

Installation and User Manual

GENEREX RCCMD AS400-Client

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I. Description

A. General Information

The RCCMD AS400 client is part of the UPSMAN UPS management system that allows the iSeries-AS400 to act as a client in an UPSMAN managed network. RCCMD will run on a number of other operating systems:

(http://www.generex.de/wwwfiles/dokus/1/supp_os/german/pdf/CDVersionen.pdf)

A received command via network for the shutdown of the AS400 iSeries will be executed pursuant its authorization and the customized conditions.

B. Modules

1. Configuration

Configuring the AS400 RCCMD client involves setting up a number of parameters which are stored in configuration files.

The following file contains the AS400 RCCMD client configuration.

a) Configuration file ,communication 1' *rccmdcfg1*

This file should hold the ,IP address of the AS400' which secures the identification of the AS400. This entry must match the entry posted in the IP address found in the configuration of the AS400 if this is not the case see section I.B.2.

This entry must also hold the definition of the port that will be used for this program. The default ports is 6003 and if this is not the case please refer to section I.B.2 Default value formation (**please see subject 2 for further information**).

b) Configuration file ,communication 2' *rccmdcfg2*

This file contains information in the form of IP addresses matching the RCCMD senders, that is to say UPSMAN managers or CS121 which manage your UPS. This defines which UPSMAN managers are allowed to send RCCMD messages to the RCCMD AS400 client. These entries act as a filter key for defining authorized UPSMAN managers and should this entry contain no IP addresses see section I.B.2. Default-value formation *all (**please see subject 3 for further information**).

c) Configuration file ,SHUTDOWN' *shutcmd*

This file contains a predefined shutdown sequence of commands that is enacted when the AS400 RCCMD client receives a valid RCCMD shutdown command. The initial default shutdown file that is written into the system is empty. It is the duty of the administrator to define the operations that are to be executed in this file. This may or may not contain actions that are to precede a shutdown such as executing commands, sending messages and safely terminating other processes (**important, please see subject 4 for further information**).

The following management program/on-line dialogues for viewing, input, changing and deleting from data records are available:

d) Administrative configuration file ,Communication 1'

e) Administrative configuration file ,Communication 2'

f) Administrative configuration file ,SHUTDOWN'

C. Step-by-step installation instructions

1. **Save/copy the SAVF file from the data media (Email or CD ROM).** Following we describe this way using FTP. Please keep the following order absolutely.

PC FTP commands for use with the iSeries:

1. Login into the iSeries as (QSECOFR!!!)
2. Make SAVF file in QGPL: CRTSAVF FILE(QGPL/RCCMD)
3. Backup the SAVF file from mail / CD in the root directory of the hard drive (we recommend to use root C:\!!)
4. On the PC - START->EXECUTE and type in "CMD" and hit ENTER to open a command shell.
5. Go into the directory containing SAVF (CD \)
6. Start FTP by the following command : "FTP <xxx.xxx.xxx.xxx - IP adress of your iSeries>
7. Then enter the following.

User (xxx.xxx.x.x:(none)): **as400USER**

```
31 Enter password.
Password: *****
230 as400USER logged on.
ftp> binary
200 Representation type is binary IMAGE.
ftp> quote site namefmt 1
250 Now using naming format "1".
ftp> put rccmdIII.savf /qsys.lib/qgpl.lib/rccmdIII.savf
200 PORT subcommand request successful.
150 Sending file to member RCCMD in file RCCMD in library QGPL.
250 File transfer completed successfully.
ftp: 1567104 bytes sent in 2.43Seconds 643.84Kbytes/sec.
ftp> quit
C:\exit
```

Please backup the files at your iSeries library (at the CD ROM at Directory "OS400/RCCMD"):

```
RSTLIB SAVLIB (RCCMD)
DEV (*SAVF)
SAVF (QGPL/RCCMD)
OPTION (*ALL)
MBROPT (*ALL)
ALWOBJDIF (*ALL)
```

Enter **CFGTCP** :

Selection 1 – please notice your IP address.

Here has to be an entry (IP address). If this is not the case, please check your network configuration with your administrator.

Mit TCP/IP-Schnittstellen arbeiten			
System: JCBOCS			
Auswahl eingeben und Eingabetaste drücken.			
1=Hinzufügen 2=Ändern 4=Entfernen 5=Anzeigen 9=Starten 10=Beenden			
Aus- Internet- wahl Adresse	Teilnetzmaske	Leitungsbeschreibung	Leitungsart
127.0.0.1	255.0.0.0	*LOOPBACK	*NONE
192.168.2.2	255.255.255.0	JCBLIN	*ELAN
Ende			
F3=Verlassen F5=Aktualisieren F6=Liste drucken			
F11=Schnittstellenstatus anzeigen F12=Abbrechen F17=Anfang F18=Ende			

Selection 10 (optional) – notice the hostname, which is linked to your IP address.

Add your noticed IP address, if not already present and select a hostname.

Mit TCP/IP-Host-Tabelleneinträgen arbeiten	
System: JCBOCS	
Auswahl eingeben und Eingabetaste drücken.	
1=Hinzufügen 2=Ändern 4=Entfernen 5=Anzeigen 7=Umbenennen	
Aus- Internet- wahl Adresse	Host-Name
84.142.141.175	BODO.NET
127.0.0.1	LOOPBACK
	LOCALHOST
192.168.2.2	JCBOCSSERVER
195.186.18.142	MAIL.BLUEWIN.CH
212.227.15.180	MAIL.BODO
	AUTH.MAIL.ONLINEHOME.DE
Ende	
F3=Verlassen F5=Aktualisieren F6=Liste drucken F12=Abbrechen	
F17=Listenanfang bei	

Selection 12 (optional) – add/enter, if not already present, the hostname to the domain-name

TCP/IP-Domäne ändern (CHGTCPPDMN)	
Auswahl eingeben und Eingabetaste drücken.	
Host-Name	'JCBOCSSERVER'
Domänenname	'JCBOCS.NET'
Domänensuchliste *DFT	
Suchpriorität für Host-Name .. *LOCAL *REMOTE, *LOCAL, *SAME	
Domain Name Server:	
Internet-Adresse	*NONE
Ende	
F3=Verlassen F4=Bedienerf. F5=Aktualisieren F10=Zusätzl. Parameter	
F12=Abbrechen F13=Verwendung der Anzeige F24=Weitere Tasten	

If there should be already an entry and your domain-name differs from your hostname, please do not change anything here. If **NO** entry is present, please add the defined hostname, which you selected before, at “hostname” and “domain name”.

INSTALLATION ASSISTANT:

Please use the provided setup tool for the further installation- and configuration tasks.

This is required for a smooth functionality urgent.

*All following steps described in this documentation are handled through this tool.
Start the setup as follows:*

call xxx/setupmnu

Where xxx is the name of the library, in which you have saved RCCMD. We recommend to use the name „RCCMD“.

Answer the following system message with the above mentioned name of the library. Start the installation as complete installation routine with selection 1 and use the „F10“ button to get to the next step.

Follow the instructions on the screen until you get the message „Installation complete. Finish“.

Please note prior of the execution the following description of chapter 2 Job Description!

```

SETUPRCC                      SETUP RCCMDAS400
                             (complete/accept every step by using F2 if required)

Auswahlmöglichkeiten:

    1. Setup All or use single steps           incl.steps: for next use F10
    2. Setup Installation
    3. Setup Configuration                     incl.steps: F10 f.next
    4. Communications Configuration local
    5. Communications Configuration remote
    6. Shutdown Command File Maintenance
    7. Start RCCMD Client the first time
    8. Start RCCMD Client automatically

    10. Setup and call the Test(ONLY the client, test with rccmd-cmd too)

Auswahl oder Befehl
    _

F3=Verlassen    F12=Abbrechen
F13=Unterstützende Informationen  F16=Systemhauptmenü

```

Do not execute the steps from 2 to 8 during the first installation. You can single adjust the configuration later manually with the selection 3 and „F10“ with the selection points 4 to 8.

Make sure that the program SHUTDWN contains the right to execute a shutdown call :

```

CHGOBJOWN OBJ(RCCMD/SHUTDWN)
  OBJTYPE(*PGM)
  NEWOWN(QSECOFR)
  CUROWNOUT(*REVOKE)

```

2. Job Description:

NOTE: If you have stored the RCCMD system into any other library than RCCMD (not recommended), you have to change the job description accordingly:

CHGJOB *XXX/SOCKSERV INLLIBL(XXX QGPL QTEMP)*
 where "XXX" represents the name of the library where you have installed RCCMD.

Advice: Please check individual configuration:

If you got one or more indications into your system libraries for QGPL or QTEMP, please delete the accordant indications at the parameter INLLIBL (QGPL, QTEMP or both) and execute the command.

Manual modification - optional

Enter *ADDLIB* *XXX* - where *XXX* represents the name of the RCCMD library

Call the program *RCCMDCFG1* (*CALL RCCMDCFG1 " "*)

Advice: During the call of this program, the system message "Parameter Error" may occur, because of the different program versions. The state of your entry will not be altered.

Enter, if not already present, your IP address here. Enter the port number 6003 (default). If you do not want to use the default port, please change to any other available port and change also the CS121/UPSMAN sender accordingly.

Enter here your RCCMD License Key (take a look into the AS 400 license document for "**RCCMD AS 400 License Key**").

The entry will be checked after you have applied.

Finish your settings by pressing F2 and save your settings. Leave the program with F3 (for deleting your entries use F23).

