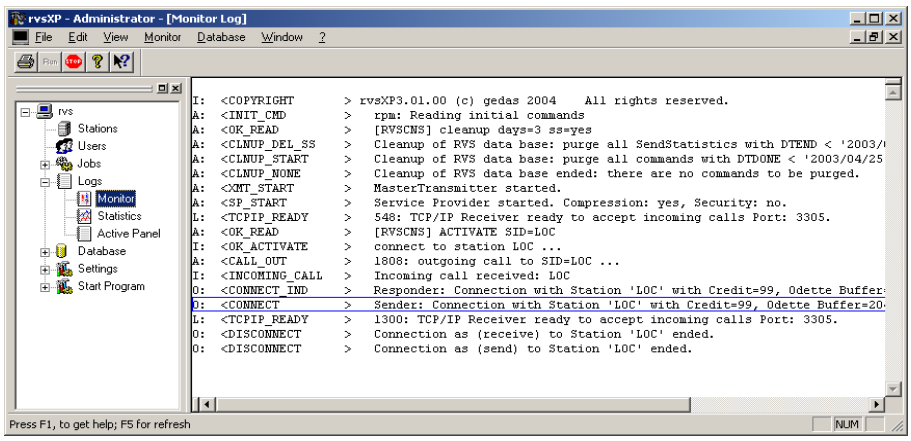
- Choose the local or partner station to be tested and choose `Edit -> Activate`.

  rvsXP-Monitor reads the operator command and executes it.

  The `Monitor Log` window shows the rvsXP Monitor activities. A message of the type

  `O: <CONNECT > Sender: Connection established with station 'LOC' with credit=100, Odette buffer=2047.`

  indicates a successful link test.



- Check the output in `Monitor Log` for error messages. Eliminate any errors that occur in accordance with the advices in the "Messages and Return Codes" manual.

4 Configuration of rvsXP

This chapter describes how to configure your rvsXP system, i.e. how to perform network and other basic configurations and how to assign rvsXP user rights.

Logging on as administrator

The `rvsXP-Administrator` is used to configure and manage rvsXP, and also for working with rvsXP. To be able to perform these tasks, the rvsXP-Administrator features appropriate detail windows. The rvsXP configuration requires that you have Administrator privileges at system level as well as in the rvsXP environment.

Program start with rvsTrayIcon

Tip: Using rvsTrayIcon

The installer sets up the rvsTrayIcon that facilitates launching the most frequently used rvsXP functions. After a Windows reboot you find this icon in the system tray.

To display the rvsTrayIcon right after installation,

- choose `Start -> All Programs -> rvs -> rvs rvsTrayIcon`.

Use the rvsTrayIcon to

– start the rvsXP-Monitor,

– stop the rvsXP-Monitor,

– start the rvsXP-Administrator, and

– open the rvsXP dialog where you can view and edit the rvsXP data transmission.

To start the rvsXP programs with the rvsTrayIcon

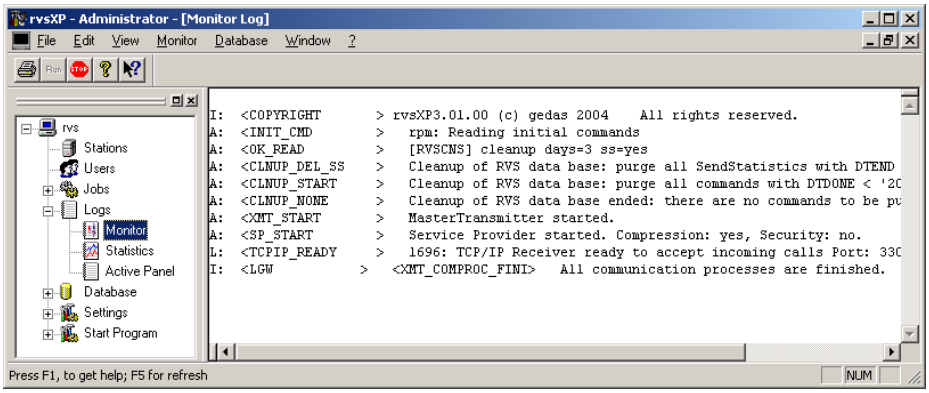
- click the rvsTrayIcon with the right mouse button and
- choose the desired menu item by clicking it with the left mouse button.

Starting the rvsXP-Administrator configuration program

- Start `rvsXP-Administrator` with the rvsTrayIcon command (right mouse button) `rvsTrayIcon -> rvs Administrator` or
- choose `Start -> All Programs -> rvs -> rvs Administrator` in the rvsXP folder.

Monitor log window

The `rvsXP-Administrator` then opens with the `Monitor Log` window displaying the current rvsXP-Monitor activities.



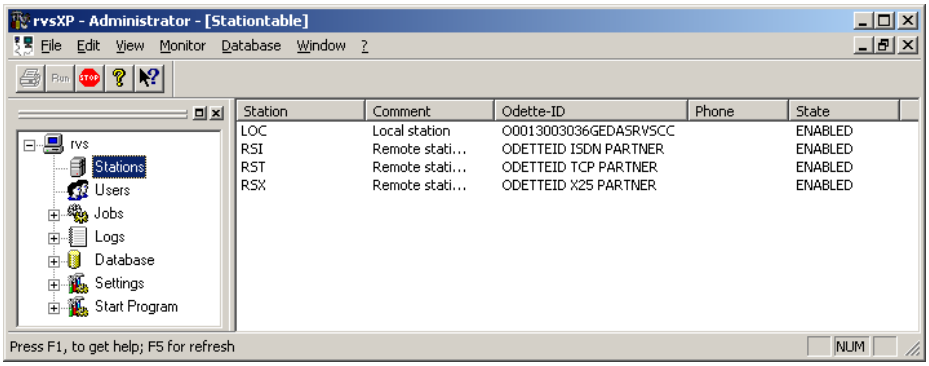
4.1 Setting up rvsXP stations

Before you can communicate with a partner station, you have to set up the partner station and your local station. The same also applies to your partner.

- Open the station table in the `rvsXP-Administrator` using the `rvs -> Stations` menu command.

Configuration example:

The window `Station table` for managing the partner stations opens. The table contains four sample stations after rvsXP has been installed:



LOC is the local station. If you have selected your own station ID for your local station during user-defined installation of rvsXP, then the station ID which you have selected will appear here.

Note: During default installation rvsXP sets up the following sample stations for the communication modes in the station table:

- RSI is a partner station for communication with ISDN.
- RST is a partner station for communication with TCP/IP and
- RSX is a partner station for communication with X.25.

Use the examples in order to set up your stations.

Updating a station

To update station parameters,

- double-click the station entry or
- execute the menu command `Edit -> Update`.

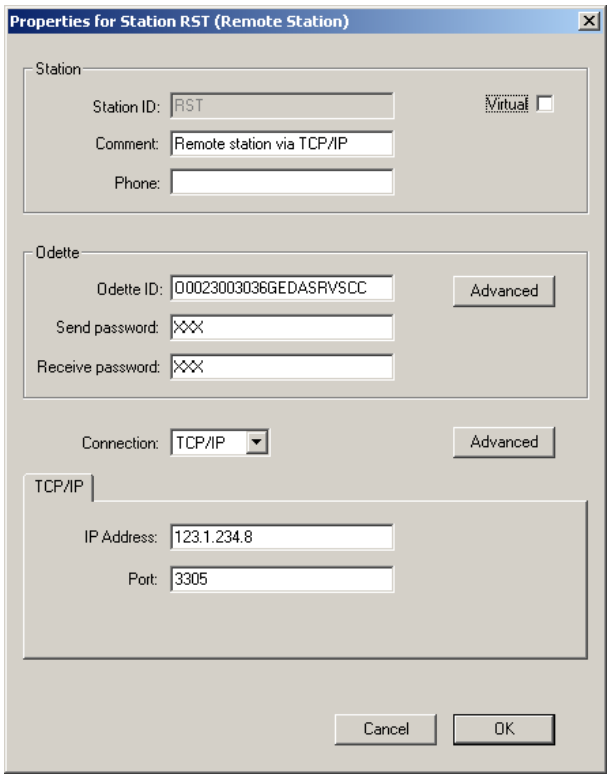
Adding a station

To set up a new station,

- click the right mouse button on the free area below the station list and choose `Add` or
- execute the menu command `Edit -> Add`.

The dialog window `Properties for Station` opens. It comprises three sections with station parameters.

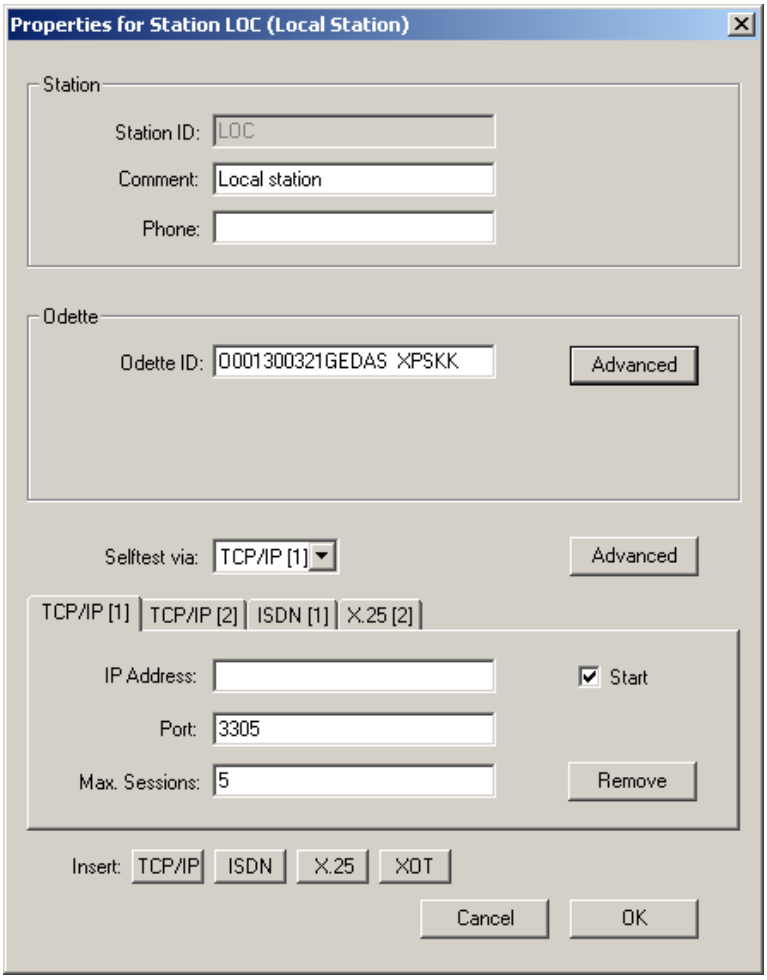
The **Station** area shows the parameters that identify a station locally on your computer. **Odette** shows the parameters relevant for the ODETTE protocol. The bottom section of the dialog contains the parameters for the line and the pertaining line protocol.



The dialog shows, depending on the feasibility of pertaining parameters, different property fields for your local station and the remote stations. The local station is always physically present and can never be a virtual station. Neither do you need a password to communicate with your own local station. This is why fields such as **virtual**, **Send password** and **Receive password** are available for remote stations only.

Simultaneous reception and sending via several lines

The sending and receiption is possible via different data lines and line protocols. How to configure this feature read in the appropriate network section in this chapter (Setting up TCP/IP/X.25/XOT/ISDN communication).



Use this dialog to view and edit the station properties. Click the **Advanced** buttons in this window to open additional property dialogs for the `Odette` and `Connection parameters` areas.

The abbreviations in this dialog stand for:

Station	The parameters that identify a station locally on your computer.
Odette	Parameters rvsXP needs for the ODETTE protocol.

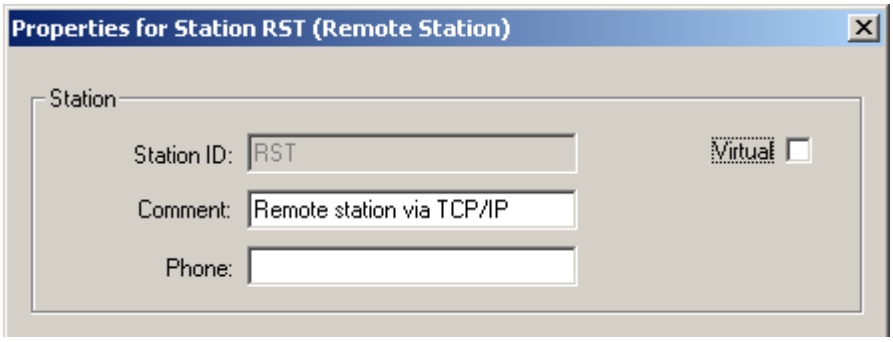
Connection	For remote stations only: Connection type by which the station is reachable.
Self test via	Corresponds to the connection with remote stations: Path used to reach the local station during a self test.
X.25 ISDN TCP/IP XOT	Details of the connection type chosen with `Connection` or `Self test`.
Routing	Parameters you need if you want to send files to an indirectly reachable station via your neighbor node.

The rvsXP database saves the parameters in following tables

- **ST** **S**tation**t**able,
- **OP** **O**dette **p**arameter,
- **NK** line type (**N**achbar**K**noten = neighbor node),
- **RT** **R**outing**t**able,
- **XP** **X**.25/ISDN/XOT-**p**arameters and
- **TC** **TC**P/IP networks .

- Enter the remaining parameters for the new station.
- Confirm your entries with **OK**.

4.1.1 Setting up station parameters

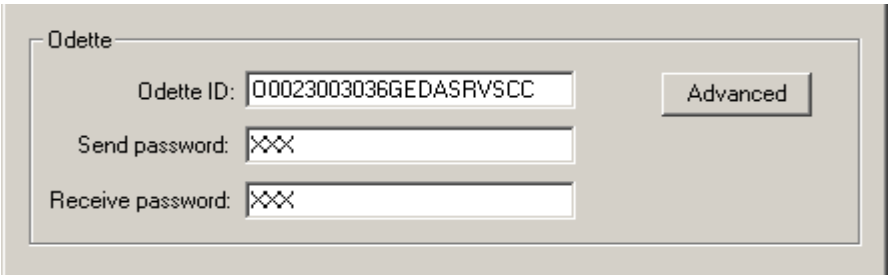


The `Station` area uses three parameters to identify the station:

Parameters	Meaning of station properties	Database parameter
Station ID	Partner station identity marker consisting of up to 16 characters.	**SID**
Station name	Station name (optional). Enter a descriptive name for the station so that the station will be easily recognized by the user.	**STATNAME**
Phone	(Optional) telephone number for the contact person at the partner station.	**PHONE**
Virtual	Indicates whether or not the station is a virtual station. Additional information: See “Setting up a virtual station” on page 64. Possible values: **L** Automatic assignment for the local station, cannot be chosen as station property in the dialog **V** (virtual): = selected, **R** (remote): = not selected, remote non-virtual station Default: **R** (remote), not selected; **Note**: This feature must be on in the licence key for an internal database (ISAM). For an external database it is inklusive and must not be regulated by the licence key.	**SIDTYP**

Note: Do not confuse the optional phone number for the contact partner with the phone number used for data transmission. Type the latter in the connection parameters for X.25 or ISDN, depending on the connection type.

4.1.2 Setting up ODETTE parameters



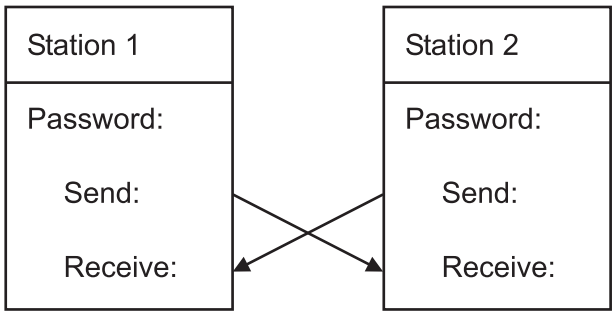
The `Odette` area contains information required by rvsXP for ODETTE file transfer.

For routing: no passwords

If you access the partner station via a neighboring station (connection type = Routing) you do not have to enter the parameters for passwords. This information has already been entered at the neighboring station. In this case, rvsXP ignores the existing entries during the communication process.

Parameters	Meaning of Odette parameters	Database parameter
Odette Id	In contrast to the station ID, which only has to be unique on your computer, the **ODETTE** ID is a worldwide, unequivocal identification of the partner or your own station, if ODETTE File Transfer Protocol is used. The **ODETTE** ID consists of 25 characters including the letter "O", the 18-character organization ID and the 6-character computer address within the respective organization. The computer address may be freely determined by the organization and must be unique.	**ODETTEID**
Send	Send password: rvsXP sends this password to the partner station as access authorization.	**PSWTO**
Receive	Receive password: rvsXP permits the partner station to have access with this password.	**PSWFROM**

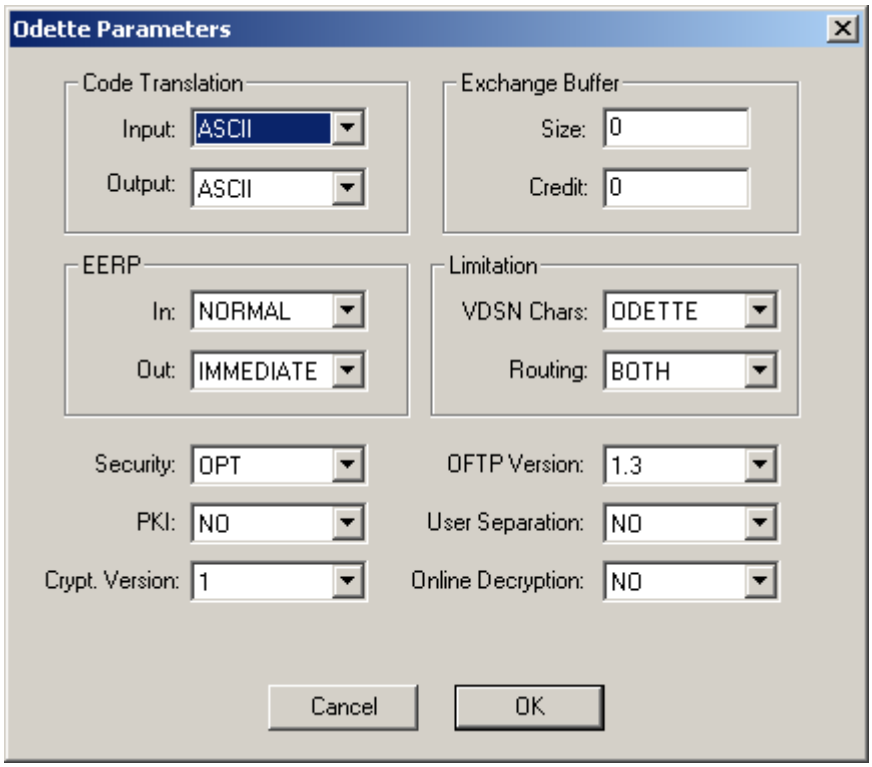
The local station does not display the password fields as no access authorization is required for communication with one-self. For a partner station you must agree on send and receive passwords with your partner. The partner must interchange the passwords during sending and receiving (see the illustration below). Communication aborts when transmission is attempted if the passwords do not match, and you receive an error message.



Note: You receive your personal ODETTE organization ID upon request from Verband der Automobilindustrie Abteilung Logistik (**VDA**), phone: +49-69/97507-283 Fax: +4969/97507-300.

rvsXP executes transfer with default values for the ODETTE file transfer protocol (OFTP).

- To view the default values or to change them, click the **Advanced** button. The `Odette-Parameter` window will open with advanced configuration options:



Parameters	Meaning of advanced Odette parameters	Database parameter
Exchange buffer size	Maximum transmission buffer size Default: 0, i.e. **OEXBUF** from parameter table applies.	**OEXBUF**
Exchange buffer credit	Maximum number of blocks sent without acknowledgement expected. Default: 0, i.e. **OCREVAL** from parameter table applies.	**OCREVAL**
Code translation input	Input format of the file which is to be sent, prior to conversion for the partner station. Values: **ASCII**: The files which are to be sent are in ASCII format **EBCDIC**: The files which are to be sent are in EBCDIC format Default: **ASCII**	**CODEIN**
Code translation output	Target format of the files for send transmission. Values: **ASCII**: During transmission rvsXP converts the files which are to be sent from input code format into ASCII format. **EBCDIC**: During transmission rvsXP converts the files which are to be sent from input code format into EBCDIC format. Default: **ASCII**	**CODEOUT**
EERP IN	Send transmission (EERP = "End-to-End-Response") acknowledgement; Values: **NEVER**: Partner does not send EERP, file dispatch ends with successful transmission. Do not wait for acknowledgement. **NORMAL**: Wait for acknowledgement by partner after successful file transmission. File dispatch ends with receipt of EERP. Default: **NORMAL**	**EERP_IN**

Parameters	Meaning of advanced Odette parameters	Database parameter
EERP OUT	Receive transmission (EERP) acknowledgement **NORMAL**: Prepare acknowledgement after successful reception of a file; send EERP only if a connection to the partner still exists, otherwise at next connection. **IMMEDIATE**: Prepare acknowledgement after successful file reception. Establish connection if there is no connection to the partner and send EERP to the partner. **NEVER**: Partner does not expect EERP. File reception ends with successful transmission. Do not acknowledge reception. **HOLD**: Prepare acknowledgement after successful file reception. However, do not send acknowledgement but wait for operator release. Send EERP after release only if a connection to the partner still exists, otherwise at next connection. **HOLDIMMED**: Prepare acknowledgement after successful file reception. However, do not send acknowledgement but wait for operator release. After the release: Establish connection if there is no connection to the partner and send EERP to the partner. Default: **IMMEDIATE**; Recommended: **NORMAL** Release acknowledgement again: 6.3.4 "Handling files to be sent and received"	**EERP_OUT**
VDSN characters	Stipulates which characters are permitted for Odette-FTP: **ALL**: no limitations **OFTPUNIX**: all capital letters, digits and special characters ".-" **UNIX**: all letters and figures and the special characters "#_-+." **ODETTE**: all capital letters, figures and special characters "()-./&" and blanks **CHECK_RE**: as with **ALL**; in addition, a resident receive entry `RE` must be present. Default: **ODETTE**	**VDSNCHAR**

Parameters	Meaning of advanced Odette parameters	Database parameter
Routing	Sometimes it is advantageous not to allow OFTP routing. This is possible by setting the rvs parameter ROUTING for single stations in the OP table. Using the same parameter as a global rvs parameter, you can suppress/allow it or for all partner stations. Possible values are: **IN**: the incoming file transmission from the partner e.g. XXX to the remote partner e.g. REM1 via our local station e.g. LOC is permitted (XXX->LOC->REM1); not permitted is the outcoming routing e.g. for the partner REM2 via REM1 (LOC->REM1->REM2). **OUT**: partner stations can't use your local station as a router. Permitted is the outgoing routing e.g. for the partner REM2 via REM1 (LOC->REM1->REM2). Not permitted is: the incoming file transmission from the partner e.g. XXX to the remote partner e.g. REM1 via our local station e.g. LOC (XXX->LOC->REM1). **BOTH** (IN and OUT): normal OFTP routing. Determines the global rvsXP routing behavior. **OUT**: Routing is allowed for send jobs only. The own local station must not function as a router. **NEVER**: routing in both direction **IN** and **OUT** is forbidden. Default: **BOTH**	**ROUTING**
Security	Defines whether or not encryption is to be used during file transmission. Make this setting either for all stations with the global rvs parameter or for each single station in the ODETTE parameter configuration. The global parameter is applied to those stations for which the parameter has not been set. Values: **SECURITY=NO** Encryption is impossible. The job aborts with an error message if a send job requires encryption. **SECURITY=OPT** Encryption possible as an option and can be specified in the send job. **SECURITY=FORCED** Encryption is compulsory. A warning is issued and the send job is converted into an encrypted job if a send job is scheduled without encryption. Reception of the file is refused if the partner station sends an unencrypted file. A send job for station 'S' is processed according to the **SECURITY** entry for station 'S', regardless of whether 'S' is a neighboring station or is reached via routing. Default: **SECURITY=OPT**	**SECURITY**

Parameters	Meaning of advanced Odette parameters	Database parameter
PKI	rvsXP can obtain public keys from partners via LDAP Interface from a PKI (public key infrastructure). You can specify to use PKI instead of the rvsXP key memory for a particular station using the PKI parameter. Possible values: **PKI= YES** **PKI= NO** Default: **NO**	**USEPKI**
Crypt.Version	The version of encryption. Possible values: **1** or **2**. For files bigger than 2 GB is version **2** necessary. Normally you can use version **1**. Default: 1	**CRYPFLAGS**
OFTP version	This parameter is important, only if your partner has a OFTP product, which does not support OFTP 1.3. Normally must one OFTP product be able to negotiate a ODETTE protocol version during a ODETTE session. If your partner is not able to do so, you can set the protocol version with this parameter. Possible values: **1** (OFTP 1.2) or **2** (OFTP 1.3) Default: **2**	**OFTPLEV**
User Separation	This parameter is important only in communication with rvsMVS. It enables to send the userID of the user, who is sending a file in the ODETTE command SFID. Possible values: **YES** or **NO**. Default: **NO**.	**USERSEP**
Online Decryption	Online Decryption: Type of decryption when receiving a file. Possible values: **0** off: decryption starts after the completely received file **1** on: received records will be decrypted immediately after reception; it will not be waited until the complete file was received Default: **0** **Note**: Odette-Acknowledgment, that a file was completely received (EFPA) is faster with Online Decryption.	**FLAGCRYP**

Tip to increase transmission speed

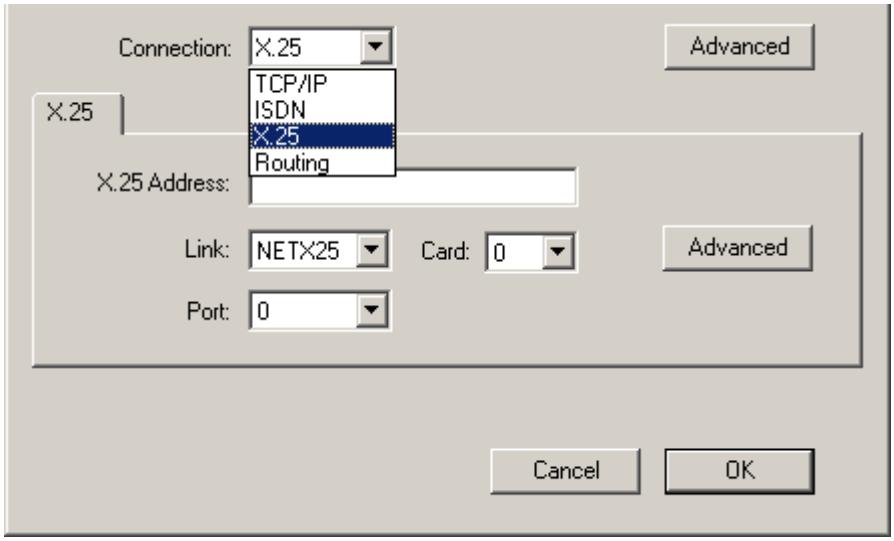
In order to increase the efficiency during the data exchange, you can use off-line compression (see 1.3 "Encryption and offline compression" and 6.3.1 "Creating send orders").

The size of compressed ODETTE blocks is set with parameter **block size** (**OEXBUF**).

4.1.3 Setting up Connection Parameters

The `Connection` tab contains information about the path via the partner station is to be reached. For the local station the name of this tab

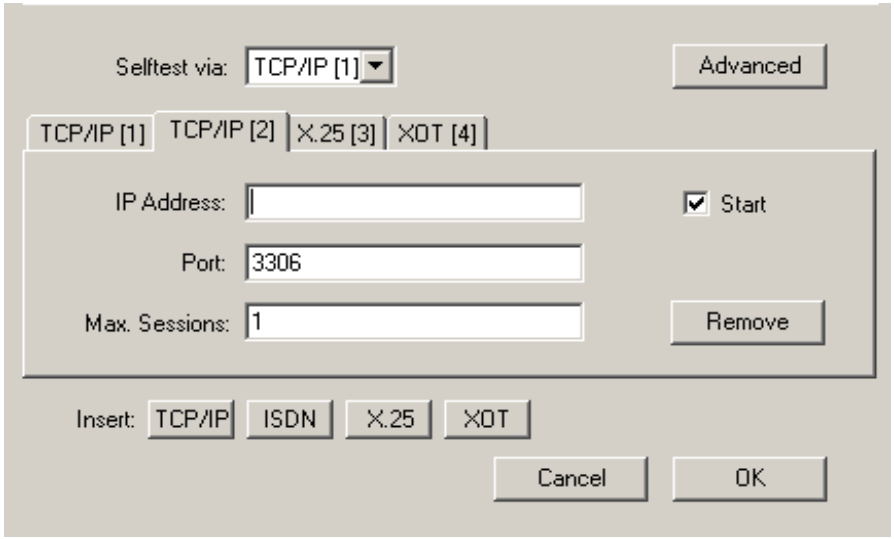
is `Self Test`. `Self Test` defines via which network the local station should perform the local network test.



You can use the mouse to fold out the `Connection` combo box and choose the desired connection type. Depending on the selection made the tab below changes and shows the pertaining parameters.

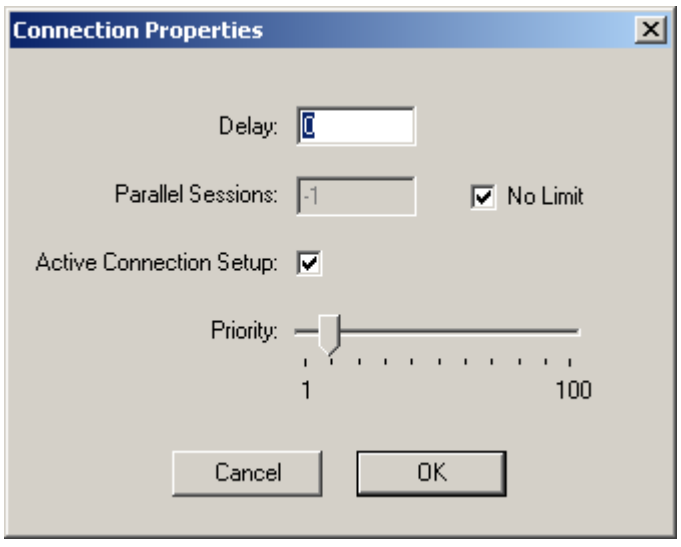
Multiple reception

Just as your local station can feature reception devices you can set up several connection types. rvsXP supports multiple reception for TCP/IP, ISDN, XOT and X.25.



Parameters	Connection parameter meaning	Database parameter
Connection (this parameter is visible only if the partner station is configured)	The connection type with which the station is to be reached; Values: **TCP/IP**: The partner station is reached via a network with the TCP/IP protocol. **ISDN**: The partner station is reached via an ISDN line. **X.25**: The partner station is reached via an X.25 line. **XOT**: The partner station is reached via an XOT line. **Routing**: The partner station uses a different partner station as a routing station. Enter the routing station ID in the RT-Routing tab. The connection type and parameters of the routing station then apply to the connection itself. For further information please refer to Chapter "Setting up the routing connection". **Default**: none	**PROTOCOL** Values: **T = TCP/IP** **X = X.25/ISDN/ XOT** **R = Routing**
Self test via	May only be selected at the local station: Line by which transmission is to be made if the self test is performed when your own station is activated	**PROTOCOL**
Receiver	May only be selected at the local station: Receivers which have been configured and/or are still to be configured	No parameter

Use the **Advanced** button to the right of where you choose the connection to open the Connection Properties dialog providing more parameters.



Parameters	Connection parameter meaning	Database parameter
Delay	Time (in seconds) to wait after receiving a file before a "Change Direction" (CD) is initiated	**CDWAIT**
Parallel sessions	Maximum number of active simultaneous connections via this line Default: **-1** (no restrictions)	**PSESSIONS**
Active connection establishment	Specifies the send behavior for a pending send order; Values: ✓ :Sender should automatically start as soon as a file is ready for dispatch. ☐ :Pending send orders do not trigger a send action. Default: ✓	**AUTODIAL** Values: **Y = ✓** **N = ☐**
Priority	This parameter is important for the feature „Alternative Networks“. If you have configurated more than one sender for a partner station, the value of this parameter decides, which network will be taken as first. There are two different network types in rvsXP: TCP/IP or X.25/ISDN/XOT. The highest value means the lower priority.	**PRIORITY**

Establishment of an active connection

Preparing files for fetching

It is occasionally necessary for files to be made only available and not to be sent immediately. On the contrary, the partner station is to establish the connection and fetch the available files as and when required. The partner bears the costs for the connection. Active connection establishment must be switched off for this case.

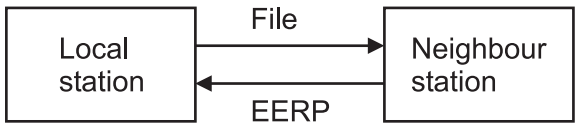
4.1.4 Setting up the routing connection

What is routing?

The forwarding of files throughout several OFTP systems is referred to as **routing**. If you would like to send a file via several systems, then the send order only has to be directed to the recipient. rvsXP then sends the file to the next OFTP system, the neighboring node which, in turn, then forwards the file. All stations must defined in the station administrations of all stations involved.

Data flow with and/or without routing is depicted in the following illustrations:

Without routing



With routing

Acknowledgement: EERP

When the file has arrived at the end system, it sends an acknowledgement **E**nd-to-**E**nd-**R**es**p**onse) back to the original sender. The send order is only completed as soon as the sender has received this acknowledgement.

Prerequisites

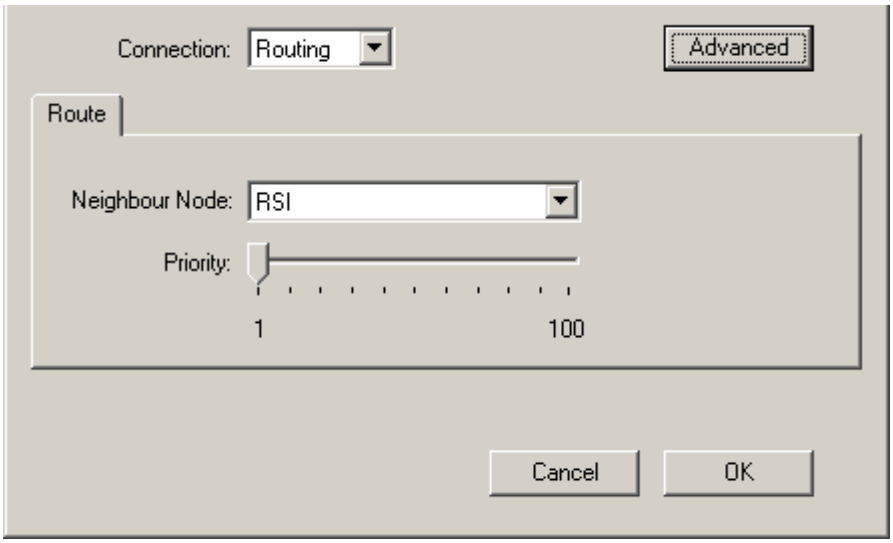
You have to define 2 stations in the `station table` for routing:

- the neighbor station (neighbor node) through which the end recipient is reached. It must have been set up prior to the target station.
- and the target station for the end recipient.

  Select `Routing` as the connection type on the `Connection type` tab for this station, and the station ID for the neighbor station on the `Route` tab.

This is how you set the stations for routing

- Choose the station from the station table as usual and double-click the entry in the list or
  execute the menu command `Edit -> Update`.
- Choose `Routing` as connection type in the `Connection type` area. (Your partner station is not a direct neighbor station of yours.)



- Complete the `Route` tab.

  The RT database table contains the neighbor station information by means of which the station selected (= target station) is to be reached.

