



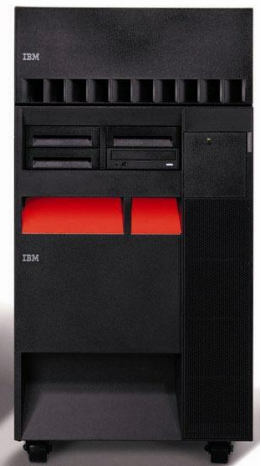
**Phoenix-ICP GmbH**  
[www.phoenix-icp.de](http://www.phoenix-icp.de)

Our software runs on your  
AS/400 and iSeries respectively.

**SafeJobs** notifies you  
at any time & everywhere.

Relax while  
**SafeJobs** is monitoring.

**Round-the-clock. Any Time.**



Source IBM Deutschland GmbH





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## 1 Monitoring the iSeries (AS/400) with SafeJobs

Critical processes on the iSeries (AS/400) can lead to the failure of the system because of unforeseen events, bugs in the program etc. The expensive consequence of a system error is the standstill of a production process.

The difference between the appearance of the malfunction and the standstill of the process is the maximum period of time which is available for the remedying of the problem. As a rule, the period of time is shorter, however, since the appearance of the malfunction is noticed only with a certain delay.

This lost period of time between the actual appearance and the appearance noticed of a faulty event can be decisive for the repair.

At this point our solution **Safejobs** starts: With a software controlled monitoring of critical jobs on an iSeries (AS/400) system, faults are reported to an authorized support almost in real time. And this one immediately starts with the problem solving - 24 hours for you!

**Safejobs** is conceived practice-oriented. It bases on many customer requirements in the context of our long-standing job as hotline for automotive and JIT as well as JIS customers. This guarantees you a current and profound know how from your line of business.

Due to this specific orientation **SafeJobs** has a very clearly arranged menu structure. A training in the program is successful with minimal effort. Extensive help texts are available for all functions. The help text for the current function is obtained by pressing the F1 key.



## 2 Performance features

### 2.1 Monitoring of processes

You can have supervised all jobs on your iSeries (AS/400) from which you believe that they are critical:

- You define the limit properties of the faultlessness for a job: Within which defaults a job is regarded as fault-free; when is it a bug?
- Also jobs can be monitored which run only once a day for a limited period of time (e.g. the data saving).
- In principle, **SafeJobs** monitors itself with the help of supervision instances overlaying permanently. If so a **SafeJobs** instance should run faultily, another instance arouses an alarm about this.
- **SafeJobs** logs all changes of state and alarm reports.

### 2.2 Notification of support

The communication system integrated in **SafeJobs** makes the immediate notification of users, administrators and service providers possible in the fault case:

- All messages are configurable according to manner and content.
- You can configure without any restrictions, how many users and which ones have to be informed in the fault case.
- You can define hotline planning for changing readinesses (e.g. at weekends).  
**SafeJobs** is not licensed for a number of alarm receivers. So you save yourselves readiness mobile telephones which have to be exchanged under the employees.
- The distribution of messages to users can be defined hierarchically and differently for each job to be monitored:  
In principle, **SafeJobs** expects a corresponding confirmation from any informed user. If not **SafeJobs** refines the notification ways gradually by subordinate users being informed about the fault case.
- In principle, **SafeJobs** sends a wake-up call out next to a SMS to the informed user. This function is particularly helpful to night shifts.
- For information purposes status reports can be created daily and distributed by e-mail. Sometimes only the report is also calming that the system is in the fault-free status.
- A notification is also possible to conventional telephone network numbers.

### 2.3 Safe installation

- Extensive test scenarios are available for the first adjustment.



### 3 Hard- and software requirements

- At least the OS release V4R5M0 must be installed on the iSeries (AS/400).
- The network protocol TCP/IP must be installed.
- A serial interface must be available and disposable.

#### 3.1 Kind of notification

The realization of the notification routes for **SafeJobs** can be carried out in three different configurations:

1. *Access by the help of a GSM module which is specified especially*  
In the pure standalone operation of an iSeries (AS/400) we install a GSM module for the alerting. This is to be connected to the USV rig. All notifications are carried out by means of SMS and wake-up call. Therefore you merely need a GSM mobile telephone board.
2. *Central access with your present server systems*  
For the operation of **SafeJobs** in connection with a Windows NT based server, messages are transmitted using the protocol TCP/IP. These are converted by means of a gateway "Text to SMS" or "Text to Voice" into a wake-up call, a SMS or an e-mail.  
If wished we deliver and install the corresponding gateway software.  
Furthermore the server needs a standard ISDN board to be installed.
3. *Access with our systems in the context of a maintenance agreement*  
In the case that we are providing your with **SafeJobs**, the monitoring of your systems is carried out via a VPN access.

In any case break messages can be sent to all displays of the defined and registered users. In parallel, further defined reports are triggered.