JCBOCS	Kommunikationsdatei Verwalten	27.11.05
RCCMDCFG1		00:05:51

Eigene IP Adresse: 192.168.2.2
Lokale Portnummer : 6.003
Sicherheitscode : 77METRO-PARIS011461

F2=Akzeptiern F3=Verlassen F23=Löschen

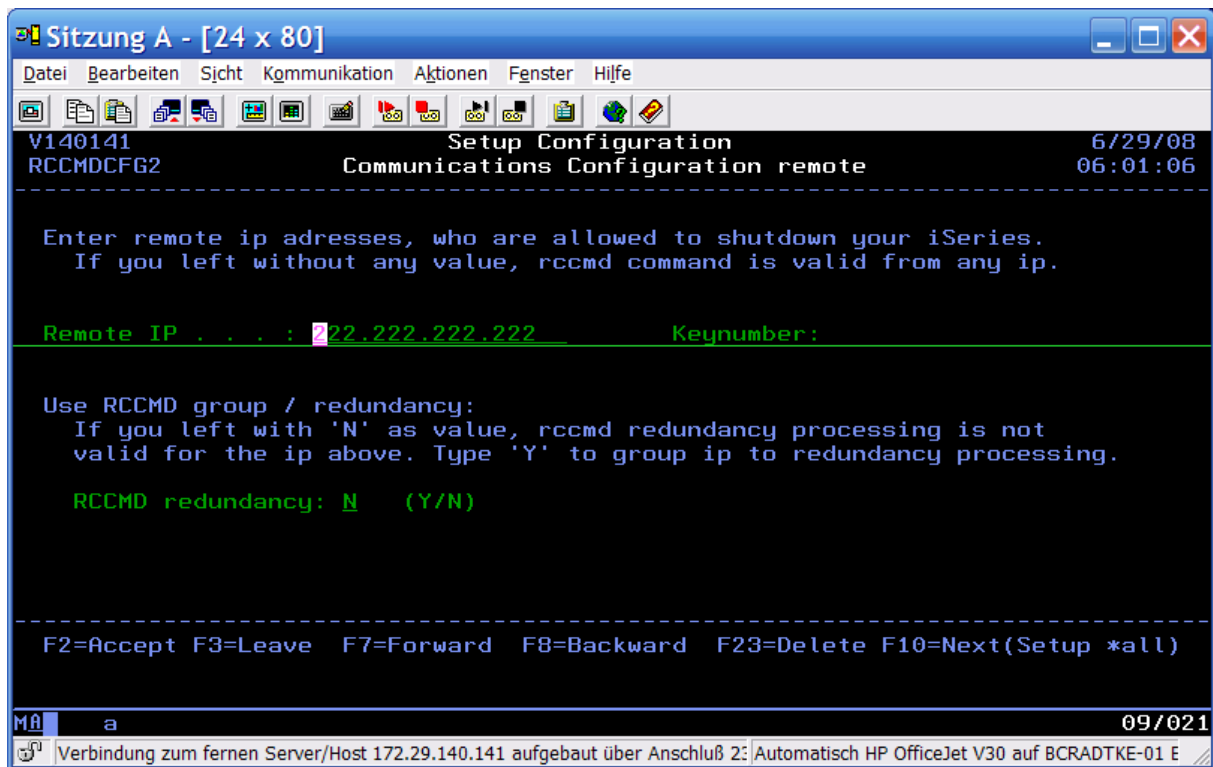
3. (Alternatively chapter 5.) Call the program RCCMDCFG2 (CALL RCCMDCFG2 " ").

Enter here one or more remote IP addresses (one per server, which should get the permission to call RCCMD). Please check your firewall.

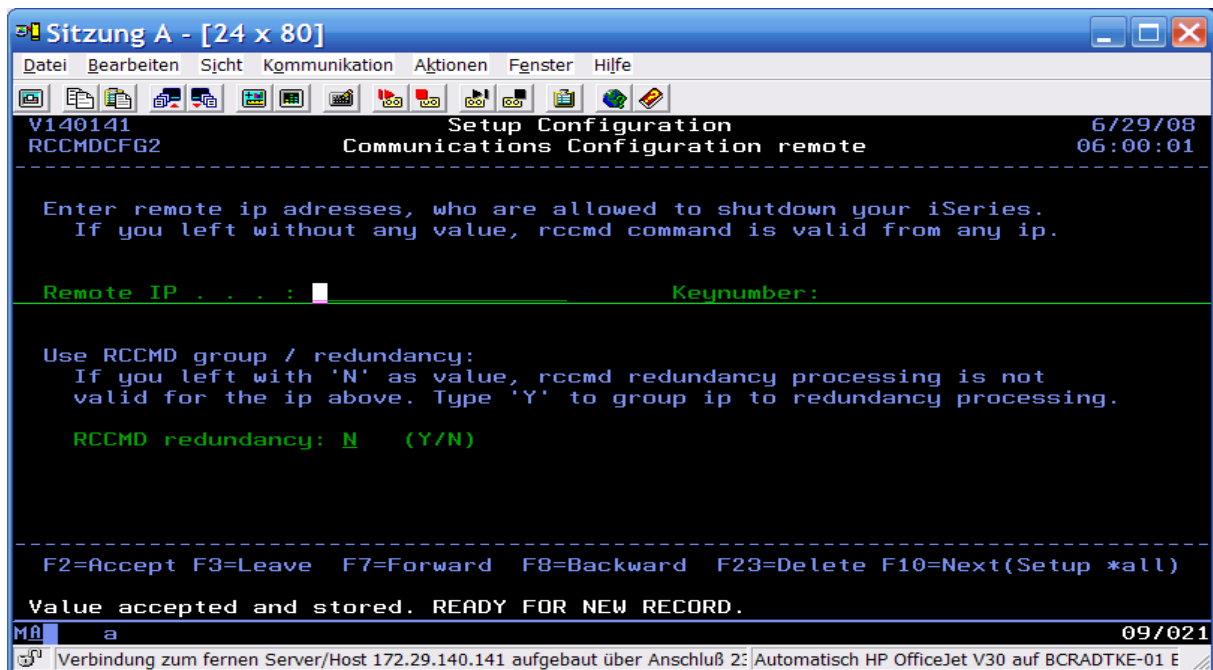
NOTE: If you do not enter an IP address here, all RCCMD senders in your network are authorized to send an RCCMD shutdown signal!

Advice: During the call of this program, the system message "Parameter Error" may occur, because of the different program versions. The state of your entry will not be altered.

Settings without redundancy management:

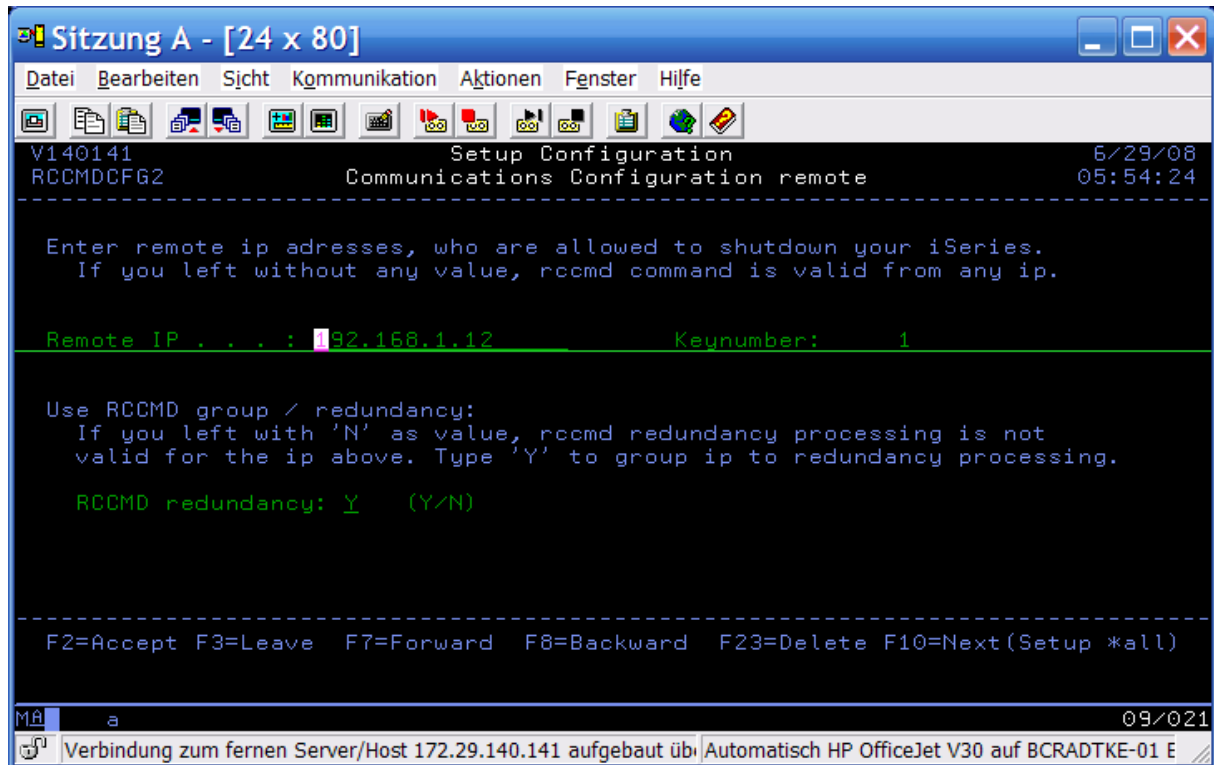


Press the “F2” button to save your settings. Press the “F3” button to leave the program or press the “F23” button to delete your settings. Press the “F7” button to go forward or press the “F8” button to go backward in your configuration. See the following screen.

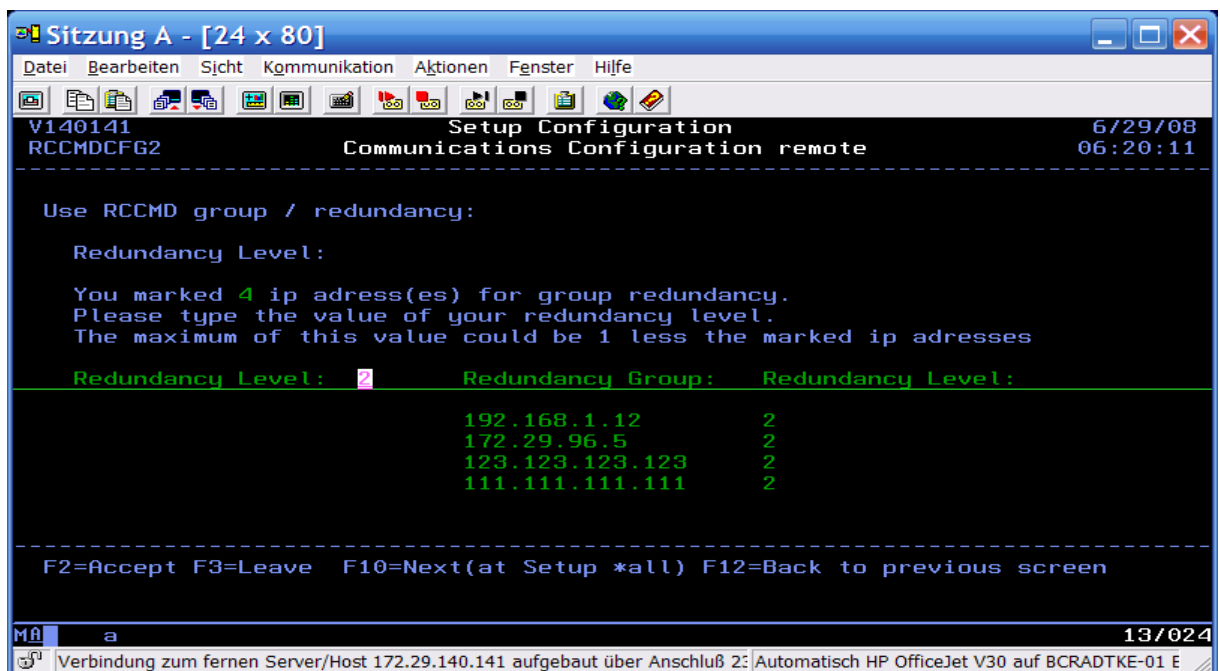


Settings with redundancy management (if you do not want to set up a redundancy group, please go ahead to chapter 4 on page 19):

RCCMD Version 3 or higher for IBM i provide an added function, which afford the RCCMD IBM I client to administrate up to 4 UPSMAN or CS121 managed UPS as redundant group in a local network. Furthermore it is possible to manage UPS from different manufacturers in a parallel redundant group. Just use the RCCMD redundancy option in the setup.