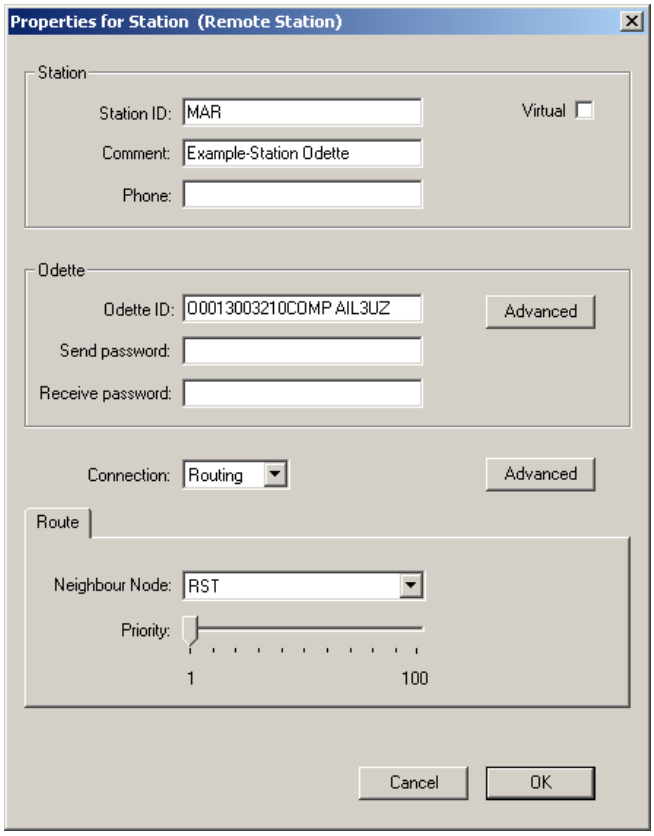
Possible parameters are:

Parameters	Connection parameter meaning	Database parameter
Neighboring nodes	Station ID of partner station (= neighbor station) which knows the path to the target station. The station ID has to be in the station table.	**SIDNEIGHB**
Priority	Priority number of neighbor station. It determines the data transmission route. The integer value ranges between **1** and **100**. The neighbor station with the lowest value comes into operation. The priority at the time when the send command is prepared is decisive.	**PRIORITY**

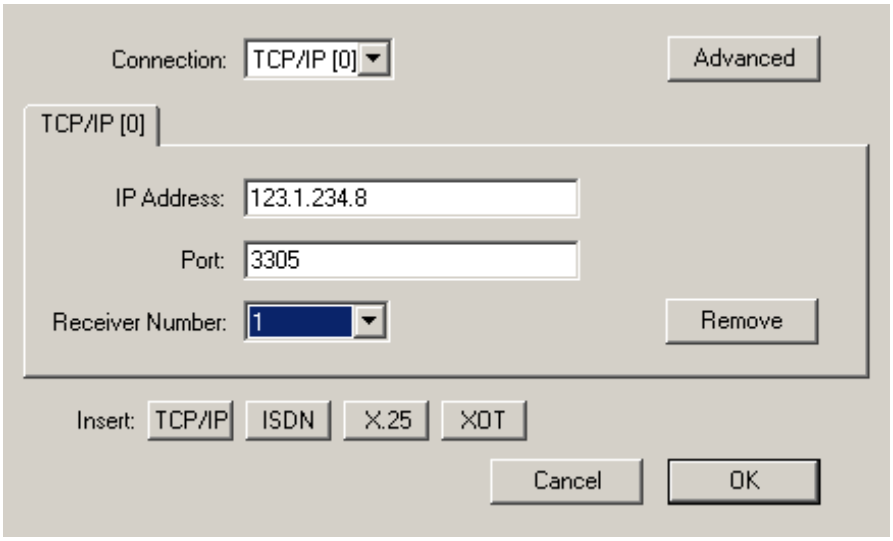
Sample set-up of a target station

The destination MAR is reached with routing via RST.

- Set up station name: **MAR**
- Set up ODETTE parameters of target station **O001300…**
- Set up connection type: **Routing**
- Select neighbor station: **RST**



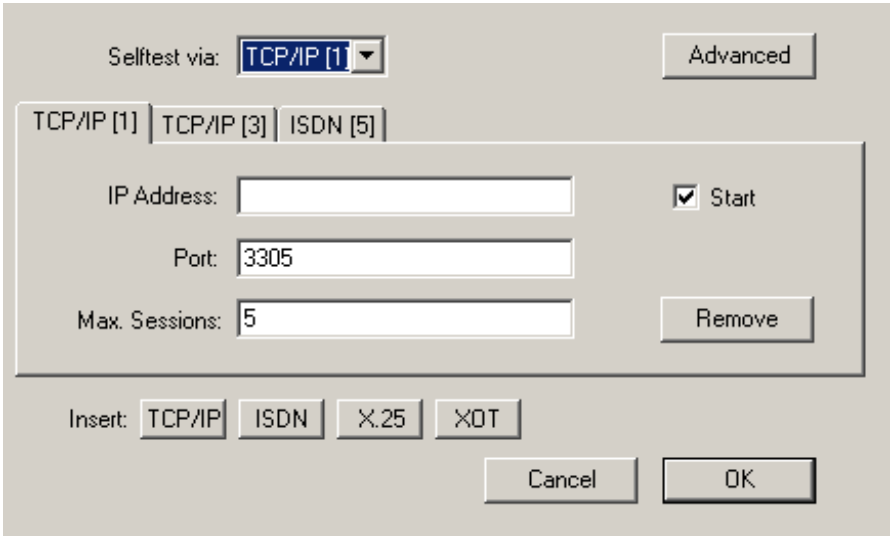
4.1.5 Setting up TCP/IP communication



If you have selected the `TCP/IP` connection on the `Connection type` tab, you can edit the line parameters for the network connection on the `TCP/IP` tab with TCP/IP protocol.

Local station

rvsXP supports multiple TCP/IP reception under various Internet addresses at the same time. You can add additional TC parameter sets on your local station (LOC) using the **TCP/IP** button below the `TCP/IP` tab. Press the **Remove** button to delete the currently displayed set. rvsXP will automatically assign a number for the receiving channel (Port) when you add a new record.



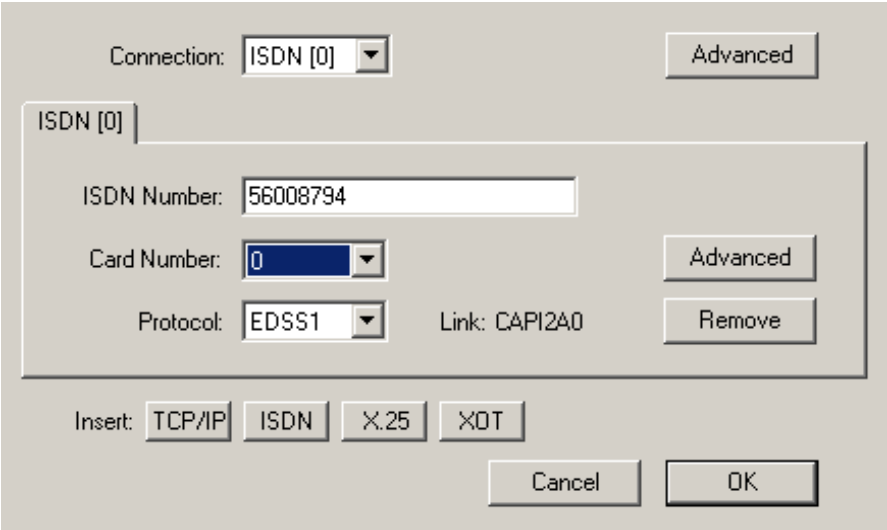
Note: Enable the **Start** checkbox to activate the recipient. If the configured recipient is to be automatically active after the rvsXP Monitor has been started and is to wait for incoming calls, the parameter **TCPIPRCV** must be set to a value larger than **0**. For further details, read the Chapter "The rvs® parameters".

Partner stations

The rvsXP from the version 5.0 allows you to configure several TCP/IP senders (or/and senders of another networks).

Parameters	Meaning of the line properties TCP/IP	Database parameter
Receiver number	**Local station (N):** Number for differentiating the various receiving channels through which the local station can be reached. Each number has a tab with a set of TCP/IP parameters. rvsXP automatically assigns and manages this number. The first tab is the receiver number 1. Partner station (**RCV_N**): Number of the local receiver accepting the call from the remote station. Each TCP/IP receiver of the local station has a tab with a set of TC parameters. Default: 1	**N** and **RCV_N**
IP address	Internet addresses in terms of "255.255.255.255" or hostname. If you have not specified a value for the local station, you permit automatic definition of the Internet address. If your own station has only one Internet address, this field should be left empty. Default: " "	**INADDR**
Port	Port address Default: 3305	**PORT**
Maximum sessions	**May only be selected at the local station:** Maximum number of simultaneously running receiving processes on this channel. Default: **1**	**MAX_IN**

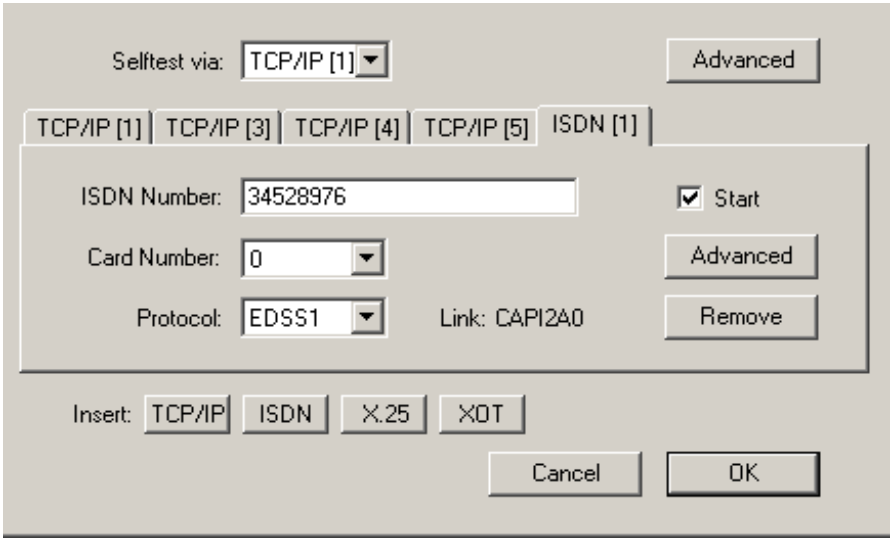
4.1.6 Setting up the ISDN parameters



If you have selected the `ISDN` connection in the `Connection type` area, you can edit the line parameters for the network connection on the `ISDN` tab. You may be ready to receive and send via several ISDN numbers or several different networks („alternative networks“) at the same time.

- You must specify the parameters shown in this tab to make the ISDN connection work.

Local station



rvsXP supports multiple ISDN reception through various receiving channels (phone numbers) at the same time. You can add additional XP

parameter sets for ISDN on your local station (LOC) using the **ISDN** button below the `ISDN` tab.

Press the **Remove** button to delete the currently displayed set. If you add a new record, then rvsXP will automatically assign a number for the recipient.

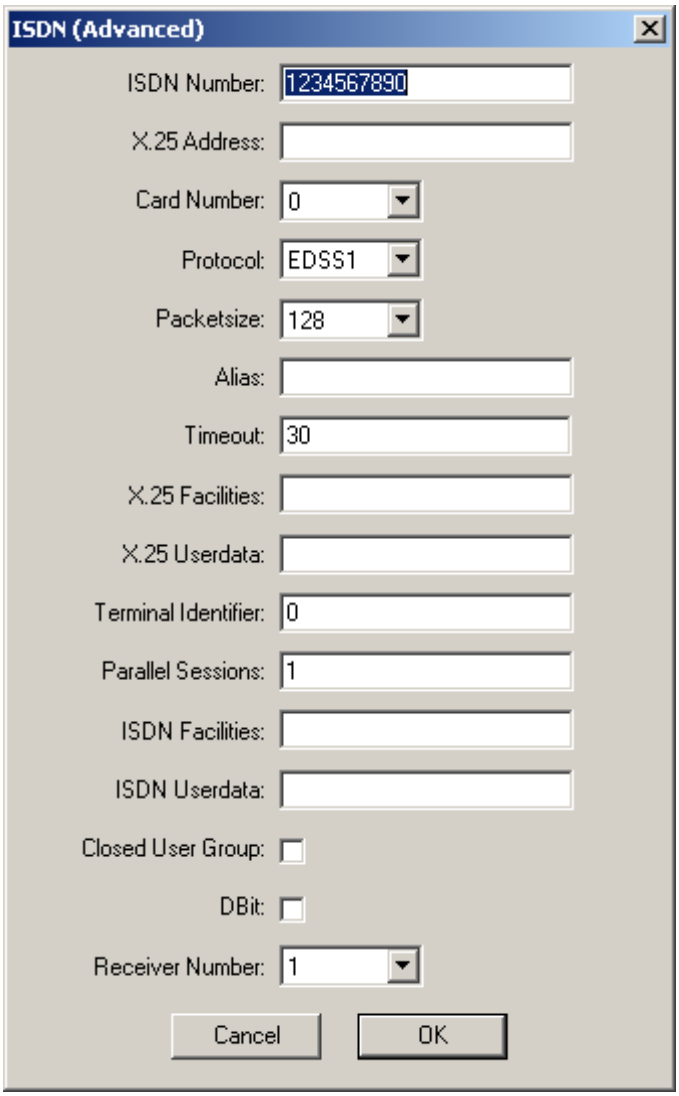
Note: Enable the **Start** checkbox to activate the receiver. If the configured recipient is to be automatically active after the rvs Monitor has been started and should wait for incoming calls, the parameter **MAXX25RCV** must be set. For further details, read Chapter “ISDN/X.25/ XOT reception”.

Partner stations

serveral sets of parameters

From the rvsXP version 5.0 it is possible to configure several senders for a partner station.

After editing the basic parameters, click the **Advanced** button to the right of the parameter input boxes to open the `ISDN (Advanced)` dialog where you can edit these and other parameters.



- Edit the parameters and click the **OK** button to save the changes or click the **Cancel** button to discard the changes.

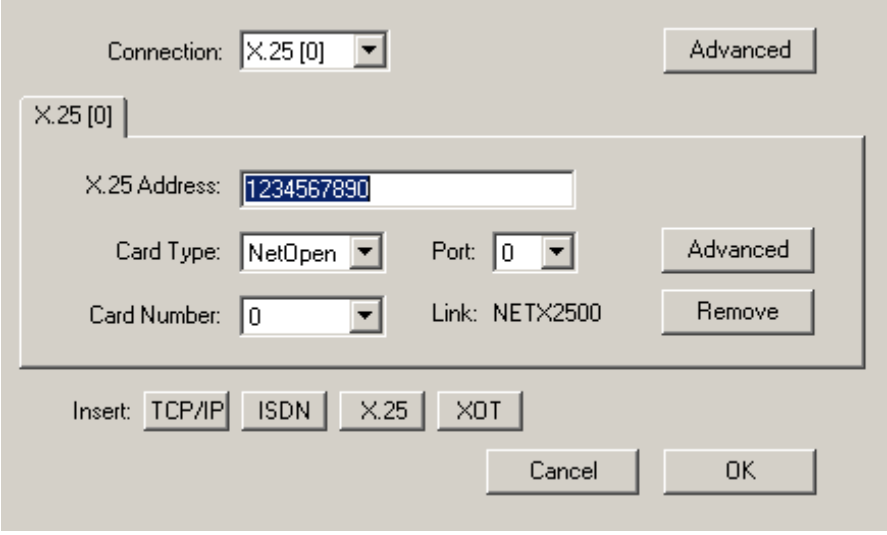
The table below explains the individual parameters.

Parameters	Meaning of parameters ISDN	Database parameter
ISDN number	An ISDN number under which the partner station may be reached. For the 1TR6 ISDN standard the single-digit (**E**nd**S**election**N**umber) (ESN) is assigned to the local station. Default: " "	**ISDNNO**
X.25 address	15-digit X.25 DTE address of the partner station. This number is optional. It is however advisable for an ISDN connection to enter the ISDN number here, as some partners expect an X.25 address.	**XADDRESS**

Parameters	Meaning of parameters ISDN	Database parameter
Link	Link name; determines the type of connection within your computer. It is derived from the values for card type and card number. CAPI2mn Values for **m** and **n**: **m**: A = no Diehl/Eicon card 0 = Diehl/Eicon card **n**: Number of the X.25 card installed in the computer, beginning with "0" **Example**: CAPI200 = "Diehl/Eicon card" number "0" Default: **CAPI200**	**LINK**
Card Number	Number of the X.25 card installed in the computer, beginning with "0"	
Protocol	Specifies the ISDN standard used. 1TR6 German national standard E-DSS1 EURO-ISDN Standard: **E-DSS1**	**ISDN_PROT**
Packet size	Size of date packets during data transmission.	**L2PACKETSZ**
Alias	Alias name to be used in rvsXP-Monitor and in the LOG files.	**ALIAS** or **RECV ALIAS**
Timeout	Cancellation time in seconds, after which the communication program aborts the connection if the partner station or CAPI does not reply. Default: **30**	**TIMEOUT**
X.25 Facilities	Special information or facilities for an X.25 transmission; see the information of the X.25 service in use.	**FACILITIES**
X.25 UserData	User data for an X.25 transmission; see the information of the X.25 service in use.	**USERDATA**
Terminal identifier	Only required for X.31: **T**erminal **E**nd **I**dentification. Default: **0** – no TEI assigned	**ISDN_TEI**
ISDN Facilities	Special information or facilities of the ISDN transmission.	**ISDN_FAC**
ISDN UserData	User data for the ISDN transmission	**ISDN_USRDT**

Parameters	Meaning of parameters ISDN	Database parameter
Closed User Group	ISDN and X.25 allow for the formation of a closed user group. All members of such a group can communicate with each other via the public telecommunication network. Connection requests to group members received from participants not being a member of the closed user group will be rejected by the switching exchange. The same applies to connection requests from group members to participants not being a member of the closed user group. This service attribute is called Closed User Group (CUG).	**CUG**
Rcv Timeout	Only valid for the local station: Cancellation time in seconds, after which the receiver interrupts the waiting for incoming calls and reconnects to the card driver.	**RCVTIMEOUT**
Parall. sessions	Maximum number of parallel active connections. The following applies for reception: As soon as a call has been accepted, the master transmitter starts a new receiver until the maximum number is reached.	**SESSIONS**
Receiver number	**Applies to the remote station only:** Number of the receiver accepting the call from the remote station. Each number of the local station has a tab with a set of XP parameters. Default: **1**	**N**

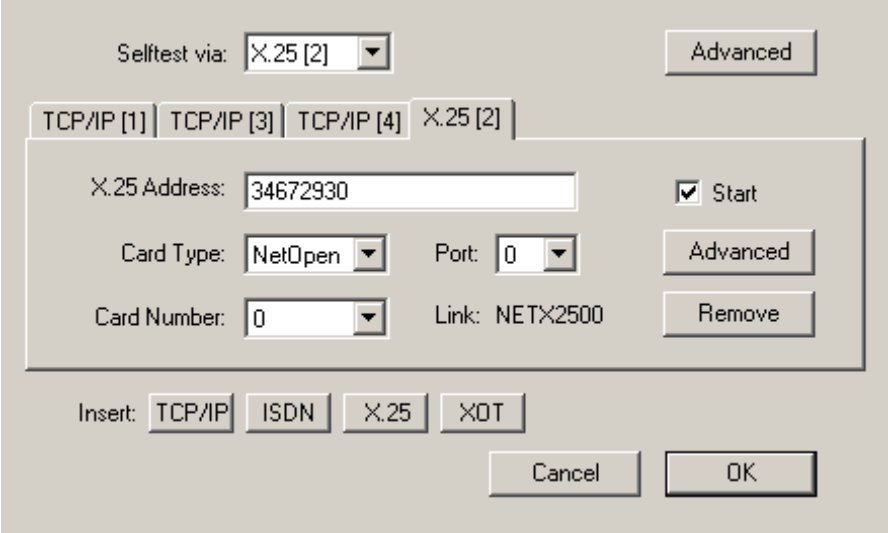
4.1.7 Setting up X.25 parameters



If you have selected the `X.25` connection in the `Connection type` area, you can edit the line parameters for the network connection on the `X.25` tab. You may be ready to receive for a partner station via several X.25 numbers at the same time.

- You must specify the parameters shown in this tab to make the X.25 connection work.

Local station



rvsXP supports multiple X.25 reception through various receiving channels (phone numbers) at the same time. You can add additional X.25 parameter sets on your local station (LOC) using the **X.25** button below the `X.25` tab.

Press the **Remove** button to delete the currently displayed set. rvsXP will automatically assign an internal consecutive number for the recipient when you add a new record.

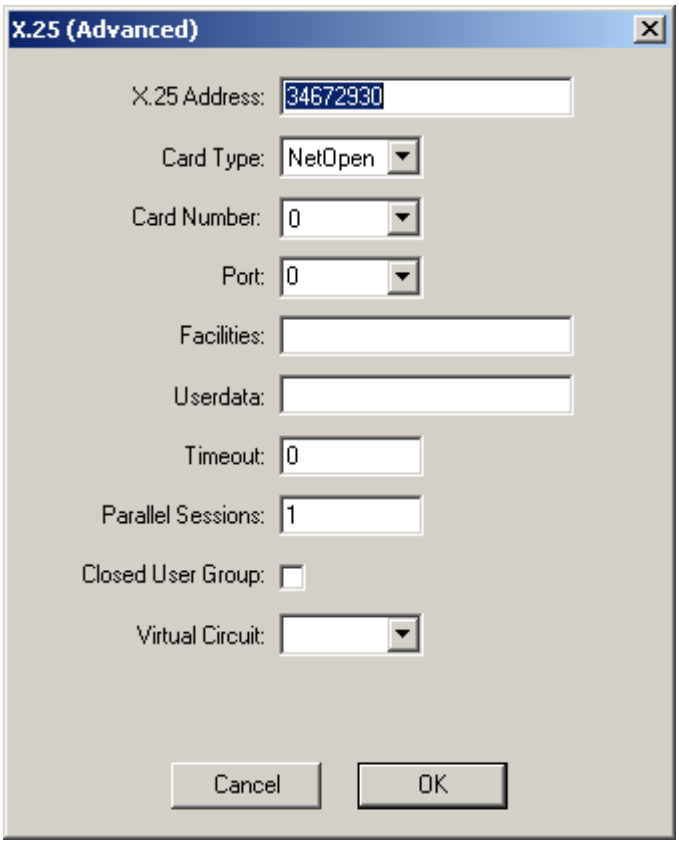
Note: Enable the **Start** checkbox to activate the receiver. If the configured recipient is to be automatically active after rvsXP Monitor has been started and should wait for incoming calls, the parameter **MAXX25RCV** must be set. For further details, read Chapter “ISDN/X.25/ XOT reception”.

Partner stations

sets of parameters

From the rvsXP version 5.0 it is possible to configure several senders for a partner station.

After editing the basic parameters, click the **Advanced** button to the right of the parameter input boxes to open the `X.25 (Advanced)` dialog where you can edit these and other parameters.



- Edit the parameters and click the **OK** button to save the changes or click the **Cancel** button to discard the changes.

The table below explains the individual parameters.

Parameters	Meaning of parameters X.25	Database parameter
X.25 address	15-digit X.25 DTE address of the partner station. Specification is optional for an ISDN connection. It is however advisable for an ISDN connection to enter the ISDN number here, as many partners expect an X.25 address.	**XADDRESS**

Parameters	Meaning of parameters X.25	Database parameter
Link	Link name; determines the type of connection within your computer. It is derived from the values for port, card type and card number. `EICONn` for X.25 Eicon cards **n**: Port number of the configured X.25 port, beginning with "1" **Example**: EICON1 `NETX25mn` for NetOpen cards Values for **m** and **n**: **m**: Number of the X.25 card installed in the computer, beginning with "0" **n**: Port number of the configured X.25 port, beginning with "0" **Example**: NETX2500 = Card number. "0" with port number "0" Default: **NETX2500**	**LINK**
Card Type	EICON or NetOpen	
Card Number	Number of the X.25 card installed in the computer, beginning with "0"	
Facilities	Special information or facilities for an X.25 transmission; see the information of the X.25 service in use.	**FACILITIES**
Userdata	User data for an X.25 transmission; see the information of the X.25 service in use.	**USERDATA**
Timeout	Cancellation time in seconds, after which the communication program aborts the connection if the partner station or CAPI does not reply. Default: **30**	**TIMEOUT**
Parallel sessions	Maximum number of parallel active connections. The following applies for reception: As soon as a call has been accepted, the master transmitter starts a new receiver until the maximum number is reached.	**SESSIONS**
Timeout	Only valid for the local station: Cancellation time in seconds, after which the receiver interrupts the waiting for incoming calls and reconnects to the card driver.	**RCVTIMEOUT**
Receiver Number	**Applies to the remote station only**: Number for differentiating the various recipients through which the local station can be reached. Each number has a tab with a set of XP parameters. rvsXP automatically assigns and manages this number. Default: **0**	**N**

Parameters	Meaning of parameters X.25	Database parameter
Closed User Group	ISDN and X.25 allow for the formation of a closed user group. All members of such a group can communicate with each other via the public telecommunication network. Connection requests to group members received from participants not being a member of the closed user group will be rejected by the switching exchange. The same applies to connection requests from group members to participants not being a member of the closed user group. This service attribute is called Closed User Group (CUG).	**CUG**
Virtual Circuit	X.25 are referred to as channels and are assigned a channel ID each (virtual circuit). There are SVC (switched virtual circuits) and PVC (permanent virtual circuits for leased lines). You often need to specify the number of channels when configuring an X.25 layer. These are enabled by the X.25 access provider and often charged for according to their number. You need at least 2 SVC for parallel receiving and sending.	**VC**

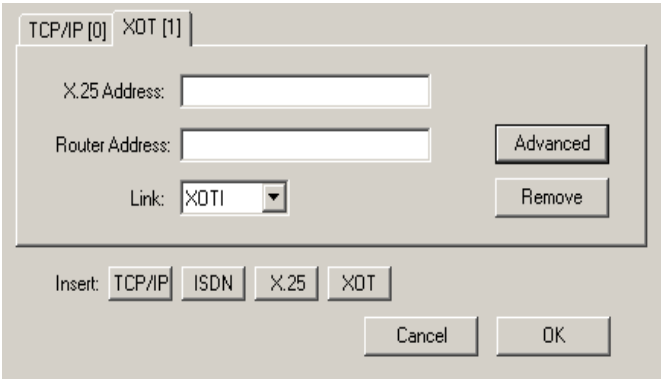
4.1.8 Setting up XOT parameters

If you have selected the XOT connection in the `Connection type` area, you can edit the line parameters for the network connection on the `XOT` tab. You may be ready to receive for a partner station via several XOT receivers at the same time. From the rvsXP version 5.0 it is possible to configure several senders (of the same network or/and of another type of network) for a partner station.

XOT routers are able to route X.25 packets between a TCP/IP network on one side and a X.25 or ISDN network on the other side. Please read the chapter „XOT Router Configuration“ in the Reference Manual to achieve more information and hints how to configure your XOT router.

- You must specify the parameters shown in this tab to make the XOT connection work.

Local station



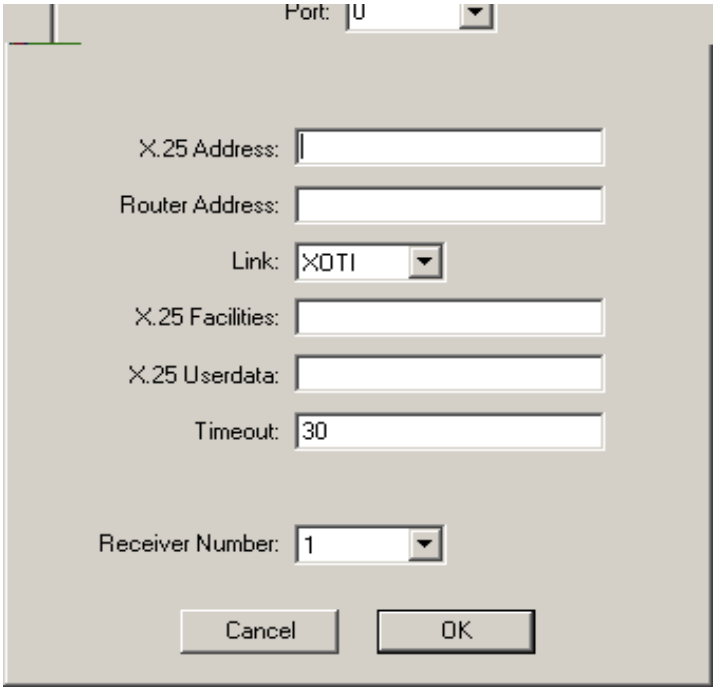
rvsXP supports multiple XOT reception through various receiving channels at the same time. You can add additional XOT parameter sets on your local station (LOC) using the **XOT** button below the `XOT` tab.

Press the **Remove** button to delete the currently displayed set. rvsXP will automatically assign an internal consecutive number for the recipient when you add a new record.

Note: Enable the **Start** checkbox to activate the receiver. If the configured recipient is to be automatically active after rvsXP Monitor has been started and should wait for incoming calls, the parameter **MAXX25RCV** must be set. For further details, read Chapter “ISDN/X.25/ XOT reception”.

Partner stations

After editing the basic parameters, click the **Advanced** button to the right of the parameter input boxes to open the `XOT (Advanced)` dialog where you can edit these and other parameters.



- Edit the parameters and click the **OK** button to save the changes or click the **Cancel** button to discard the changes.

The table below explains the individual parameters.

Parameters	Meaning of parameters XOT	Database parameter
Local IP address	Local station only (optional): own IP address. IP addresses have the form "255.255.255.255". If you have not specified a value for the local station, you permit automatic definition of the IP address. If your own station has only one IP address, this field should be left empty.	**RCV_ALIAS**
Link	Possible values: `XOTI`, `XOTX`. • `XOTI`: window size 7 (recommended for ISDN) • `XOTX`: window size 2 (recommended for X.25 native) **Note**: Window size in X.25/ISDN communication is the number of packets that can be outstanding without acknowledgment. The window size will be negotiated during connection setup, but we recommend you to use the correct window size (depending on the partner network).	**LINK**
X.25 Address	Local station (optional): own X.25 address. This parameter should be configured, only if your partner expects it. Remote station (mandatory): remote X.25 address.	**XADDRESS**

Parameters	Meaning of parameters XOT	Database parameter
Router Address	IP address of an XOT router. This parameter is optional for the local station and mandatory for the partner station.	**ALIAS**
X.25 Facilities	Special information or facilities for an X.25 transmission; For further information see X.25 protocol description.	**FACILITIES**
X.25 Userdata	Only for partner station: User data for an X.25 transmission; For further information see X.25 protocol description.	**USERDATA**
Time-out	Only for partner station: Cancellation time in seconds, after which the communication program aborts the connection if the partner station or CAPI does not reply. Default: **30**	**TIMEOUT**
Parallel sessions	Only for local station: Maximum number of parallel active receivers. The following applies for reception: As soon as a call has been accepted, the master transmitter starts a new receiver until the maximum number is reached.	**SESSIONS**
Receiver Number	Remote station only: Number for differentiating the various receivers through which the local station can be reached. Note: Each receiver should be defined in one XOT tab of the local station. rvsXP automatically assigns and manages this number. The first tab of the local receiver has the number 1. Default: **1**	**RCV_N**

4.1.9 Alternative Networks

The functionality Alternative Networks offers you the possibility to reach the same partner station via several networks. These could be different types of networks as e.g. TCP/IP and ISDN or as well several sender of the same type of network. This functionality is useful for line problems.

The parameter **PRIORITY** (`Partner Station->Connection ->Advanced`) decides in which order rvsXP tries to establish the connection. See chapter 4.1.3 "Setting up Connection Parameters" for the explanation of the parameter **PRIORITY**.

Please take notice of the following details if you are going to configure alternative networks:

- If you want to configure a TCP/IP network and an X.25/XOT/ISDN network for a partner station at the same time, you have to define two times the parameter **PRIORITY** in the configuration of your partner station. As shown before, the parameter **PRIORITY** decides which network is taken first for establishing the connection.

Notice: The parameter **PRIORITY** may not have the same value for different networks.

Example:

TCP/IP ….. PRIORITY=4

X.25/ISDN/XOT ….. PRIORITY=8.

In this example the TCP/IP network is taken at first, because the value of **PRIORITY** is lower (PRIORITY=4: lower value means higher priority) in this line.

- For the parameter **PRIORITY** there are only two types of the network: TCP/IP on one side and X.25/ISDN/XOT on the other side.
- For different types of networks/senders it is necessary to configure different register cards with connection parameters. Possible is: to define several senders for one type of network (e.g. several TCP/IP register cards) or/and several different networks (e.g. one TCP/IP and one X.25 register card).

Example (partner station NML with three TCP/IP and two ISDN senders):

PRIORITY for TCP/IP=10

PRIORITY for X.25/ISDN/TXOT=20

In this example three TCP/IP senders and two ISDN senders were configured. Because the value of the priority parameter of the TCP/IP network is lower as for the ISDN network, all TCP/IP senders (sequential: at first line with TCP/IP[1], then TCP/IP[2] and at the end the line TCP/IP[3]) will be tried at first. If there is no success with the TCP/IP network two ISDN senders are the next for establishing the connection.

4.1.10 Setting up a virtual station

What are virtual stations?

Virtual stations are used to represent stations outside the OFTP network for the OFTP network. They allow files to be sent to destination stations outside the OFTP network.

ODETTE-IDs uniquely define the stations in an OFTP network. Each virtual station must also be assigned an own ODETTE ID. A virtual station can also send and receive.

These stations are specially flagged with the SIDTYP=V parameter value in the ST database table. To configure them you only need the OP database table in addition because virtual stations have their own ODETTE ID.

Receiving at virtual stations

Upon receipt in an OFTP system the file is not forwarded if the final file receiver's **SID** (**SIDDEST** database parameter) matches the **SID** of the local station (**LID**). In this case the file is delivered locally, and EERP is created and a post-processing script starts if necessary.

Setup your virtual station as a routing station for sending files locally to a local virtual station.

In a routing case the finals receiver's **SID** (**SIDDEST**) does not match the local station's **SID**. In this case a send entry is created that forwards the file to the actual receiver.

Upon receipt of an EERP a verification as to whether the receiver Odette ID in the EERP matches that of a virtual station is performed. In this case the file is delivered locally, and EERP is created and a post-processing script starts if necessary.

Sending from virtual stations

The send job is given the **SIDORIGIN** parameter for sending from virtual stations. This parameter must be filled with the station's **SID** when sending from a virtual station. When this has been done, the value of **SIDORIGIN** is written to the **SFID** as sending station for the file to be sent.

In the station configuration on the partner side the virtual stations should be configurates as routed stations.

Setup your own virtual station as a routing station for receiving files locally from a local virtual station.

Setting up virtual stations

The process of creating and setting up virtual stations is basically identical with that of other stations. Refer to Chapter 4.1 "Setting up rvsXP stations".

Updating/removing virtual stations

The process of editing and removing virtual stations is basically identical with that of other stations. See also Chapter 4.1.11 "Editing the partner station".

Note: The feature Virtual Stations must be on in the licence key for the ISAM database (internal rvsXP database). For rvsXP with the external database (such as ORACLE for example), it is inklusive.

4.1.11 Editing the partner station

Editing properties

To edit the parameters of an existing station,

- In order to do so, open the station table in the `rvsXP-Administrator` using the `Stations` command.
- Double-click the station entry
  or
- choose the station to be edited and execute the menu command `Edit -> Update`.

The dialog window `Properties for Station` opens. It comprises three sections with station parameters.

You may now edit all the station parameters with the exception of the station ID. Please refer to Chapter 4.1.1 "Setting up station parameters" for further information.

- Edit the station properties and confirm your entries with **OK**.

Renaming a station

Renaming

To rename a station,

- In order to do so, open the station table in the `rvsXP-Administrator` using the `Stations` command.
- Choose the station to be renamed and execute the menu command `Edit -> Rename`.
  or
- Click the station to be renamed with the right mouse button and choose `Rename`.

The `Rename station` dialog opens.

- Type a new name and confirm your entries with **OK**.

Setting the status

Setting the status

You may `activate`, `stop` or `set a station working`.
To change the status of a partner station:

- Select the station to be changed in the window `station table`.

Activate

Activate

- In order to activate the station execute the menu command `Edit -> Activate`.

Note: The station must already be `Enabled` before you can activate it.

rvsNT establishes the connection to the partner station and transmits the currently pending files.

Activating a station means establishing an OFTP connection to this station. As soon as the connection has been established, each side has the opportunity to send any files that may possibly be available. If no file is ready to be sent, the connection is closed.

Set working

Default setting (set working)

- In order to set the station working execute the menu command `Edit -> Enable`.

rvsXP is now ready for communication with the partner station. The status is `Enabled`. This is the standard setting for a station. A connection is established to this station as soon as data is available to be sent to this station.

Stopping working

Stopping

- In order to stop the station working execute the menu command `Edit -> Disable`.

rvsXP performs no send orders to the partner station but keeps them in the queue until you set the station working again. The status is `Disabled`.

Saving

Saving settings

- When you set up or change a station, save the changed parameters by pressing **OK**.

When Windows is restarted, rvsXP continues to work with these parameters. However, if you delete the rvsXP database or reinstall, you also delete the newly set up stations. Subsequent initializing of the database only provides the specified standard configuration of the station table.

In order to avoid losing your entries, you may back up the station table in a separate file and restore it later. For further information please see the Chapter entitled 7.1.1 "Backing up the station table".

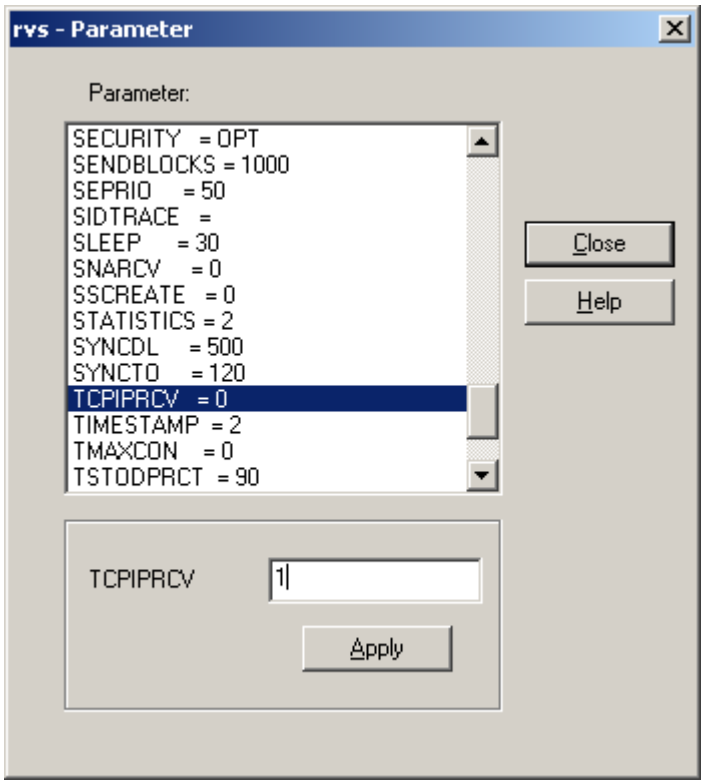
4.2 TCP/IP reception

Automatic reception of calls

If you want to be ready to receive via TCP/IP, rvsXP must start a TCP/IP receiver that waits for incoming calls. To set up rvsXP to receive calls automatically via TCP/IP:

- Execute the `Settings -> Parameters` menu command in the rvsXP Administrator.