## 4 Installation of SafeJobs

At the first please put the setup-CD from **SafeJobs** into the first CD-Rom drive of your iSeries (AS/400). Of course also other available CD-ROM drives can be used. For this the following instruction would have to be specified correspondingly. You then start the installation with the following instruction in the system environment:

### LODRUN OPT01

#### 4.1 Step 1: Selection of national language

After having made the instruction the first of three installation displays appears. This one is used for the selection of the corresponding national language.

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

TESTSJ                SafeJobs Installation Programm          System PHOENIX4
                        Step 1                               Date   14.02.07
                                                                Time   10.48.24

Please select your language : DE = Deutsch
                             EN = English

                             EN

                             Press <ENTER> to continue.

F12=Cancel
PLEASE PRESS ENTER

MA a 11/032
1902 - Sitzung wurde erfolgreich gestartet.
```

Type in the desired national language now and push the key "ENTER".



## 4.2 Step 2: Verification and allocation of required hardware

The following display does not expect any inputs from the user. It serves merely the preparatory information on the installation steps still queuing:

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

TESTSJ                      SafeJobs Installation Programm          System: PHOENIX4
                               Step 2                                         Date : 14.02.07
                                                                    Time : 10.51.56

Follow things are neccessary:

* You must be as QSECOFR on the system or you must have this
  rights (incl. SECADM).
* You need the delivered GSM-Modem.
* You need the GSM card.
* You must have the license key.
* Please check whether the following objects are available.
  SafeJobs will create following Objects:
  Phoenix, Safejobs (Usrprf), SAFEJOBS, SJDTALIB, SJREXLIB,
  SJINST (lib), SAFEJOBS (classe+Subsystem) in the QSYS.
* Depending on equipment further data can be required.

                               Press <ENTER> to continue

F12 Escape
1 Objekt(e) von SAFEJOBS nach QTEMP zurueckgespeichert.

MA a 24/080
I1902 - Sitzung wurde erfolgreich gestartet.
```

If you don't have QSECOFR rights, the installation will be aborted after having pressed the "ENTER" key! You then have to maintain your corresponding rights and simply repeat these gone first.

- At this time the enclosed GSM-modem should have been connected to a serial port of your iSeries (AS/400), incl. a plugged in and valid GSM card. Please, you carefully pay attention, that
  - the GSM card is not designed with UMTS technic and
  - the pin inquiry to the card is switched off (this often not happens).  
Otherwise the GSM modem will not be able to send any SMS out.
- Having the licence key ready makes sense at this time. Though the activation can be made up from **SafeJobs** also at a later time. Nevertheless the installation can be executed by it successfully.

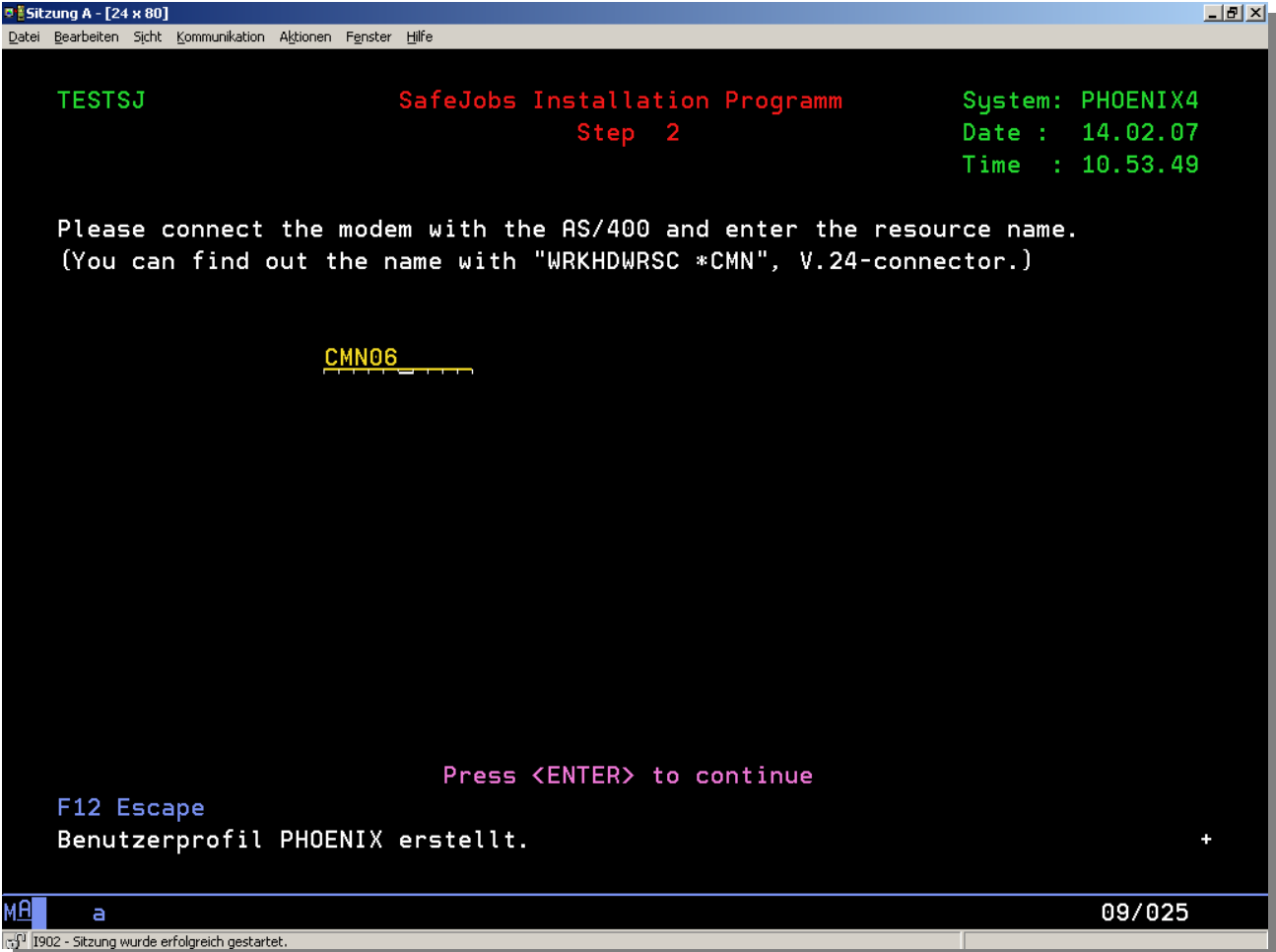
The advice for the verification on the existence of already available **SafeJobs** objects is obligatory. If you are going to repeat the setup although **SafeJobs** has already been installed, we cannot guarantee any more for the proper functions after completion of a following installation. Among other things all your settings already carried out will be lost!