The individual UPSMAN servers will be identified automatically in the network and their IP addresses will be listed in the redundancy group.



Settings of the redundancy group:

Confirmation after entry:

Sitzung A - [24 x 80]

Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe

V140141 Setup Configuration 6/29/08
RCCMDCFG2 Communications Configuration remote 05:55:00

Enter remote ip addresses, who are allowed to shutdown your iSeries.
If you left without any value, rccmd command is valid from any ip.

Remote IP . . . : 192.168.1.12 Keynumber: 1

Use RCCMD group / redundancy:
If you left with 'N' as value, rccmd redundancy processing is not
valid for the ip above. Type 'Y' to group ip to redundancy processing.

RCCMD redundancy: Y (Y/N)

F2=Accept F3=Leave F7=Forward F8=Backward F23=Delete F10=Next(Setup *all)

Value accepted and modified.

MA a 09/021

Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

New entry option (after done entry):

Sitzung A - [24 x 80]

Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe

V140141 Setup Configuration 6/29/08
RCCMDCFG2 Communications Configuration remote 06:00:01

Enter remote ip addresses, who are allowed to shutdown your iSeries.
If you left without any value, rccmd command is valid from any ip.

Remote IP . . . : Keynumber:

Use RCCMD group / redundancy:
If you left with 'N' as value, rccmd redundancy processing is not
valid for the ip above. Type 'Y' to group ip to redundancy processing.

RCCMD redundancy: N (Y/N)

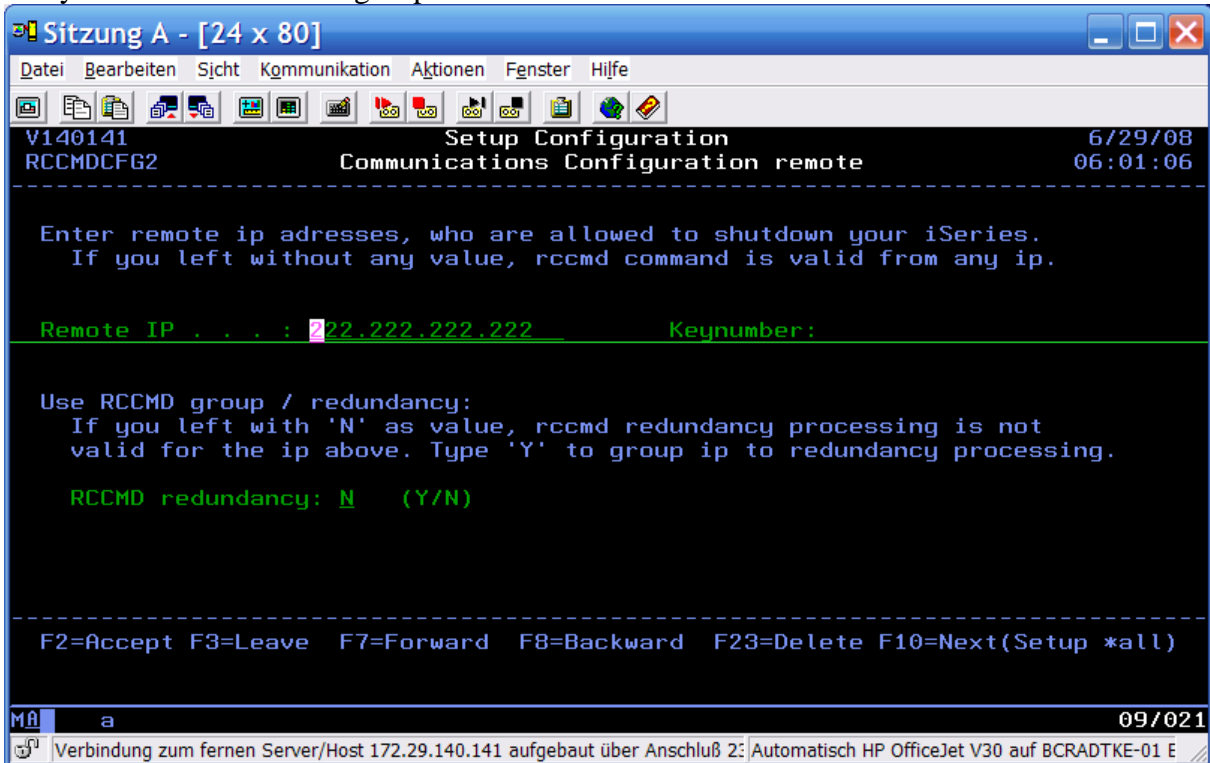
F2=Accept F3=Leave F7=Forward F8=Backward F23=Delete F10=Next(Setup *all)

Value accepted and stored. READY FOR NEW RECORD.

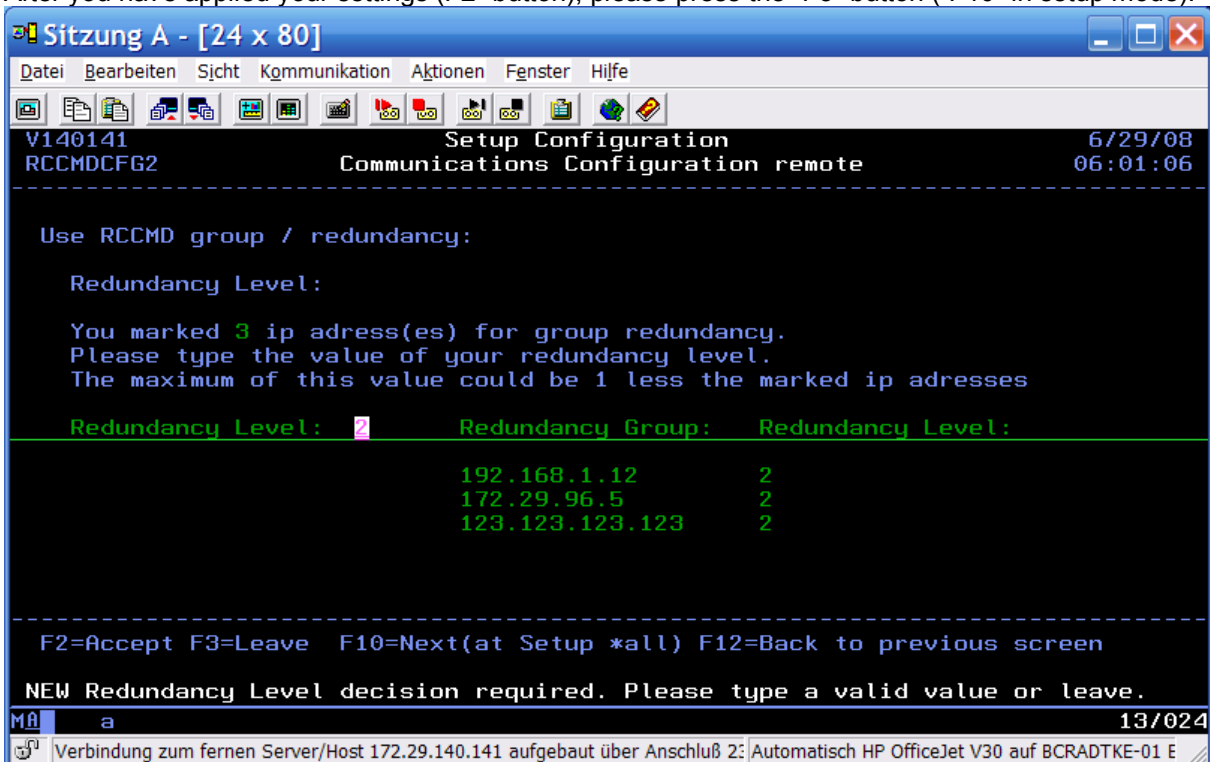
MA a 09/021

Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

Entry of a server without a group:

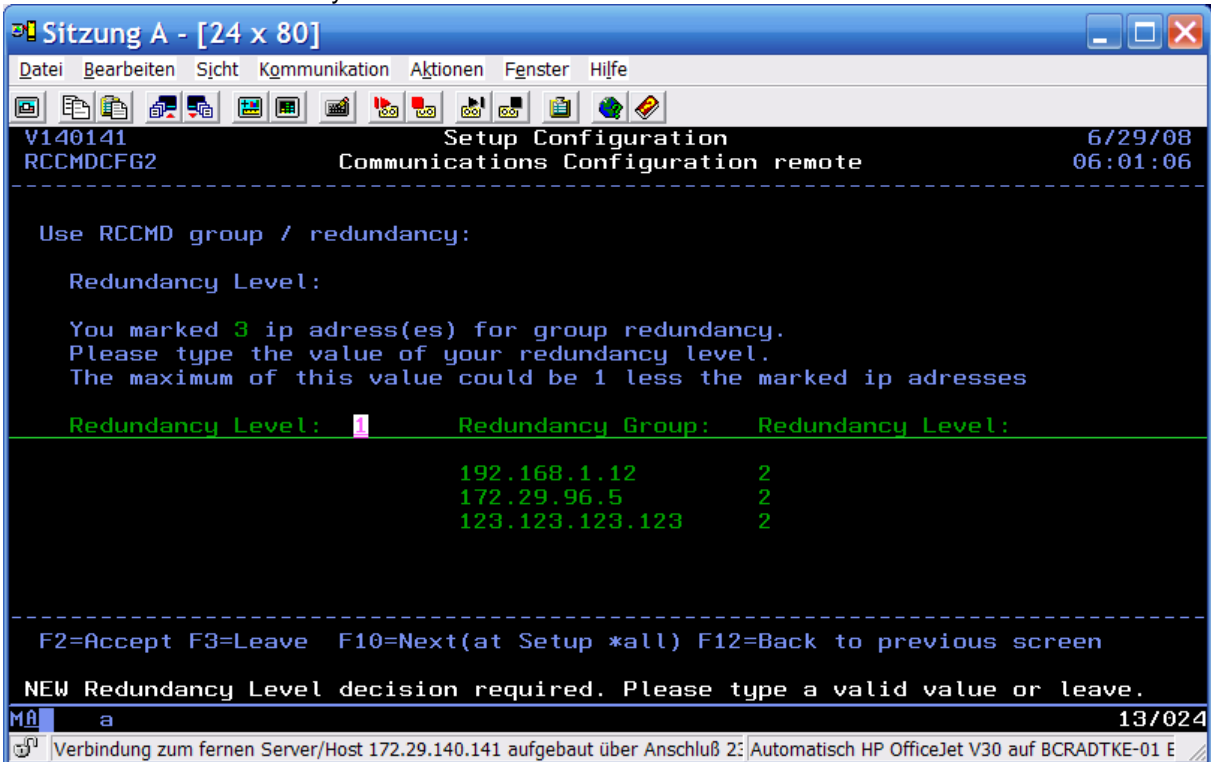


After you have applied your settings (F2" button), please press the "F3" button ("F10" in setup mode).