  The `rvsXP Parameters` dialog window for editing the parameters will open. In order for the TCP/IP receiver to start automatically start when the rvsXP Monitor starts, you have to set the value of the rvs **TCPIPRCV** parameter to **1**:



- Double click **TCPIPRCV** in the parameter list.
- Enter the desired value **1** into the input field.
- Confirm your entry with **Apply**.
- Use **Close** to exit the parameter list.

A message of the type

```
I: <TCPIP_READY> : TCP/IP Receiver ready to
accept incoming calls Port 3305
```

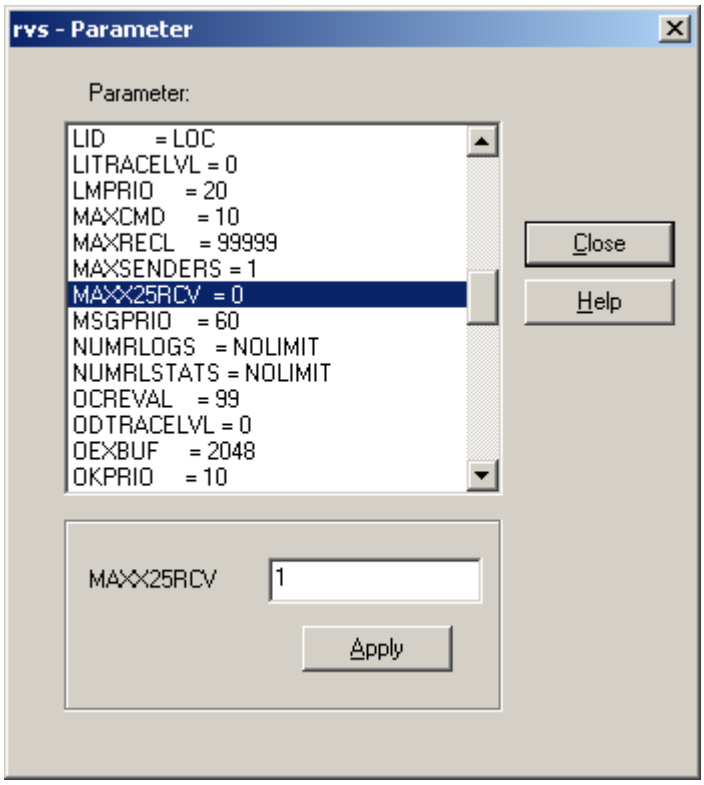
indicates your readiness to accept calls.

4.3 ISDN/X.25/XOT reception

Automatic reception of calls

If you want to be ready to receive via X.25/ISDN/XOT, rvsXP must start a receiver that waits for incoming calls on the X.25/ISDN/XOT line. To set up rvsXP to receive calls automatically via X.25/ISDN/XOT:

- Execute the `Settings -> Parameters` menu command in the rvsXP Administrator.
  The `rvsXP Parameters` dialog window for editing the parameters will open. In order for X.25/ISDN/XOT reception to start automatically when the rvsXP Monitor starts, you have to set the value of the rvsXP **MAXX25RCV** parameter to **1**:



- Double click **MAXX25RCV** in the parameter list.
- Enter the desired value **1** into the input field.
- Confirm your entry with **Apply**.
- Use **Close** to exit the parameter list.

A message of the type

```
I: <ISDN_READY> : ISDN Receiver ready to accept
incoming calls No = 005361186751
```

indicates your readiness to accept calls.

5 rvsXP Monitor

This chapter describes how to start and stop rvsXP Monitor as well as how to customize the Monitor parameters for Windows.

rvsXP Monitor as Windows service

Usually the rvsXP Monitor works as a system service. In order to install the rvsXP Monitor as a system service, it is necessary that you belong to the Windows Administrator group.

Windows offers various ways to open the list of `Services`. This list provides functions for managing and controlling services. Use the `Services` dialog to start, stop, pause or continue the rvsXP Monitor service.

Note: The term Service means a program that can be started from the operating system and works in the background.

5.1 Starting rvsXP Monitor

3 ways to start

You can start rvsXP Monitor from the operating system level, from `rvsXP-Administrator`, the tool for rvsXP operation, or directly via the rvsTrayIcon. Operation of rvsXP requires administrator user rights at the system level and in the rvsXP environment.

Depending on your choice during the rvsXP installation, the startup type for this service is `Automatic` or `Manual`.

Hint for Windows Vista or Windows 7 Systems: Depending on your Windows User Account Control you will be prompted to confirm the operation before the rvsXP-Monitor will be started.

Startup type Manual

The user must manually start the service if the `Manual` startup type was chosen. At first the status of the rvsXP Monitor service is `stopped` (represented by a blank entry in the status column).

To start the service:

- Highlight the `rvs Monitor` line.
- Click the **Start** button.

Setting to automatic

If you want to start rvsXP-Monitor every time the system starts, you can set the startup type to `Automatic`.

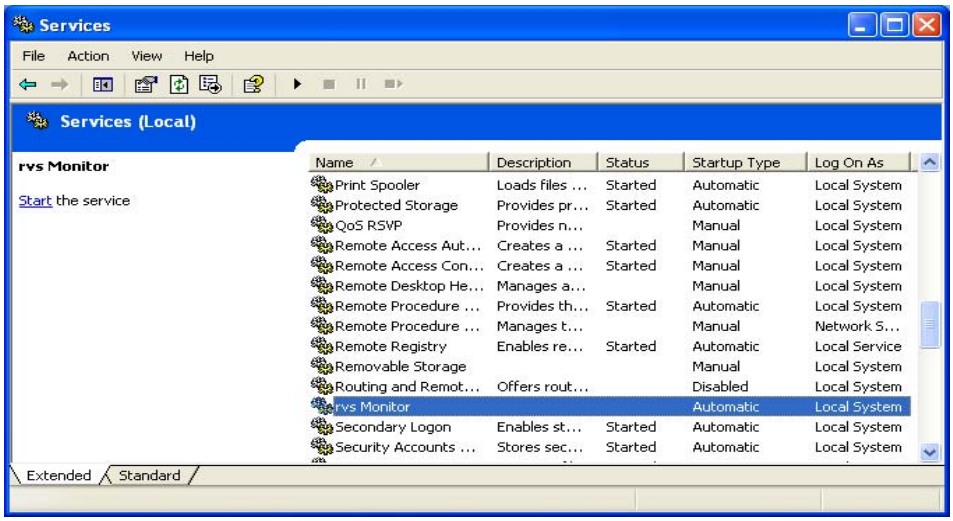
- Click the **Startup type** button and choose `Automatic`.

Starting at system level

Carry out the following steps if you want to start rvsXP Monitor at the system level (XP ‘classic Windows’ style)

- Choose `Start -> Settings -> Control Panel` (Windows Vista, 7: `Start -> Control Panel -> System and Maintenance`)
- Start `Administrative Tools -> Services`.

- Search the list of `Services` for `rvs Monitor` and select the service by clicking the appropriate line.



- Double click on the rvsXP Monitor entry. The `rvs Monitor Properties (Local Computer)` window opens.
- Click on the **Start** button. If the attempt is successful the rvsXP Monitor status will change to `Started`.

  The entry is:

Starting with rvsTrayIcon

Carry out the following steps if you want to stop rvsXP Monitor with the rvsTrayIcon:

- Right-click the rvsTrayIcon.
- Execute the menu command `Start rvs Monitor`.

  rvsXP Monitor starts. The rvsTrayIcon shows a green triangular arrow in a white circle if it is started.

Starting from the rvsXP environment

Carry out the following steps if you want to start rvsXP Monitor from within the rvsXP program environment while it is in operation:

- Start the `rvsXP Administrator` program in the `rvs` folder.
- Execute the menu command `Monitor -> Start`. rvsXP Monitor starts. The rvsXP Monitor has been started if the stop symbol is active on the tool bar.

5.2 Stopping rvsXP Monitor

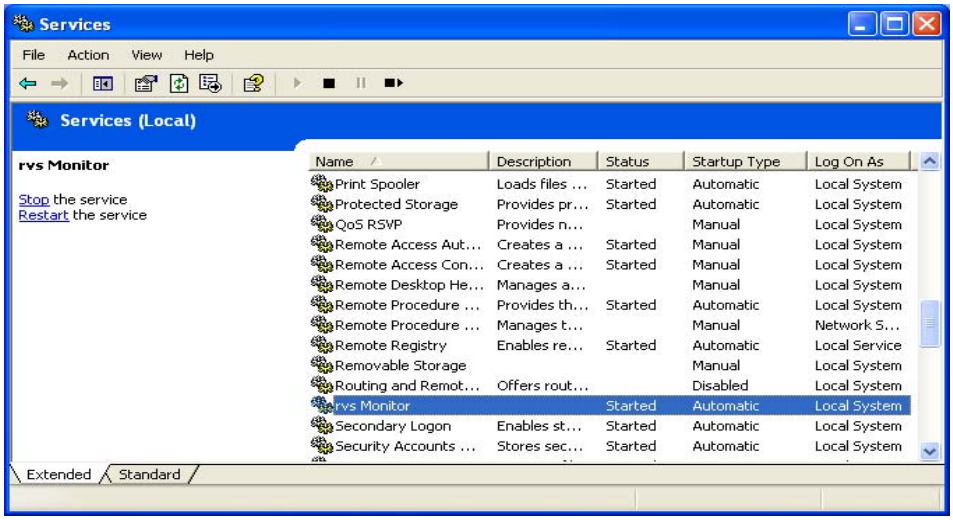
3 ways to stop

You can stop rvsXP Monitor from the operating system level or from `rvsXP-Administrator` -, the tool for rvsXP operation. Operation of rvsXP requires administrator user rights at the system level and in the rvsXP environment.

Stopping at system level

Carry out the following steps if you want to stop rvsXP Monitor at the system level (XP 'classic Windows' style)

- Choose `Start -> Settings -> Control Panel` (Windows Vista, 7 `Start -> Control Panel -> System and Maintenance`).
- Start `Administrative Tools -> Services`.
- Search the list of `Services` for `rvs Monitor` and select the service by clicking the appropriate line.



- Click the **Stop** button. Windows will now try to end the service. If the attempt is successful the rvsXP Monitor status will change to " " (not started).

Stopping with rvsTrayIcon

Carry out the following steps if you want to stop rvsXP Monitor with the rvsTrayIcon:

- Right-click the rvsTrayIcon.
- Execute the menu command `Stop rvs Monitor`.

  rvsXP Monitor stops. The rvsTrayIcon shows a white cross in a red circle if rvsXP Monitor is stopped.

Stopping from the rvsXP environment

Carry out the following steps if you want to stop rvsXP Monitor from within the rvsXP program environment while it is in operation:

- Start the `rvsXP Administrator` program in the `rvs` folder.
- Execute the menu command `Monitor -> Stop`.

  or

- Launch the das `Stop rvs Monitor` program in the `rvs` folder.

  rvsXP Monitor stops. It has been stopped if the stop symbol is not active on the tool bar.

5.3 Customizing rvsXP Monitor parameters

What can be customized?

The Monitor parameters determine the operational mode of the rvsXP Monitor, the main component of the rvsXP system. By customizing the Monitor parameters you can modify the rvsXP Monitor in accordance with your system environment and your own requirements. You should customize the Monitor parameters in order to

– minimize the load on your system and in order to enhance the performance (parameters **OCREVAL**, **OEXBUF**, **RECVBLOCKS** and **SENDBLOCKS;** for more information please see the Appendix "The rvs® parameters".

– control the Monitor Log Book display

– make optimal use of data line quality

– monitor communication processes with other stations

– manage the size and number of the log files.

The rvsXP database, which works as a central information source, provides the rvsXP Monitor with all the information required for the tasks to be executed.

When the rvsXP database is initialized the initialization program first creates a parameter table for the Monitor parameters with default values which determine the default behavior of rvsXP Monitor.

Start settings

You can modify these values by editing the `C:\rvs\init\rdmini.dat` file, which is the source for modification of the parameter table in the rvsXP Monitor start phase. Changes will only take effect when the Monitor is started again if you modify the file while rvsXP Monitor is in operation. Dynamic modification of the monitor parameters cannot be achieved in this way.

Dynamic modification

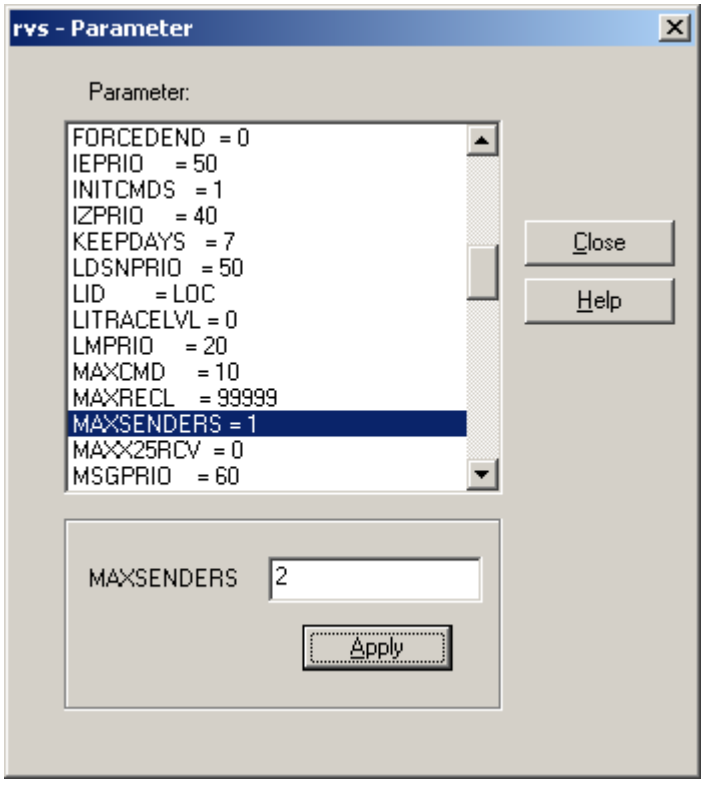
With `rvsXP Administrator` you can dynamically modify the parameters during Monitor operation. In order to do so you have to enter individual operator commands.

Changes during operation

Carry out the following steps if you want to change a monitor parameter without stopping rvsXP Monitor:

- Click `Settings -> Parameters` in the `rvsXP Administrator` menu tree.

The `rvsXP Parameters` dialog window for editing the parameters will open.



- Double click the parameter that you want to modify.
- Enter the desired value parameter value into the input field and click **Apply**.
- Use **Close** to exit the parameter list.

A complete list and description of all the monitor parameters can be found in the Appendix "The rvs® parameters".

Example:

```
MAXSENDERS 2
```

With this example you indicate that a maximum of 2 senders transmit data at the same time.

- Confirm your entry with **Apply**.
- Use **Close** to exit the parameter list.

This operation transfers the command into the rvsXP database. When restarted, rvsXP Monitor will read this command and use the modified parameter.

Stop and start rvsXP Monitor to activate the parameter right away.

Static modification

Changes with restarting

You can also customize the monitor parameters by making entries in the `rdmini.dat` file. It is read every time rvsXP Monitor restarts and the orders and commands it contains are executed. Carry out the following steps if you want to permanently modify one or more monitor parameters:

- Open the `C:\rvs\init\rdmini.dat` file. To do so click the `Monitor Parameters` icon in the `rvs` folder.

The file contains predefined operator commands rvsXP Monitor executes each time it starts. Commands for modifying the monitor parameters begin with `setparm`, comment lines with `*`.

- Edit the file in accordance with your requirements.

A complete list and description of all the monitor parameters can be found in the Appendix "The rvs® parameters".

- Save the file and close the text editor.
- Display the `Monitor Log` window in the `Log -> Monitor` of the rvs tree in the `rvsXP Administrator .`
- Stop and start the rvsXP Monitor.
- Read the action messages: They begin with `A:`.

Each `setparm` command in the initialization file triggers a parameter modification when the rvsXP Monitor is restarted.

Note: Statically modify only those parameters which are to permanently differ from the rvsXP standard setting.

Example

You want to monitor a transmission line temporarily in order to trace errors. In order to do so, modify the **LITRACELEVL** parameter to **3** using the `Settings -> Parameter` command and reset it again using this command after you are done with monitoring.

Please refer to the Appendix "The rvs® parameters" for more detailed information, in particular on additional operator commands and optimizing rvsXP.

6 How to work interactively with rvsXP

Function overview

The following functions are available for the interactive usage of rvsXP:

– Create send entries for the transmission to one or more recipient at a definite time
– display the status of your transmissions.
– Delete send entries, as long as rvsXP did not begin to process them
– Create resident receive entries in order to define how to save or handle arriving files
– Create send job entries in order to trigger actions if files are successfully sent or could not be sent
– Delete or modify resident receive and job send entries.

6.1 Starting rvsXP-Administrator (`rvsmgr.exe`)

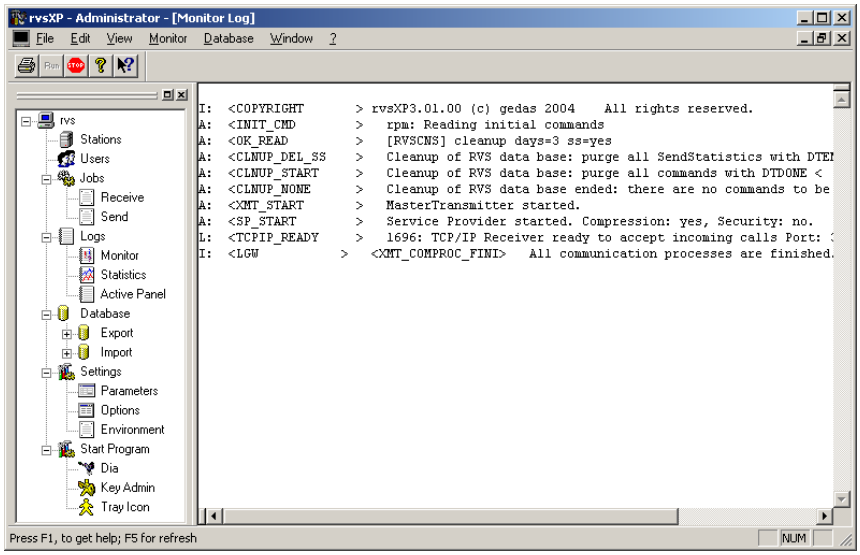
Logging on as administrator (system and rvsXP)

`rvsXP Administrator` is used for configuring, managing and operating rvsXP. It comprises several detail windows. The configuration requires administrator user rights at system level and in the rvsXP environment.

Start the `rvsXP Administrator` program

- by launching it in the `rvs` folder or
- with the rvsTrayIcon or
- use `Start -> All Programs -> rvs -> rvsXP-Administrator`.

The `rvsXP-Administrator` opens with the `Monitor Log` window displaying the current rvsXP Monitor activities.



6.2 Starting rvsXP (`rvsdiant.exe`)

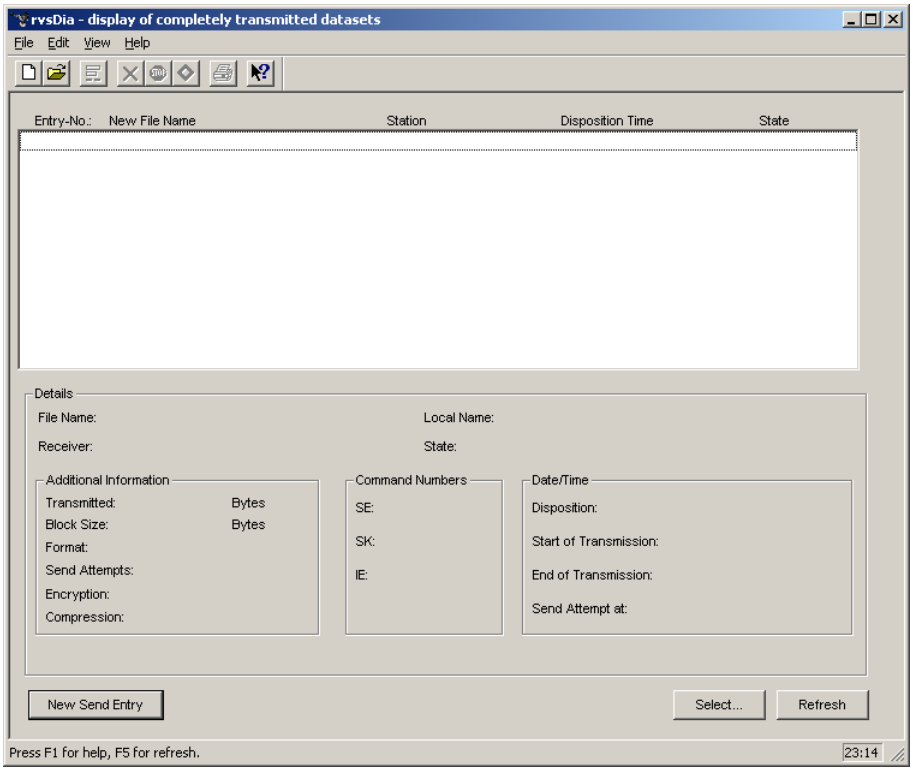
Requirements

You need a system which has been set up for operating rvsXP and the required access rights.

Start the `rvsXP` program

- in the `rvs` folder
- in the rvsXP Administrator using `Program -> Dia` or
- with the rvsTrayIcon.

The `rvsXP` window opens with `display of not transmitted datasets`.



The window displays the transmission information in four different display modes.

Display modes

– Send
– Reception
– Completely sent
– Completely received

Window areas

Depending on the rvsXP display mode, the **entry list** will display the list of files which have been sent or received.

The **Details** area provides you with more detailed information on the currently selected file: file name, sender or recipient, local name or original name and status of the file.

In the **additional information** you can see the currently transmitted data quantity, block size, file format and the number of dialing attempts (only for sending).

The respective successive **command numbers** for send entries (`SE`), send command (`SK`) and information entries (`IE`) identify the individual transmission steps. These numbers can also be found in the rvsXP Log Book (`C:\rvs\db\rlog.log` file).

The **Date/Time** area indicates the transmission times and attempts logged by rvsXP Monitor.

Status display

The **Status** field displays the progress of the send order selected or that of the order arriving.

Sending

In the **Send** or **Completely sent** display modes the status field shows three events `SE SK QE`.

Receiving

In the **Receive** or **Completely received** display modes the status field shows three events `IE IZ QS`.

Sample send order: `Status (qq-)`

`SE = q; SK = q; QE = *-*`

Abbr.	Event status	Possible values = status chain
Send orders		
`SE`	Send entry	`q, f, p, e`
`SK`	Send command	`-, q, f, a, i, p, e`
`QE`	Acknowledgement receipt, sent by recipient	`-, e`
Reception arrival		
`IE`	Information entry (about incoming information)	`q, f, p, e`
`IZ`	Information delivery (to the recipient)	`q, f, p, e`
`QS`	Acknowledgement transmission back to sender	`-, q, f, a, i, p, e`

Note: Each event normally runs through the status chain in the order of possible values indicated. Some statuses have such a short duration that they are only briefly visible.

The meaning of the values

`-`	no event
`q`	queued, not yet processed by Monitor
`f`	forwardable, waiting for transmission process
`p`	pending, waiting for completion
`e`	ended
`a`	active
`i`	in transit, transmitter currently processing order

In addition, every event may also have these statuses:

`h`	held by the system or operator
`s`	traffic with the destination suspended at present

Exiting rvsXP

It is always possible to exit

You can exit rvsXP at any time, even if all of the send orders have not been completed or you have not yet saved several of the files which have been received. rvsXP Monitor continues to process your send orders and places arriving files into your user directory. The next time you start rvsXP you can display the progress of your send orders and any files which may have arrived.

- To terminate rvsXP choose `File -> Exit`.

6.3 How to send and receive files with rvsXP

Overview

This chapter describes how to interactively send and receive files with rvsXP. First, it will be explained how you can create send requests. The next chapter describes how you can display sent and received transmissions. The last chapter shows how to edit send and receive data sets.

Hint: If files bigger than 2 GB are transmitted with AS/400 machine the transmission fails with an error message. Set the WIndows Environment Variable **RVSNOSIZECHECK**=SID (stationID of neighbour station) to prevent this.

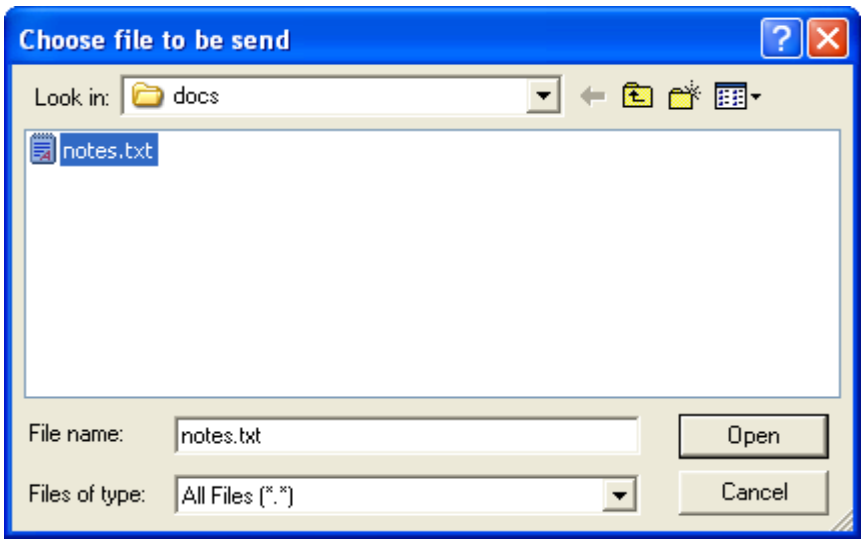
6.3.1 Creating send orders

To send a file to a business partner:

- Choose `Edit -> New Send Entry` from the menu.

You can also execute this command by using **F2** or by clicking **New Send Entry**.

The `Choose file to be sent` dialog box opens.



- Select the file which you would like to send to your partner and confirm your selection with **Open**.

Example

`C:\docs\notes.txt`

Note: When sending a file from a mapped network drive, use UNC (Universal Naming Convention) names (not drive letters).

UNC for Windows: `\\ServerName\ShareName\FileName`

Please check the user rights of the rvsXP-Monitor if the file is not found (see “Assigning rvs® Monitor special user rights” on page 21)

The `New Send Entry` dialog opens and displays the file name selected in the `File` field.

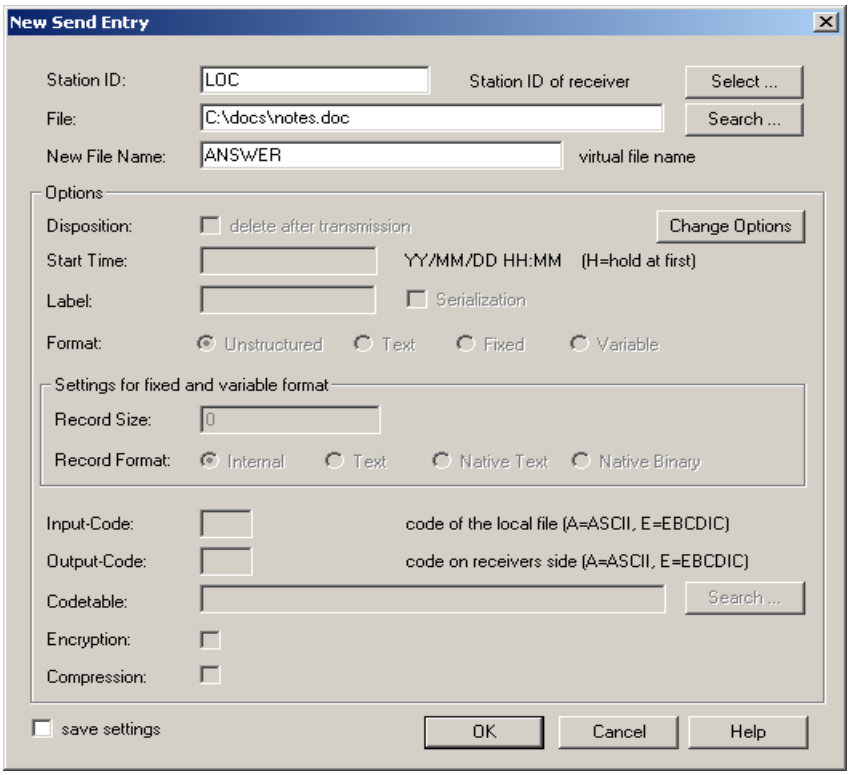
- Manually enter the station code for the receiving station in the `Station ID` field.
  or:
- Choose Select... to open the `Select Station` dialog and select the ID.

Example LOC

- To send the file to your partner under a different name enter the new file name into the `New Name` field.

  It is the file name that is used for the ODETTE transfer and has to be agreed upon by both sides. The name length must not exceed 26 characters.
- Confirm your entries with **OK**.

  The file size limit is at the moment 10 GB.



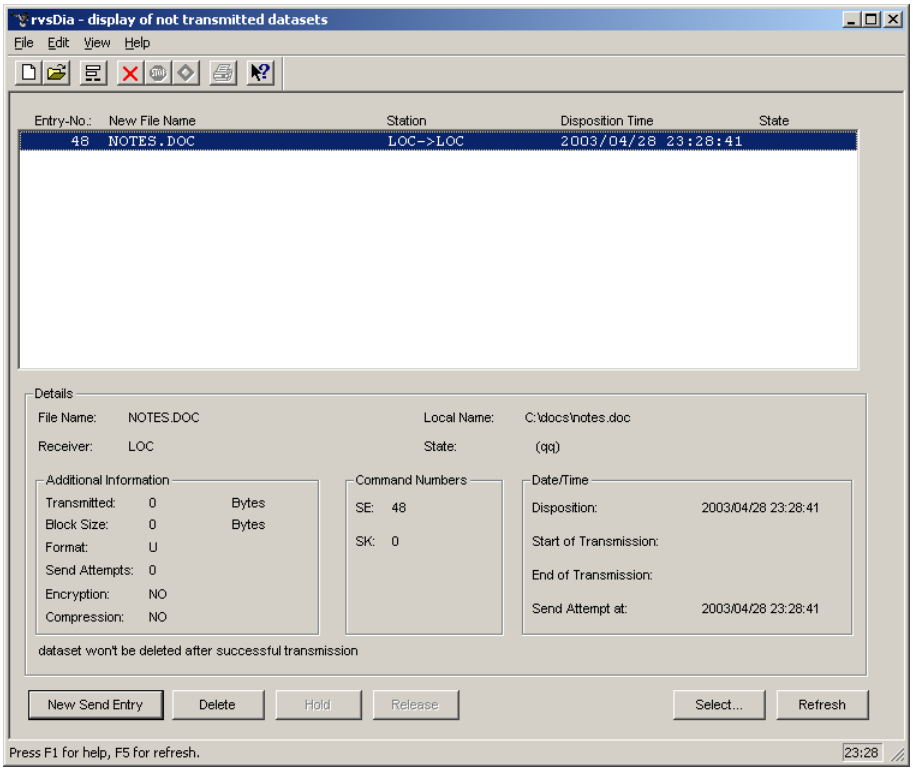
Options

At the bottom of the `New Send Entry` dialog you will find various options that can be useful when sending a file. Click the `Change options` button if you wish to change any of these options.
(For details refer to the table below.)

Options	Transmission settings and actions
Disposition	Click the `delete after transmission` checkbox to have files deleted on your local computer after successful transmission. Otherwise it would not be deleted.
Start Time	rvsXP sends files immediately. If this is not desired, you can define the send time. **H**: the file will be set to hold status until you release it. Release occurs in the `rvsXP -> display of not transmitted datasets -> Edit -> Release` window.
Start Time (continued)	Exact time: If you want that the file to be sent your partner at an exact time you should indicate the start time in the format YY/MM/DD HH:MM or YYYY/MM/DD HH:MM. Example: 2004/05/28 10:28 no entry (blank): the file will be sent immediately
Station ID + Serialization	If you activate these two options, the files would arrive at their destination in a specific order. All files sent in the same group must have the same ID (name). The Serialization checkbox must also be enabled. For more information on Serialization please refer to Chapter 6.3.2 "Serialization".
Format	Choose the format of the file to be transmitted from one of the following: **Text**: a string of ASCII characters **Fixed**: fixed record length **Variable**: variable record length **Unstructured**: binary file **none**: system format (i.e. unstructured for rvsXP)
Record size	Specify the fixed record size the receiver is to interpret the file with for files in the **Fixed** format. The record length is the number of characters before CR/LF (MS Windows systems) or LF (UNIX systems). Specify the maximum record size for files of the **Variable** format.
Record format	**Intern**: Windows does not support the **fixed** and **variable** mainframe formats; to send files in one of these formats you have to convert the files with the **rvsut2fv** utility before sending. Please, see the Reference manual, Part III, Utilities. This feature can also be performed by rvsXP, if you use the option **Native Text** or **Native binary**. **Text**: The file, which should be sent in format fixed or variable must already exist in this format. It means, that this file contents only ASCII charachters. Each line must end with CR/LF. Each line will be converted to one record. In this case, you do not need to use the utility rvsut2fv. **Native Text**: The file in format text will be converted in fixed or variable format by rvsut2fv before sending. **Native binary**: The file in format binary will be converted in fixed or variable format by rvsut2fv before sending
Input, Output Code; Code Table	For detailed description of these options and different file formats please the read the Chapter 9 "Code conversion".

Options	Transmission settings and actions
Encryption, compression	To send a file with encryption and/or compression you must enable the appropriate options. For further information please see the Chapter entitled 8 "Encryption configuration: Key administration". For more information on compression please refer to Chapter 8.9 "Configuration of offline compression".

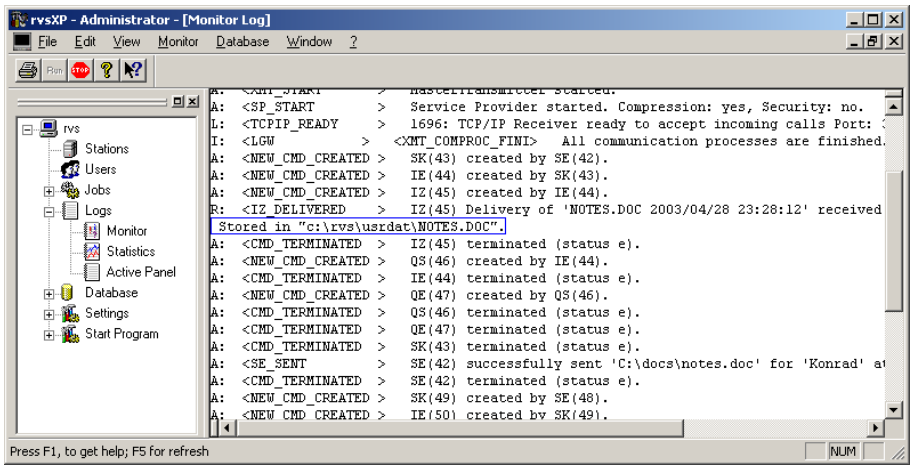
rvsXP then writes the send entry for transmission of the file to the rvsXP database. The send order has been completed. rvsXP lists the job in the list of files waiting to be sent.



rvsXP Monitor reads the send order at the next read cycle and executes it.

In the example rvsXP Monitor recognizes through the LOC station ID that the own station is the target and copies the file to the `c:\rvs\usrdat` folder.

Note: You can view the activities of rvsXP Monitor in the `rvsXP Administrator` in the `Monitor LOG` window:



6.3.2 Serialization

Purpose of serialization

Sometimes it may be important that a number of files arrive in a specific order at their destination to make sure they will be processed in proper sequence.

Even though rvsXP will start processing send entries in the order in which they were submitted, there is no guarantee that the data sets will arrive in just this order (the line may break down while one file is being sent and another file may be transmitted before restart of the interrupted transmission is attempted).

To enforce the proper sequence,

- specify a **label** when creating the send entry for the first file in your series (`display of not transmitted datasets`, **New Send Entry** button)
- use the same label and enable the **Serialization** checkbox for all subsequent files
- create all send entries linked by the same label in the correct sequence.

  rvsXP will not start a serialized transfer until it has received the acknowledgement (EERP) for the previous transmission. This will ensure transfer in the specified order.

6.3.3 Displaying send requests and received files

Displaying send orders

Two display choices

You can choose between two lists to display the send orders:

The list of send orders which have **not yet been completed** displays those files for which you have chosen to hold transmission or which are waiting in the queue of files to be transmitted.

- Choose `View -> Send` to display the send orders which have not yet been completed.

The list of **completed send orders** displays those files which have been successfully transmitted and acknowledged by the recipients.

Note: You can, however, view completely sent files only if the rvsXP **CMDDELETE** parameter has the value **0**. **CMDDELETE=0** means that old, successful transfers remain in the rvsXP database and can also be viewed. If this parameter in rvsXP has the value **1**, only uncompleted transfers are displayed. All successful transfers are deleted from the rvsXP database in order not to overload the database unnecessarily.

The **CLEANUP** parameter finally determines how long such finished jobs are to be retained in the database if **CMDDELETE = 0**. This does however place a burden on the rvsXP database and we therefore recommend that by default you set the **CMDDELETE** parameter to 1. If you want an overview of files sent and received, or if you require this information for archiving purposes, use the rvsXP `$RVSPATH`[2]`\db\rlstat.log` statistic file.

- Execute the menu command `View -> Completely sent files` in order to display the list of send orders which have been completed.

Refreshing the view

If you want to update the list display, then do the following:

- Click the **Refresh View** button or switch to a different display mode and then back again.