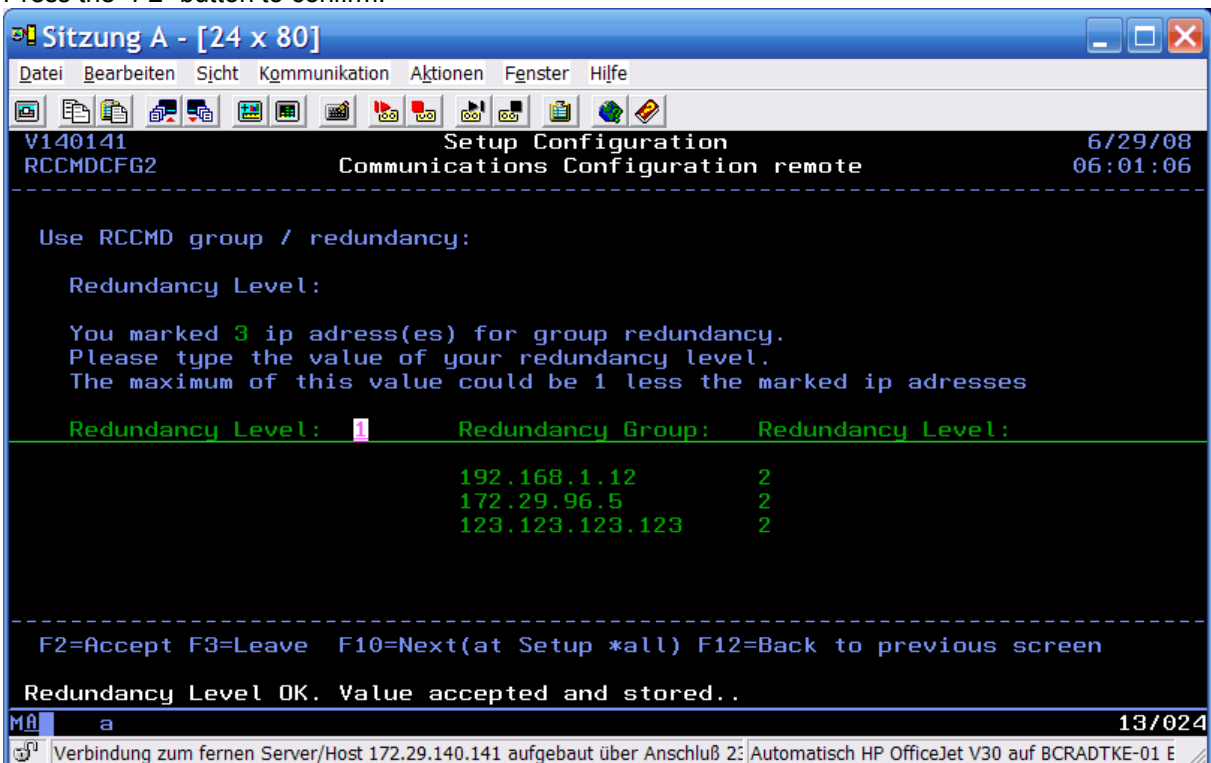


In this example we identified 4 servers and marked 3 servers to a redundancy group. The number of the required shutdown messages will be set in the redundancy level, which have to be effected, prior to the next message the RCCMD client should execute a RCCMD shutdown. The value of the level (number of servers) is -1 at most.

Reduction of the redundancy level from 2 to 1:



Press the "F2" button to confirm:



Modify of a redundancy group, adding a server:

Press the “F7” button to go forward to a blank panel of the “Remote IP” and “Key number” and enter your data:

Sitzung A - [24 x 80]

Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe

V140141 Setup Configuration 6/29/08
RCCMDCFG2 Communications Configuration remote 06:05:54

Enter remote ip addresses, who are allowed to shutdown your iSeries.
If you left without any value, rccmd command is valid from any ip.

Remote IP . . . : 111.111.111.111 Keynumber:

Use RCCMD group / redundancy:
If you left with 'N' as value, rccmd redundancy processing is not
valid for the ip above. Type 'Y' to group ip to redundancy processing.

RCCMD redundancy: Y (Y/N)

F2=Accept F3=Leave F7=Forward F8=Backward F23=Delete F10=Next(Setup *all)

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Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

After your confirmation:

Sitzung A - [24 x 80]

Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe

V140141 Setup Configuration 6/29/08
RCCMDCFG2 Communications Configuration remote 06:06:43

Enter remote ip addresses, who are allowed to shutdown your iSeries.
If you left without any value, rccmd command is valid from any ip.

Remote IP . . . : Keynumber:

Use RCCMD group / redundancy:
If you left with 'N' as value, rccmd redundancy processing is not
valid for the ip above. Type 'Y' to group ip to redundancy processing.

RCCMD redundancy: Y (Y/N)

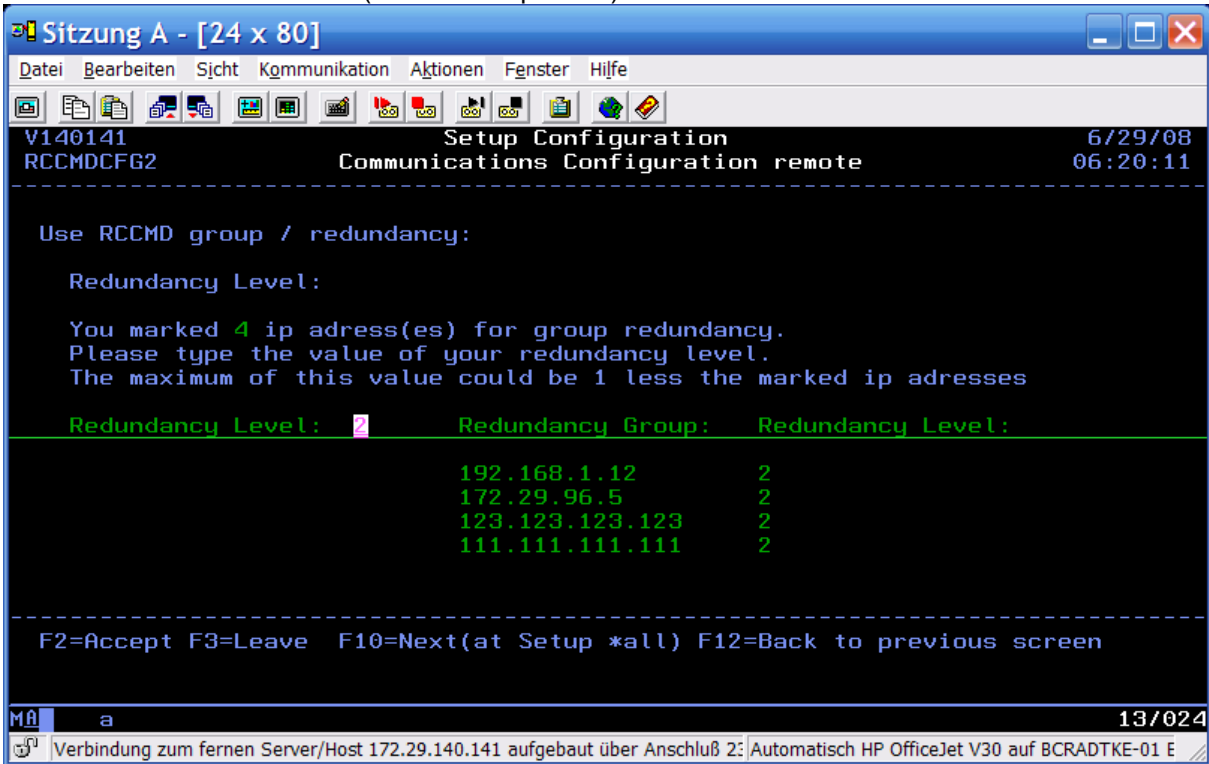
F2=Accept F3=Leave F7=Forward F8=Backward F23=Delete F10=Next(Setup *all)

Value accepted and stored. READY FOR NEW RECORD.

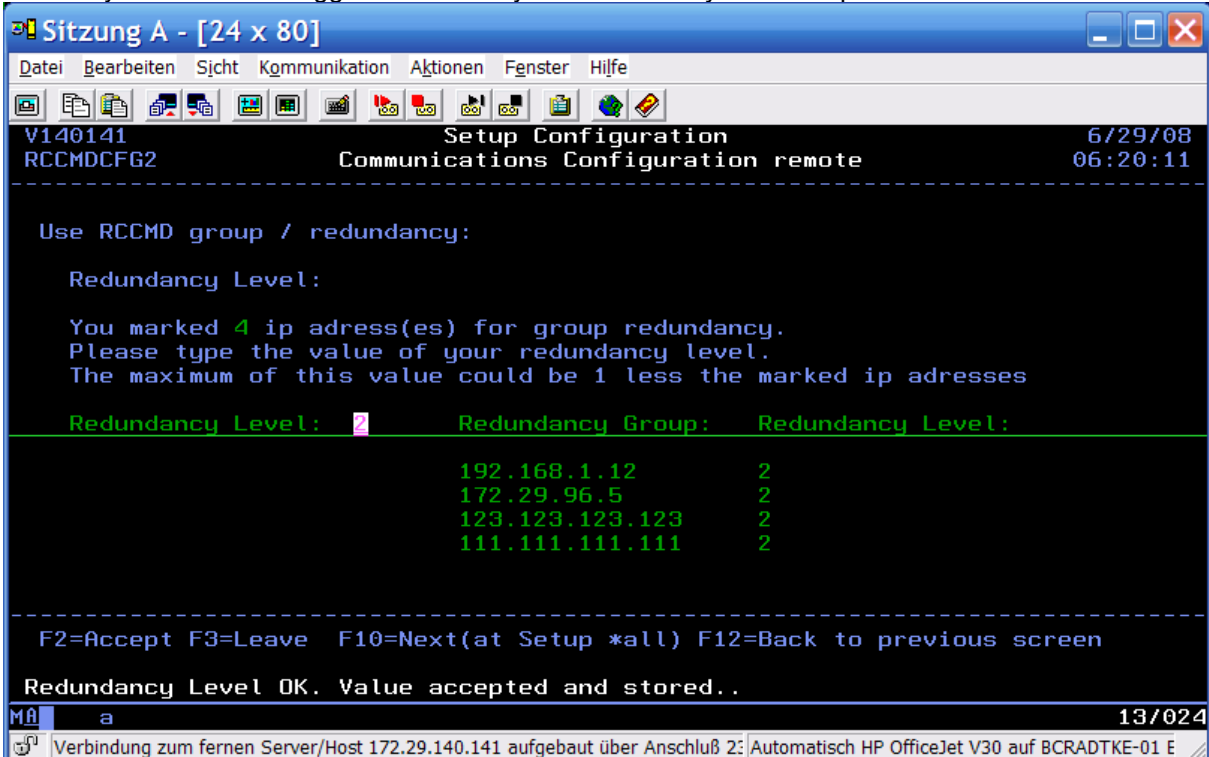
MA a 09/021

Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

Press the “F3” button to leave (“F10” in setup mode).



Confirm your entries as suggested or modify the redundancy level and press the “F2” button to confirm:



Press the “F3” button to leave.

Modify a redundancy group, changing a server:

Press the "F7" button to go forward to the keynumber 3:

Sitzung A - [24 x 80]

Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe

V140141 Setup Configuration 6/29/08
RCCMDCFG2 Communications Configuration remote 06:22:45

Enter remote ip addresses, who are allowed to shutdown your iSeries.
If you left without any value, rccmd command is valid from any ip.

Remote IP . . . : 23.123.123.123 Keynumber: 3

Use RCCMD group / redundancy:
If you left with 'N' as value, rccmd redundancy processing is not
valid for the ip above. Type 'Y' to group ip to redundancy processing.

RCCMD redundancy: Y (Y/N)

F2=Accept F3=Leave F7=Forward F8=Backward F23=Delete F10=Next(Setup *all)

MA a 09/021

Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

Enter "N":

Sitzung A - [24 x 80]

Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe

V140141 Setup Configuration 6/29/08
RCCMDCFG2 Communications Configuration remote 06:22:45

Enter remote ip addresses, who are allowed to shutdown your iSeries.
If you left without any value, rccmd command is valid from any ip.

Remote IP . . . : 23.123.123.123 Keynumber: 3

Use RCCMD group / redundancy:
If you left with 'N' as value, rccmd redundancy processing is not
valid for the ip above. Type 'Y' to group ip to redundancy processing.

RCCMD redundancy: N (Y/N)

F2=Accept F3=Leave F7=Forward F8=Backward F23=Delete F10=Next(Setup *all)

MA a 09/021

Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

Press the “F2” button to confirm:

Sitzung A - [24 x 80]

Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe

V140141 RCCMDCFG2 Setup Configuration Communications Configuration remote 6/29/08 06:24:03

Enter remote ip addresses, who are allowed to shutdown your iSeries.
If you left without any value, rccmd command is valid from any ip.

Remote IP . . . : 192.168.1.12 Keynumber: 3

Use RCCMD group / redundancy:
If you left with 'N' as value, rccmd redundancy processing is not valid for the ip above. Type 'Y' to group ip to redundancy processing.

RCCMD redundancy: N (Y/N)

F2=Accept F3=Leave F7=Forward F8=Backward F23=Delete F10=Next(Setup *all)

Value accepted and modified.

MA a 09/021

Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

Press the “F3” button:

Sitzung A - [24 x 80]

Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe

V140141 RCCMDCFG2 Setup Configuration Communications Configuration remote 6/29/08 06:24:03

Use RCCMD group / redundancy:

Redundancy Level:

You marked 3 ip address(es) for group redundancy.
Please type the value of your redundancy level.
The maximum of this value could be 1 less the marked ip addresses

Redundancy Level: 2 Redundancy Group: Redundancy Level:

192.168.1.12 2
172.29.96.5 2
111.111.111.111 2

F2=Accept F3=Leave F10=Next(at Setup *all) F12=Back to previous screen

NEW Redundancy Level decision required. Please type a valid value or leave.

MA a 13/024

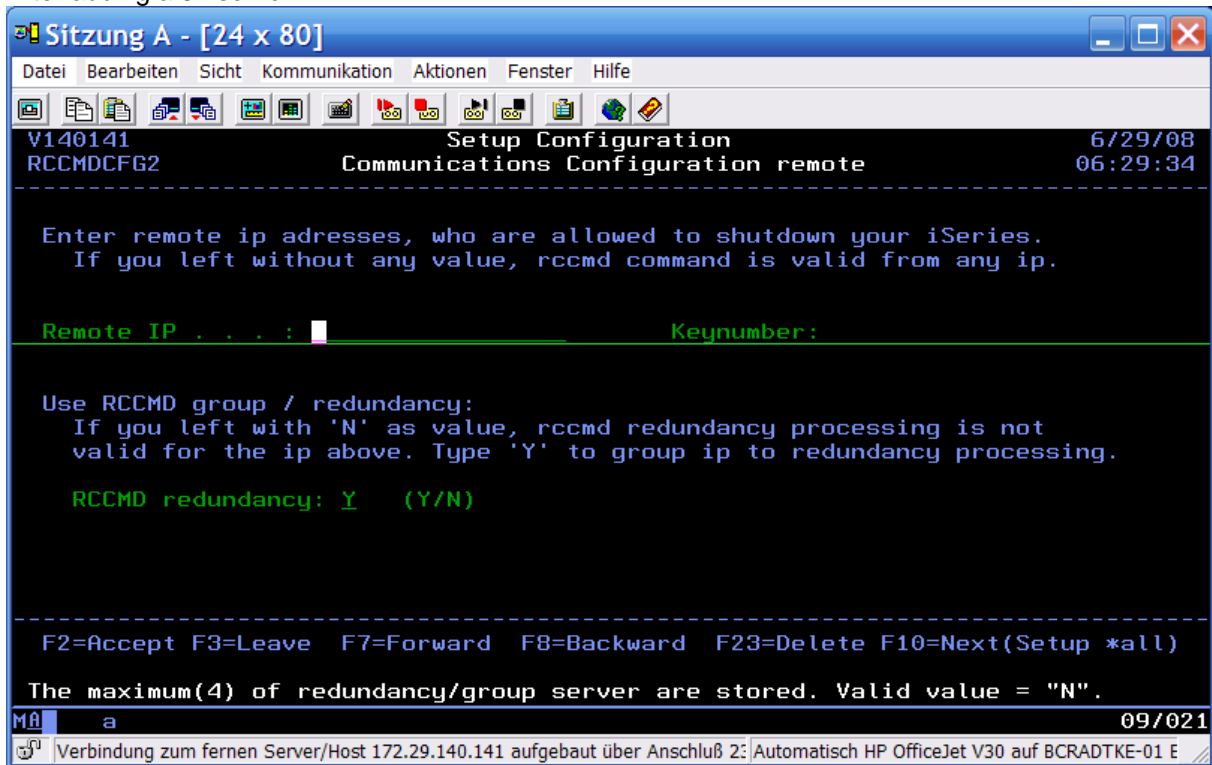
Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

Possible actions:

- Confirm or changing a group
- Press the “F12” button for anew changing
- Press the “F3” button to leave

Mistake situations during capture

After adding a 5th server:



Change or delete a server of the redundancy group at first.

4. (Alternatively 6.) Call the program SHUTCMD (CALL SHUTCMD parm (' '))

Enter the commands you want to execute when an RCCMD Signal arrives (your shutdown script). The syntax and commands should be tested before manually so that a simple call of this SHUTCMD has the desired reaction - shutting down your ISeries.

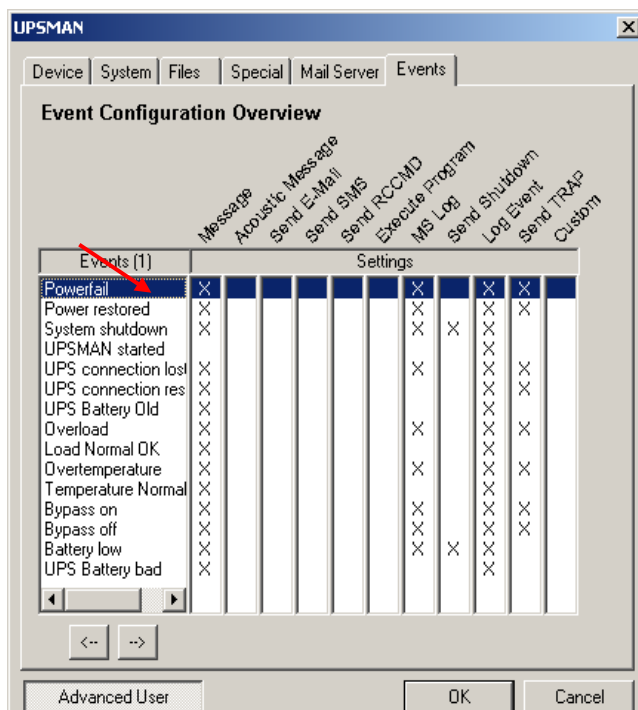
The command **CALL SHUTCMD parm ' '** opens a new screen where you can configure the AS 400 Shutdown Sequence (see page 20, „Example to test RCCMD transmission without PWRDWNSYS“). The command CALL SHUTCMD parm ' ' can be used without any risk, it does NOT execute any shutdown, it just opens a new configuration screen.

Note: If you do not enter anything here, the RCCMD will use per default the command **PWRDWNSYS** (Power Down System) of your system. If this is the case, please check if the option **cntrlid* or **immed* is active.

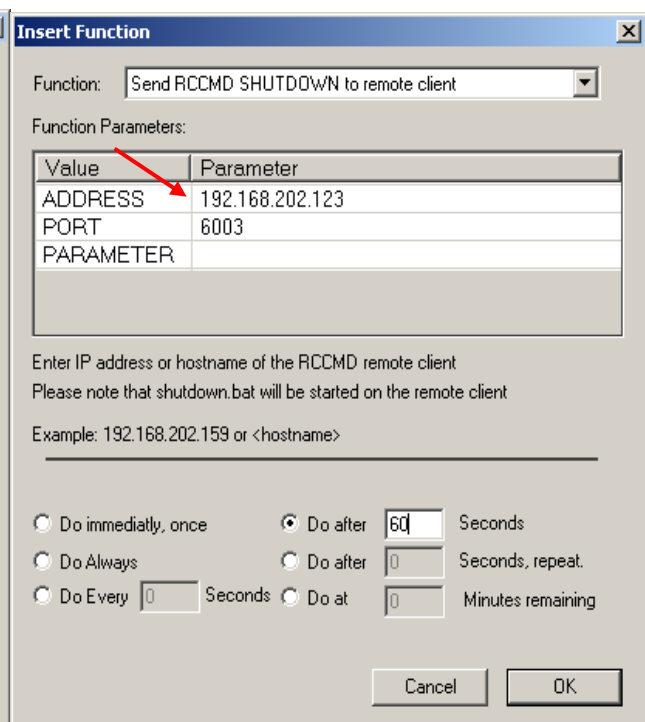
If you want to use any other additional call before the shutdown, please enter as last command **PWRDWNSYS *immed** - otherwise your system will **not** do any shutdown! Please note that without the **immed* parameter the shutdown may take quite long.