Displaying received files

Two display choices

You can choose between two lists to display the received files:

The list of **files being received** displays those files which have not yet been completely transmitted. Your station and the partner station are presently transmitting the files. To display the files announced:

- Choose `View -> Receive`.

The list of **files which have been completely received** displays those files which have been successfully transmitted to your station. At this stage your station has acknowledged reception. To display completed send orders:

- Choose `View -> Completely received`.

[2] For more detailed information on the **$RVSPATH** parameter see Chapter 1.6 "Representation means".

Refreshing the view

If you want to update the list display, then do the following:

- Click the **Refresh View** button or switch to a different display mode and then back again.

6.3.4 Handling files to be sent and received

rvsXP and interactive operation

This chapter describes how you can handle files with rvsXP if you are using an interactive application.

Holding a send order

Since rvsXP operates asynchronously there is always a certain time span between your send order and file transmission. This depends on the rvsXP Monitor load and settings. During this time you can still put a hold on a send order and modify it.

To hold one or more send orders:

- Use the mouse to click on a single send order.

Note: To find out how to limit the display to the send orders placed on hold or certain file types, please refer to Chapter “Selecting display criteria” on page 90.

- Click the **Hold** button or choose `Edit -> Hold` from the menu.

Modifying a send order

To modify a send order:

- Use the mouse to click the send order that you want to modify.
- Execute the menu command `Edit -> Update`.

The `Change Send Entry` dialog opens. In this dialog you can modify all the fields for the send order.

- Carry out the desired changes.
- Confirm your entries with **OK**.

The send order has been modified. rvsXP displays the modified order in the list of files which have not yet been sent.

Temporarily hold

If you want to create a send order and then release it later, you should carry out the following steps to put a temporary hold on it:

- Click **Change Options** in the `New Send Entry` dialog.
- Enter the letter **H** in the `Start Time` field.
- Confirm the entry by pressing **OK**.

Releasing a send order

If you have put a hold on a send order, you can also release it for subsequent execution. To release the execution:

- Use the mouse to click on a send order.

Note: To find out how to limit the display to the send orders placed on hold or certain file types, please refer to Chapter “Selecting display criteria” on page 90.

- Release the orders selected with **Release** or the `Edit -> Release` menu command.

Restarting a send order

Automatic repetition

rvsXP repeats an unsuccessful transmission attempt in accordance with the time specified by means of the **DTCONNnn**parameter. You can avoid this waiting period and immediately start a new transmission attempt. rvsXP Monitor then treats the send order as though you had created it for the first time. To restart one or more send orders:

- Use the mouse to click on a send order.
- Click the **Hold** button or choose `Edit -> Hold` from the menu.
- Release the orders selected with **Release** or the `Edit -> Release` menu command.

Deleting a send order

Removing before transmission

You can remove a send order from the database. If you remove a send order which has the status `forwardable` or `held`, then your partner will not receive the file which was intended for him.

No revoking after transmission

A send order that has already been completed remains executed. It is not possible to revoke the order. You can only remove the entry from the rvsXP database. This may make sense in some cases in order to improve management of transmission activities.

Note: The rvsXP Monitor constantly purges the rvsXP database of send entries which have been completed since a particular period of time (**KEEPDAYS** parameter). Thus you do not have to remove the send orders in order to clean the database.

To remove a send order from the database:

- Double-click the send order you want to remove.

Note: To find out how to limit the display to the send orders placed on hold or certain file types, please refer to Chapter “Selecting display criteria” on page 90.

- Click the **Delete** button or execute menu command `Edit -> Delete`.

Releasing or deleting an acknowledgement

You must manually release automatically created acknowledgements if you have specified the **HOLD** or **HOLDDIMMED** parameters for processing **EERP OUT** acknowledgements for a partner station. Received files are considered as having been completely received only after you have released or deleted the acknowledgement.

Releasing EERP

To release an acknowledgement for a received file,

- choose the received file and execute the menu command `Edit -> Release EERP`.

Deleting EERP

To delete an acknowledgement for a received file

- choose the received file and execute the menu command `Edit -> Remove EERP`.

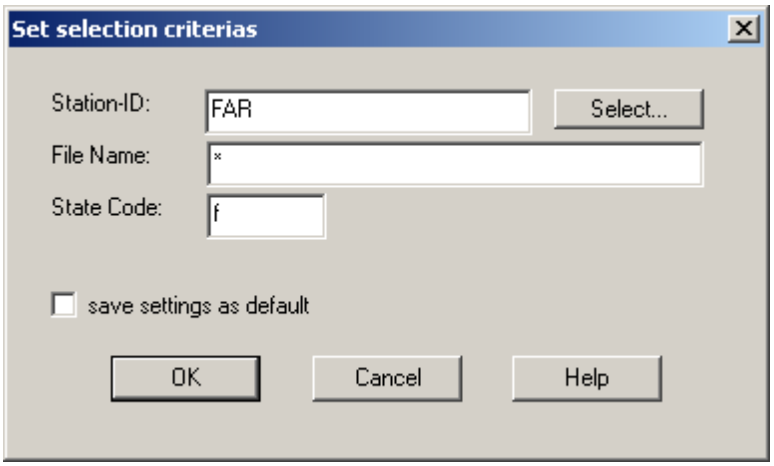
6.3.5 Selecting display criteria

You can select certain kinds of send orders for display in the entry list. You can use the station code, file name and status of the orders as selection criteria.

To set the display criteria for send orders:

- Execute the menu command `View -> Select`.

The `Set selection criteria` dialog opens.



- Enter the station ID for the station(s) to be selected.
  or:
- Choose Select... to open the `Select Station` dialog and select the ID.
- Enter the criterion for the files to be selected in the `File Name` field.
- Enter the status code to be selected in the `State Code` field.

This entry is optional.

Note: You can use the wildcard characters ***** and **?** or a combination of ***** and **?** for entering selection criteria.

***** stands for any - or even empty - character string

? stands for one character of any value

Use one of the following characters as the status code:

`y`	no event
`q`	queued, not yet processed by rvsXP Monitor
`f`	forwardable, waiting for transmission process
`p`	pending, waiting for completion
`y`	ended
`a`	active
`i`	in transit, transmitter currently processing order
`d`	deleted
`h`	held by the system or operator

- If you want to repeatedly use this setting then enable the `Save Setting as Standard` check box.
- Confirm the entry by pressing **OK**.

6.4 Administration with rvsXP

This chapter describes how to administrate resident receive entries, jobs in `rvsXP Administrator` after send attempts and according to user lists.

6.4.1 Resident receive entries

When a file is received the rvsXP Monitor stores it in the `$RVSPATH\usrdat` folder. Then it logs reception in the `rvsXP Administrator` and in the `$RVSPATH\db\rlog.log` rvsXP log book.

Action during reception

You can trigger other actions when receiving files by generating resident receive entries `RE` in the rvsXP database. A (`RE`) specifies a program that is to start when a particular file or selection of files has arrived.

Example

When a file with the extension TXT (*.TXT) arrives, the batch program `kopiere.bat` should start.

This batch program copies the received file from the `C:\rvs\usrdat` user data folder to the `D:\temp` folder.

```
copy ?DSN? d:\temp
```

DSN stands for DataSetName and states where the file was placed in the local file system. **?…?** are rvsXP replacement markers and rvsXP replaces the **?DSN?** character string by the local file name of the received file.

Example

`copy c:\rvs\usrdat\konto1.txt d:\temp` or

`copy c:\rvs\usrdat\liste.txt d:\temp`

Another example is to be found in the file:

`C:\rvs\system\resentr.bat`.

Note: You must not specify a binary executable file (such as `*.exe`) as the batch program. It should be a readable and parseable file. Ensure that your batch program is sensibly structured because it is not checked by rvsXP.

Troubleshooting tip

Each time you execute an `RE` a copy of the batch file, in which the replacement markers **?…?** are replaced by your actual values, is saved in the `C:\rvs\temp` folder. The copies are named `reXXXXXX.bat`. `XXXXXX` stands for a consecutive number. If the behavior of a `RE` is incomprehensible to you, you should read in the last generated copy of the batch program (`reXXXXXX.bat` file) just which commands have been executed.

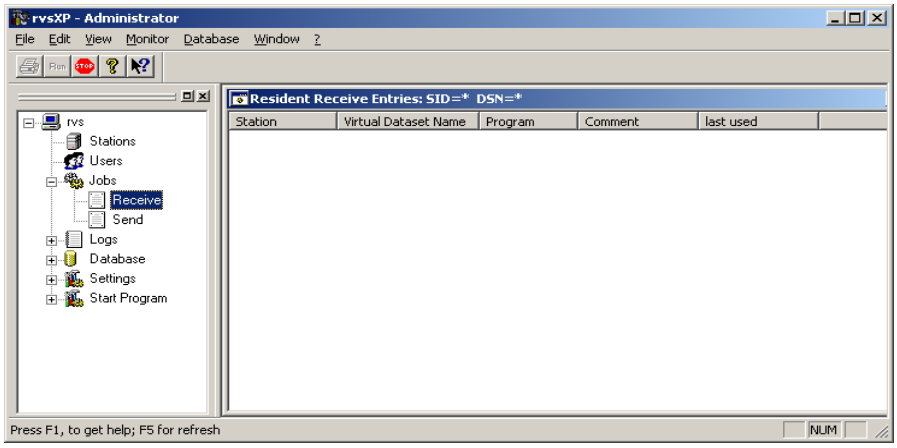
Note: If you want rvsXP not to save copies of the batch programs (reXXXXXX.bat file) in the `C:\rvs\temp` folder you should add the following command to your batch file: `DELETE ?DSNTEMP?`.

For more information about rvsXP replacement markers **?...?** and how to define resident receive entries using the rvs® batch interface (`rvsbat`) please refer to the "rvs® Reference Manual".

Displaying resident receive entry

Choose `Job -> Receive` in the `rvsXP Administrator` to display resident receive entries.

The `Resident Receive Entries` dialog opens. It displays a list of the previously created resident receive entries. The list is initially empty.

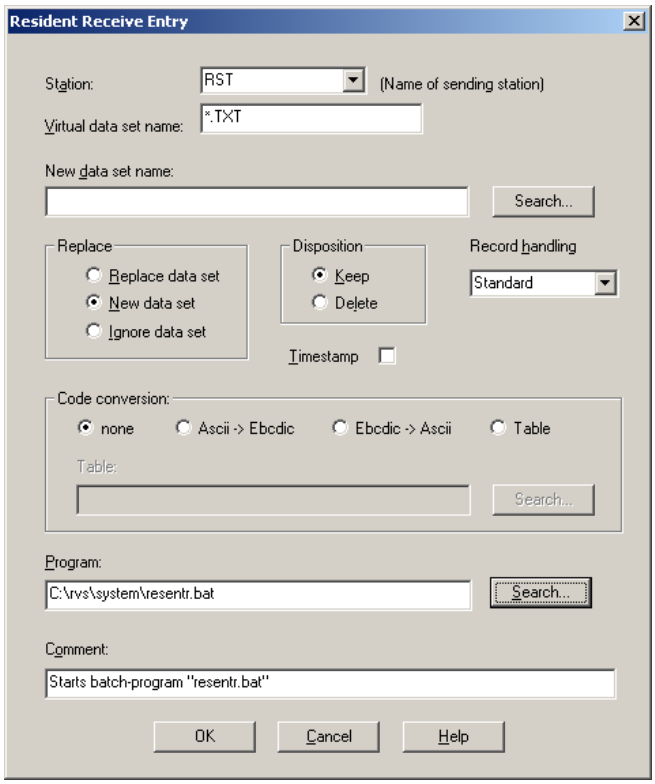


Creating resident receive entries

If you want to start a program when a file arrives, do the following:

- Choose `Edit -> Add`.

The `Resident Receive Entries` dialog opens.



- Enter the station from which you expect to receive the file. (The `Station` contains ***** by default. In other words, `RE` applies to file reception from all stations.)
- Enter the file or the file specification for which the `RE` is to apply in the `Virtual data set name` field. `Virtual data set name` is the file name that is used for the ODETTE transfer and has to be agreed upon by both sides. The name length must not exceed 26 characters.
- If you want to change the file name after it has arrived, enter the new file name in the `New data set name` field.

Disposition: determines whether the received file is deleted or kept after reception and execution of the `RE`.

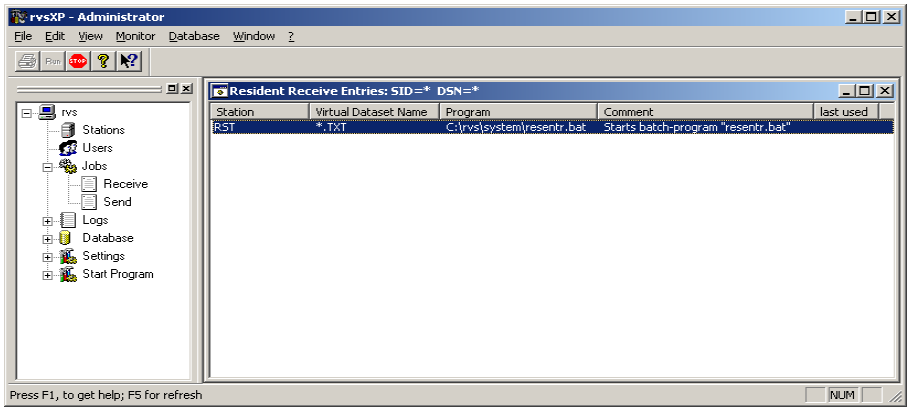
Important Hint: If you use option delete, the received file will be deleted and can not be used for further actions. It is only used as Trigger for the resident receive entry.

- When you decide upon **Disposition, keep** and the `C:\rvs\usrdat` folder contains a file with the same name, you can enable the **Replace** option to choose whether to
  – replace the existing file,
  – create a new file with a unique name (default) or
  – ignore the file being received.

- Specify in the `Record handling` field whether the received file is to be stored as a text file with a line feed after every record. This applies to files that are received in **Fixed** or **Variable** format only. Select **Text** here if the line feed is to be switched on.
- In the `Code Conversion` field you may specify whether a code conversion is to take place. Select a special conversion table by means of **Search**. For default conversion

  (ASCII:**ISO 8859 Latin 1** and EBCDIC:**CECP 037**) click **ASCII-EBCDIC** or **EBCDIC->ASCII**.
- Use **Search** to select the batch program that should start when the file arrives.
- Confirm your entries with **OK**.

  `rvsXP Administrator` writes the new entry to the rvsXP database and displays it in the list of resident entries.



Editing resident receive entries

To edit a resident receive entry:

- Select the entry to be modified in the `Resident Receive Entries` window.
- Execute the menu command `Edit -> Update`.

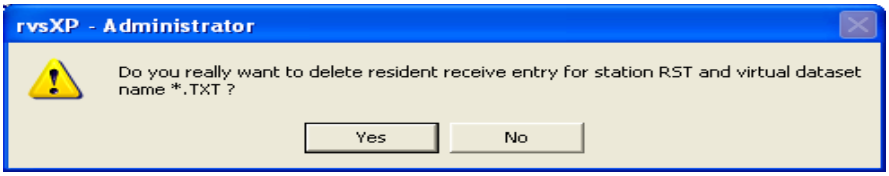
The `Resident Receive Entries` dialog opens and displays the properties of the entry.

- Edit the entry properties and confirm your entries with **OK**.

Removing a resident receive entry

To remove a resident receive entry:

- Select the entry to be deleted in the `Resident Receive Entries` window.
- Execute the menu command `Edit -> Delete`.
  rvsXP will ask you to confirm your delete command.



If you are sure you want to delete the entry, confirm the command with **Yes**. With **No** you cancel the operation without deleting.

6.4.2 Job start after send attempt

You can trigger actions, after rvsXP has attempted (with or without success) to send files by generating resident job start entries (`JS`). A job start entry specifies the program that is to start after the first attempt to start a particular file or a selection of files.

Example: The batch program `sendjob.bat` is to start after the third unsuccessful attempt to send a file. This example is also to be found in the `C:\rvs\system` folder.

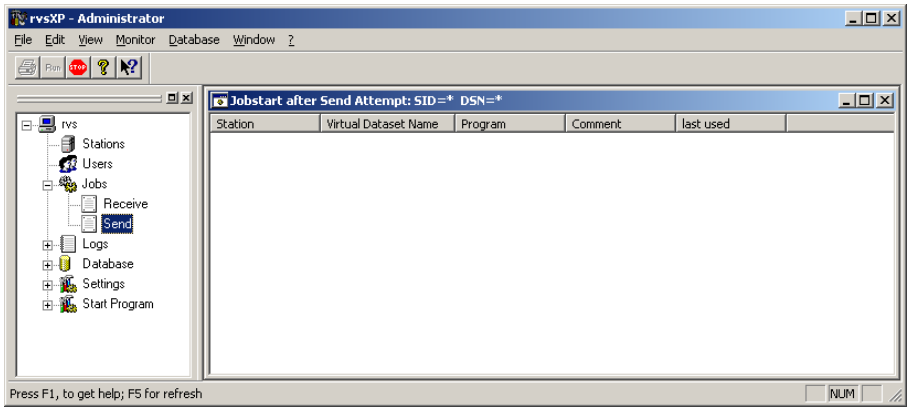
The modified copies of the batch program are also saved in the `$RVSPATH\temp` folder, exactly as is the case with `RE`. The copies are stored under the name `jsXXXXXX.bat`, where `XXXXXX` stands for a consecutive number. You can examine these files for correctly executed commands for troubleshooting purposes.

Note: If you want rvsXP not to save copies of the batch programs (`jsXXXXXX.bat` file) in the rvsXP `temp` folder you should add the following command to your batch file: `DELETE ?DSNTEMP?.`

Displaying job start after send attempt

- Choose `Job -> Send` in the `rvsXP Administrator` to display resident job start entries (`JS`).

The `Jobstart after Send Attempt` window opens. It displays a list of the previously created JS's. The list is initially empty.

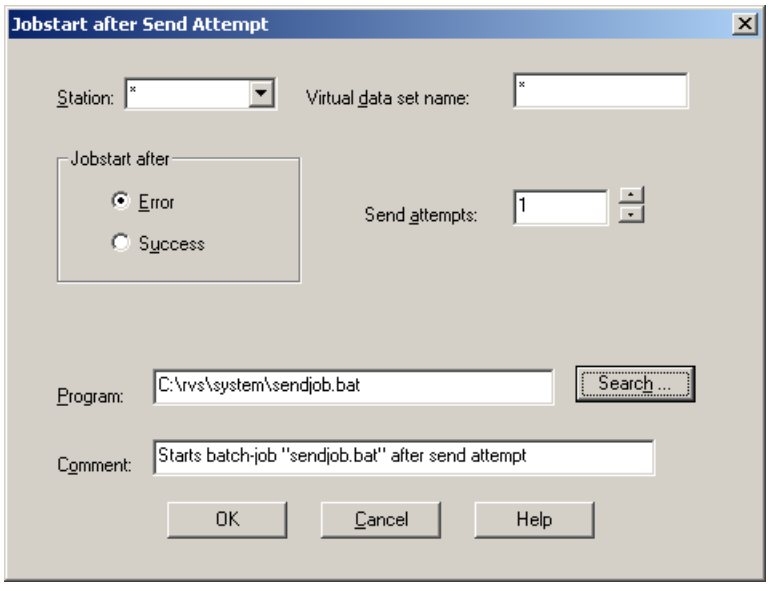


Creating a job start entry

If you want to start a program after an attempt to send a file, do the following:

- Choose `Edit -> Add`.

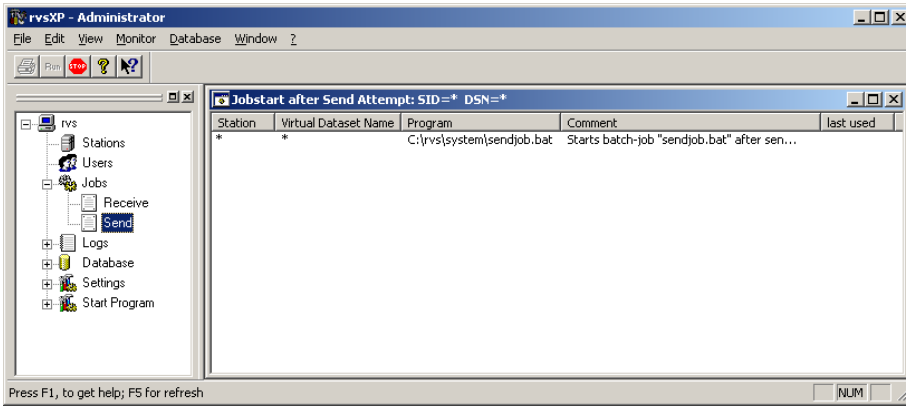
  The `Jobstart after Send Attempt` dialog window then opens.



- Enter the station you want to send the file to.

- Enter the file or the file specification for which the `JS` is to apply in the **Virtual Data Set Name** field. Virtual Data Set Name is the file name that is used for the ODETTE transfer and has to be agreed upon by both sides. The name length must not exceed 26 characters.
- Use **Search** to select the batch program that should start after the attempt to send the file.
- If you want the program to start in the event, for example, five unsuccessful attempts, select **Error** and specify the number of unsuccessful attempts after which the program it to start under **Send Attempts**. The send job will remain in the rvsXP database, and rvsXP will continue attempting to send the file to the partner. Your script (program) will be launched after each fifth unsuccessful attempt, for example. rvsXP only calls your script and does not perform any plausibility check.
- Confirm your entries with **OK**.

`rvsXP Administrator` writes the new entry to the rvsXP database and displays it in the list of resident entries.



Editing a job start entry

If you want to modify a job start entry:

- Select the entry to be modified in the `Jobstart after send attempt` window.
- Execute the menu command `Edit -> Update`.

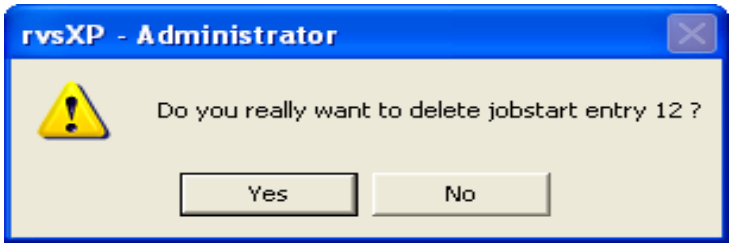
  The `Jobstart after send attempt` dialog opens and displays the properties of the entry.
- Edit the entry properties and confirm your entries with **OK**.

Deleting a job start entry

If you want to delete a resident send entry:

- Select the entry to be deleted in the `Jobstart after Send Attempt` window.
- Execute the menu command `Edit -> Remove`.

  rvsXP will ask you to confirm your delete command.



- If you are sure you want to delete the entry, confirm the command with **Yes**. With **No** you cancel the operation without deleting the entry.

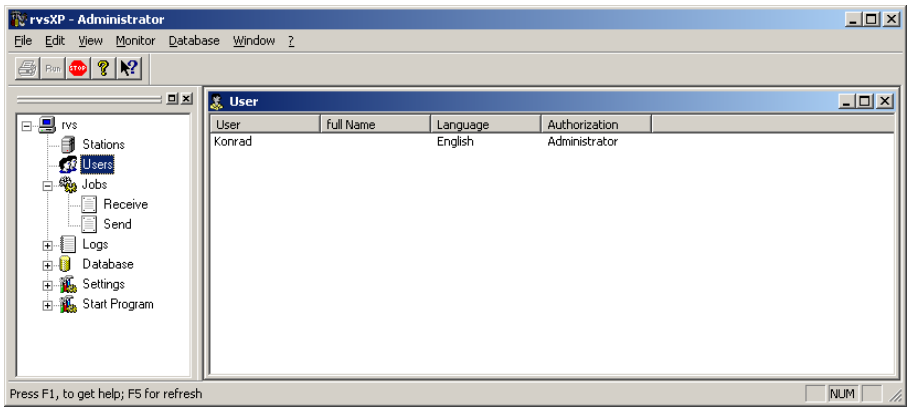
For more information about the rvs® batch interface (`rvsbat`) and how to define alternative resident job start entries using this interface please refer to the "rvs® Reference Manual".

6.4.3 User administration

Only those users may work with rvsXP who are registered in the rvsXP database. In order to display or modify user data:

- Open the user table in the `rvsXP-Administrator` with `User`.

The user table contains at least the table entry for your own data.

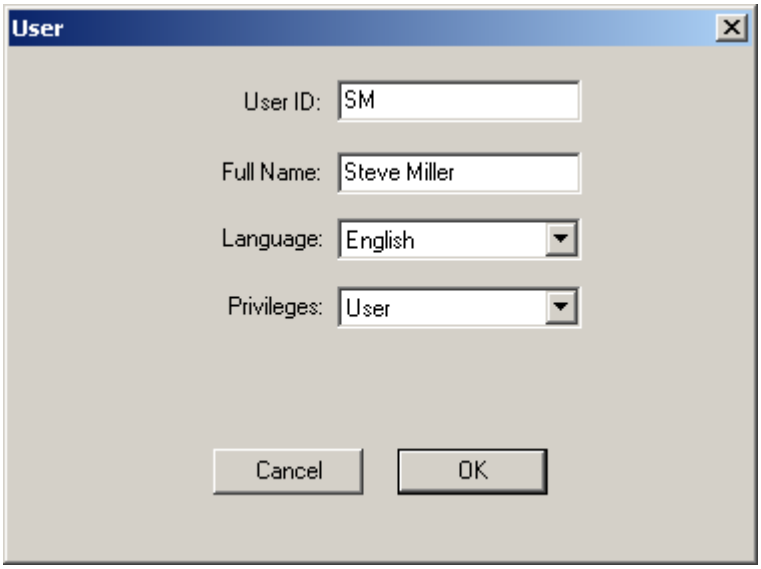


Sorting — Use the mouse to click the column header to sort the table by any column.

New user (User dialog)

To set up a new user:

- Choose `Edit -> Add`. The `User` dialog opens and displays the User Table parameters.



- Enter the user identification (**UID**).
  Note: Heed upper- and lowercase spelling. The spelling of your rvsXP user ID must match that of the Windows user name. To ensure this copy the exact spelling of your Windows user name from the Windows User Administration.
- Enter the complete user name (character and numeric character).
- Select the language for screen dialog.
- Use the mouse to click on the user access authorization.
- Confirm your entries with **OK**.

Note: A basic **User** may use the rvsXP program to send and receive files. An **Operator** has user rights and may also execute operator commands. A user with **Administrator**rights may in addition to this use the `rvsXP Administrator` program to configure the rvsXP system.

Removing a user (User dialog)

If you want to remove a user:

- Execute the menu command `Edit -> Remove`. To remove the user, answer the query that appears with **Yes**. If not, answer with **No**.

Editing a user

To edit an existing user:

- Select the user to be edited in the `User` window.
- Execute the menu command `Edit -> Update`.

The `User` dialog opens.

You can now edit all of the user data parameters. You can select German or English in the language field. rvsXP will then display all the menus and messages in the selected language.

Note: If you want to modify your own user data then the entries will only take effect after restarting the `rvsXP Administrator`.

- Confirm your entries with **OK**.

Saving a user

If you set up or modify a user, use **OK** in order to save the modified parameters. rvsXP will use the modified parameters after a restart of rvsXP Monitor. If you delete the rvsXP database or reinstall rvsXP you will also delete all users. Subsequent initializing of the database only retains the administrator who has set up rvsXP.

In order to avoid losing your entries you can save the users and the job start entries or even the entire rvsXP database and restore them later. To do so, please refer to 7.1.2 "Saving the user table and follow-on processing".

7 rvsXP database maintenance

The rvsXP database is the memory of rvsXP both as to what happened in the past and what still has to be done. If the rvsXP database is damaged or contains inconsistent entries, files may be sent twice or not at all.

This chapter describes how to maintain the rvsXP database for Windows. You will be given recommendations on how to apply strategies for backing up and restoring the database environment and entries suitable for a respective application case.

2 ways to back up and restore

The following table shows the back-up and restore functions implemented in the rvsXP database along with their characteristic features.

Method 1 covers backing up of tables and comprises the following steps
– Saving the station table and
– Saving the user table and the tables for follow-on processing

Method 2 covers backing up the entire rvsXP database.

To…	Back up	Restore	Recommendation, benefits, disadvantages
Backing up settings after configuration	Backing up the station table (Chapter 7.1.1) and user table and follow-on processing (Chapter 7.1.2).	⇩	Perform back-up immediately after database creation and setting up of stations, users, and follow-on processing. Repeat back-up each time changes are made to the station table, the user table, and the follow-on processing.
Database cleanup (**Recommended procedure**)	⇧ **Important!** Verify whether or not current back-ups of station table, user table, and follow-on processing are available.	Step 1 Delete and reinitialize rvsXP database (Chapter 7.3). Step 2 Restore the station table (Chapter 7.4.1). Step 3 Restore the user table and the follow-on processing (Chapter 7.4.2).	**Benefit** Database cleanup. **Disadvantage** Transmission data is deleted from the database. **Recommendation** To restore to specific start conditions and for regular database maintenance. **Note**: This method does not preserve the parameters. Restart TCPIPRCV or MAXX25RCV.

To…	Back up	Restore	Recommendation, benefits, disadvantages
Back up all data and restore them when needed	Save the rvsXP database (Chapter 7.2) 	Restore the rvsXP using a database dump (Chapter 7.4.3)	All data and settings of the rvsXP environment are completely backed up/restored. **Benefit** One step only **Disadvantage** All processes, including unsuccessful ones, are restored (normally undesired “junk data” is backed up/restored as well) **Recommendation** Use for regular backing up transmission data and prior to software updates. We recommend that you also back up the cleaned-up rvsXP environment (station table, user table and follow-on processing).

External database

Note: rvsXP HighPerformance uses an external database instead of an internal rvsXP database. Perform maintenance according to the conditions of this database environment. For further information please refer to Chapter 11 describing the SQL server and Oracle interface.

7.1 Back-up: backing up rvsXP tables

7.1.1 Backing up the station table

We recommend that you back up the station table after rvsXP installation and prior to each setting up/editing station settings. You can revert to this back-up if you wish to restore the previous station settings after a re-initialization of the rvsXP database. You thus avoid setting up the stations again. A station table back-up is also ideal to establish a “clean” initial database state in conjunction with a back-up of the user table and the follow-on processing.

Backing up the station table

In order to back up the station table with all the parameters for partner stations:

- Start rvsXP Monitor.
- Open the `Station Table` window with the `Stations` menu command.
- Execute the menu command `Edit -> Export Stationtable`.

  The `Select Backup-File` dialog then opens and displays the files in the rvsXP system folder with the "DAT" extension.
- Enter the file name under which you want to back up the station table.

- Confirm the entry by clicking **Open**.

  rvsXP then backs up the station stable and displays any errors in the `rvs Dump Stationtable` dialog.

  Back-up has been successfully completed if the message `Done with 0 errors` appears.

7.1.2 Saving the user table and follow-on processing

We recommend you back up the user table and follow-on processing each time you make changes to them. You can revert to this back-up if you wish to restore the previous settings for users and follow-on processing after a re-initialization of the rvsXP database. You thus avoid performing the set-up again. Such a back-up is also ideal to establish a “clean” initial database state in conjunction with a back-up of the station table.

Table back-up

To save the user table and the follow-on processing:

- Stop rvsXP Monitor.
- Start `rvsXP-Administrator` with the rvsTrayIcon command`rvs Administrator` or choose `Start -> All Programs -> rvs -> rvs Administrator`.
- Execute the menu command `Database -> Export -> Jobstarts & Users`.

  The `Select Backup-File` dialog opens and displays the files in the rvsXP system folder with the "LOG" extension.
- Enter the file name under which you want to save the tables.
- Confirm the entry by clicking **Open**.

  rvsXP saves the tables and displays any errors in the `rvs - Dump Jobstart Entries and User` dialog.

  Backing up has been successfully completed if the message `END` appears.
- Start rvsXP Monitor.

7.2 Backing up: Backing up the rvsXP database

This method backs up the entire rvsXP database and all rvsXP parameters.

The backup contains the complete current rvsXP environment state, i.e. the station table, the user table and the follow-on processing as well as logs of all transmissions including aborted and not completed processes.

You can revert to this back-up if you wish to restore the previous system state after a re-initialization of the rvsXP database. In most cases this will

not be a “clean” initial state but rather an “unmaintained” state of the user environment, which is disadvantageous and not desired in practice.

Backing up the complete database

To back up the entire rvsXP database:

- Stop rvsXP Monitor.
- Execute the menu command `Database -> Export`.

  The `Select Backup-File` dialog opens and displays the files in the rvsXP system folder with the "LOG" extension.
- Enter the file name under which you want to save the rvsXP database.
- Confirm the entry by clicking **Open**.

  rvsXP then saves the rvs database and displays any errors in the `rvs Dump Database` message window. Back-up has been successfully completed if the message `End` appears.
- Start rvsXP Monitor.

7.3 Delete and reinitialize rvsXP database

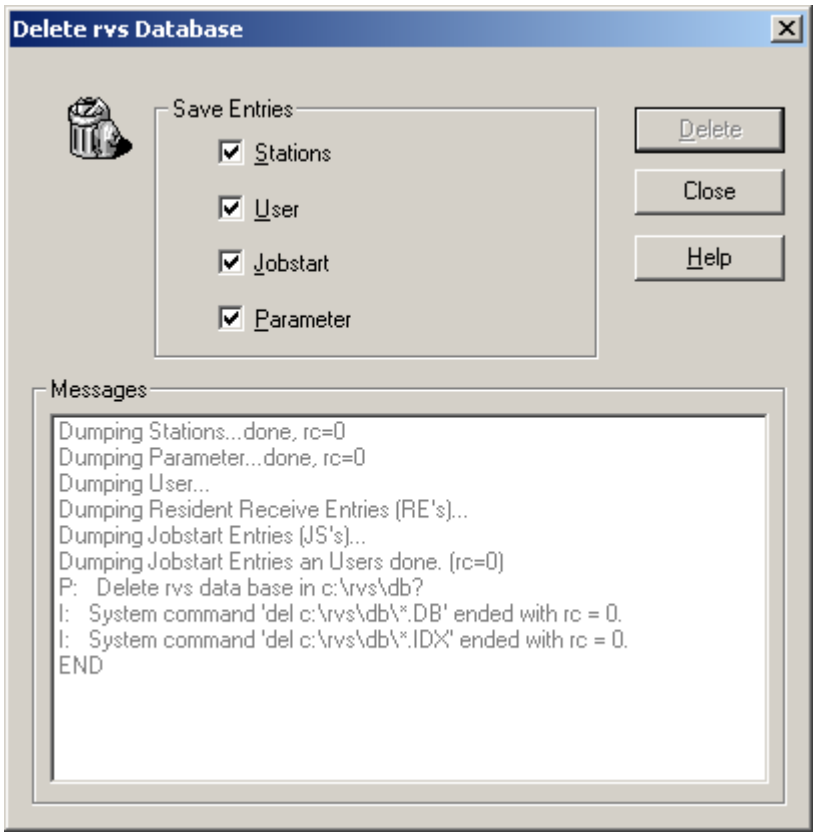
Delete rvs database

First you must delete the rvsXP database contents.

Attention: If you delete the rvsXP database you will irrevocably lose any incomplete data transmissions and all settings which you have made in the rvsXP Administrator.

If you are absolutely sure that you want to rvsXP reinstall your database carry out the following steps:

- Make sure that all send and receive entries have been completed. Pay attention to the send orders and receive entries which make use of the serialization function.
- Back up the tables which you would like to restore after initialization of the rvsXP database is complete. Further instructions are contained in the Chapter 7.1.
- Execute the menu command `Monitor -> Stop`.
- Use the preferred backup method to back up the station tables, users tables and the job start entries or the entire rvsXP database. For appropriate instructions please read Chapter 7.1.
- Delete the rvsXP database. To do so start the `Delete rvs Database` program in the `rvs` program folder.



Backing up selected entries prior to deleting

Prior to the delete operation you can save selected entries.

- Click the entries to be backed up in the field `Save entries`. In this case you will be asked under what name the entries are to be saved. Depending on the type of entries two different file types are created. When backing up `User` and `Program start` the specified file name is given the extension `_job`. The entries can be read-in again with the menu command `Database -> Import` and/or `Database -> Import of Jobstart Entries and User` after the rvsXP database has been created again.

Deletion has been successfully completed if the message `ended with RC = 0` appears.

Reinitializing the database

- Initialize the rvsXP database. To do so start the `Init Database` program in the `rvs` program folder. rvsXP will then generate a completely new rvsXP database.

  Hint: You need Windows administrator privileges for initializing the rvsXP database.

After initialization all tables contain the default rvsXP settings.

- Restore the tables desired from the backup files which you made earlier. For appropriate instructions please read Chapter 7.4.
- Start rvsXP Monitor.

7.4 Restoring rvsXP data from a back-up

When you have performed a back-up with one of the back-up procedures you can restore the station table, the user table together with the tables for follow-on processing or the entire rvsXP database. See “rvsXP database maintenance” on page 103.

7.4.1 Restoring the station table

To restore the station table:

- Start rvsXP Monitor.
- Execute the menu command `Database -> Import -> Stations`.

  The `Select file with station definitions` dialog opens and displays the files with the *.dat extension in the rvsXP system folder.
- Select the file which contains the station table which is to be restored.
- Confirm your selection by clicking **Open**.

  Restoration of the data has been successfully completed if the `Monitor LOG` window contains the message

  ```
  I: <ok cmd done> [RVSCNS] ‘modst’ terminated.
  ```

7.4.2 Restoring the user table and the follow-on processing

Carry out the following steps if you want restore data for the user table and follow-on processing:

- Stop rvsXP Monitor.
- Execute the menu command `Database -> Import -> Jobstarts & Users`.

  The `Select Backup-File` dialog opens and displays the files with the *.LOG extension in the rvsXP system folder.
- Select the file which contains the user table and follow-on processing which are to be restored.
- Confirm your selection by clicking **Open**.

  rvsXP then opens the `rvs - Restore Jobstart Entries and User` command prompt window and restores the saved entries for follow-on processing in the rvs database.

  Restoration of the data has been successfully completed if the command prompt window closes without error.

  Note: The command prompt window appears only briefly in case of a small number of users and entries.
- Start rvsXP Monitor.

7.4.3 Restoring the rvsXP database

To restore the entire rvsXP database using a complete back-up:

- Stop rvsXP Monitor.
- Execute the menu command `Database -> Import`.

  The `Select Backup-File` dialog opens and displays the files with the *.LOG extension in the rvsXP system folder.
- Select the file containing the rvsXP database to be restored.
- Confirm your selection by clicking **Open**.

  rvsXP then restores the rvs database and displays any errors in the `rvsXP - Restore Database` dialog.

Restoration of the data has been successfully completed if the message `0 error(s) occurred` appears.

- Start rvsXP Monitor.

7.5 Cleaning up the rvsXP database (`cleanup`)

Purpose of this function

The larger the rvsXP database, the more time is required by rvsXP Monitor and for user access. In order to get the best possible performance rvsXP operates with an automatic cleanup function, which removes information on completed or deleted transmissions from the database after a certain retention period.

Default: Immediate deletion

Information about completed actions, e.g. transmissions, is deleted immediately from the rvsXP database by default.

Parameter **CMDDELETE** (`rvsXP Administrator -> Settings -> Parameter -> CMDDELETE`) controls this function. It has the value **1** by default. If you want to keep information about completed actions for some time, set this parameter to value **0**. This does however place a burden on the rvsXP database and we therefore recommend that by default you set the **CMDDELETE** parameter to **1**. If you want an overview of files sent and received, or if you require this information for archiving purposes, use the rvsXP `$RVSPATH\db\rlstat.log` statistic file (see Appendix "Log files").

Retention time of completed jobs

The **CLEANUP** parameter finally determines how long such finished jobs are to be retained in the database if **CMDDELETE = 0**. You can determine the information retention time by using the operator command `cleanup`. The general command is:

```
cleanup days=n ss=yes/no
```

`n` represents the period in units of 24 hours; with `yes` or `no` you specify whether you also want to delete the associated entries in the transmission statistics.

Possible parameter modification:

– Dynamic adaptation during operation of rvsXP Monitor using the rvsXP Administrator. See “Customizing rvsXP Monitor parameters” on page 74.
or:

– Interactively issue the command as a single operator command.
or:

– Static adaptation by integrating the command in the `C:\rvs\init\rdmini.dat` initialization file.

  By default the file contains the `cleanup days=3 ss=yes` entry. That means that completed or deleted transmissions remain stored for 72 hours in the rvsXP database until rvsXP Monitor deletes them along with the transmission statistics.

Carry out the following steps if you want to modify the parameters for the restart:

- Open the `C:\rvs\init\rdmini.dat` file. To do so click the `Monitor Parameters` icon in the `rvs` folder.
- Search for the cleanup entry and modify it to meet your requirements.
- Save the file and close the text editor.
- Stop rvsXP Monitor and then start it again in order to activate the modified settings.

8 Encryption configuration: Key administration

The present chapter describes the key administration for secure data exchange. It describes how to generate, import and distribute keys as well as how to list and delete imported keys.

8.1 Encryption basics

This is encryption

To make unauthorized reading of information impossible you modify the data such that user information is still contained but no longer readily readable. This method is called encryption. There are two types of encryption methods:

Symmetrical method

Symmetrical procedures apply the same key for data encryption and decryption. Owners of the respective key can encrypt data and decrypt them at any time. This method ensures fast encryption but a low degree of security as the partners must agree on the key to be used for decryption and exchange it in an insecure environment.

Asymmetrical methods

Asymmetrical methods use a complementary key pair. One key is used for encryption while the other is used for decrypting the data. You cannot use the key used for encryption for decryption. These methods are very safe but require a high degree of computing power during encryption and decryption and may increase the data volume by up to 100%. The nondisclosure of the key required for decryption is a security advantage of the asymmetrical method: Only the recipient is in possession of the key.

8.1.1 Encrypted transmission with rvsXP

rvsXP combines both benefits: The high speed of the symmetrical method and the security level offered by the asymmetrical method. rvsXP uses the following methods:

- **3DES** as symmetrical method (length 3x56 bit = 168 bit),
- **RSA** as asymmetrical method (length 768 to 2048 bit).

Electronic signature

To enhance the degree of security rvsXP uses an electronic signature. The signature ensures the data does not suffer any unnoticed corruption during transmission. For this purpose rvsXP calculates the checksum of a given file and encrypts this checksum using the private key. The recipient station decrypts the encrypted checksum with the sender’s public key and compares it with the checksum of the decrypted file. A matching checksum indicates the file was not corrupted during transmission.

8.1.2 rvsXP encryption principle and procedure

Creating a key pair

Each participant in encrypted communication creates a key pair on his system, consisting of the **public key** and the **private key**.

Distributing public keys / safely storing private keys

The recipient makes his public key available to all partners he expects to receive data transmissions from. The respective sender thus can encrypt the data for precisely the partner who sent him the public key in question. There is no security risk in openly transmitting the public key as it is not suited for decryption.

The partner does not share his private key and stores it in a safe place. He can use this key to decrypt all data encrypted with the public key. He can no longer read encrypted messages destined for him if he loses this key.

Importing an external public key

Once a partner has received another partner's public key he must import it into the rvsXP database.

The following illustrations show how to exchange your encrypted data with a partner.

You have both successfully installed rvsXP and both have a key pair consisting of the private and the public key. Partner 1 has the PR1 / PU1 key pair. Partner 2 has the PR2 / PU2 key pair.

PR1		PR2
PU1		PU2

Keep the private key for yourself. Send your public key to your partner and he will send you his public key.

PR1		PR2
PU1	=>	
	<=	PU2

Each of you must import the partner's public key into the rvsXP database. This completes the preparations for a long time of securely exchanging any number of files.

PR1		PR2
Import of PU2		Import of PU1

Your partner encrypts a file with your public key and sends it to you.

qeùZÔÙÂ} ÃMQ|fÈ ãêVZ6/&%		<= PU1

You decrypt the file you received. To do so you need your private key, your own public key and the partner's public key.

PR1 + PU1 + PU2

decrypted file

Invoice No.
877
Customer

8.2 Overview of the rvsXP key administration

In order to use encryption with rvsXP please take these steps:

- Check the rvsXP license key. If the **Encryption** module was purchased the rvsXP license key (`$RVSPATH`[3]`\init\rdkey.dat`) contains the **Y** module.

Generating keys

- Generate a key pair for your local station. To do so, use the **Key Admin** application in the rvsXP Administrator or the `genKey` tool; see Chapter "Creating private and public keys".

Importing keys

- Import your **private key** and your **own public key** for your local station in rvsXP.
  To do so, use the **Key Admin** application in the rvsXP Administrator or the `rvskeyimp` tool; see Chapter "Importing Keys (rvskeyimp)".

CAUTION: Please handle the private key file very carefully to ensure your privacy.

Distributing and importing public keys

- Send the own **public key file** to the partner stations that shall participate in encrypted file transfer. You can do this rvsXP: Use the `rvskeydst` tool, see Chapter "Distribution of keys (rvskeydst)".
- Get a public key file from each of your partner stations that may participate in encrypted file transfer. Import the keys in rvsXP database. To do so, use the **Key Admin** application or the `rvskeyimp` tool; see Chapter "Importing Keys (rvskeyimp)".
- Check rvsXP key configuration to ensure availability of the local private key and of the partner public keys. To do so, use the **Key Admin** application or the `rvskeylst` rvsXP tool; see Chapter "Listing of imported keys (rvskeylst)".

Encryption may be enabled for each send job separately. rvsXP automatically decrypts the files received. This function is controlled over the parameter `AUTODECRYP` (values: Y = automatically decryption (default), N = non automatically decryption; please see the Reference Manual, chapter about parameters)

8.3 Creating private and public keys

To use the rvsXP encryption function you must have created the key pairs comprising the private and the public key with the `genKey` tool. This is

[3] For more detailed information on the **$RVSPATH** parameter see Chapter 1.6 "Representation means".

an easy to use program, which randomly creates a new key pair at any call.

You can launch the `genKey` program in two ways: via the command prompt or the graphic interface.

Launching via the command prompt

Syntax

```
genKey
   [-chefmopstv] [--768] [--1024] [--2048]
   [--owner] [--creator] [--from] [--to]
   [--help] [--size] private_key public_key
```

The `private_key` (in the dialog: **Private Key File**) and `public_key` (in the dialog: **Public Key File**) parameters stand for the files where the generated keys will be saved. Only these two parameters are required to produce a new key pair. The other parameters are optional.
The table below gives an overview of all optional parameters with explanations and default values.

The | character in the **Parameter** column separates the two possible variants of the same optional parameter.

Examples

```
genKey –h
genKey --h
```

(These two calls display the `genKey` help.)

Options

Parameters	Description	Default value
`-h|--help`	Print this message	

`-c|--creator string`	Creator of the files
	Example:
	`-c gha`
	`--creater gha`
	In the dialog: **Creator**
		‘unknown’

`-o|--owner string`	Owner of the files In the dialog: **Owner**	‘unknown’
`-f|--from string`	First day of validity period (TT.MM.JJJJ | YYYY-MM-DD) You can choose between the German (TT.MM.JJJJ) and the international (YYYY-MM-DD) date version. In the dialog: **begin** **Attention**: with different time zones the time difference is not considered	today

Parameters	Description	Default value
`-t|--to string`	Last day of validity period: (TT.MM.JJJJ | YYYY-MM-DD). In the dialog: **end** **Attention**: with different time zones the time difference is not considered	
`-p|--per string`	Validity period d|D|t|T=day, m|M=month, j|J|y|Y=year, h|H=hours, i|I=minutes, s|S=seconds You must decide upon one unit of time. Example: 1m (1 month) or 5D (5 days) In the dialog: **period**	3 months
`-s|--size value`	Key size in bit (maximum 2048 bits; must be divisible by 8) In the dialog: **KeySize**	1024
`--768`	Creates a key pair with 768 bits In the dialog: **768 bit**	
`--1024`	Creates a key pair with 1024 bits In the dialog: **1024 bit**	
`--2048`	Creates a key pair with 2048 bits In the dialog: **2048 bit**	
`-e`	Use the exact current time (normally the validity period starts at 00:00:00 UTC) In the dialog: **start today**	
`-m`	Print process information (not reasonable on batch systems)	
`-q`	be quiet	
`-v`	be verbose	

Example 1 `genKey TC2private TC2public`

(Generates a private key named `TC2private` and a public key named `TC2public`. The length of the keys will be 1024 bit and they will be valid three months beginning with the actual day.)

Example 2 `genKey -c Fischer -f 01.06.2001 -t 01.12.2001 -s 2048 WO1.pri WO1.pub`

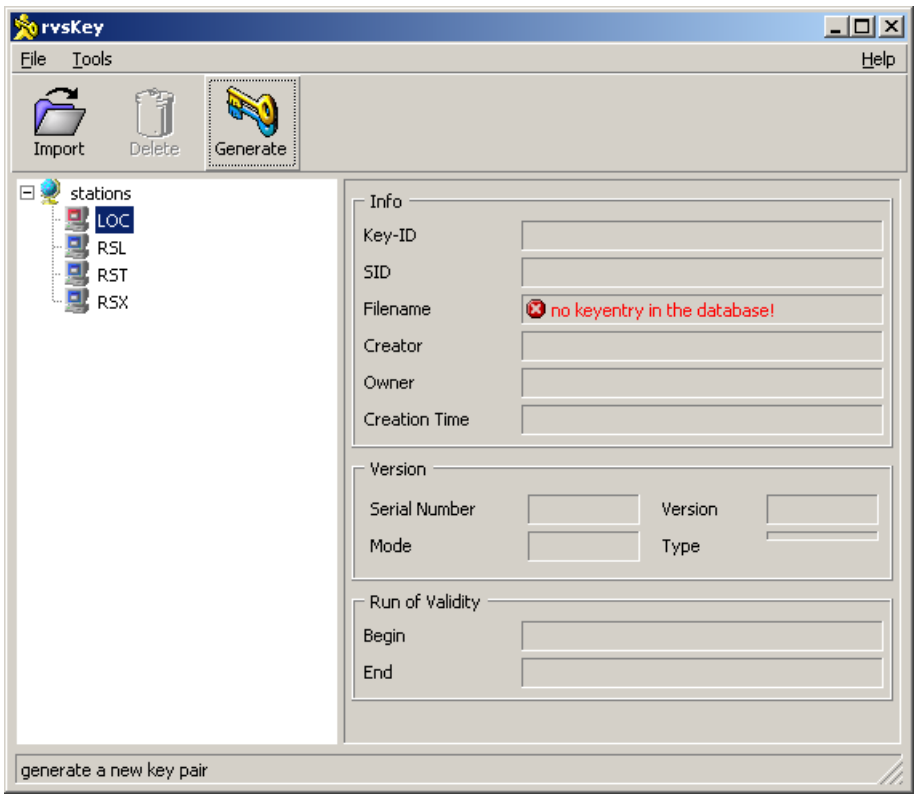
(Generates a key pair with the creator `Fischer` and with a size of 2048 bit. The valid period starts on June, 1 2001 and ends on December, 1 2001.)

Graphic interface

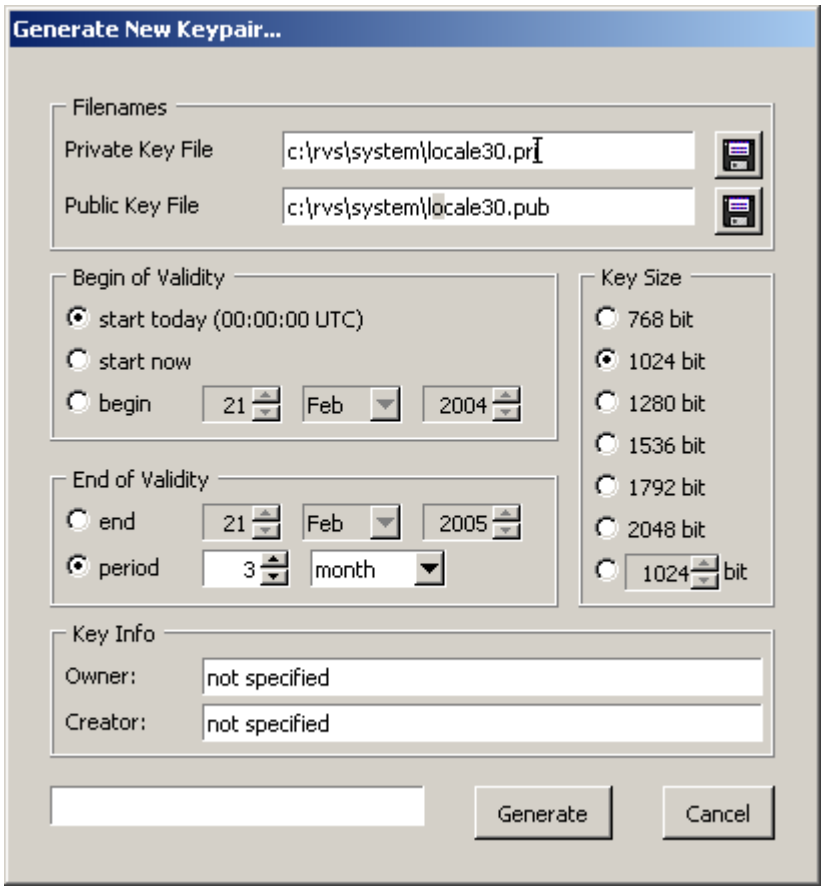
Start `rvsKey` with

- `Start -> Run`
  and type `rvskey` or
- Start the program `rvsKey` in the `rvs` folder (`Start -> Programs -> rvs ->Encryption Key Administration`)
  or
- Start the program in the rvsXP Administrator with
  `Start Program -> Key Admin`

In the `rvsKey` dialog you can call the `genKey` program by choosing the `Generate` symbol to generate a new key pair.



The `Generate New Keypair...` dialog opens.



- After setting all parameters click the **Generate** button to generate a new key.

Note: An explanation of the parameters has been given in the previous chapter (Creating private and public keys).

8.4 Importing Keys (`rvskeyimp`)

The `rvskeyimp` tool imports a key into the rvsXP database.

To import a key it is necessary to provide the name of the file containing the key with full path and the ID of the station (SID) for which the key shall be used. The tool `rvskeyimp` reads the file containing the key, copies it into the directory containing all imported keys (see `rvsenv.dat` parameter) and writes all necessary information into the rvsXP database (Table SV: S=Keys, V=Administration).

You can launch the `rvskeyimp` program via the command prompt or the graphic interface.

Launching via the command prompt

Syntax

```
rvskeyimp [-?] –i <FILE> -s <SID> [-x]
```

Options

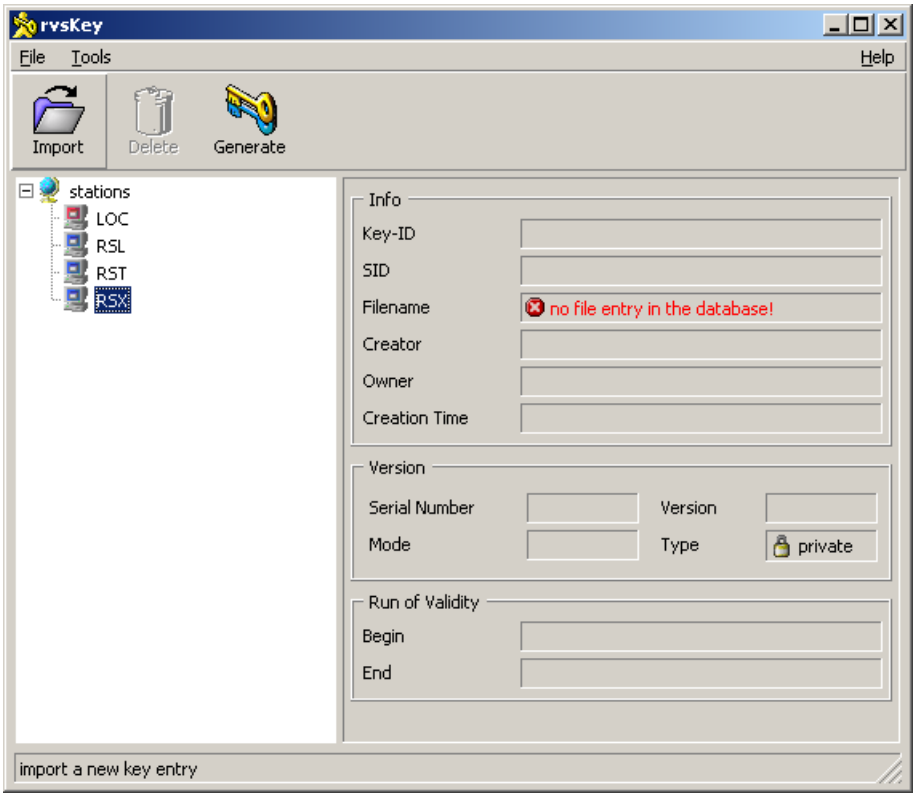
`-i <FILE>`	Import the key from file FILE where FILE must be specified with its full path
`-s <SID>`	The station ID for which the key will be imported
`-x`	The key that is being imported is an X.509 certificate

Example

```
rvskeyimp –i C:\rvs\usrdat\A15A13.pri –s LOC
rvskeyimp –i C:\rvs\usrdat\A15A13.pub –s RSL
```

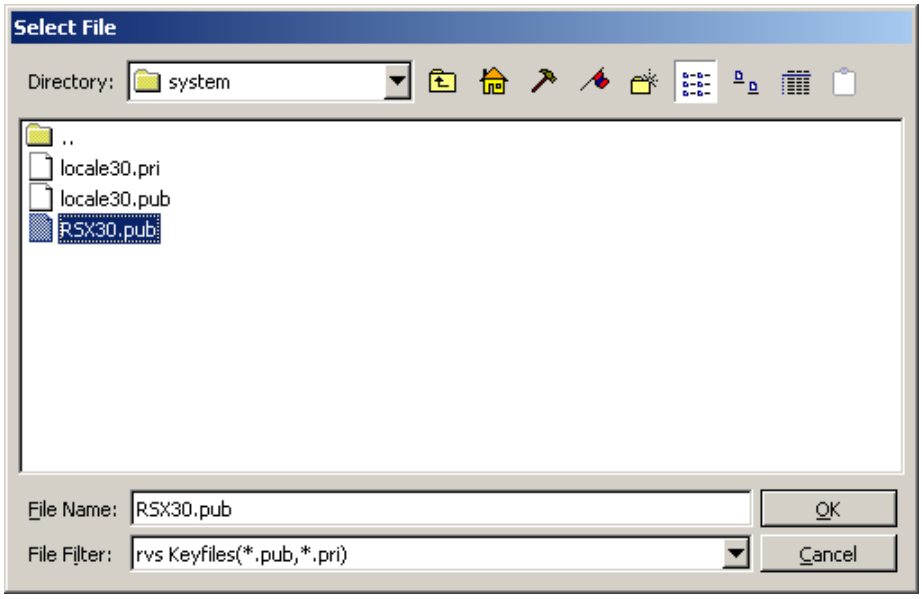
Graphic interface

To import the keys into the rvsXP database choose the `Import` symbol in the `rvsKey` dialog to launch the `rvskeyimp` tool:



- Select the station for which the import should take place and than click the `Import` symbol.

The `Select File` dialog appears:



- Select the file containing the key or write the file name in the `File Name` field of the `Select File` dialog.
- Click the **OK** button to import the key.

8.5 Distribution of keys (`rvskeydst`)

To enable the communication partner to receive and decrypt data intended for him the data must have been encrypted with his public key. This why the sender needs the recipient's public key. Exchange of public keys can be done by e-mail, mail, fax, disk or as well with rvs®. The `rvskeydst` tool sends a key file to a communication partner.

You must specify the name and the full path of the file containing the key to send a key file to a communication partner. The station IDs (SIDs) can be either handed over as parameter or in the form of an input file (one line for each station ID).

You can launch the `rvskeydst` program via the command prompt only.

Launching via the command prompt

Syntax

```
rvskeydst [-?]-f <FILE> -s <SID> | -l <FILE>
```

Options

`-f <FILE>`	The file containing the key where the full path must be specified with FILE
`-s <SID>`	The ID of the station to which the key will be sent (repeatable)
`-l <FILE>`	The file containing a list of station IDs

Example

```
rvskeydst –f C:\rvs\keycreate\C45PUB.pub –s r11 –
s a34 –s tsystems
```

```
rvskeydst –f C:\rvs\keycreate\C45PUB.pub –l
C:\rvs\list\sendlist1.lst
```

8.6 Deleting imported keys (`rvskeydel`)

The `rvskeydel` tool deletes keys that previously were imported into the rvsXP database. It deletes the key from the database and the respective key file in the key folder. The `-l` option creates a list containing the delete statements for all keys in the database. The output comprises two lines for each key, one with all key data, one with the appropriate delete statement.

To use this list for deleting keys you must pipe the output into a file. All delete statement lines have been commented out with REM at the line start.

- Start `rvskeydel` at the command prompt and the –l parameter to pipe the output into a file. Example:
  `C:\rvs\system\rvskeydel.exe -l DelFile.txt`
- Remove the comment indicator (REM) from those keys you wish to delete.
- Assign the file executable rights.
- Start the file from the command prompt:

You can launch the `rvskeydel` tool via the command prompt or the graphic interface.

Launching via the command prompt

Syntax

```
rvskeydel [-?ldur]
```

Options

`-l`	Generate a list of all key entries

`-d KEYID`	Delete key with the ID KEYID
`-u`	Remove the public key
`-r`	Remove the private key

Example of a generated key list:

```
REM SID=LOC DATEBEGIN=2001/01/25 00:00:00
DATEEND=2001/04/25 02:00:00 ...
REM rvskeydel -d 1074002581 -r
REM SID=LOC DATEBEGIN=2001/01/25 00:00:00
DATEEND=2001/04/25 02:00:00 ...
REM rvskeydel -d 1074002581 -u
```

Example

`rvskeydel –l`

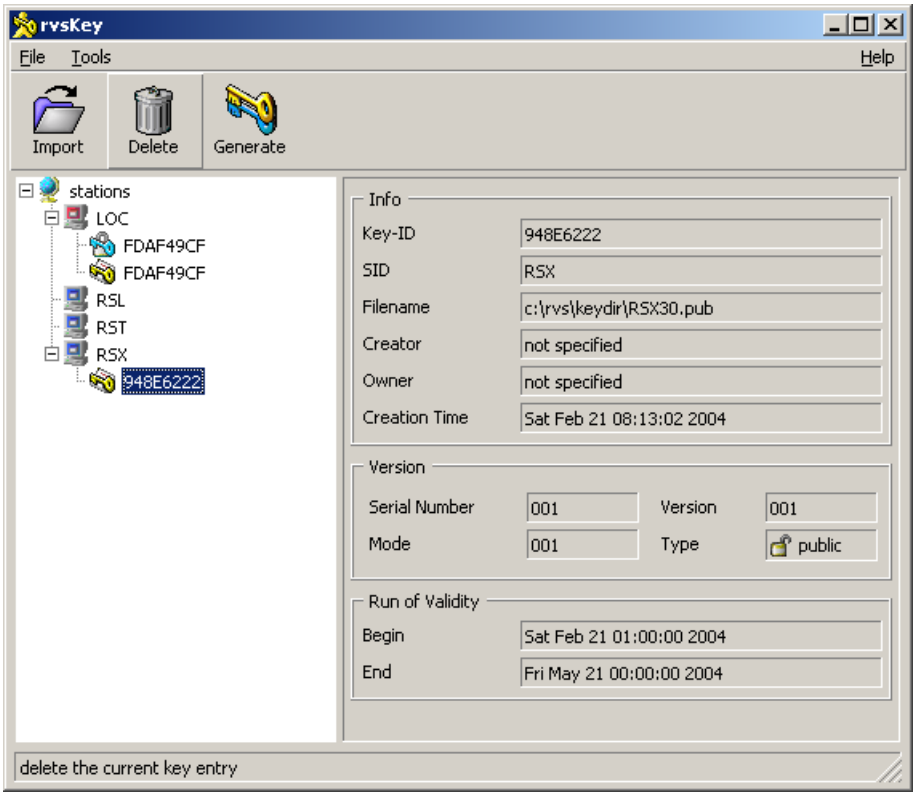
(Lists all key entries.)

`rvskeydel –d 103456734 –u`

(Removes the public key with the ID 103456734.)

Graphic interface

- To delete the keys from the rvsXP database choose the `Delete` symbol in the `rvsKey` dialog to launch the `rvskeydel` tool:



- Choose the private or public key (highlighted in the `rvsKey` dialog above) in the `rvsKey` dialog.
- Click the `Delete` button.
- Answering the following query with **Yes** causes the key to be deleted in the rvsXP database and from the list in the `rvsKey` dialog. The key will not be deleted if you choose **No**.

8.7 Listing of imported keys (`rvskeylst`)

The `rvskeylst` tool lists all keys that have been imported into the database with their complete data. This command does not support any options.

You can launch the `rvskeylst` tool via the command prompt or the graphic interface.

Launching via the command prompt

Syntax

`rvskeylst`

Example of result

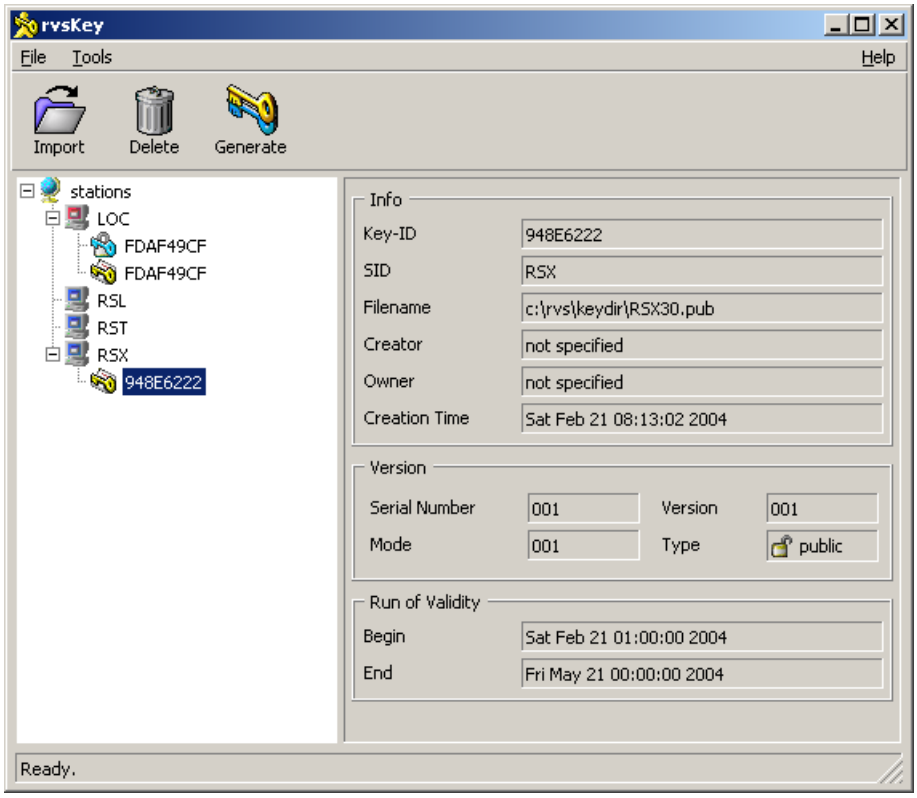
```
SID=WO1 BEGIN=2001/02/22 00:00:00 END=2001/05/22
01:00:00 FILE= ...

SID=LOC BEGIN=2001/02/22 00:00:00 END=2001/05/22
02:00:00 FILE= ...
```

Launching via the graphic interface

After launching `rvskeylst` the key entries are shown in the graphic `rvsKey`.

Start `rvsKey` with

- `Start -> Run`
  and type `rvskey` or
- Start the program `rvsKey` in the `rvs` folder (`Start -> Programs -> rvs ->Encryption Key Administration`)
  or
- Start the program in the rvsXP Administrator with
  `Start Program -> Key Admin`



- If you want to refresh the list, select `Reload` in the `File` menu.

8.8 Support for public key certification

With this feature a certification request for the own public key can be generated following PKCS #10. This may be required e.g. if the certificate shall be deposited in a trust center. The certification request is created using the tool `rvskeyreq`:

Usage:

```
rvskeyreq [-?cod] outfile
```

Options:

`-?`	Shows usage
`-c <CN>`	Common Name (mandatory); Common Name is the keyword for the search of the certificate in a PKI.
`-o <ORG>`	Organisation (mandatory); this is the name of your company, this parameter would not be used for the search in the PKI, so you can write here the short name of your company.
`-d <Dumpfile>`	Auxiliary dump file, includes informations about the PKCS#10 request such as Common Name, Organisation and the own public key.
`outfile`	Output file; contains the same informations as the dump file, but base64 encoded.

Example:

```
rvskeyreq –c "VW_OFTP O00134350TSYSTEMSRVS33"
–o TSYSTEMS –d C:\rvs\usrdat\dump
C:\home\rvs\usrdat\request
```

This example creates a dump file dump and a certification request request In the file dump are the parameters CN (Common Name), ORG (Organisation) and your public key. The same parameters are in the file request, but base64- encoded.

The file dump could look as follows:

CN (Common Name) = VW_OFTP O00134350TSYSTEMSRVS33

ORG (Organisation) = TSYSTEMS

Public Key:

00:bd:79:69:5d:96:a7:16:c6:02:e1:69:d2:14:53:af:

98:47:9e:26:56:e7:f4:18:fd:8c:77:71:cc:ef:c5:6e:

65:81:9a:2f:9b:2d:ed:c7:b9:b5:4d:24:11:09:e6:53:

7e:ba:4a:8a:eb:db:84:18:ab:c2:78:2e:fe:de:17:c7:

7d:65:f5:98:e5:89:20:ae:83:cb:7d:68:05:e6:69:90:

10:50:da:f5:a3:40:f3:af:bd:60:ee:26:05:c5:f9:99:

99:8a:c0:9d:f6:de:64:0d:cb:e5:a4:54:69:8f:91:2b:

ed:1a:64:42:e7:42:a4:34:92:5d:fd:cb:94:8f:00:4c:

8f:

The file request could look as follows:

```
-----BEGIN CERTIFICATE REQUEST-----
MIIBeTCB4wIBADA8MQ8wDQYDVQQKFgZSVlNDQzExKTAnBgNVBAMWIFZXX09G
VFAgTzAwMTMwMDMyMTBHRURBUy0tLVJWU0NDMIGfMA0GCSqGSIb3DQEBAQUA
A4GNADCBiQKBgQC9eWldlqcWxgLhadIUU6+YR54mVuf0GP2Md3HM78VuZYGa
L5st7ce5tU0kEQnmU366Sorr24QYq8J4Lv7eF8d9ZfWY5YkgroPLfWgF5mmQ
EFDa9aNA86+9YO4mBcX5mZmKwJ323mQNy+WkVGmPkSvtGmRC50KkNJJd/cuU
jwBMjwIDAQABMA0GCSqGSIb3DQEBBQUAA4GBAEp+42YhF7fyRNZuOPHCQ3sx
/oTzjjN+pPqaqfCrVdyciKiI+zwBErsb53JaLMQYXTLixdHxcnoH2xxAVYG5
f0MB23TnZrCJAp8Xw3Kn4i6vF4+YTUYT8ZdHYyBEGOKcltVtYOHOQYcUVA8h
iL60onHlbsKxuQNzJlZxeKiNouIJ
-----END CERTIFICATE REQUEST-----
```

8.9 Configuration of offline compression

If the **offline compression** module was purchased it is enabled by the rvsXP license key. Offline compression is enabled when the key file `rdkey.dat` (located in the rvsXP `init` folder) contains the **Z** module.

There are none additional configuration steps required for offline compression. Offline compression may be switched on for each send job separately. It is handled automatically when receiving files.

9 Code conversion

ASCII and EBCDIC

You are probably aware that text files are stored on most systems in one of two computer codes, namely ASCII (American National Standard Code for Information Interchange) or EBDIC (Extended Binary Coded Decimal Interchange Code). ASCII is the standard code for UNIX and DOS/ Windows Systems, EBCDIC for OS/400 and OS/390 operating systems. While the assignment of digits and letters of the Latin alphabet is standardized within each of these two code families, special characters (like square brackets [ ]) or national language characters (like accented letters or umlauts) may be assigned to different codes in different code pages[4] within a family.

The Odette FTP standard and so rvs® distinguish between **text** files (format **T**) and **non-text** files (**F**, **V** and **U** formats).

Text files are always transmitted in ASCII (stipulated by the ODETTE protocol) and automatically delivered in the local system-specific code of the target system (where required).

Non-text files are transmitted as is without conversion, unless you specifically request code conversion on the sender and/or recipient side.

Example 1 (text file):

Text files are coded in ASCII on a Windows computer and in EBCDIC on an OS/390 system.

Direction: rvsXP => rvsMVS

A rvsXP station is to send a text file to a rvsMVS station. To be recognized as a text file, this file must be sent in the text format (right mouse button `rvsTrayIcon -> rvs ->` **New Send Entry** `->` **Change Options** `-> Format=Text`). This file will be transmitted as an ASCII file (stipulated by the ODETTE protocol) and will be converted into EBCDIC by the rvsMVS station.

Direction: rvsMVS => rvsXP

When sending a text file from an OS/390 system you must define the format of the file (**T** format), so this EBCDIC text file will be converted to ASCII code before sending. Text files are transmitted only in ASCII format (**Odette**). The rvsXP system will receive the text file in ASCII.

Example 2 (Non text file):

Direction: rvsXP => rvsMVS

Normally an OS/390 system requires (rvsMVS) files in the **F** (fixed) or **V** (variable) format to be able to store and process them without problems. As a Windows system is able to work only with files in the **T** (Text) or **U** (unstructured=binary) format you have to convert them to the pseudo fixed or pseudo variable format before sending.

For this purpose rvsXP offers the `rvsut2fv` tool. For more details on this tool and its command syntax please refer to the rvs® Reference

[4] The code pages vary as they depend on the respective operating system.

manual, Part III, Utilities. The rvsXP station is then to send the converted file in the **F** or **V** format and also set the parameters for the input and output code (`Start -> Programs -> rvs -> rvsXP -> Edit -> New Send Entry -> Options -> Format=Fixed/Variable -> Input-Code=A; Output-Code=E`). The input code is **A** for ASCII, the output code is **E** for EBCDIC.

rvsXP supports code conversion both during sending and receiving of files. You can force a code conversion of received files by setting up an appropriate resident receive entry.

For the code conversion, you can use two sorts of code conversion tables:

– those integrated in rvsXP, or
– your own conversion tables.

9.1 Automatic code conversion with integrated conversion tables

The rvsXP code conversion tables meet the following standards:

ASCII:**ISO 8859 Latin 1** and
EBCDIC:**CECP 037**.

The code conversion tables are located as `rtcae.dat` and `rtcea.dat` files in the `$RVSPATH`[5]`\system` folder.

The meaning of the letters in those file names is:

`r` rvs®
`t` translate (conversion)
`c` code
`e` EBCDIC
`a` ASCII

The `$RVSPATH\system\rtcae.dat` file contains the conversion table for ASCII => EBCDIC conversion, and the `$RVSPATH\system\rtcea.dat` file the respective conversion table for EBCDIC => ASCII conversion.