Tip: You can test your installation without risking a shutdown if you enter here any other command - without the pwrdownsys. So the moment you enter any command here which is not pwrdownsys, you can use this for testing the transmission.

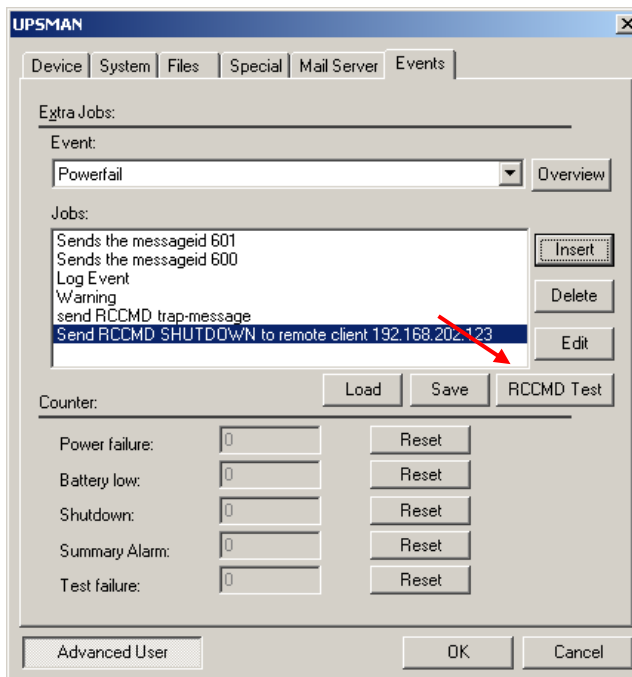
Your CS121 or UPSMAN contain in the EVENTS configuration menu "test button" to transmit an RCCMD shutdown signal without making the UPS switch to battery.



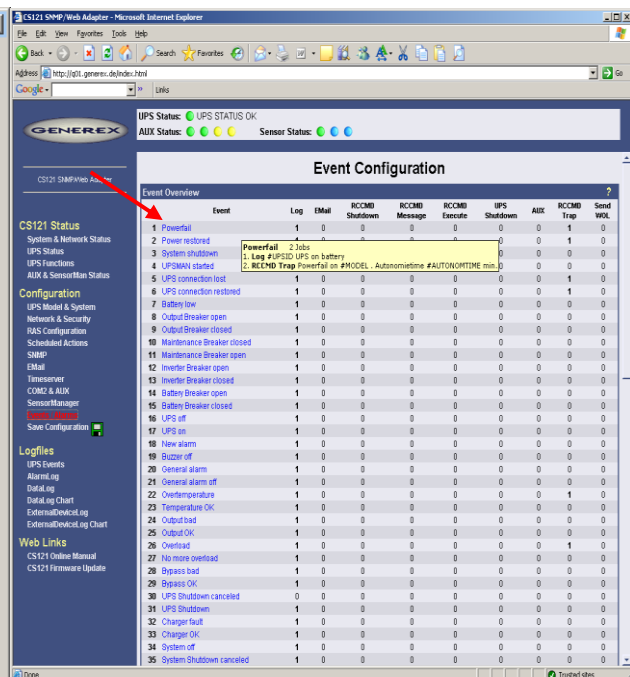
Picture : UPSMAN Windows Configuration EVENT OVERVIEW



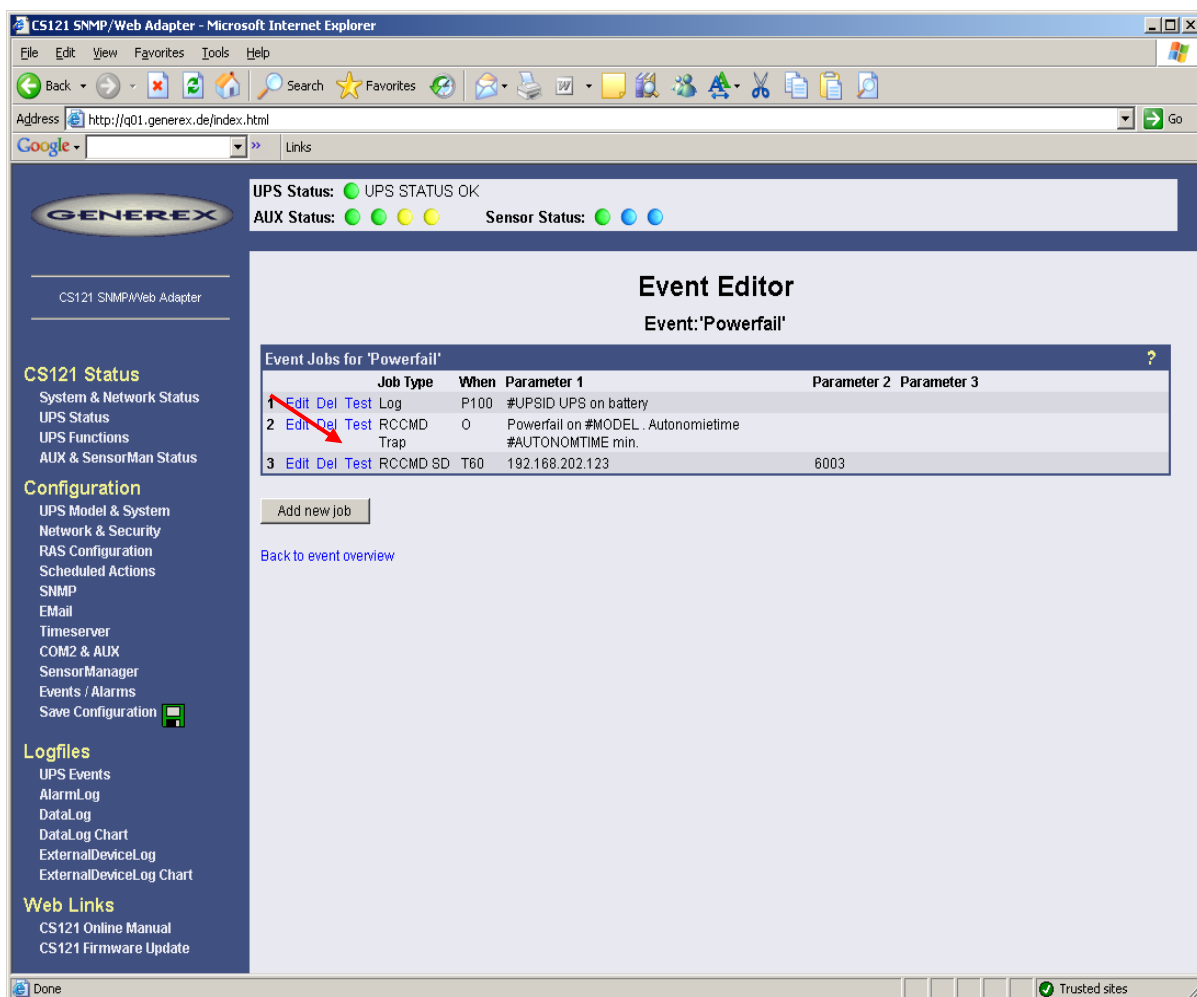
Picture: UPSMAN Windows INSERT EVENT RCCMD Shutdown



Picture : UPSMAN Windows Configuration RCCMD TEST Button



Picture : CS121 EVENTS/ALARMS CONFIGURATION OVERVIEW



Picture : CS121 EVENTS/ALARMS ADD NEW JOB- SEND RCCMD SHUTDOWN - Test Button

If this test is successful, you can be sure that also a real shutdown call will also work.

Example to test RCCMD transmission without PWRDWN SYS:

Use the following test sequence to check your installation without a real AS 400 shutdown. The test consist of 3 entries: All actions will result in a text message to QSECOFR and QSYSOPR. To check the successful transmissions of RCCMD signals, read the log file entries in the system operator message queue (display message queue SYSOPR). After a successful test continue with chapter 5 (start of RCCMDAS400-Client).

Example ShutDown:

JCBOCS	Shutdownbefehlsverwaltung	27.11.05
SHUTCMD		00:12:02

Sequence 1
Befehl SNDMSG MSG('FOLLOWING MESSAGES ARE TESTMESSAGES FROM
RCCMDAS400-CLIENT') TOUSR(QSYSOPR)

F2=Akzeptiern F3=Verlassen F7=Vorwärts F8=Rückwärts F23=Löschen

Press the “F7” button, now a new menu opens:

JCBOCS	Shutdownbefehlsverwaltung	27.11.05
SHUTCMD		00:12:02

Sequence 2
Befehl CALL SETUPTEST1

F2=Akzeptiern F3=Verlassen F7=Vorwärts F8=Rückwärts F23=Löschen

etc.

You may also remove the existing entries or add extra entries to this sequence. Please take care that the sequence numbers do not overwrite existing entries.

You are still logged in as QSECORF :

Enter : CHGMSGQ *USRPRF *break, after this enter : call shutcmd

1st command to enter:

Sequence: 1

Command: SNDMSG 'TestShutDownBefehl received' QSECOFR

Accept this by using F2 and page forward using F7 for the next entry.

Return

2nd command to enter:

Sequence: 2

Command: SNDMSG 'TEST-RCCMD has been sent' QSYSOPR

Accept this by F2 and page forward using F7 for the next entry - or use F8 to return to your previous menu - or use F23 to delete your entries.

More entries: Like before, use F3 to leave the program.

Here an example with PWRDWNSYS - ideal for testing if you are not allowed to do a real shutdown test of your AS 400.:

call shutcmd

1st command to enter:

Sequence: 1

Command: *SNDMSG 'ShutDownCommand received : "System shuts down in 10 minutes" QSECOFR*

Accept this command by F2, page down using F7 for the next command:

2nd Command to enter:

Sequence: 2

Command: *SNDMSG 'RCCMD has been sent, "Battery close to low level" QSYSOPR*

Accept this command by F2, page down using F7 for another command or go back with F8. To delete your previous entries use F23.

3rd Command to enter:

Sequence: 99

Command: *PWRDWNSYS *IMMED*

command by F2 or leave the program with F3

In the menu sequence are you able to define the priority by the sequence number of the command processing. The smallest number has the highest priority and will be executed first. E.g.: If you have set the sequences 3, 5, 1, 7, 2, RCCMD will execute your commands in the order of 1,2,3,5,7.

The above shown examples may differ from your system. Please check if the programmed actions are complete to shutdown your AS 400 system, otherwise add extra commands to this sequence. If you have questions please call our hotline service for AS 400 or send us an email with your questions.