To have a conversion performed according to these conversion tables you must copy the following files to the `$RVSPATH\init\` folder:

`$RVSPATH\system\rtcae.dat`,
`$RVSPATH\system\rtcea.dat`.

[5] For more detailed information on the **$RVSPATH** parameter see Chapter 1.6 "Representation means".

9.2 Code conversion with user code tables

The rvsXP user can use his own code tables instead of using the system code tables for code conversion. The input code (`CODEIN`), output code (`CODEOUT`) parameters as well as the code table (`CODETABLE`) are of importance for code conversion (`Start -> Programs -> rvs -> rvsXP -> Edit -> New Send Entry -> Options`). The Input Code parameter defines the code of the file before conversion and the Output Code parameter is the code after the conversion. The code table parameter allows you to use your own table for code conversion.

To use the user specific code tables you have two possibilities:

1. You define all three parameters: `input code`, `output code`, and `code table`. See Chapter 9.3 "How to perform a code conversion" for more detailed explanations on code conversion during receiving and sending.
2. You define `Input Code` and `Output Code` only and copy your own conversion table to the `$RVSPATH\init` folder. You own conversion table must be named `rtcae.dat` or `rtcea.dat`. rvsXP will only recognize files named according to this convention as conversion tables.

9.2.1 Structure of the code conversion tables

If you intend to create your own code conversion tables, these should have the same structure as rvs® system code conversion tables (`$RVSPATH\system\rtcae.dat` and `$RVSPATH\system\rtcea.dat`).

These code conversion tables have 256 decimal numbers (8 bit). The position in the table (0th position in the table is the number 0) defines the input code, and the number located on this position is the output code for the same character. The following example will illustrate this:

Example

To understand it, you need an ASCII code table, an EBCDIC code table and the rvs® conversion tables (`rtcae.dat`, `rtcea.dat`).

We assume you wish to perform an ASCII => EBCDIC code conversion for the small letter **r**. This character is assigned the decimal value **114** in the ASCII code table. The number **114** defines the position of the decimal value for the small letter **r** in the `rtcae.dat` code conversion table in the EBCDIC table. So, you can find at the **114th** position (number 0 is 0th position) in the `rtcae.dat` file the number **153** representing the value for the small letter **r** in the EBCDIC table.

One more example: **A**: On the **65th** position in the `$RVSPATH\system\rtcae.dat` file is the number **193**, being the EBCDIC decimal value for the capital letter **A**. In the opposite direction you can find ASCII code **65** for **A** on the **193th** position in the `$RVSPATH\system\rtcea.dat` file.

9.3 How to perform a code conversion

The following examples show how to perform a code conversion when receiving and sending files.

9.3.1 Code conversion when sending files

This chapter describes how to send files via `rvsXP` and `rvsbat` with code conversion.

Sending files with code conversion via `rvsXP`

Automatic ASCII to EBCDIC code conversion

- Start the `rvsXP` program using
  `right mouse button rvsTrayIcon -> rvs`
  or
  `Start -> Programs -> rvs -> rvsXP .`
- Choose `Edit -> New Send Entry`.

The `Choose file to be sent` dialog opens.

- Select the desired file and confirm your selection with **Open**.
- Specify other send parameters
  `Station ID` and `New Name`.
- Specify the format of the file to be sent in the `Options` area (see Chapter 6.3.1 "Creating send orders");
  - Specify **A** for ASCII as `Input-Code`
  - Specify **E** for EBCDIC as `Output-Code`

Result: An ASCII file will be sent as an EBCDIC file.

Note: If your partner station expects a file in the `F` (fixed) or `V` (variable) format, you should convert it with the `rvsut2fv` rvsXP utility. For more details on this tool and its command syntax please refer to the Reference manual, Part III, Utilities.

Code conversion with user specific code conversion tables

- Start the `rvsXP` program using
  `right mouse button rvsTrayIcon -> rvs`
  or
  `Start -> Programs -> rvs -> rvsXP .`
- Choose `Edit -> New Send Entry`.

The `Choose file to be sent` dialog opens.

- Select the desired file and confirm your selection with **Open**.

- Specify other send parameters
  `Station ID` and `New Name`.
- Specify the other send parameters `Station ID` and `New Name`.
- Under `Options` specify the format of the file to be sent (see Chapter 6.3.1 "Creating send orders").
- Click the **Search** button in the `Codetable` area to specify the path to your own conversion table (e.g. `$RVSPATH`[6]`\arcdir\rtcusr.dat`).

Result: A file will be sent and converted as specified in the user code table.

Sending with code conversion via `rvsbat`

Automatic ASCII to EBCDIC code conversion

- Create a job file with ASCII to EBCDIC code conversion.

Example

Create the job file (e.g. `job`) containing

```
send /c dsn=”<file to be sent>” format=U
codein=A (sid=”<recipient>” codeout=E).
```

- Start the job with

  `rvsbat /ijob` or `rvsbat –ijob`.

Result: The ASCII file `<file to send>` will be sent as an EBCDIC file.

Code conversion with user specific code conversion tables

- Create a job file in which you explicitly specify the conversion tables.

Example

Create a job file (e.g. `job`) containing

```
send /c dsn="<file to be sent>" format=U
sid="<recipient>" codetrans=t codetable="<path
and name of user code table>").
```

- Start the job with

  `rvsbat /ijob` or `rvsbat -ijob`.

Result: A file `<file to be sent>` in the `U` format will be sent and converted as specified in the user code table. `codetrans=t(able)` indicates you are using your own conversion table.

[6] For more detailed information on the **$RVSPATH** parameter see Chapter 1.6 "Representation means".

9.3.2 Code conversion when receiving files

This chapter describes how to use the code conversion for receiving files.

9.3.2.1 Using resident receive entries created with `rvsXP`

Creating a resident receive entry with ASCII to EBCDIC code conversion:

- Start the `rvsXP Administrator` with
  `right mouse button rvsTrayIcon -> rvs Administrator`
  or
  `Start -> Programs -> rvs -> rvs Administrator`.
- Choose `Job -> Receive.`
- The Resident Receive Entries window appears.
- Choose `Edit -> Add` to add a new resident receive entry.
- Enter your resident receive entry parameters.

  In the `Code Conversion` field you can define the direction of the code conversion (none, ASCII => EBCDIC or EBCDIC => ASCII), the path and name of the rvsXP system code conversion table from ASCII to EBCDIC (`$RVSPATH`[7]`\init\rtcae.dat` or `$RVSPATH\system\rtcae.dat`).
- Press the <**Enter**> key to create the new resident receive entry.

Result: An ASCII file received via the defined resident receive entry will be saved as an EBCDIC file.

Creating a resident receive entry with EBCDIC to ASCII code conversion

- Start the `rvsXP Administrator` with
  `right mouse button rvsTrayIcon -> rvs Administrator`
  or
  `Start -> Programs -> rvs -> rvs Administrator`.
- Choose `Job -> Receive.`
- The Resident Receive Entries window appears.
- Choose `Edit -> Add` to add a new resident receive entry.

[7] For more detailed information on the **$RVSPATH** parameter see Chapter 1.6 "Representation means".

- Enter your resident receive entry parameter.

  In the `Code Table` field you can define the path and name of the rvsXP system code conversion table from EBCDIC to ASCII (`$RVSPATH`[8]`\init\rtcea.dat` or `$RVSPATH\system\rtcae.dat`).
- Press the <**Enter**> key to create the new resident receive entry.

Result: An EBCDIC file received via the defined resident receive entry will be saved as an ASCII file.

Create a resident receive entry with user specific code conversion table:

- Start the `rvsXP Administrator` with `right mouse button rvsTrayIcon -> rvs Administrator` or `Start -> Programs -> rvs -> rvs Administrator`.
- Choose `Job -> Receive.`
- The Resident Receive Entries window appears.
- Choose `Edit -> Add` to add a new resident receive entry.
- Enter your resident receive entry parameter.

  Specify path and name of the user-defined conversion table (e.g. `$RVSPATH\arcdir\rtcusr.dat`) in `Code Table`.
- Press the <**Enter**> key to create the new resident receive entry.

Result: A file received via the defined resident receive entry will be processed converted with the user defined code table.

[8] For more detailed information on the **$RVSPATH** parameter see Chapter 1.6 "Representation means".

9.3.2.2 Using resident receive entries created with `rvsbat`

Creating a resident receive entry with ASCII to EBCDIC code conversion:

- Create a job file that creates a resident receive entry.

Example

Create a job file (e.g. `job`) containing

```
resentr /c dsn="<received ASCII file >"
codetrans=e sid="<Sender>".
```

- Start the job with

  `rvsbat /ijob` or `rvsbat -ijob`.

Result: An ASCII file received via the defined resident receive entry will be saved as an EBCDIC (`codetrans=e`) file.

Create a resident receive entry with EBCDIC to ASCII code conversion:

- Create a job file that creates a resident receive entry.

Example

Create a job file (e.g. `job`) containing

```
resentr /c dsn="<received EBCDIC file>"
codetrans=a sid="<Sender>".
```

- Start the job with

  `rvsbat /ijob` or `rvsbat -ijob`.

Result: An EBCDIC file received via the defined resident receive entry will be saved as an ASCII (`codetrans=a`) file.

Creating a resident receive entry with user specific code conversion table:

- Create a job file that creates a resident receive entry.

Example

Create a job file (e.g. `job`) containing

```
resentr /c dsn="<received EBCDIC file>"
codetrans=t codetable="<user code table, e.g.
$RVSPATH[9]\arcdir\rtcusrdat>" sid="<Sender>".
```

- Start the job with

  `rvsbat /ijob` or `rvsbat -ijob`.

Result: A file received via the defined resident receive entry will be converted with the user defined code table.

[9] For more detailed information on the **$RVSPATH** parameter see Chapter 1.6 "Representation means".

10 Backing Up and Recovering rvsXP Data

rvsXP lets you back up all relevant (dynamic and static) data and recover them if necessary. This is particularly important when an error has occurred in rvsXP and the user wishes to revert to the old status prior to the error.

For backing up, a distinction is made between dynamic and static data.

Static data are: station data, jobstarts (REs and JSs), users and rvs® parameters.

“Dynamic data” refers to information on send and receive jobs. During back-up, this data is written to a Redolog file to be able to recover incomplete transmission jobs at a later time. Completed jobs are logged but are not relevant for recovery (see 10.2 "Procedure").

10.1 New parameters

To write the data to a Redolog file, the `BACKUP` parameter in the `$RVSPATH/rvsenv.dat` environment file must be set to `ON` (`rvsXP Administrator -> Edit -> Environment`).

Example:

```
BACKUP = ’ON’
```

As an option, you can also use the `REDOLOGFILE` parameter to specify the path to the Redolog file. The default is: `$RVS_HOME/arcdir/redo.log`.

Example:

```
REDOLOGFILE = ’D:\rvsrecover\redo.log’
```

Note: Make sure to save the back-up data on a disk where rvs® is not installed in order to be able to recover data when a hard disk failure has occurred.

You must restart rvs® to have these parameters take effect. Any dynamic data will be written (saved) to the Redolog file from this moment onwards.

10.2 Procedure

The present chapter describes the general procedure during rvs® data back-up and recovery.

The new rvs® program for backing up and recovering data is called `rvsredo.exe` and is located in the `$RVSPATH/system` directory.

Syntax:

```
rvsredo [-lacype] [-tfbsdv]
```

More about the rvsredo options, please read in chapter 10.3 "rvsredo Options".

Back-up

The following steps are necessary:

- Set the BACKUP parameter in the $RVSPATH/rvsenv.dat file to ON. As an option you can also set the REDOLOGFILE parameter.
- Stop and restart rvs® so that the parameter configuration change can take effect. Any dynamic rvs® data will be logged from this moment onwards.
- Execute the

  rvsredo -c

  command. This will back up the static rvs® data (stations and parameters) to the $RVSPATH/arcdir/static.dat file.
- Backup of the static data (users, REs and JSs) with the command

  rvsdru

  This program generates the text file rlrudump.log to the $RVSPATH/arcdir directory.
- Backup of the dynamic data with a command

  rvsredo -y

  This command stores all dynamic data in the file $RVSPATH/arcdir/dynamic.dat.

Data recovery

You need an existing back-up to restore data.

To recover data, perform the following steps:

- Stop rvs®
- Delete and Reinitialize the database (See chapter 7.3 "Delete and reinitialize rvsXP database")
- Restore static data. To do so, use the rvswdb and rvsbat program.

  Syntax: rvswdb /i<path of the input file>

  Syntax: rvsbat /i<$RVSPATH\arcdir\rlrudump.log>

  Example: rvswdb /iC:\rvs\arcdir\static.dat
  Example:rvsbat /iC:\rvs\arcdir\rlrudump.log

– Resore dynamic data

  Generate the list of send/receive entries not yet fully processed using the rvsredo -l command to pipe it into a file (e.g. restore.bat).

  ```
  rvsredo -l -bC:\rvs\arcdir\dynamic.log > job.bat
  ```

– At the command prompt, launch the batch file (e.g. restore.bat) generated with the rvsredo -l command. This will complete any

rvs® commands not yet processed (files will be sent, EERP will be sent or received, ...)

- Alternatively, you can generate the list of send/receive entries already completed and not yet fully completed using the `rvsredo -a` command to pipe it into a file (e.g. `restore.bat`).

  ```
  rvsredo -a -bC:\rvs\arcdir\dynamic.log > job.bat
  ```

- Call the batch file (e.g. `job.bat`)

The example batch files `rvsbackup.bat` and `rvsrecovery.bat` you can find in the directory `$RVSPATH/system`.

10.3 rvsredo Options

The program `rvsredo.exe` offers the following options:

Syntax:

```
rvsredo [-lacype] [-tfbsdv]
```

PARAMETER	DESCRIPTION
-l	Displays a list on the screen, comprising all send/receive orders not yet completed. You can use this option with the `-t <time limit>`, `-f <redo file>` and `-b <basis file>` options.
-t <time limit>	Date and time up to which send/receive orders are displayed.
-f <redo file>	Name of the redo file.
-b <basis file>	Name of the dynamic file
-c	Generates the `$RVSPATH/arcdir/static.dat` file with static data (station list,...). You can use the `-f` option when you wish to save your data to another file.
-f <file name of static data>	Name of the file where you wish to save your static data. You can use this option in conjunction with the `-c` option only.
-p	Changes the current status to "pending" (waiting for EERP) for an already existing send order. With this option the options (`-s`, `-d`, `-v` and `-t`) from the table can be used.

PARAMETER	DESCRIPTION
-e	Changes the status to "ended" for an already existing send order. With this option the options (`-s`, `-d`, `-v` and `-t`) from the table can be used.
-s	Sender StationID for which the `-p` and `-e` option is to be used.
-d	Receiver StationID for which the `-p` and `-e` option is to be used.
-v	Virtual file name for which the `-p` and `-e` option is to be used.
-t	Date and time of send order provision for which the `-p` and `-e` option is to be used Example: 2005/10/26 11:20:34

11 rvsXP HighPerformance

SQL server and Oracle link

In order to efficiently master the continuously growing flow of data and to increase the performance level of rvs® the internal rvs® C-ISAM database can be replaced with a high-performance database:

– On Windows systems of version 2.05 and later there is the option to link to an Oracle database.

– Windows systems of version 2.11 and later can be linked to a Microsoft SQL Server.

rvsXP license:

License key

The rvsXP license key file `$RVSPATH`[10]`\init\rdkey.dat` must include the letter **O** in the **Included Components** line to start rvsXP with Oracle link.

To start the SQL Server link you must specify **Q**.

11.1 Configuration of ORACLE

Requirements

To install rvsXP High-Performance you must have a fully functioning Oracle database. At the moment we support the link to the Oracle database version 10 and 11. Normally we recommand to have the same version of Oracle client and Oracle server.

Exception: On Windows systems we recommand Oracle Client 10 with the Oracle Server 11.

To run the Oracle database on a UNIX system your configuration file (e.g. `.profile`) has to be expanded with Oracle-compatible definitions of environment variables.

Configuration file Example: LINUX

Here are two examples of the configuration file for LINUX and AIX systems with Oracle environment variables.

LINUX

```
ORACLE_OWNER=oracle
export ORACLE_OWNER
ORACLE_HOME=/opt/oracle/product/10
export ORACLE_HOME
ORACLE_SID=rvslnx4
export ORACLE_SID
export DBID=ORA
PATH=.:$PATH:$ORACLE_HOME/bin
export PATH
```

[10] For more detailed information on the **$RVSPATH** parameter see Chapter 1.6 "Representation means".

```
LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/home/bwa/rvs/
system:
/home/bwa/rvs/lib:/opt/oracle/product/10/lib
export LD_LIBRARY_PATH
```

Configuration file Example: AIX

AIX

```
ORACLE_SID=rvsora
export ORACLE_SID
export DBID=ORA
PATH=$PATH:$ORACLE_HOME/bin:
export PATH
```

Two configuration options are offered:

1. rvs® and Oracle run on the same computer
2. rvs® and Oracle run on different computers

For option 2.: When rvs® and Oracle are running on different computers, the communication between both systems takes place via a LAN supported by both systems. Here the normal Oracle Client/Server solution would be used.

Server: The Oracle Server software must be installed and configured on the database server. The so called LISTNER must also be configured on this server.

Client: The rvs® OFTP server and Oracle client must be installed and configured on the client.

Note: If Oracle is running on an external computer, this computer must be defined in the file:

`$ORACLEHOME\network\admin\tnsnames.ora`.

Example (tnsnames.ora):

```
#TNSNAMES.ORA Network Configuration File: /opt/
oracle/product/10/network/admin/tnsnames.ora
# Generated by Oracle configuration tools.

RVSORA.TSYSTEMS.DE =
 (DESCRIPTION =
  (ADDRESS_LIST =
   (ADDRESS = (PROTOCOL = TCP)(HOST =
rvsaix3)(PORT = 1521))
  )
  (CONNECT_DATA =
   (SERVICE_NAME = rvsora)
  )
 )
```

In this example `RVSORA.TSYSTEMS.DE` is an ORACLE network service name and `rvsora` a service name. A network service name is needed to identify an ORACLE database in a network. This name should not be mixed up with the global database name, although it has a similar syntax. The service name identifies a database instance, because several instances can run on the same computer.

11.2 Configuration of rvsXP

Test if the Oracle configuration for rvsXP works fine (if a user exists and a database is available) with a following command:

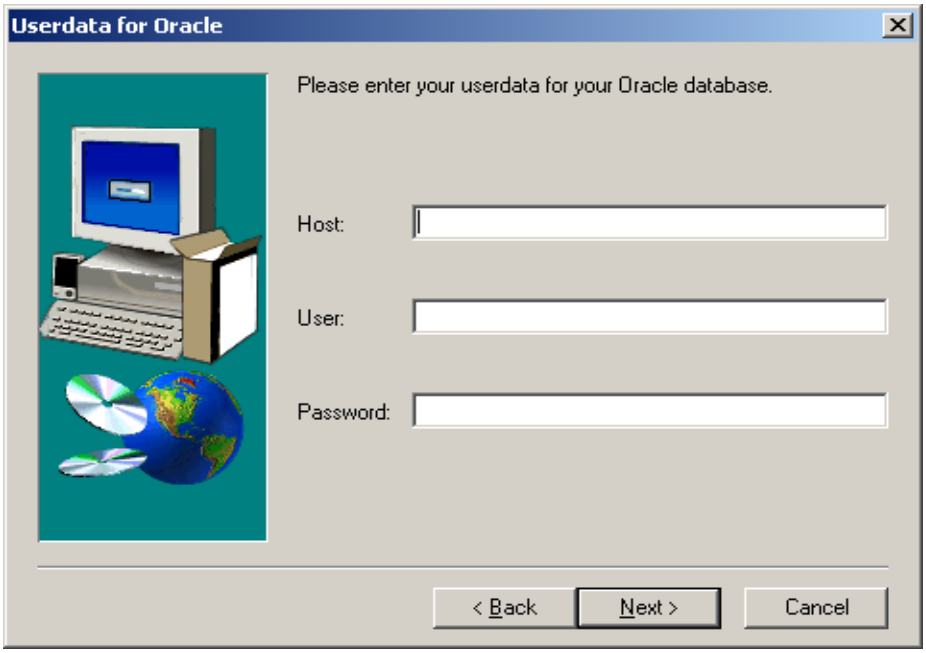
```
sqlplus Oracle_user@Oracle_NetworkServiceName/password
```

Example:

```
sqlplus skk@RVSORA.TSYSTEMS.DE/skk
```

If this test is successful, you can start with the installation of rvsX.

During the installation of rvsXP you will be asked to enter your Oracle user data.



This data will be added to the rvs® environment file `$RVSPATH/rvsenv.dat`.

The following variable definitions will be added:

```
DBNAME (Host in GUI)= '<Name or an IP Address of the ORACLE Server>'
DBUSER (User in GUI) ='<ORACLE User@Oracle_NetworkServiceName>'
DBPSW (Password in GUI) ='<ORACLE user's password>'
```

These variable values have been defined when installing and configuring Oracle.

Example (excerpt from $RVSPATH[11]/rvsenv.dat):

```
*rvsXP- environment file (rvsenv.dat)

DBNAME      = 'rvsaix3'
DBUSER      = 'skk@RVSORA.TSYSTEMS.DE'
DBPSW       = 'skk'
```

11.3 Microsoft SQL Server configuration

Requirements

The SQL Server database, version 8.0 and later must have been set up prior to the installation of rvsXP (SQL Enterprise Manager).

[11] For more detailed information on the **$RVSPATH** parameter see Chapter 1.6 "Representation means".

The installer queries the link parameters to the Microsoft SQL Server and saves them to the `rvsenv.dat` file:

```
DBNAME    = '<host>.<database name>'
DBUSER ='<database user>'
DBUSER ='<database user password>'
```

Before rvsXP can the access the database a database and a user with 'database owner' privileges for this database must have been set up on the database host.

Important hint: This user can be an domain user, he must have administrator rights, but it is not allowed to take an domain administrator for this purpose.

Make sure to set 'ANSI NULL default' in the database properties.

The SQL server must allow SQL server authentication.

12 rvs®Data Center

rvs® Data Center is a server farm featuring a very high fail safety and transfer capacity.

To ensure a very high system availability, a server farm comprises an array of several computers (rvs® servers in case of the rvs® Data Center). To ensure trouble-free server farm operation another server can assume the tasks of a failed server.

12.1 System requirements

Oracle or MS SQL Server is used as rvs® database. To ensure access to the Oracle database, Oracle client software must be installed on each rvs® server (node).

The NFS (Network File System) protocol version 3 is required to access the shared directories of the rvs® Data Center over the network.

Hint: For more information please see the Reference Manual chapter „rvs®Data Center“ or rvsX User Manual chapter „rvs®Data Center“

Appendix

rvsXP User Manual

Appendix 1: The rvs® parameters

Purpose: Controlling the rvsXP Monitor function

The function of rvsXP Monitor and its related components may be influenced by changing parameter values. To edit the rvsXP parameters from the `rvsXP-Administrator`:

- `rvsXP-Administrator -> Settings -> Parameter`.

1.1 How to use rvs® parameters

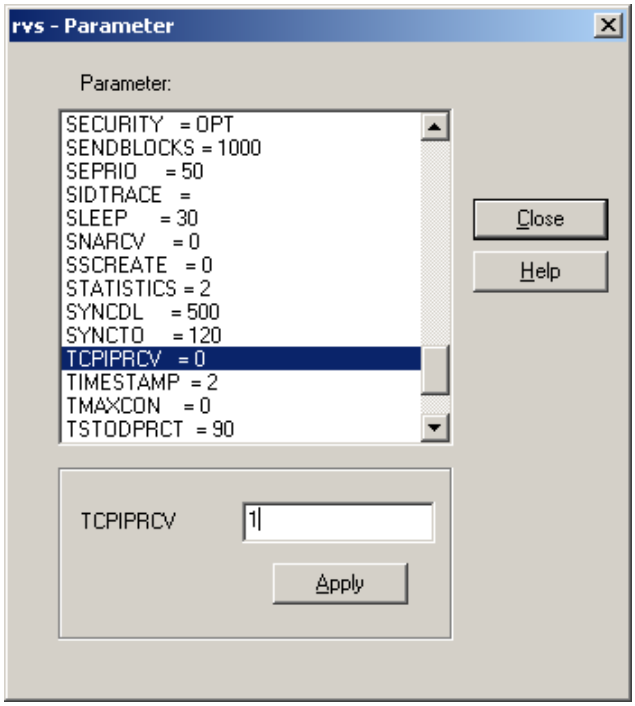
Where do I find what?

You can use a magnitude of parameters to customize rvs® processes. Chapter “rvs® parameter overview” provides a detailed description of all parameters. Tips how to choose rvs® parameter values are given in Chapter “Description of selected rvs® parameters”.

To modify a parameter:

- Execute the `Settings -> Parameters` command in the rvsXP Administrator.

  The `rvs Parameters` dialog for editing the parameters will open. In order for the TCP/IP receiver to start automatically start when rvsXP Monitor starts, you have to set the value of the rvsXP parameter to **1**:



- Double click the parameter in the parameter list.
- Enter the desired value into the input field.
- Confirm your entry with **Apply**.
- Use **Close** to exit the parameter list.
- Activate the parameter by stopping and starting the rvsXP Monitor.

Alternative: Command level

You can also use the `rvsXP-Administrator -> Edit -> OperatorCommand` command to display or edit a parameter.

Use `listparm` **NAME** in this case to list one or several parameter values.

NAME can be:

– the name of a parameter to list this one value,

– a wildcard to list all parameters whose names match this wildcard (wildcards are described in the following Chapter “Wildcards”), or

– **ALL** to list all parameters.

You can modify the **NAME** parameter using the following command:

```
setparm name=value
```

ATTENTION

No plausibility check is made on the value you specify. Thus, the results are unpredictable if you specify invalid values or wrong data types.

1.2 Wildcards

Multiple selection

Some commands support wildcards. This means that the values you specify for these parameters may include wildcards asterisk (*) and/or question mark (?) to select more than one value at a time:

*	Matches any number of arbitrary characters,
?	Matches exactly one arbitrary character

Wildcards must be enclosed in single or double quotation marks. For example, to list the execution priorities of all commands, enter

```
listparm "*prio"
```

and rvsXP Monitor will list the values of **BBPRIO**, **IEPRIO**, **IZPRIO**, etc.

When you specify the command as

```
listparm "q?prio"
```

you are returned the values **QEPRIO** and **QZPRIO**.

1.3 Command descriptions

Tip: Tracing in the Monitor log

You can type commands in `rvsXP-Administrator` and watch their execution in the Monitor log. To do so, choose `Edit -> OperatorCommand`.

Square brackets ([ ]) in the command descriptions indicate optional parameters. Curled brackets and pipes ({ | }) list alternatives.

`Activate` `SID=sid`

`Act` is an alias of `activate`. Activates a partner station. An rvsXP communication program starts and establishes the connection. Queued data sets will be transmitted.

`Check_conn` is an alias for testing the connection to a partner station without receiving files from your partner which wait for transmission process. After receiving IOFTP_READY the connection is released.
Example:
`check_conn SID=sid`
Hint: This connection can also be executed via shell.
`> rvscom /c sid=xxx`

`Cleanup` `[DAYS=n] [SS=YES]`
Physically delete all commands from the database that have been executed (or logically deleted) at least `n` days ago, exactly `n` x 24 hours. `cleanup DAYS=0` deletes all executed and deleted commands. If `SS=YES` is specified, all old SendStatistics records are deleted.

`Delcmd` `CN=cn`
Delete command with command number `cn` logically from database.

`Delst` `SID=sid`
Delete station ID (`sid`) from all station-table related database tables.

`Freecmd` `[CN=cn] [SID=sid]`
Free command with command number `cn` from hold status or release all suspended transfers to neighbor station `sid`.

`Holdcmd` `[CN=cn] [SID=sid]`
Put command with command number `cn` in hold status or suspend all transfers to neighbor station `sid`.

`Listdbv` List version and creation date of the rvsXP database.

`Listcmd` `[CN=n] [STATUS=x]`

`Lc`	Is an alias of `listcmd`. List details of command with number **n** or type and number of all commands whose status is `x`: `a` active: The command is being processed `d` deleted: This entry was (logically) deleted `e` executed: Processing of the command ended `f` forwardable: ready to be sent (`SK` or `QS`) `h` held: The command was set to hold; it cannot be processed until released (i.e. set to status `q`). `i` in transit: The command is currently being sent (`SK` or `QS`) `p` pending: The command was partially completed. The command is waiting for some event (e.g. `SE` is in this status, after `SK`s have been created until all receipts are received; `RE` is always in this status, waiting for information that matches it to come in.) `q` queued: Ready to be processed `s` suspended: Ready to be sent but suspended, because all traffic to neighbor stations has been stopped (`SK` or `QS`).
`Listparm`	{name | "pattern" | ALL}
`Lp`	Is an alias of `listparm`; lists one, more, or all rvsXP parameters.
`Listst`	`SID=sid`
`Ls`	Is an alias of `listst` Lists all station table entries involving station ID (`sid`).
`Opcmd`	`[DSN=dsn] [CMD=cmd] [TIME=hh[:mm[:ss]]]] [REPEAT=hh[:mm[:ss]]]]` Reads operator commands from external data set `DSN` which must be fully qualified; or executes an operator command specified in cmd; if `TIME` is specified, the operation will be rescheduled for the specified time of day; if `REPEAT` is specified, the command will be executed immediately and repeated (indefinitely) after the given interval has expired.
`Setparm`	`name=value`
`Sp`	Is an alias of `setparm`; modifies one rvsXP parameter.
`Start`	`[XMT] [CID=console-id]` Start MasterTransmitter or one console.
`Stop`	`[XMT][RVS={END|FORCE}] | XMT=END | CID={console-id|pattern}]` Stop rvsXP Monitor (normally or with **FORCEDEND**), MasterTransmitter, or one or more consoles. `stop xmt` and `stop XMT=END` are equivalent commands. `Stop` without parameters; stops rvsXP-Monitor.
`System`	`CMD="cmd"` Pass command `cmd` to operating system for execution.

1.4 rvs® parameter overview

Please use the actual description of all rvs® parameters in the Reference Manual, because this chapter is deprecated.

ACTPCOUNT (parameter for ActivePanel only)
The interval after which the statistical information about the active lines will be updated. The unit is the percentage of the actual file size.
Default: **10**

AECCHECK
Checks authority to execute a command (integrated in rvsXP Monitor).
Default: **0** (disabled)

BACKUPINT
Back-up interval in minutes
Default: **720**

BBCREATE
Creation of user notifications (`BB` command)
Default: **0** (disabled)

BBPRIO
Priority of user notifications (`BB` command)
Default: **90**

BRICKOFTPTI
Time to wait for data by BRICK ISDN Adapter
Default: **20**

CDWAIT
Time in seconds before executing an OFTP change direction after receiving a file.
Default: **0** (disabled)

CMDDELETE
Removes each command and its related entries from rvsXP database as soon as command ends or is being deleted.
Default: **1** (enabled)

CMDTRACE
Default: **0**

CNSMSGS
IDs of LOG messages to be sent to operator console. The following message codes are defined:
A Action
B Security
E Error
I Information
L Line driver
O ODETTE
R Report
S Severe error
W Warning
+ Long messages
Default: **ABEILORSW+**

CODEIN
Default input code (local file) when creating a send job.
Default: **A**

CODEOUT
Default output code (file at recipient) when creating a send job.
Default: **X**

DTCONNnn

Wait periods until an unsuccessful connection attempt is repeated.
nn is the number of unsuccessful attempts (**CNTRETRY** in SK). There need not be a parameter for each value of **nn**; if a particular one is not defined, the next smaller one that is found will be used.
Format: MM/DD/YY HH:MM:SS
Defaults: Increasing time intervals, so that rvsXP will not be kept busy trying to reach a station that may be having hardware problems. For longer wait periods, minutes have been added to the defaults, so that retries will not occur at precisely the same time:
DTCONN01 "00/00/00 00:01:00"
DTCONN02 "00/00/00 00:02:00"
DTCONN03 "00/00/00 00:03:00"
DTCONN05 "00/00/00 00:05:00"
DTCONN07 "00/00/00 00:07:00"
DTCONN10 "00/00/00 00:10:00"
DTCONN15 "00/00/00 00:15:00"
DTCONN20 "00/00/00 00:20:00"
In addition, **DTCONN01** is the wait period for all other commands.

EERP_IN

Send transmission (EERP = "End-to-End-Response") acknowledgement;
Values: **NEVER**: Partner does not send EERP, file dispatch ends with successful transmission. Do not wait for acknowledgement.
NORMAL: Wait for acknowledgement by partner after successful file transmission. File dispatch ends with receipt of EERP.
Default: **NORMAL**

EERP_OUT

Receive transmission (EERP) acknowledgement
NORMAL: Prepare acknowledgement after successful reception of a file; send EERP only if a connection to the partner still exists, otherwise at next connection.
IMMEDIATE: Prepare acknowledgement after successful file reception. Establish connection if there is no connection to the partner and send EERP to the partner.
NEVER: Partner does not expect EERP. File reception ends with successful transmission. Do not acknowledge reception.
HOLD: Prepare acknowledgement after successful file reception. However, do not send acknowledgement but wait for operator release. Send EERP after release only if a connection to the partner still exists, otherwise at next connection.
HOLDIMMED: Prepare acknowledgement after successful file reception. However, do not send acknowledgement but wait for operator release. After the release: Establish connection if there is no connection to the partner and send EERP to the partner.
SYNC: Maintains the connection until the EERP has been generated (after successful delivery).
Default: **NORMAL**

FORCEDEND

Halts rvsXP Monitor: Immediate cancellation, even if the transmitter and receiver are active.
Note: The Monitor will immediately stop if the parameter is set to "**1**".
Default: **0**

IEPRIO

Priority of IE commands
Default: **50**

INITCMDS Executes initialization commands
Default: **1** (turned **on**)

IZPRIO Priority of `IZ` commands
Default: **40**

KEEPDAYS Number of days, after which deleted and ended commands and their related information may be discarded during database cleanup
Default: **7**

LDSNPRIO Send priority for long data sets
Default: **50**

LID Local station ID
Default: **LOC**, supplied during rvsXP database initialization

LITRACELVL Request line tracing (between OFTP and network):
0 No tracing
1 Minimum tracing (line driver events etc.) for station specified in parameter **SIDTRACE**
2 Detailed tracing (incl. hex dump of data) for station specified in parameter **SIDTRACE**
3 Detailed tracing for all stations
Default: **0**

LMPRIO Priority for LOG messages as external LM commands
Default: **20**

MAXCMD Maximum number of external commands read simultaneously
Default: **10**

MAXRECL Maximum record length for data sets with record format **F** or **V** to be received
Default: **99999**

MAXSENDERS Maximum number of concurrent senders. No sender will start if **MAXSENDERS=0**
Default: **1**

MAXX25RCV Maximum number of concurrently active or prestarted `listening` receiver processes for X.25 communication
Default: **0**

MSGPRIO Send priority for operator to operator messages
Default: **60**

NUMRLOGS Number of `rlog.log` files that can be generated
Default: **NOLIMIT**

NUMRLSTAT Number of `rlstat.log` files that can be generated
Default: **NOLIMIT**

OCREVAL ODETTE `credit value` = window size of OFTP:
Maximum number of sent blocks without confirmation
Default: **99**

ODTRACELVL Request line tracing (between sender and OFTP):
0 No tracing
1 Minimum tracing (request names, only) for station specified in **SIDTRACE**.
2 Detailed tracing (parameter values etc.) for station specified in **SIDTRACE**.
3 Detailed tracing for all stations.
Default: **0**

OEXBUF ODETTE exchange buffer size in bytes (**1019** for **UNIX** and **2048** for **OS/400**, the largest ODETTE cmd (**SFID**)); max. size is 99999 bytes;
Default: **2048**

OKPRIO Priority for operator commands
Default: **10**

ORETRY Indicates the ODETTE error group for which a retry will be initiated after a request has been interrupted. Indication occurs using a bit field with each bit position assigned to a particular error code.
1 means: Restarting is performed
0 means: Restarting is suppressed

The bits stand for the following errors:
1 Transmission is interrupted
2 File not found or cannot be opened
3 File cannot be read
4 “File size is too big” error code in SFNA permitted with repetition
5 “Unspecified reason” error code in SFNA permitted with repetition
6 “File size is too big” error code in SFNA not permitted with repetition
7 “Unspecified reason” error code in SFNA not permitted with repetition
8 “File size is too big” error code in EFNA
9 “Invalid record count” error code in EFNA
10 “Invalid byte count” error code in EFNA
11 “Access method failure” error code in EFNA
12 “Unspecified reason” error code in EFNA
Default: **1011100011101111111 1**

OTIMEOUT ODETTE time-out value (in seconds)
Default: **600**

QEPRIO Priority of QE commands
Default: **30**

QSPRIO Priority of QS commands should lie between **MSGPRIO** and **SDSNPRIO**
Default: **30**

RECVBLOCKS Number of buffers or records the receiver writes before closing temporary data set.
Default: **1000**

RETRY Parameter is no longer used in rvsXP.
(Transmission repetition after unsuccessful attempt.
Default: **00/00/00 00:01:00**)

RLCOMAXSIZE Maximum file size for console messages `rlco.log`
Default: **200000**

RLDBMAXSIZE Maximum file size for logging of database actions `rldb.log`
Default: **1000000**

RLOGMAXSIZE Maximum file size for log messages `rlog.log`
Default: **2000000**

ROUTING Determines the global rvsXP routing behavior.
O(OUT): Routing is allowed for send jobs only. The own local station must not function as a router.
B(BOTH): Standard OFTP routing, routing is allowed in send and receive direction.
Default: **B**

RSTATMAXSIZE Maximum file size for statistical logs `rlstat.log`
Default: **2000000**

SCPRIO This parameter refers to the cooperation between rvsXP-Monitor and service provider.
Change after consultation with rvs® Support only!
Default: **10**

SDSNMAX Maximum size for a data set to be considered short in Kbytes = units of 1024 bytes
Default: **100**

SDSNPRIO Send priority for short data sets
Default: **40**

SECURITY Use of encryption
OPT: Optional. Use of encryption if
NO: No encryption
FORCED: Compulsory
Default: **OPT:**

SENDBLOCKS Number of buffers or records that the Sender sends before looking at **FORCEDEND** again.
Default: **1000**

SEPRIO The priority for new `SE`s should be at least as high as the highest priority of valid for `SE`.
Default: **50**

SIDTRACE ID of station that shall be traced (if **LITRACELVL** or **ODTRACELVL** are at least set to **1** or **2**.
Default is " " (3 blanks).
If you need to trace incoming data, **SIDTRACE** must be set equal to the local station ID (**LID**).