Tip: Use one or more *CL-Programs* for your individual sequence control.

5. Start of the AS/400-RCCMD-Client

Manual start of the AS/400-RCCMD-Client – optional, if necessary

Use it only, if **NO** “RCCMD” job is active!

Use the setup menu selection 7 or enter :

```
SBMJOB      CMD(CALL      PGM(STARTRCCMD)      PARM('RCCMD'))      JOB(RCCMD)
JOB(RCCMD/SOCKSERV) USER(*JOB) SYSLIBL(*SYSVAL) CURLIB(*CRTDFT) INLLIBL(*JOB)
```

Check this by enter:

WRKACTJOB JOB(RCCMD)

This should be listed now, if not than there might be an error in your installation.

Work with active jobs JCBOCS						
28.11.05 00:24:36						
CPU %: 0,0 Abgelaufene Zeit: 00:00:00 Aktive Jobs: 163						
Auswahl eingeben und Eingabetaste drücken.						
2=Ändern 3=Anhalten 4=Beenden 5=Arbeiten mit 6=Freigeben						
7=Nachricht anzeigen 8=Mit Spool-Dateien arbeiten 13=Unterbrechen						
Ausw.	Subsystem/Job	Benutzer	Art	CPU %	Funktion	Status
	RCCMD	BCRADTKE	BCH	0,0	PGM-SOCKSERV	TIMW
Ende						
Parameter oder Befehl						
===>						
F3=Verlassen F5=Aktualisieren F10=Neubeginn F11=Aufgelaufene Daten						
F12=Abbrechen F23=Weitere Angaben F24=Weitere Tasten						

Note: The library RCCMD is the name of the back saved library. At a restore into any other library, please use this new name accordingly. The RCCMD command determines into the back saved library always, thus into the RCCMD library or the library of your assigned name.

6. Automatic program start at IPL, optional if necessary

Please use only, if **NO** auto boot entry is present (avoid double-entries)!

Use the setup menu selection 8 or enter the following command:

```
ADDAJE SBSD(QUSRWRK) JOB(RCCMD) JOB(RCCMD/SOCKSERV)
```

** These commands makes RCCMD to start automatically at every system reboot **

At the next system start : please check the auto boot entry by entering:

WRKACTJOB JOB(RCCMD), the job should be listed now, if not, than your installation may be incorrect.

The RCCMD command is always inside the saved library RCCMD. By entering the library-list in the job description (see subject 2) you do **not** need any entry in other jobs or menus (not needed in system

value QUSRLIBL, no need to change manually by "addlibl" or "chglibl". This is only needed during the installation and the manual start of RCCMD.

You may also use a different way to auto start RCCMD:

Auto start via subsystem in QSTRUP (system start program of IBM): You may also use the IBM scheduler to start RCCMD. Check if the "object library" is present in the liblist. It is very important, which details will be deposit for users or for job descriptions. A help function is available for the parameter USER in the command smbjob and/or chgjobd.

If you have any further questions for the administration of the system, do not hesitate to contact us.

D. The Shutdown Process and important Advices

Basics:


- Every change of the configuration demanded a restart of the RCCMD client.
- The user "RCCMD" needs full access for the MSGQ QSYSOPR.
- The start values of the RCCMD process will be restored after EVERY successful "invoke shutdown".

Redundancy Groups:

- RCCMD checks in a shutdown process inside the level, if the other servers of the redundancy group are reachable.
- If this happens inside the level, it may imply a false alarm. A user message will be send to the QSYSOPR by default, with the possibility of the canceling of the shutdown within the next 10 seconds.
- In the interruption of the shutdown process after a false alarm, the start values of RCCMD will **not** be restored. That means, the internal decreased redundancy level will stay. The restore of the start values of RCCMD requires a restart of the RCCMD client.
- Contrary to the default settings, it might make sense to cancel the shutdown automatically. Just enter the following: CHGJOB JOB(SOCKSERV) INQMSGRPY(*SYSRPLY), ADDRPLYE and press the "F4" button. Set an accordant entry for CPF9898.

The shutdown without redundancy group:

The RCCMD server sends a shutdown. This action generates, aside from the user defined actions (see chapter 6 "Shutdown Command File Maintenance" into the setup menu), the following log file entries in the QSYSOPR-MSGQ:



```
Sitzung B - [24 x 80]
Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe
Display Messages
Queue . . . . . : QSYSOPR          System:  V140141
Library . . . . : QSYS            Program . . . : *DSPMSG
Severity . . . . : 99             Library . . . :
Delivery . . . . : *HOLD
Type reply (if required), press Enter.
Connection from 172.29.96.5.
172.29.96.5      Sent a valid Shutdown request. Shutdown Procedure
invoked..
New Redundancy Level: -1.
Org Redundancy Level: 0.
ShutDown running . . . . .
From . . . . . : RCCMD           06/29/08   11:44:44
ES FOLGEN TESTNACHRICHTEN VOM RCCMDAS400-CLIENT
Bottom
F3=Exit          F11=Remove a message      F12=Cancel
F13=Remove all   F16=Remove all except unanswered  F24=More keys
MA b                                                    08/001
Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRA DTKE-01 E
```


The shutdown with redundancy group:

The RCCMD server sends a shutdown. This action generates, aside from the user defined actions (see chapter 6 "Shutdown Command File Maintenance" into the setup menu), the following log file entries in the QSYSOPR-MSGQ:

Configuration at the receiving:

```
Sitzung A - [24 x 80]
Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe
V140141 Setup Configuration 6/29/08
RCCMDCFG2 Communications Configuration remote 12:13:00

-----
Use RCCMD group / redundancy:

Redundancy Level:

You marked 2 ip adress(es) for group redundancy.
Please type the value of your redundancy level.
The maximum of this value could be 1 less the marked ip addresses

Redundancy Level: 1 Redundancy Group: Redundancy Level:
172.29.96.5 1
172.29.96.12 1

-----
F2=Accept F3=Leave F10=Next(at Setup *all) F12=Back to previous screen

MA a 13/024
Gerätename ist ungültig oder wird bereits auf dem Telnet-Server verwendet. Automatisch HP OfficeJet V30 auf BCRADTKE-01 E
```

Log entry in QSYSOPR after shutdown from 172.29.96.5:

```
Sitzung B - [24 x 80]
Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe
Display Messages
Queue . . . . . : QSYSOPR System: V140141
Library . . . . : QSYS Program . . . . : *DSPMSG
Severity . . . . : 99 Delivery . . . . : *HOLD

Type reply (if required), press Enter.
Connection from 172.29.96.5.
172.29.96.5 Sent a valid Shutdown request. Shutdown Procedure
invoked..
RCCMD SERVER 172.29.96.12 STILL ALIVE ...
Server are alive. . : 1.
New Redundancy Level: 0.
Org Redundancy Level: 1.
RCCMD Server are still alive. TO CANCEL SHUTDOWN TYPE C within 10 seconds.
Reply . . . : C
From . . . : RCCMD 06/29/08 12:26:07
ShutDown canceled ..

Bottom
F3=Exit F11=Remove a message F12=Cancel
F13=Remove all F16=Remove all except unanswered F24=More keys

MA b 08/001
Gerätename ist ungültig oder wird bereits auf dem Telnet-Server verwendet. Automatisch HP OfficeJet V30 auf BCRADTKE-01 E
```

Log entry in QSYSOPR after shutdown from 172.29.96.12 (without auto-response):

```

Sitzung B - [24 x 80]
Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe
Display Messages
Queue . . . . . : QSYSOPR          System:  V140141
Library . . . . . : QSYS           Program . . . . . : *DSPMSG
Severity . . . . . : 99             Library . . . . . :
Delivery . . . . . : *HOLD
Type reply (if required), press Enter.
reading Socket ...
reading Socket ...
reading Socket ...
reading Socket ...
reading Socket ...
172.29.96.12      Sent a valid Shutdown request. Shutdown Procedure
invoked..
New Redundancy Level: -1.
Org Redundancy Level: 1.
ShutDown running . . . . .
From . . . . . : RCCMD             06/29/08   12:29:09
ES FOLGEN TESTNACHRICHTEN VOM RCCMDAS400-CLIENT
Bottom
F3=Exit          F11=Remove a message      F12=Cancel
F13=Remove all   F16=Remove all except unanswered F24=More keys
MA b 08/001
Gerätename ist ungültig oder wird bereits auf dem Telnet-Server verwendet. Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

```

Log entry in QSYSOPR after shutdown from 172.29.96.12:

```

Sitzung B - [24 x 80]
Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe
Display Messages
Queue . . . . . : QSYSOPR          System:  V140141
Library . . . . . : QSYS           Program . . . . . : *DSPMSG
Severity . . . . . : 99             Library . . . . . :
Delivery . . . . . : *HOLD
Type reply (if required), press Enter.
invoked..
RCCMD SERVER 172.29.96.12 STILL ALIVE ...
Server are alive. . . : 1.
New Redundancy Level: 0.
Org Redundancy Level: 1.
RCCMD Server are still alive. TO CANCEL SHUTDOWN TYPE C within 10 seconds.
Reply . . . :
RCCMD Server are still alive. TO CANCEL SHUTDOWN TYPE C within 10 seconds.
Reply . . . :
From CHKALIVEM: Reply = G. Shutdown Procedure invoked.
ShutDown running . . . . .
From . . . . . : RCCMD             06/29/08   12:38:05
ES FOLGEN TESTNACHRICHTEN VOM RCCMDAS400-CLIENT
Bottom
F3=Exit          F11=Remove a message      F12=Cancel
F13=Remove all   F16=Remove all except unanswered F24=More keys
MA b 16/020
Gerätename ist ungültig oder wird bereits auf dem Telnet-Server verwendet. Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

```

Screen (system log history) of pwrdownsys *immed restart(*yes). Please note not to assume this configuration, because you do not know, if the power is restored. System log history:

```

Sitzung A - [24 x 80]
Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe
Display History Log Contents

Usage limit exceeded - operator action required.
Job 001647/QSECOFR/QPADEV000B started on 06/29/08 at 12:53:22 in subsystem QI
Job 001648/RCCMD/RCCMD started on 06/29/08 at 13:01:25 in subsystem QSYSWRK i
Connection from 172.29.96.5.
172.29.96.5 Sent a valid Shutdown request. Shutdown Procedure invoked..
RCCMD SERVER 172.29.96.12 FAILED ...
Server are alive. . : 0.
New Redundancy Level: 0.
Org Redundancy Level: 1.
ShutDown running . . . . .
ES FOLGEN TESTNACHRICHTEN VOM RCCMDAS400-CLIENT
PWRDOWNSYS command issued with parameters specified.
PWRDOWNSYS command in progress.
PWRDOWNSYS command issued by user RCCMD and is being processed.
Job 001593/QUSER/QZSCSRVS ended on 06/29/08 at 13:03:34; .026 seconds used; e
Job 001647/QSECOFR/QPADEV000B ended on 06/29/08 at 13:03:34; .236 seconds use
Job 001186/QPGMR/QSYSSCD ended on 06/29/08 at 13:03:34; .046 seconds used; en
More...

Press Enter to continue.

F3=Exit F12=Cancel

MA a 01/001
Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