SLEEP The delay in seconds rvsXP Monitor waits during idling until it searches the database for new commands to be executed again.
Default: **30**

SNARCV
Enables start of SNA Transaction Program automatically on incoming calls:
0 No transaction program will start
1 The transaction program starts
Default: **0**

SSCREATE
Creates a send statistics record for each transfer attempt
Default: **0** (disabled)

STATISTICS
Creates a send statistics record in the statistics log file (`rlstat.log` for UNIX and Windows XP)
0 No statistics log file
1 Short form
2 Detailed form of statistics
3 Short form of statistics inclusive routed transfers
4 Detailed form of statistics inclusive routed transfers
5 New parameters such as file format, state of transmission, number of dial-in attempts
6 Statistics about deleted entries (also by the user)
7 Statistics about deleted entries and routed transmissions
Default: **2** (detailed statistics enabled)

SYNCDL
When **EERP_OUT=SYNC**: Delay in ms until rvsXP checks whether EERP is available for dispatch.
Default: **500**

SYNCTO
When **EERP_OUT=SYNC**: Number of wait procedures.
Example: **SYNCDL=400** and **SYNCTO=5**. rvsXP waits for a maximum of 5 times 400 ms until the connection is closed. An EERP available for dispatch during this time will be sent and the connection closed thereafter.
Default: **120**

TCPIPRCV
Maximum number of (concurrently) prestarted `listening` processes for TCP/IP communication:
0 No TCP/IP receiver will be started
1 A TCP/IP receiver will be started
Default: **1**

TIMESTAMP
Creation of a timestamp to distinguish data sets with the same data set name
0 000-999 (three-digit counter for MS DOS file names)
1 000000-999999 (counter)
2 Thhmmss (time)
3 Dyymmdd.Thhmmss (date and time)
4 Thhmmssmsms (date and time in milliseconds)
Default: **2** (only time)

TMAXCON
Maximum number of simultaneously running operator consoles
0 no limit
Default: **0**

TSTODPRCT
Percentage of non-error returns from ODETTE simulation program when rvsXP runs in test mode; **-1** requests prompting for return values.
Default: **90**

USEPKI

rvsXP can obtain public keys from partners via LDAP Interface from a PKI (public key infrastructure). To use PKI instead of the rvsXP key memory for a particular station use the rvsXP parameter
USEPKI.
(Note: **USEPKI** is the global parameter. You can specify the usage of PKI with the **PKI** parameter for each station.)
Possible values:
USEPKI = YES
USEPKI = NO
Default: **NO**

USERFIELD

Reserved for future application.

VDSNCHAR

Range of allowable characters to be transferred within an ODETTE transmission:
ALL:
no restrictions
OFTPUNIXS:
All capital letters, digits and the following special characters: **. -**
UNIX:
all letters, digits and the following special characters: **# _ - +**.
ODETTE:
All capital letters, digits and the following special characters: **() - . / &**
CHECK_RE:
same as **ALL** but it is necessary that a RE exists
Default: **ODETTE**

VFTYP

The way how files (with a fixed or variable format) will be converted prior to transmission.

V rvs® internal format, only useful for rvs® for variable and fixed formats

T Text format, each line is terminated by carriage return and line feed. Each line is converted into one output record. The record length is defined in **MAXRECL**.

Files in the **fixed** or **variable** format can be stored as text files. For this purpose you should use the **VFTYP** parameter. **VFTYP=T** means received files in format **F** or **V** will be stored as text files carrying a CR/LF at the end of the each line. You can also control this in the resident receive entry by setting the **VFTYP** parameter to **T**.

Files can be sent in the **fixed** or **variable** format without prior conversion by the `rvsut2fv.exe` utility. To do this, you can additionally specify the record length in the `New Send Entry` dialog. The record length for files with the **fixed** format is the length of each record before linefeed (CR/LF for MS Windows systems or LF for UNIX systems). This is the maximum record length for files of the **Variable** format. For this purpose the files must be available in the appropriate format; otherwise transmission errors will occur. Empty lines will be replaced with a record containing exactly one space.

The following optional parameters are available for sending files in the **fixed** or **variable** format with the rvs® batch interface:

VFTYP defines whether files in the **F** or **V** format are to be sent using the method mentioned before:

T The file is a text file and will be handled in line with the method described before
MAXRECL Maximum record length if **VFTYP**=**T** is set;

V rvs® internal format. Files in the F or V format have been formatted with `rvsut2fv.exe`.

Default: **V** (rvs® internal format)

XMCREATE

Creation of LOG messages with detailed information about what was transferred from and to whom after each successful data set send or receive process.
Default: **1** (enabled)

1.5 Description of selected rvs® parameters

rvsXP contains a number of optional and security related features which you may not need (all the time) at your installation. Each active function consumes resources (processor time and hard disk access). The sum of all functions can significantly affect the performance of rvsXP components.

Data transmission mechanism

As an example, consider transmission of a large data set. To be able to resume transmission after a line failure without having to start at the beginning of the file all over again, the Receiver periodically closes the incoming data set. Both Sender and Receiver store the number of transmitted bytes or records in the database. The frequency of these actions is determined by parameters **SENDBLOCKS** and **RECVBLOCKS**.

Reopening and positioning a large data set involves quite a number of disk access operations and therefore is very time consuming[1]. So, if most of your communication lines are very stable, you may want to set these parameters to very large values effectively disabling the restart feature of rvsXP.

SENDBLOCKS

If, on the other hands, most of your lines tend to break down every few minutes, you will want to make sure that whatever has been transmitted once, will not have to be transmitted again. Note, that a large value of **SENDBLOCKS** may also increase the time before senders terminate after Monitor has been stopped. Defaults have been chosen so that rvsXP will work securely and with most options enabled.

1.6 Safety, resource consumption and performance

RECVBLOCKS

Besides **RECVBLOCKS** und **SENDBLOCKS** which have been discussed above, there are several other parameters that influence the balance between safety, resource consumption, and performance.

OCREVAL

OCREVAL (recommended window size 99) and **OEXBUF** (recommended size 4096 bytes) influence the overhead incurred by the ODETTE protocol. The higher these values the less overhead. They will, however, also increase the memory requirements for sender and receiver. These values may be negotiated down at the start of each transmission, so that unilateral changes may have no effect. What you really determine is the maximum amount of memory you are willing to allocate to ODETTE.

KEEPDAYS

Searching in a large database generally takes longer than looking for something in a small one. A larger database, however, retains more information on completed transmissions. **KEEPDAYS** determines the

[1] Transmission time for a 4.5 MB data set between two OS/2 nodes was reduced by about a factor of 10 (from more than an hour to a few minutes) by changing the values of these parameters from **10** to **10000**.

number of days you want to keep information about ended or deleted transmissions (unless you use `cleanup days=n`, explicitly specifying the retention period in the command itself).

CMDDELETE and XMCREATE

For **CMDDELETE = 1** all related entries will be removed physically from the database when a command ends or when it is (logically) deleted. This keeps the size of the database as small as possible. If you choose this option, you should leave **XMCREATE** at its default value (**1**). In this way, detailed LOG messages will be created after sending or receiving a data set. All users should have access to the log data set `($RVSPATH`[2]`\db\rlog.log)` to be able to look at these messages, because the dialog interface will be unable to display any information about completed transfers. Consider using this option for continuous unattended operations.

SLEEP

The rvsXP Monitor reaction time to new events is determined by **SLEEP**. This may influence for example, how long it takes before the Monitor starts acting on an operator command. **SLEEP** is the period of time (in seconds) that rvsXP Monitor is suspended when there is nothing to do for it. The longer you choose this period, the less it will interfere with your other applications, but the longer you may have to wait, before rvsXP Monitor starts processing your requests. The shorter you choose this period the higher is the unproductive overhead produced by scanning the rvsXP database when there is nothing to do.

DTCONNxx

The time until rvsXP Monitor restarts an unsuccessful or aborted transmission is determined by the **DTCONNxx** parameters. The smaller these values, the sooner the transmission will start after the line is up again. However, the more computer time may have been wasted on unsuccessful attempts until the line is restored.

1.6.1 Limiting the number of concurrent senders

You may want to limit the number of senders that rvsXP is allowed to execute at the same time if your system is very busy or when you know that one or more of your neighbors cannot accept more than a few incoming calls at the same time.

MAXSENDERS

MAXSENDERS tells MasterTransmitter `rvsxmt` how many Senders may run concurrently. When this number has been reached it waits until a Sender terminates before starting the next one. No Sender will be started at all if **MAXSENDERS** is set to **0**. This is useful if only the partner station is to establish the connection and fetch the queued data sets. Use the `activate` command to send data to a specific station even if **MAXSENDERS** is set to **0**.

[2] For more detailed information on the **$RVSPATH** parameter see Chapter 1.6 "Representation means".

1.6.2 Limiting the number of concurrent X.25 or ISDN receivers

You must specify the number of concurrently active X.25 and ISDN receivers. A small number is adequate for low traffic, a higher number is required if you must be able to receive data on several connections in parallel. However, there cannot be more X.25 receivers than virtual channels are available on your X.25 multichannel. In the case of ISDN, there cannot be more receivers than B-channels are available. Because senders also occupy virtual channels or B channels in ISDN respectively, the number of concurrent receivers should be limited to half the total number of channels.

MAXX25RCV

MasterTransmitter `rvsxmt` uses the **MAXX25RCV** parameter to determine how many receivers must run concurrently. It prestarts as many X.25 (ISDN) receivers as specified by the parameter. If a receiver terminates, MasterTransmitter will start a new receiver, which in turn will wait for incoming calls. **MAXX25RCV**, if set to **0**, prevents any incoming X.25 or ISDN traffic. It must be set to **0** if only TCP/IP communication is used.

You must define additional entries in the X.25 routing table on high-performance systems if **MAXX25RCV** is greater than **1**. For further details, read 4.1.4 "Setting up the routing connection".

1.6.3 TCP/IP receiver

TCPIPRCV and MAX_IN

If you want to communicate via TCP/IP, rvsXP has to start a receiver waiting for incoming calls. You must set the value of the **TCPIPRCV** parameter. Set **TCPIPRCV** to **0** if you use TCP/IP only. If a TCP/IP receiver accepts an incoming call, MasterTransmitter will start a new receiver on the same port, which in turn will wait for incoming calls. The number of calls you can accept on each port corresponds to the **MAX_IN** values defined for your local station in your station table.

1.6.4 Optional features

Providing these optional services takes time and uses up disk space. We therefore recommend that you enable them as soon as they are no longer needed.

AECCHECK

AECCHECK is a flag telling rvsXP Monitor to check whether the originator of the command currently being processed has the authority to issue this particular command. In a (future) multi-console environment, this could be used to prevent certain consoles from stopping the Monitor, for example. Currently, this feature is not fully supported, so **AECCHECK** should remain at **0** (disabled).

BBCREATE

User notification messages are generated and passed to the `rvsums` user exit if **BBCREATE** is enabled (**BBCREATE=1**). The default action is to send this message as UNIX mail (type `mail` to read the message). **?** prevents the creation of user notifications.

SSCREATE — Statistics records will be created for every attempted transfer when flag **SSCREATE** is enabled (**SSCREATE=1**). These records contain the station ID of the neighboring station as well as time and completion code of the attempted (or completed) transfer. **SSCREATE=0** prevents generation of these records. Currently, no utility to analyze these records is provided.

XMCREATE — **XMCREATE** (create `xfer` message) controls generation of detailed information about successful transfers in the `$RVSPATH\db\rlog.log` system log file. **XMCREATE=1** (default) writes a log message in the following cases: Whenever a data set is successfully sent to a neighboring station (even before an acknowledgement has been received), whenever a send entry completes (after receiving acknowledgements from all recipients), and whenever a data set has been delivered to a local user. **XMCREATE=0** suppresses generation of these LOG messages.

LITRACELVL and ODTRACELVL — When communication errors occur, helpful trace information can be found in the trace data sets, if the values of the **LITRACELVL** and **ODTRACELVL** parameters are larger than **0**. Tracing can dramatically reduce performance because a lot of data has to be analyzed, formatted and written into the trace file. For normal operations, tracing should be disabled, i.e. both parameters should be set to **0**.

CNSMSGS — **CNSMSGS** controls, which LOG messages are echoed to the operator console. All messages, whose code letter is included in the character string value of **CNSMSGS** are written to the console (all messages are always logged, independent of the value of **CNSMSGS**). The additional message types **O** (ODETTE), **L** (line driver) and **(+)** (for long messages) can also be used.

STATISTICS — **STATISTICS** controls the creation of the statistic log file. **STATISTICS=1** creates the (`$RVSPATH`[3]`\db\rlstat.log`). It contains a line for each sent or received file with name, date, time and sender/receiver ID. **STATISTICS=2** creates the same file, but with extended information (e.g. the file name for the transmission (virtual file name), the file size and command numbers for `SE`, `SK` or `IE`, `IZ`). **STATISTICS=3** is the same as **STATISTICS=1**, but routed file transfer will also be logged (e.g. SID of destination station and SID of source station). **STATISTICS=4** is the same as **STATISTICS=2**, but routed file transfer will also be logged simultaneously. **STATISTICS=5** means a detailed output in (`$RVSPATH\db\rlstat.log`) with new parameters such as file format, state of transmission and number of dial-in attempts. **STATISTICS=6** produces a more detailed output about deleted entries (by the user) with the cause of deletion (if specified with `delcmd`). **STATISTICS=7** has the same effect as **STATISTICS=6** but includes routing. **STATISTICS=0** prevents the creation of the statistics log file.

[3] For more detailed information on the **$RVSPATH** parameter see Chapter 1.6 "Representation means".

Appendix 2: Log files

Several log files are written during rvsXP operation. Their size and number can be controlled by means of rvsXP Monitor parameters (`rvsXP- Administrator -> Settings -> Parameter`).

2.1 Brief description of LOG files

The Monitor Log file `rlco.log`

System start messages

In the `Monitor Log` view the `C:\rvs\temp\rlco.log` file is displayed. It is created from scratch each time rvsXP Monitor starts. Its maximum size is restricted by the **RLCOMAXSIZE** Monitor parameter. Only those message classes specified in the **CNSMSGS** Monitor parameter are written to this file.

The permanent `rlog.log` Monitor log file

rvsXP log messages

All rvsXP log messages are written to the `C:\rvs\db\rlog.log` file, regardless of the **CNSMSGS** parameter. It will not be deleted when rvsXP Monitor restarts. Its maximum size is restricted by the **RLOGMAXSIZE** parameter. When the file reaches this size, it is renamed by replacing the file extension by a consecutive number. Then a new `C:\rvs\db\rlog.log` file is generated and updated. The maximum number of generations can be restricted by the **NUMRLOGS** monitor parameter.

The `rlstat.log` statistics file

For each sent/ received file

rvsXP writes statistics information to the `C:\rvs\db\rlstat.log` file. This file contains a line for each sent or received file with name, send/ receive date and time and sender/receiver station ID. Other information such as transmission file name, file size, and command number can be logged for archiving purposes. The rvsXP **STATISTICS** parameter (`rvsXP Administrator -> Settings -> Parameter -> STATISTICS`) with values ranging from **1** to **7** controls the degree of detail in the statistics file.

Choose `Settings -> Statistics` to view the file contents. Its maximum size is restricted by the **RLSTATMAXSI** parameter. The file is renamed by assigning a consecutive number as extension and creating a new `C:\rvs\db\rlstat.log` file when this size is reached. You can restrict the maximum number of files generated with the **NUMRLSTATS** parameter.

2.2 Troubleshooting

Log file for troubleshooting

The `rvssp` program, being a new addition to the rvs® set of programs, provides the compression and encryption features. This program saves protocol files in the **$SPOUTDIR** folder and deletes them after successful job completion. In case of an error the program will not delete the protocol file, which is then available for troubleshooting.

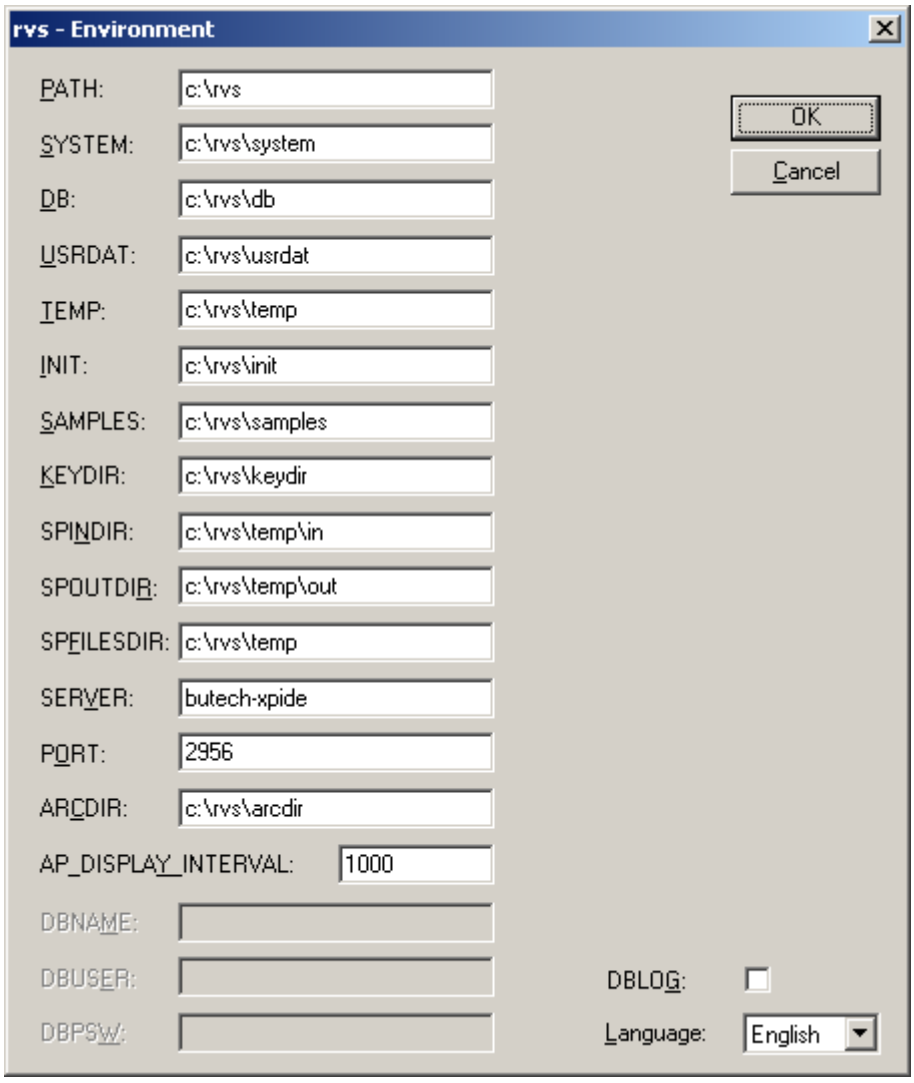
The `rvsenv.dat` file defines the **$SPOUTDIR** environment variable. You can also use the `rvsXP-Administrator` to set the value for this environment variable by choosing `Settings -> Environment`. For further information please refer to "Environment variables".

Appendix 3: Environment variables

You can adapt the rvs environment to meet your requirements, e.g. modification of the folder in which the Monitor stores the received files. To modify the rvsXP system environment:

- Choose `Edit -> Environment`.

  The `rvs - Environment` dialog opens and displays the current environment settings:



- Confirm your changes / entries by pressing **OK**.

  Note: Any changes will only take effect after rvsXP Monitor is restarted.

Meaning of the environment variables

Designation	Meaning of the environment variable	Default value
PATH	Main rvsXP folder and location of `rvsenv.dat` environment file	`C:\rvs`
SYSTEM	System folder with all program, help, batch files and libraries	`C:\rvs \system`
DB	Folder of the rvsXP database	`C:\rvs\db`
USRDAT	Folder for user files received	`C:\rvs \usrdat`
TEMP	Temporary folder for the log book	`C:\rvs \temp`
INIT	Folder for the initialization files, e.g. `rdmini.dat` for rvsXP monitor parameters	`C:\rvs \init`
SAMPLES	Folder for files for the programming interface with examples	`C:\rvs \samples`
KEYDIR	Folder containing the private and public key files of local and partner stations	`C:\rvs \keydir`
SPINDIR	Internal Service Provider (SP) working folder containing the job files to be processed (compression, encryption, and code conversion).	`C:\rvs \temp\in`
SPOUTDIR	Internal Service Provider (SP) working folder containing the job processing result files (log files). You can use the log files for troubleshooting (see also Log files, Chapter "Troubleshooting").	`C:\rvs \temp\out`
SPFILESDIR	Internal Service Provider (SP) working folder containing the job files used during job processing.	`C:\rvs \temp`
SERVER	URL (or name) of local server	IP address of the local PC
PORT	Server port number for line status messages	2956
ARCDIR	Folder for back-up files	`C:\rvs \arcdir`
AP_DISPLAY _INTERVAL	Interval in milliseconds, in which the display for active lines is updated	1000

Designation	Meaning of the environment variable	Default value
DBLOG	Writes entries to the rvsXP database: Yes/No. rvsXP logs all database operation in the `C:\rvs\db\rlstat.log` file when you enable this checkmark. This file helps you restore the database entries that were created after the last database back-up. **Attention**: This will influence the rvsXP performance and resource requirements extremely	No
Language	Language for message display.	German
DBNAME	Name of database when using an SQL database.	
DBUSER	Name of database user when using an SQL database.	
DBPSW	Password for database access when using an SQL database.	

Appendix 4: Operation with BinTec-Router

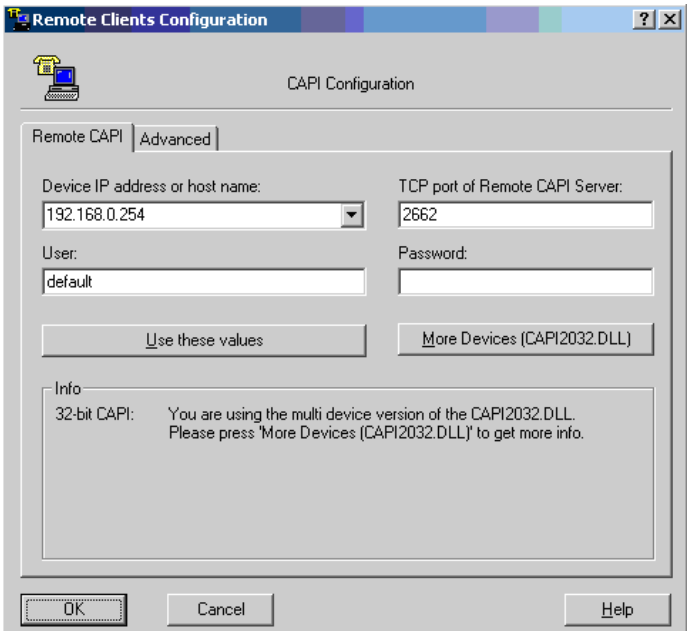
The BinTec ISDN router includes an RCAPI (Remote CAPI) server that offers API functionalities for ISDN connections. Several RCAPI clients can communicate via RCAPI server. The RCAPI client for Windows is a part of BRICKware software which is delivered with the BinTec-Router. Further information you can get from: http://www.funkwerk-ec.com. You can use RCAPI server and RCAPI client alternative to internal ISDN cards. Both support the CAPI interface (capi2032.dll), which is used by rvsXP.

4.1 CAPI Configuration in BRICKware

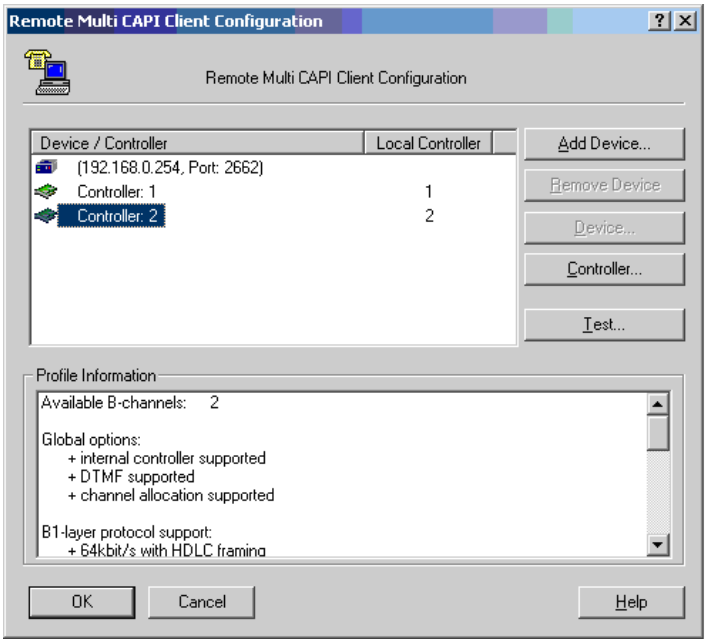
After installation of the BRICKware software the IP address of the ISDN router and the TCP port for communication with RCAPI server are to be set with the `CAPI Configuration` program:

`Start -> Programs -> Funkwerk bintec BRICKware -> CAPI Configuration`

The following window opens:

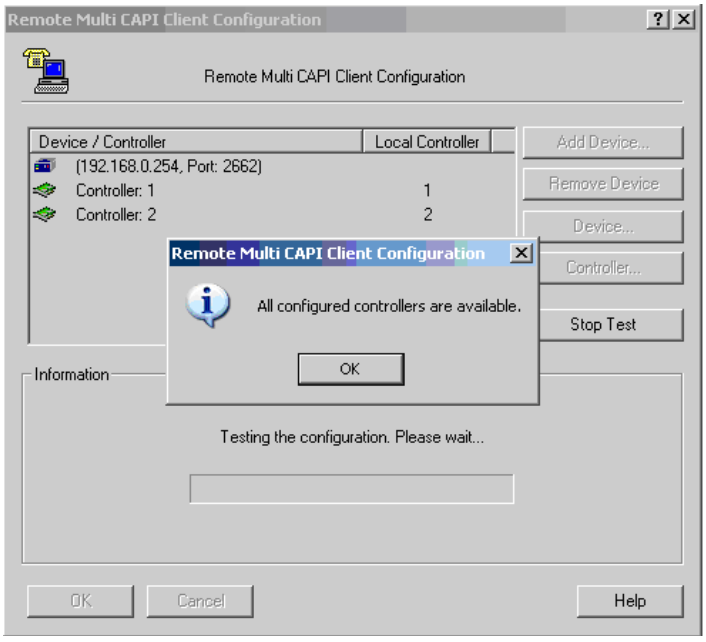


Click the button **More Devices (CAPI2032.DLL)** for setting up the cards of the ISDN router (controller):



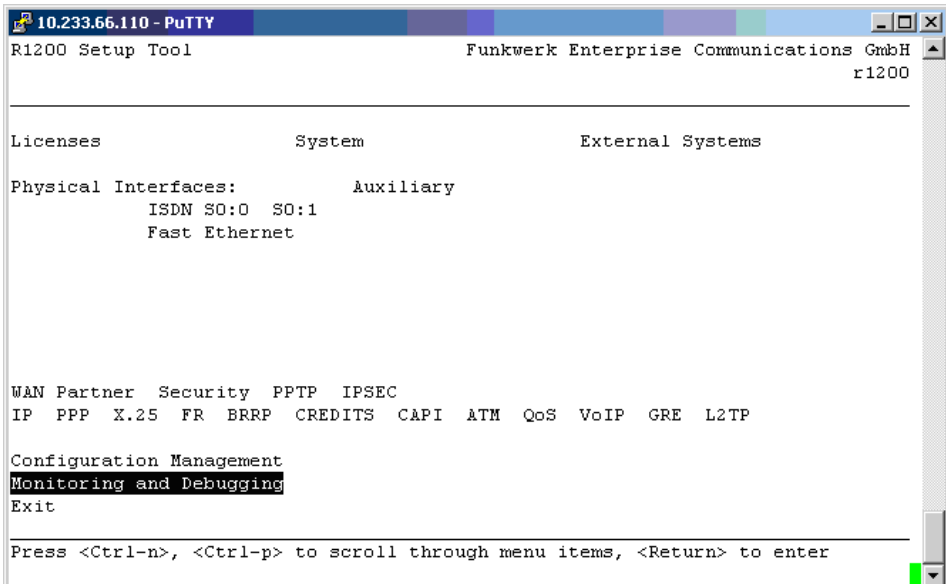
If a second ISDN line is inserted in port BRI-1 of the ISDN router and you click the button **Test** the message `New controller found` is displayed and you can add **Controller 2**. If port BRI-1 is not connected to an ISDN line only one controller is displayed.

Use the button **Test** to make sure that the ISDN router works properly.

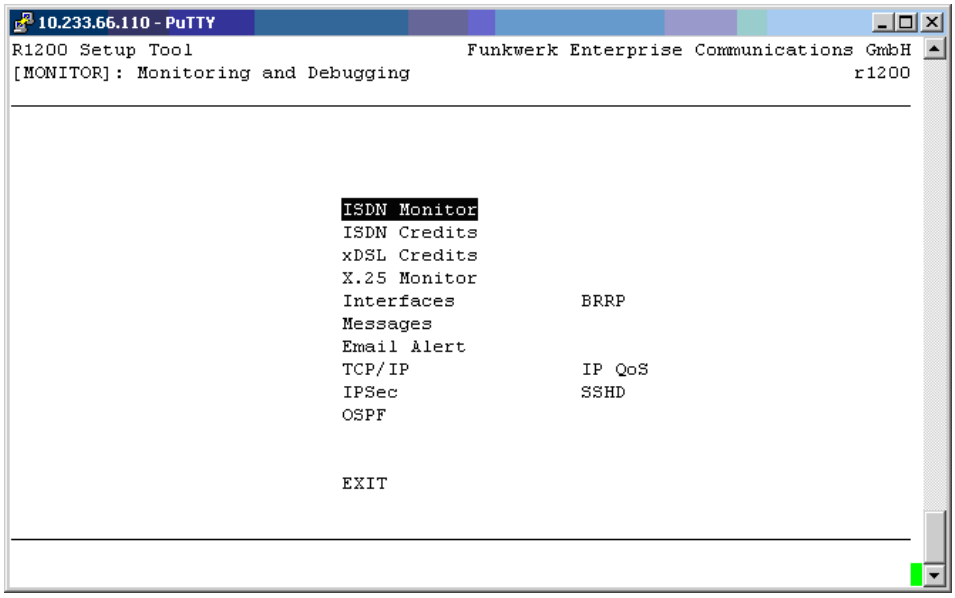


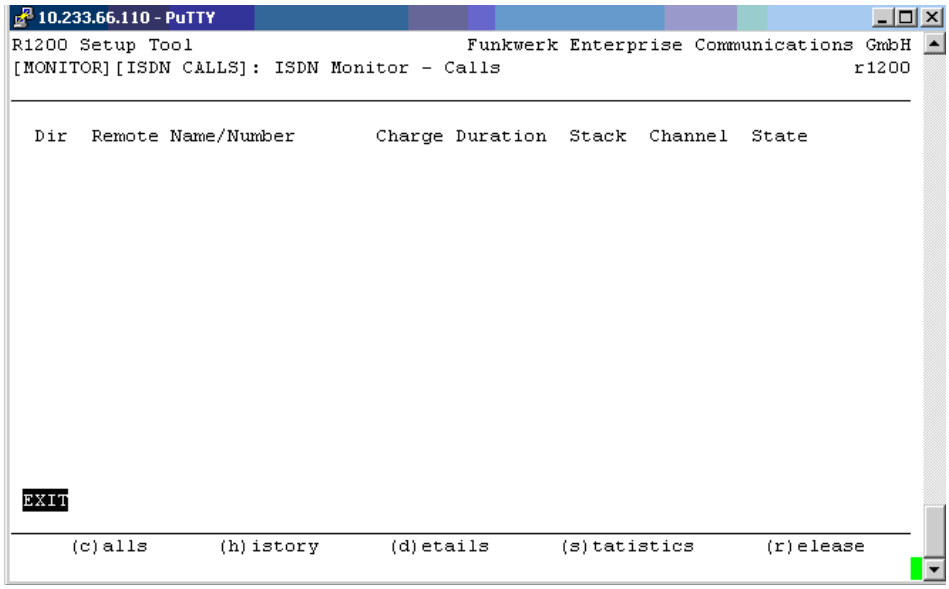
4.2 Monitoring of ISDN connection

Log on to the ISDN router via Telnet (e.g. putty.exe) and log in as **admin** to control the ISDN connection. Type the command `Setup` in the command line of the router and the setup main menu will open:



First choose the option **Monitoring and Debugging** and thereafter **ISDN Monitor.**

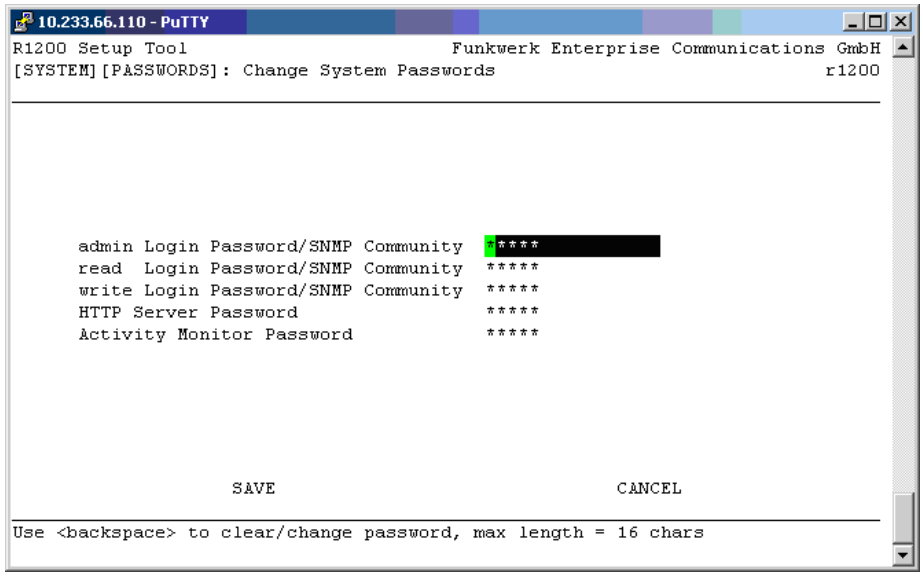




Hint: Double-click the **esc** key to reach the next higher layer of the router settings. Use the arrow keys for choosing an option. You can end the `Setup` program with `Exit`.

4.3 Setting up of passwords

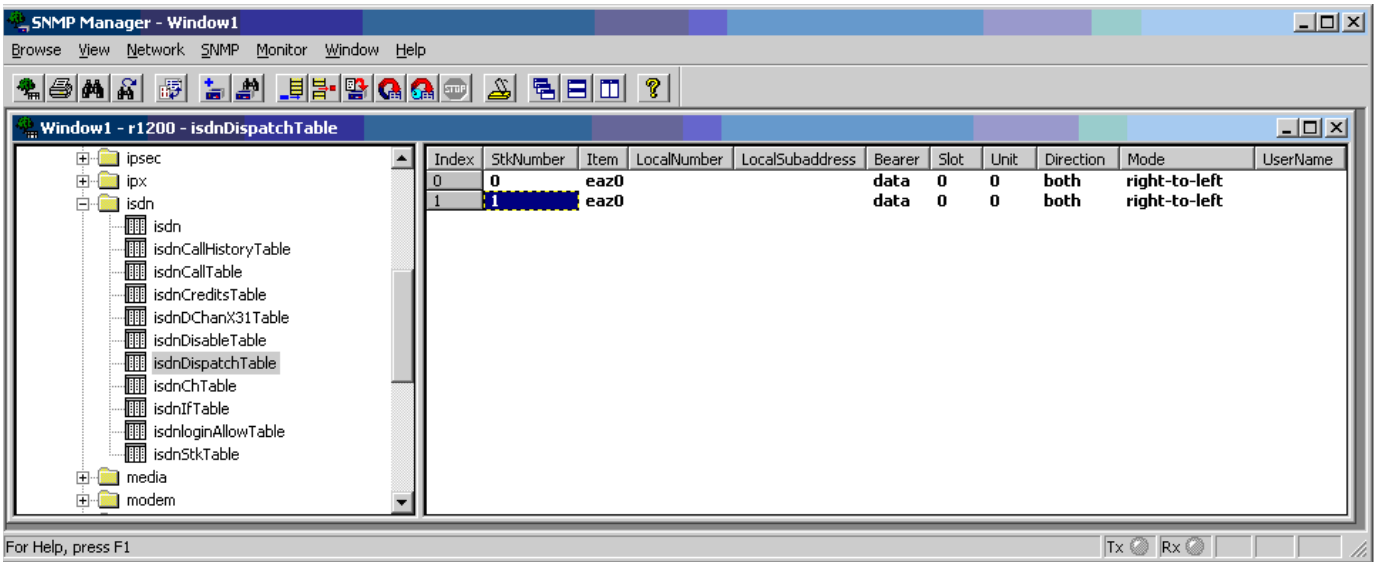
For setting up the passwords open the setup main menu, choose the option **System** and after this the option **Password settings**. The following mask opens and you can set up the passwords:

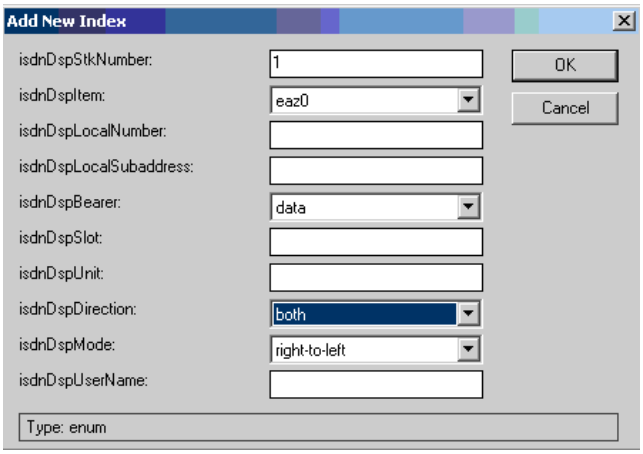


4.4 Setting up of incoming calls

If the process of incoming calls fails and RCAPI cannot be started, the router must be configured again.