```

Executed messages in QSYSOPR:

```

Sitzung A - [24 x 80]
Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe
Display Messages

Queue . . . . . : QSECOFR                      System: V140141
Library . . . . : QUSRSYS                      Program . . . . : *DSPMSG
Severity . . . . : 00                          Library . . . . :
Delivery . . . . :                             *BREAK

Type reply (if required), press Enter.
From . . . . : RCCMD 06/29/08 13:03:32
Diese Nachricht wurde gesendet von Ihrem InstallationsTestProgramm
SETUPTEST1: Ihre Installation von RCCMDAS400 war erfolgreich. Diese
Nachricht erscheint in folge eines ShutDownCommands Ihres RCCMD-Servers
From . . . . : RCCMD 06/29/08 13:03:32
Diese Nachricht wurde gesendet von Ihrem InstallationsTestProgramm
SETUPTEST2: Richten Sie
RCCMDAS400 beispielsweise so ein, dass Sie automatisiert beliebige
Empfänger direkt per E-Mail benachrichtigen. Mehr Informationen dazu
finden Sie auf http://www.as400-programmierung.com unter
AS400-Office/e-mail, oder rufen Sie einfach an: +49 (0)40 - 669 35 761.
Job 001648/RCCMD/RCCMD ended abnormally.
Job 001811/QIBMHELP/QIBMHELP completed normally on 06/29/08 at 13:11:05.
Bottom

F3=Exit F11=Remove a message F12=Cancel
F13=Remove all F16=Remove all except unanswered F24=More keys
Already at bottom of area.

MA a MW 08/001
Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

```

The following system start:

```

Sitzung A - [24 x 80]
Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe

Display Messages

Queue . . . . . : QSYSOPR          System:  V140141
Library . . . . . : QSYS           Program . . . . . : *DSPMSG
Severity . . . . . : 99            Library . . . . . : *HOLD
                                   Delivery . . . . . : *HOLD

Type reply (if required), press Enter.
IPL from machine area ##MACH##B.
Slash (/) file system mounted.
/QOpenSys file system mounted.
/QDLS file system mounted.
/QSYS.LIB file system mounted.
/QOPT file system mounted.
/QFileSvr.400 file system mounted.
/QNTC file system mounted.
/dev/QASP01 file system mounted.
Journal receivers QLZALD3054 and *N detached.
Journal receivers QDSNX3066 and *N detached.
Journal receivers QASDSC3054 and *N detached.
Journal receivers QSQJRN1011 and *N detached.

F3=Exit          F11=Remove a message      F12=Cancel
F13=Remove all   F16=Remove all except unanswered  F24=More keys
Already at top of area.

More...

08/001
Verbindung zum fernen Server/Host 172.29.140.141 aufgebaut über Anschluß 2: Automatisch HP OfficeJet V30 auf BCRADTKE-01 E

```

E. Uninstall of RCCMD

To uninstall the RCCMD from system i is quite simple. Just perform the following commands as user QSECOFR:

1. type `wrkactjob job(rccmd)`, in the shown screen choice a 4 and press `F4` and type `*immed` in the option to end. Press enter.
2. type `RMVAJE SBSD(QUSRWRK) JOB(RCCMD)`, press enter
3. type `RMVAJE SBSD(QSYSWRK) JOB(RCCMD)`, press enter
4. type `dltlib RCCMD` (where RCCMD is the installationLIB)

If you get any kind of error messages after step 2 or 3, please ignore them and please assure, that nobody is using an object of that LIB.

II. Know How Database for AS 400

Backup error message about locked files: If you run an AS 400 backup job and you retrieve error messages like the following:

```
...
10 objects saved into the library P8PTFBKL07.
22 objects saved into the library P8SPACE001.
4 objects saved into the library P8V4_UPG.
Error Message CPF4128 during OPEN file RCCMDCFG1I
Visualized Error message CPF4128 during OPEN file RCCMDCFG1I      C
                                Visualized Error message CPF4128
during OPEN file RCCMDCFG1I
Visualized Error message CPF4128 during OPEN file RCCMDCFG1I      C

644 objects saved into the library P8V4DAT.
Visualized Error message CPF4128 during OPEN file RCCMDCFG1I
Visualized Error message CPF4128 during OPEN file RCCMDCFG1I      C
```

```
ID message . . . . . : RNQ1216          Severity . . . . . : 99
Message type . . . . : Polling
sending Date . . . . . : 20/06/08      Sending Time . . . . . :
03:16:33
```

```
Message . . . : Visualized Error Message CPF4128 during OPEN file RCCMDCFG1I
(C S D F).
Cause . . . . : Procedure RPG SOCKSERV in program RCCMD/SOCKSERV have
received message CPF4128 during execution of implicit OPEN operation on file
RCCMDCFG1I.
Actual file is RCCMDCFG1I.
```

The last message is from the data blocking through the safety job, because these data are in use.

Solution A: While running a backup job you should stop RCCMD to release the files – do the backup operation and restart RCCMD afterwards again.

Solution B (recommended): Define into the backup job to backup files in “active status” (backup option of AS 400). This avoids that locked files will stop the backup job.

Problem: “Socket error when starting RCCMD”

Solution: If the hard and/or software of a system will be changed, a complete new installation of RCCMD is necessary, unless an image will be restored. The copying of the library and the application is not sufficient. A new installation of RCCMD is required.

A. Advices for RCCMD versions

RCCMD (V1.08): This product is OS/400 Release V4R5M0 to V5R2M0** compatible. Contain **no** redundancy management. Please refer to the documentation of RCCMD version 1.08.
The parameter FRCOBJCVN(*YES *ALL) in the command of RSTLIB is very important during the restore at V6R1M0.

From OS/i5 Version V5R3M0 is the installation of RCCMDIII required!

RCCMD (V3.0): This product is OS/i5 Release V5R3M0 to V7R1M0** compatible and contains the redundancy management.

B. Functional Analysis and RCCMD-AS400-Client Test

Testing of the Compability of the Software at IBM I (former AS400) with Version V6R1M0:

The software version RCCMD-AS400-Client V1.08 without redundancy is unlimited insertable with its so far functions at the IBM I system.

We recommend in avoidance of individual incompatible objects, to imply, during the installation, for RSTLIB the following parameter: FRCOBJCVN(*YES *ALL). We did not declare any kind of aberrations to other parent releases under these terms.

Testing of the compability of the software at IBM i (former AS400) with logical partitioning (Lpar):

Testing machine: **System i Power5, Betriebssystem V6R1M0,**

9406-570 16way, power5+ 2.2 ghz, 192 GB memory – (1 system) 36 User Lpars, 2CPU/4GB, A „CPU“ is a „Virtual CPU“ that is equal to .33 of a real CPU. All CPU capacities on Power5 systems are UNCAPPED. Internal Ethernet network is Gigabit, copper, Virtual Ethernet connects LPars and a Linux Bridge LPar to external network within a System User has QSECOFR/root access to LPar, no access to HMC.

Explanations:

You can choose between 2 types of partitioning: The system resources shall virtually segmented without the need of additional hardware, at the **logical partitioning** and the demand will be respectively reassigned.

The logical user partition determines inside the main partition normally.

The resources are physically apart at the dedicated partition. Additional resources and a configuration of the hardware might be required.

At the adjustment and the use of partitions is a large regulation to consider generally. The main feature of these conditions is the control of the IBM I resources through the HMC (Hardware Management Console) from outside. The HMC decides the term when an IBM i resource will be electroless actually.

Result: The functionality of RCCMD IBM i will not be impact through Lpar.

The existing partition was shut downed like an individual, separated IBM i at this testing and afterwards restarted without any kind of problems, but the consequences of a deficient designed partitioning could be unpredictable.

E.g.: Into the main partition, which is hosting the other partitions like guests, the entire functionality of RCCMD IBM i will be achieved, but the partitions of the guest might be revoked of its base.

In this case, like in our test, the host partitions and the guest partitions will be shut downed, but not controlled of RCCMD.

The control of the consequences should be assured by the customer.

It should be analyzed, if a configuration might make sense prior to the operation of RCCMD.

The customer should know that the liability of RCCMD IBM i will be expired afterwards the INVOKE SHUTDOWN.

C. Functional Analysis and RCCMD-AS400-Client V3.0 (01.07.2008)

Check of the compatibility of the software on IBM i (former AS400) with OS version V7R1M0 without partitioning:

Test environment: Power 7, IBM Innovation Center Stuttgart-Ehningen

Results:

- Installation and setup appropriate user manual and exclusive usage of the installation assistant successful
- 1st functional test with selection setup menu 10 successful
- Setup and remote test without/with correct and not correct IP address successful

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- The shutdown sequences will be executed
- Setup and remote test without/with redundancy successful

Check of the compatibility of the software on IBM i (former AS400) with logical partition (Lpar):

Test environment: Power 7, IBM Innovation Center Stuttgart-Ehningen, one host partition and one logical partition, shared CPU-Unit

Results: see above

D. Compatibility downwards

We recommend to install the **PTFs** at the reserved VLP system **prior** of the restoring of objects, which were created on the V6R1 system.

MF40520 and **MF42655** are internal license code PTFs, which should be implemented at the V5R4 partition.

The **SI27294** PTF should determine at the V5R4 partition, because to afford the restoring of Java programs, which were created at a V6R1 partition.

The mentioned PTFs are available at the "fixcentral":

- Follow this link: : <http://www-933.ibm.com/eserver/support/fixes/>
- Select the product family "system i"
- Select the product „IBM i, i5/OS and OS-400“
- Choose „ordering option as individual fixes“
- Select V5R4 as OS-Level and click the "continue" button
- Enter your login data (partnerworld ID, password)
- Enter the desired PTF name and add it to your download list

Please install the above-mentioned PTFs at your reserved VLP system and try to restore the objects.

Please let us know if the problems persist after this routine.

We recommend to follow this link as additional information regarding the restoring of objects:

ftp://ftp.software.ibm.com/systems/support/system_i/techoverviews/v6r1/V6R1_OS.pdf

The object conversion of programs, which were created at V6R1 systems, will occur during the restoring of V5R4 or V5R3 systems automatically.

The following internal license code PTFs should be installed prior the restoring of objects, which were created at V6R1 systems:

V5R3M0 -> MF41354
 V5R3M5 -> MF41734
 V5R4M0 -> MF40520
 V5R4M5 -> MF42655

The following internal license code PTFs should be installed prior the restoring of Java programs, which were created at V6R1 systems:

V5R3 -> SI27297
 V5R4 -> SI27294