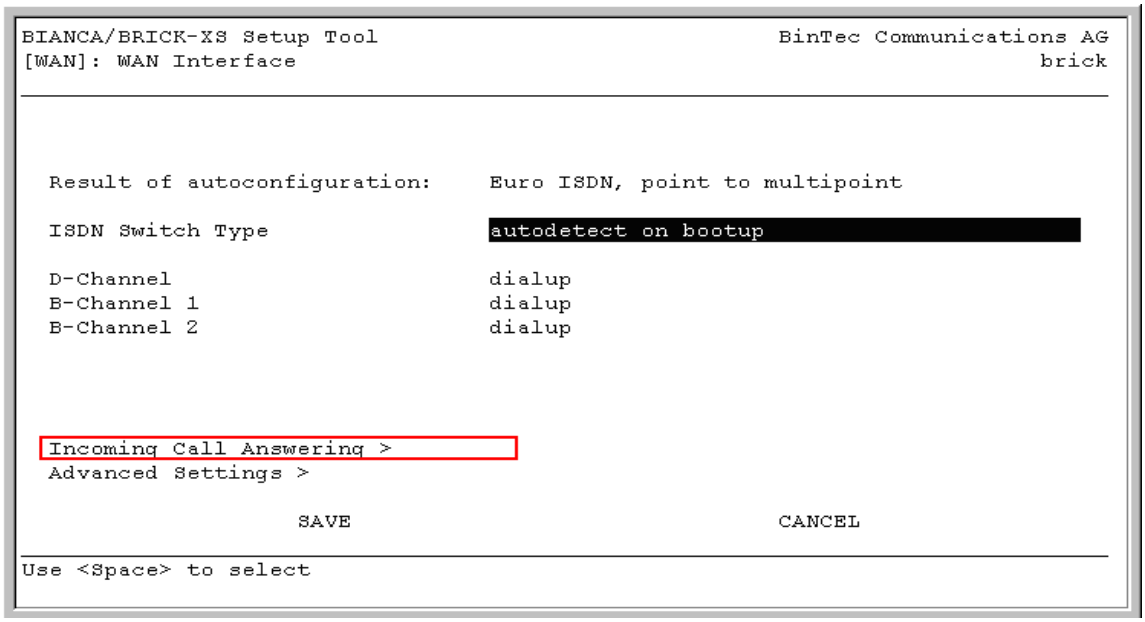
Bintec router with old firmware were able to use the CAPI service `EAZ0 Mapping` in `setup` application for defined call numbers. Thus the client could assign its own number to the CAPI service and incoming calls were routed to the CAPI Server.
For Bintec router with new firmware this settings are done via `SNMP Manager` (part of Brickware Software):

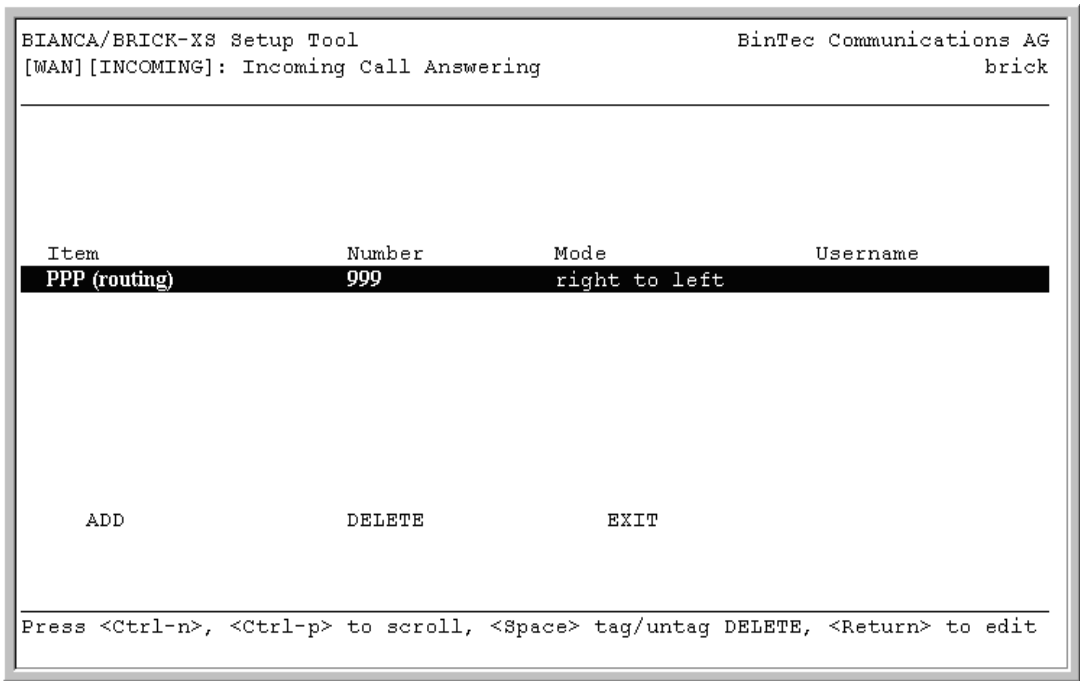




The procedure with new Firmware is as follows:
If there is no configured phone number the ISDN login is used. For routing incoming to the CAPI Server you should configure a not existing number (e.g. 999 as PPP channel). Consequently all incoming calls were routed to the CAPI server because the configured number is not existing.

Example of `Incoming Call Answering`:



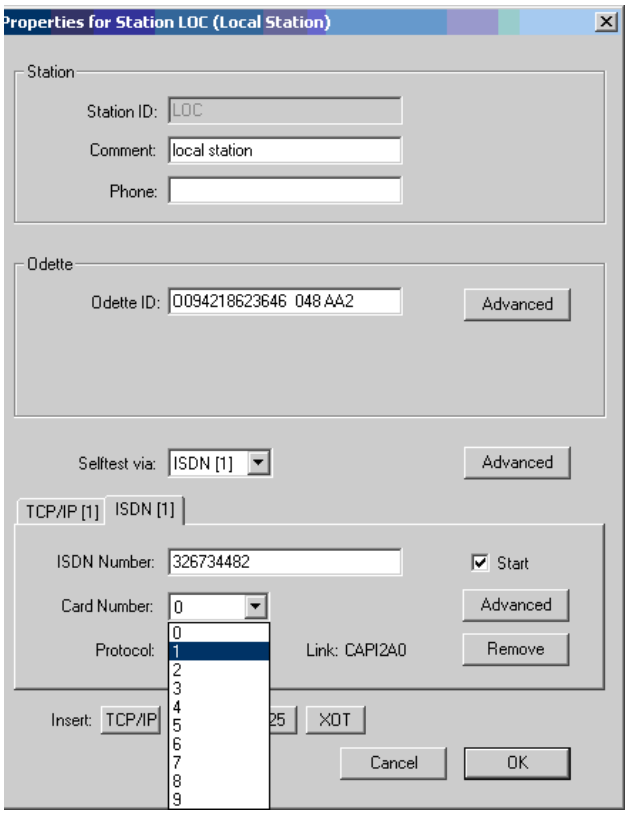


4.5 Settings of multiple ISDN controllers (e.g. BRI-0 and BRI-1)

Using of multiple ISDN lines is to set up in the station table `$RVSPATH\init\rdstat.dat` via parameter **LINK**=CAPI2A0 for BRI-0 or **LINK**=CAPI2A1 for BRI-1.

The local station is to configure for incoming calls and the partner station is to configure for outgoing calls.

In rvsXP administrator the parameter **LINK** is configured by parameter **Card Number**. It starts with figure '0' (instead of rvsX which starts with figure '1')



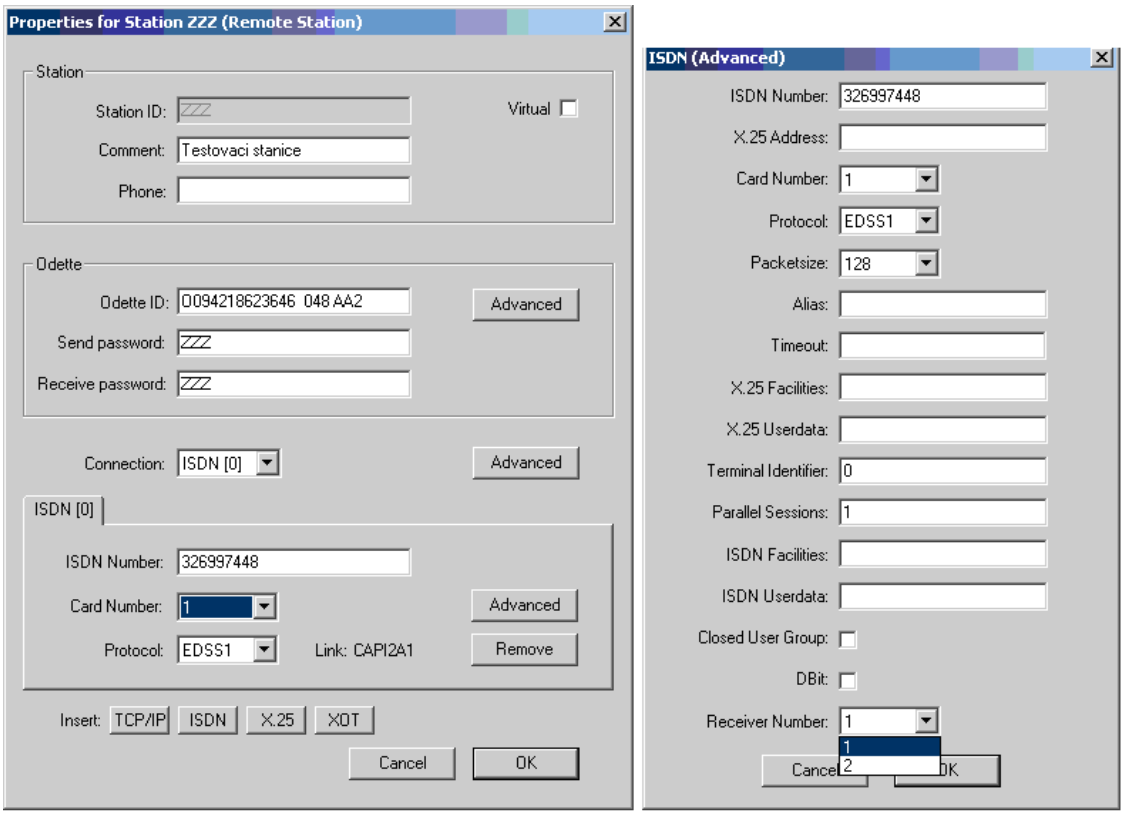
4.6 Parameter RCV_N with neighbourstations

Use the **RCV_N** parameter of neighbour station to define number of the receiver of local station whose parameters are used to define the 'calling party number' (own local ISDN number) and local x.25 address. This parameter is used to setup a connection to the neighbour station.

Example:

```
XP SID=ZZZ N=0 LINK='CAPI2A0' TIMEOUT='' XADDRESS=''
SUBADDRESS='' +
            ISDNNO='326734482' VC='' USERDATA='' CUG='NO' +
              FACILITIES='' DBIT='FALSE' SESSIONS=1 +
              ISDN_FAC='' ISDN_USRDT='' ISDN_PROT='EDSS1' +
              ISDN_TEI=0 RCV_N=2 RCVTIMEOUT=0
```

In rvsXP administrator --> button **Advanced** in ISDN (0) card **RCV_2** parameter can be set up:



4.7 Tests with different configurations of ISDN ports

In the following tests ISDN connection with MSN number 326997448 is assigned to port BRI-0 and ISDN connection with MSN number 326734482 is assigned to port BRI-1.

4.7.1 Test of BRI-1 Port

If port BRI-1 is in use (in XP line of local station `LOC` parameter **LINK=CAPI2A1**) and command `activate SID=LOC` is started the connection is established properly.

Example:

```
  XP SID=LOC N=1 LINK='CAPI2A1' TIMEOUT='' XADDRESS='' SUBAD-
DRESS='' +
             ISDNNO='326734482' VC='' USERDATA='' CUG='NO' +
           FACILITIES='' DBIT='FALSE' SESSIONS=1 +
           ISDN_FAC='' ISDN_USRDT='' ISDN_PROT='EDSS1' +
           ISDN_TEI=0 RCV_N=0 RCVTIMEOUT=0

A: 2009/01/08 08:13:35  <OK_READ          >  [RVSCNS] ACT SID=loc
```

```
I: 2009/01/08 08:13:35  <OK_ACTIVATE     >  connect to station LOC
...
I: 2009/01/08 08:13:35  <OK_CMD_DONE     >  [RVSCNS]  'activate'
done.
A: 2009/01/08 08:13:36  <X25_OUTGING_CALL> Outgoing Call to LOC
use local XP 1 remote XP 1 .
O: 2009/01/08 08:13:37  <CONNECT_IND     >  Responder: Connection
with Station 'LOC' with Credit=99, Odette Buffer=2048, OFTP com-
pression established.
O: 2009/01/08 08:13:37  <CONNECT         >  Sender: Connection with
Station 'LOC' with Credit=99, Odette Buffer=2048, OFTP compression
established.
O: 2009/01/08 08:13:39  <DISCONNECT      >  Connection as (receive)
to Station 'LOC' ended.
O: 2009/01/08 08:13:39  <DISCONNECT      >  Connection as (send) to
Station 'LOC' ended.
L: 2009/01/08 08:13:39  <ISDN_READY      >  : ISDN Receiver ready
to accept incoming calls No = 326734482.
```

```
R1200 Setup Tool                          Funkwerk Enterprise Communications GmbH
[MONITOR][ISDN CALLS]: ISDN Monitor - Calls                              r1200
-------------------------------------------------------------------------------

  Dir  Remote Name/Number       Charge Duration  Stack  Channel  State

  out  CAPI 192.168.0.253:1666/3       0         1      B1       active
  in   CAPI 192.168.0.253:1664/3       0         1      B2       active
```

4.7.2 Test with incorrect ISDN number at local station

If port BRI-0 is in use (in XP line of local station `LOC` parameter **LINK=CAPI2A0**) and command `activate SID=LOC` is started (ISDN no 326734482 is activated) the error message „No user responding“ appears, because in port BRI-0 the ISDN connection was set up with MSN number 326997448.

Example:

```
  XP SID=LOC N=1 LINK='CAPI2A0' TIMEOUT='' XADDRESS='' SUBAD-
DRESS='' +
             ISDNNO='326734482' VC='' USERDATA='' CUG='NO' +
             FACILITIES='' DBIT='FALSE' SESSIONS=1 +
             ISDN_FAC='' ISDN_USRDT='' ISDN_PROT='EDSS1' +
             ISDN_TEI=0 RCV_N=0 RCVTIMEOUT=0

A: 2009/01/08 08:01:51  <OK_READ         >  [RVSCNS] ACT SID=loc
I: 2009/01/08 08:01:51  <OK_ACTIVATE     >  connect to station LOC
...
I: 2009/01/08 08:01:51  <OK_CMD_DONE     >  [RVSCNS]  'activate'
done.
A: 2009/01/08 08:01:51  <X25_OUTGING_CALL> Outgoing Call to LOC
use local XP 1 remote XP 1 .
E: 2009/01/08 08:02:00  <CAPI20_CON      >  Error occurred during
set-up the ISDN connection:  0x3492 - No user responding.
E: 2009/01/08 08:02:00  <ISDN_ERROR      >50: common CAPI or ISDN
error - see message-log.
```

```
E: 2009/01/08 08:02:00  <CONNECT_FAILED_RC>  OFTP: Unable to
connect to LOC (errorcode = 2101150).
```

4.7.3 Message "Another application got the call"

If in rvsXP the ISDN parameters of local station were set up with several ISDN receivers you get this message for information only.

In the following example two receivers were set up (parameter **MAXX25RCV=2**):

```
 XP SID=LOC N=2 LINK='CAPI2A1' TIMEOUT='' XADDRESS=''
SUBADDRESS='' +
             ISDNNO='326734482' VC='' USERDATA='' CUG='NO' +
             FACILITIES='' DBIT='FALSE' SESSIONS=1 +
             ISDN_FAC='' ISDN_USRDT='' ISDN_PROT='EDSS1' +
             ISDN_TEI=0 RCV_N=0 RCVTIMEOUT=0
  XP SID=LOC N=1 LINK='CAPI2A1' TIMEOUT='' XADDRESS=''
SUBADDRESS='' +
             ISDNNO='326734482' VC='' USERDATA='' CUG='NO' +
             FACILITIES='' DBIT='FALSE' SESSIONS=1 +
             ISDN_FAC='' ISDN_USRDT='' ISDN_PROT='EDSS1' +
             ISDN_TEI=0 RCV_N=0 RCVTIMEOUT=0
```

With incoming calls the message 'Another application got the call' is displayed in `rlog.log` file (rvsXP log book).

```
A: 2009/01/08 08:27:39  <OK_READ         >  [RVSCNS] ACTIVATE
SID=ZZZ
I: 2009/01/08 08:27:39  <OK_ACTIVATE     >  connect to station ZZZ
...
I: 2009/01/08 08:27:39  <OK_CMD_DONE     >  [RVSCNS]  'activate'
done.
A: 2009/01/08 08:27:39  <X25_OUTGING_CALL> Outgoing Call to ZZZ
use local XP 1 remote XP 1 .
E: 2009/01/08 08:27:40  <CAPI20_CON      >  Error occurred during
set-up the ISDN connection:  0x3304 - Another application got the
call..


O: 2009/01/08 08:27:41  <CONNECT_IND     >  Responder: Connection
with Station 'LOC' with Credit=99, Odette Buffer=2048, OFTP
compression established.
O: 2009/01/08 08:27:41  <CONNECT         >  Sender: Connection with
Station 'ZZZ' with Credit=99, Odette Buffer=2048, OFTP compression
established.
O: 2009/01/08 08:27:43  <DISCONNECT      >  Connection as (receive)
to Station 'LOC' ended.
O: 2009/01/08 08:27:44  <DISCONNECT      >  Connection as (send) to
```

```
Station 'ZZZ' ended.
L: 2009/01/08 08:27:44  <ISDN_READY      >  : ISDN Receiver ready
to accept incoming calls No = 326734482.
```

4.7.4 Test with occupation of the four B-channels of the Routers

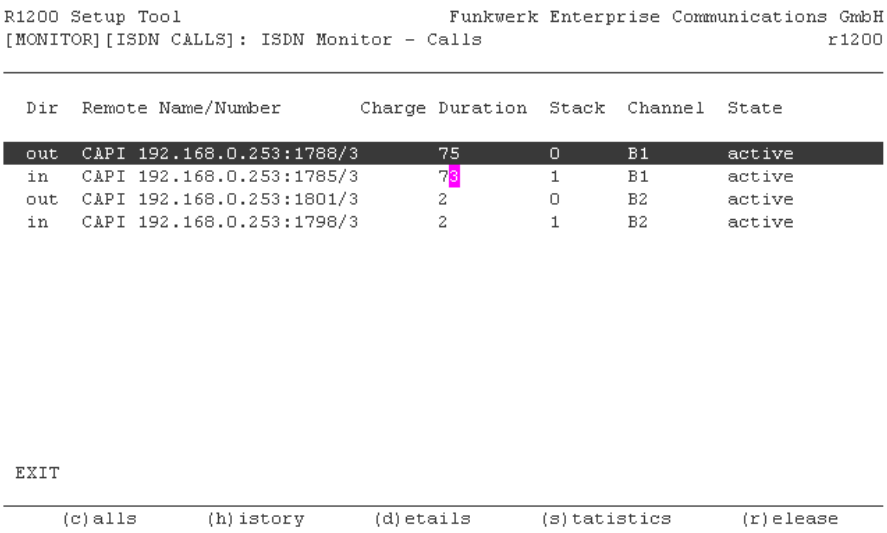
In the following example the local station LOC is defined with two ISDN receivers and two neighbour stations (ZZZ and ZZZ2).

The Odette ID of station LOC and station ZZZ is identical, so the transmission via ISDN will work. The example with four busy B-channels shows the situation if the command `activate SID=ZZZ2` is started while a transmission from local station to station ZZZ is active.

The local station is configured with two ISDN receivers on port BRI-1 (ISDN number is 326734482, parameter **LINK=CAPI2A1**). Parameter **MAXX25RCV=2** is set up in file `rvs\init\rdmini.dat`. Station ZZZ uses Port BRI-0 (parameter LINK=CAPI2A0) and calls number 326734482, i.e. the local station.

```
*
* Station LOC
*
  ST SID=LOC NETID='LOC' STATNAME='local station' PHONE=' ' SID-
TYP='R'
  RT SIDDEST=LOC SIDNEIGHB=LOC PRIORITY=10
  NK SID=LOC FTP=O PROTOCOL='X' AUTODIAL='Y' PRIORITY=10 +
            FLGSUSPND='FALSE' PSESSIONS=-1 DELAY=0
  OP SID=LOC ODETTEID='O094218623646  048 AA2' PSWFROM='ZZZ'
PSWTO='ZZZ' +
            SENDBLOCKS=0 RECVBLOCKS=0 OCREVAL=0 OEXBUF=0 +
            CODEIN='' CODEOUT='' USERFIELD='' RETRY='' +
            EERP_IN='NORMAL' EERP_OUT='NORMAL' VDSNCHAR='' FLAG-
COMP=0 +
            FLAGCRYP=0 ROUTING='' SECURITY='' USEPKI='' +
            USEULS='' OFTPLEV='' USERSEP='' DIRECTION='' COMP-
FLAGS='' +
            CRYPFLAGS=''
  XP SID=LOC N=2 LINK='CAPI2A1' TIMEOUT='' XADDRESS='' SUBAD-
DRESS='' +
             ISDNNO='326734482' VC='' USERDATA='' CUG='NO' +
             FACILITIES='' DBIT='FALSE' SESSIONS=1 +
             ISDN_FAC='' ISDN_USRDT='' ISDN_PROT='EDSS1' +
             ISDN_TEI=0 RCV_N=0 RCVTIMEOUT=0
  XP SID=LOC N=1 LINK='CAPI2A1' TIMEOUT='' XADDRESS='' SUBAD-
DRESS='' +
             ISDNNO='326734482' VC='' USERDATA='' CUG='NO' +
             FACILITIES='' DBIT='FALSE' SESSIONS=1 +
             ISDN_FAC='' ISDN_USRDT='' ISDN_PROT='EDSS1' +
             ISDN_TEI=0 RCV_N=0 RCVTIMEOUT=0
*
* Station ZZZ
*
  ST SID=ZZZ NETID='ZZZ' STATNAME='Testovaci stanice' PHONE=''
SIDTYP='R'
```

```
  RT SIDDEST=ZZZ SIDNEIGHB=ZZZ PRIORITY=1
  NK SID=ZZZ FTP=O PROTOCOL='X' AUTODIAL='Y' PRIORITY=10 +
            FLGSUSPND='FALSE' PSESSIONS=1 DELAY=0
  OP SID=ZZZ ODETTEID='O094218623646  048 AA2' PSWFROM='ZZZ'
PSWTO='ZZZ' +
            SENDBLOCKS=0 RECVBLOCKS=0 OCREVAL=99 OEXBUF=2048 +
            CODEIN='A' CODEOUT='A' USERFIELD='' RETRY='' +
            EERP_IN='NORMAL' EERP_OUT='SYNC' VDSNCHAR='ODETTE'
FLAGCOMP=0 +
            FLAGCRYP=0 ROUTING='B' SECURITY='OPT' USEPKI='NO' +
            USEULS='' OFTPLEV='2' USERSEP='N' DIRECTION='' COMP-
FLAGS='' +
            CRYPFLAGS='1'
  XP SID=ZZZ N=0 LINK='CAPI2A0' TIMEOUT='' XADDRESS='' SUBAD-
DRESS='' +
             ISDNNO='326734482' VC='' USERDATA='' CUG='NO' +
             FACILITIES='' DBIT='FALSE' SESSIONS=1 +
             ISDN_FAC='' ISDN_USRDT='' ISDN_PROT='EDSS1' +
             ISDN_TEI=0 RCV_N=2 RCVTIMEOUT=0

*
* Station ZZZ2
*
  ST SID=ZZZ2 NETID='ZZZ2' STATNAME='Test 2' PHONE='' SIDTYP='R'
  RT SIDDEST=ZZZ2 SIDNEIGHB=ZZZ2 PRIORITY=1
  NK SID=ZZZ2 FTP=O PROTOCOL='X' AUTODIAL='Y' PRIORITY=10 +
            FLGSUSPND='FALSE' PSESSIONS=1 DELAY=0
  OP SID=ZZZ2 ODETTEID='TEST' PSWFROM='' PSWTO='' +
            SENDBLOCKS=0 RECVBLOCKS=0 OCREVAL=99 OEXBUF=2048 +
            CODEIN='' CODEOUT='' USERFIELD='' RETRY='' +
           EERP_IN='NORMAL' EERP_OUT='IMMEDIATE' VDSNCHAR='' FLAG-
COMP=0 +
            FLAGCRYP=0 ROUTING='' SECURITY='' USEPKI='' +
            USEULS='' OFTPLEV='' USERSEP='' DIRECTION='' COMP-
FLAGS='' +
            CRYPFLAGS=''
  XP SID=ZZZ2 N=0 LINK='CAPI2A0' TIMEOUT='' XADDRESS='' SUBAD-
DRESS='' +
             ISDNNO='326734482' VC='' USERDATA='' CUG='NO' +
             FACILITIES='' DBIT='FALSE' SESSIONS=1 +
             ISDN_FAC='' ISDN_USRDT='' ISDN_PROT='EDSS1' +
             ISDN_TEI=0 RCV_N=1 RCVTIMEOUT=0
```




```
I: 2009/01/08 09:22:26
I: 2009/01/08 09:22:26  <COPYRIGHT      >rvsXP5.02.02 (c) T-Systems 2007
All rights reserved.
A: 2009/01/08 09:22:27  <INIT_CMD        >  rpm: Reading initial commands
A: 2009/01/08 09:22:27  <OK_READ         >  [RVSCNS] cleanup days=3 ss=yes
A: 2009/01/08 09:22:27  <CLNUP_DEL_SS    >  Cleanup of RVS data base: purge
all SendStatistics with DTEND < '2009/01/05 09:22:27'
I: 2009/01/08 09:22:27  <OK_CMD_DONE     >  [RVSCNS]  'cleanup' done.
A: 2009/01/08 09:22:27  <OK_READ         >  [RVSCNS] setparm MAXSENDERS=3
R: 2009/01/08 09:22:27  <REPORT          >  MAXSENDERS      = 3
I: 2009/01/08 09:22:27  <OK_CMD_DONE     >  [RVSCNS]  'setparm' done.
A: 2009/01/08 09:22:27  <OK_READ         >  [RVSCNS] setparm MAXX25RCV=2
R: 2009/01/08 09:22:27  <REPORT          >  MAXX25RCV       = 2
I: 2009/01/08 09:22:27  <OK_CMD_DONE     >  [RVSCNS]  'setparm' done.
A: 2009/01/08 09:22:27  <OK_READ         >  [RVSCNS] setparm TCPIPRCV=0
R: 2009/01/08 09:22:27  <REPORT          >  TCPIPRCV        = 0
I: 2009/01/08 09:22:27  <OK_CMD_DONE     >  [RVSCNS]  'setparm' done.
A: 2009/01/08 09:22:27  <OK_READ         >  [RVSCNS] setparm TIMESTAMP=3
R: 2009/01/08 09:22:27  <REPORT          >  TIMESTAMP       = 3
I: 2009/01/08 09:22:27  <OK_CMD_DONE     >  [RVSCNS]  'setparm' done.
I: 2009/01/08 09:22:27  <OK_CMD_DONE     >  [RVSCNS]  'setparm' done.
A: 2009/01/08 09:22:27  <SP_START        >  Service Provider started. Com-
pression: yes, Security: yes.
A: 2009/01/08 09:22:27  <XMT_START       >  MasterTransmitter started.
L: 2009/01/08 09:22:27  <ISDN_READY      >  : ISDN Receiver ready to accept
incoming calls No = 326734482.
A: 2009/01/08 09:22:29  <X25_OUTGING_CALL> Outgoing Call to ZZZ use local
XP 2 remote XP 1 .
L: 2009/01/08 09:22:31  <ISDN_READY      >  : ISDN Receiver ready to accept
```

```
incoming calls No = 326734482.
O: 2009/01/08 09:22:31  <CONNECT_IND     >  Responder: Connection with Sta-
tion 'LOC' with Credit=99, Odette Buffer=2048, OFTP compression estab-
lished.
O: 2009/01/08 09:22:31  <CONNECT         >  Sender: Connection with Station
'ZZZ' with Credit=99, Odette Buffer=2048, OFTP compression established.
O: 2009/01/08 09:22:31  <OFTP_RCV        >  Receive:'TEST.PDF(090108
091833)' from:'LOC' Destination:'LOC' FORMAT=U RESTART=0 IE:7407 begins.
O: 2009/01/08 09:22:31  <OFTP_SEND       >  Send:SK 7405 'TEST.PDF(090108
091833)' from:'LOC' Destination:'ZZZ' FORMAT=U RESTART=0.
A: 2009/01/08 09:22:39  <OK_READ         >  [RVSCNS] ACT SID=zzz2
I: 2009/01/08 09:22:39  <OK_ACTIVATE     >  connect to station ZZZ2 ...
I: 2009/01/08 09:22:39  <OK_CMD_DONE     >  [RVSCNS]  'activate' done.
A: 2009/01/08 09:22:40  <X25_OUTGING_CALL> Outgoing Call to ZZZ2 use local
XP 1 remote XP 1 .
I: 2009/01/08 09:22:41  <INCOMING_CALL   >  Incoming call received:
W: 2009/01/08 09:22:41  <ESID_ERROR      >Odette session ended by remote
node ZZZ2. Reason(4): invalid password
W: 2009/01/08 09:22:41  <INV_PSW         >  OFTP: Invalid password received
from LOC.
L: 2009/01/08 09:22:43  <ISDN_READY      >  : ISDN Receiver ready to accept
incoming calls No = 326734482.
A: 2009/01/08 09:23:03  <OK_READ         >  [RVSCNS] ACT SID=zzz2
I: 2009/01/08 09:23:03  <OK_ACTIVATE     >  connect to station ZZZ2 ...
I: 2009/01/08 09:23:03  <OK_CMD_DONE     >  [RVSCNS]  'activate' done.
A: 2009/01/08 09:23:03  <X25_OUTGING_CALL> Outgoing Call to ZZZ2 use local
XP 1 remote XP 1 .
I: 2009/01/08 09:23:04  <INCOMING_CALL   >  Incoming call received:
W: 2009/01/08 09:23:04  <INV_PSW         >  OFTP: Invalid password received
from LOC.
W: 2009/01/08 09:23:04  <ESID_ERROR      >Odette session ended by remote
node ZZZ2. Reason(4): invalid password
L: 2009/01/08 09:23:06  <ISDN_READY      >  : ISDN Receiver ready to accept
incoming calls No = 326734482.
A: 2009/01/08 09:23:40  <OK_READ         >  [RVSCNS] ACT SID=zzz2
I: 2009/01/08 09:23:40  <OK_ACTIVATE     >  connect to station ZZZ2 ...
I: 2009/01/08 09:23:40  <OK_CMD_DONE     >  [RVSCNS]  'activate' done.
L: 2009/01/08 09:23:44  <ISDN_READY      >  : ISDN Receiver ready to accept
incoming calls No = 326734482.
O: 2009/01/08 09:23:50  <OFTP_RCV_END    >  Receive:'TEST.PDF(090108
091833)' from:'LOC' Destination:'LOC' IE:7407 ends.
A: 2009/01/08 09:23:50  <NEW_CMD_CREATED >  IZ(7429) created by IE(7407).
O: 2009/01/08 09:23:50  <OFTP_END        >   end SK: 7405 status
0:'TEST.PDF(090108 091833)' from:'LOC' Destination:'ZZZ'
R: 2009/01/08 09:23:50  <SK_SENT         >  SK(7405) sent
'C:\A_Install\ITIL\TEST.pdf' to 'ZZZ' (destination: 'ZZZ')
    as 'TEST.PDF 2009/01/08 09:18:33'; sent by 'kohoutd' at 'LOC'.
```

```
R: 2009/01/08 09:23:50  <IZ_DELIVERED    >  IZ(7429) Delivery of 'TEST.PDF
2009/01/08 09:18:33' received at 2009/01/08 09:23:50 from "LOC".
 Stored in "c:\rvs\usrdat\TEST.PDF.D090108.T092350".
A: 2009/01/08 09:23:50  <CMD_TERMINATED  >  IZ(7429) terminated (status
e).
A: 2009/01/08 09:23:50  <NEW_CMD_CREATED >  QS(7430) created by IE(7407).
A: 2009/01/08 09:23:50  <DSN_DELETED     >  'c:\rvs\temp\d0007407.dat'
deleted (termination of IE(7407)).
A: 2009/01/08 09:23:50  <CMD_TERMINATED  >  IE(7407) terminated (status
e).
A: 2009/01/08 09:23:50  <NEW_CMD_CREATED >  QE(7431) created by QS(7430).
A: 2009/01/08 09:23:50  <CMD_TERMINATED  >  QS(7430) terminated (status
e).
A: 2009/01/08 09:23:50  <CMD_TERMINATED  >  QE(7431) terminated (status
e).
E: 2009/01/08 09:23:52  <X25_ERROR       >  S_3420: Cause = 0, Diagnostic
= 16.
O: 2009/01/08 09:23:52  <DISCONNECT      >  Connection as (receive) to Sta-
tion 'LOC' ended.
O: 2009/01/08 09:23:52  <DISCONNECT      >  Connection as (send) to Station
'ZZZ' ended.
L: 2009/01/08 09:23:53  <ISDN_READY      >  : ISDN Receiver ready to accept
incoming calls No = 326734482.
```

Appendix 5: Glossary

ASCII

American **S**tandard **C**ode for **I**nformation **I**nterchange

Batch interface (`rvsbat`)

The rvs® batch interface provides functions for background processing.

Dialog interface (`rvsdia`)

The rvs® dialog interface of provides interactive user functionality.

EBCDIC

Extended **B**inary **C**oded **D**ecimal **I**nterchange **C**ode

EDI

Electronic **D**ata **I**nterchange

EDIFACT

Electronic **D**ata **I**nterchange **f**or **A**dministration, **C**ommerce and **T**ransport

EERP

End-to-**E**nd-**R**es**p**onse. ODETTE term for an acknowledgement at the end of a send transmission.

ETSI

European **T**elecommunications **S**tandardization **I**nstitute

FSS

Forwarding **S**upport **S**ervice

GNU zip algorithm

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3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
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If you use the zlib library in a product, we would appreciate *not* receiving lengthy legal documents to sign. The sources are provided for free but without warranty of any kind. The library has been entirely written by Jean-loup Gailly and Mark Adler; it does not include third-party code.

If you redistribute modified sources, we would appreciate that you include in the file ChangeLog history information documenting your changes.

Communication module (`rvscom`)

The rvs® communication module connects different stations and sends or receives files.

MasterTransmitter (`rvsxmt`)

The MasterTransmitter of the rvs® system coordinates send and receive processes to ensure the optimal use of the net capacity.

Monitor (`rvsmon`)

rvs® monitor is the main component of the rvs® system. It controls transmissions sent and received and initiates automatic follow up jobs if necessary.

ODETTE

Organization for **D**ata **E**xchange by **T**ele **T**ransmission in **E**urope

Get the complete description of OFTP from

http://www.odette.org/

OFTP

ODETTE **F**ile **T**ransfer **P**rotocol

The ODETTE File Transfer Protocol is the definition of a file transfer protocol by the ODETTE Group IV for OSI Layers 4 to 7.

International Protocol used in many business fields (Industry, Commerce, Finance).

OSI

Open **S**ystem **I**nterconnection

PDF

Portable **D**ocument **F**ormat

Protocol

To connect two different computers they have to follow the same protocol. This protocol defines actions and reactions as well as the “language” spoken.

A

B

C

D

E

L

M

N

O

P

Q

R

S

T

U

V

W

X

Z