Are you ready? Then push "ENTER" for the third installation step!

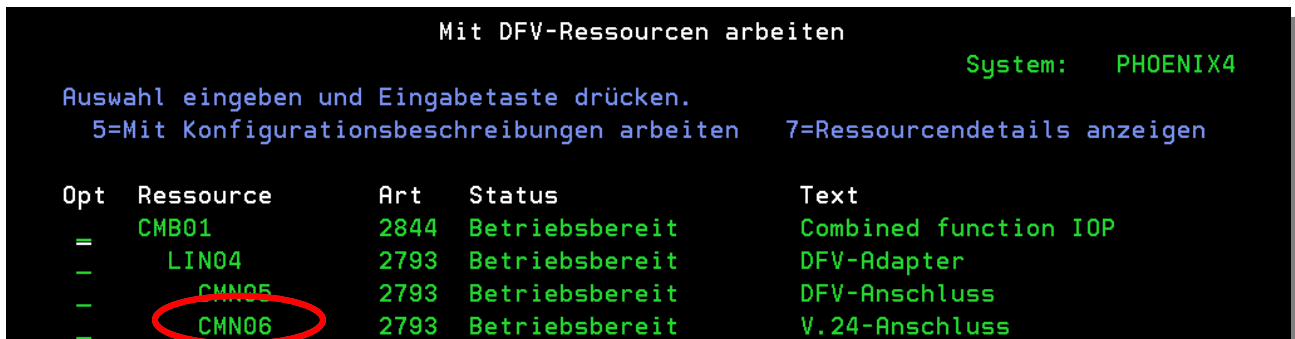


### 4.3 Step 3: Integrating of GSM-modem

Depending on the performance of your hardware several minutes if necessary can pass until the third installation display will appear. On this you are called upon to type in the resource of the GSM-modem.



To identify the modem resource you can query your iSeries (AS/400) with **WRKHDWRSC \*CMN** on a parallel session (have a look at example).



After having typed in the resource you please press the key "ENTER" again.



### 4.4 First parameterisation of SafeJobs

After the GSM modem has been assigned, several displays appear followingly which serves for the setting of the basic configuration of **SafeJobs**.

If you still lack information about this time or you wouldn't like to commit themselves for certain settings yet, you simply push "F12". You will exit the respective input display with that. So you can make the required settings at any later time.

#### 4.4.1 Configuration of a standard service for the emergency program

The display NEW SERVICE for the job \*MSGW expects details of a standard service which in principle has to be taught at all fault cases. This applies to all jobs after the installation.

When you are going to refine your settings at a later time, you will relieve the standard service for any job you assign to another service (page 17 et seqq).

```

User....: TESTSJ
Display.: PHOENIX4
System: PHOENIX4
        6.03.06
        13:34:28
        PHOENIX SAFEJOBS
        MESSAGE TO SERVICE
        NEW SERVICE

For job: *MSGW

Service.....: TESTSJ
Description....: Administrator - standard notification
Escalation level.: 1
Break message....: X
SMS.....: X
Phone number....: 0160 124345234
E-Mail.....:
E-Mail address...:

```

#### 4.4.2 Configuration of a default phone number

The Display EDIT PARAMETER for the parameter CTL0030 requires the input of a default phone number.

In the last consequence this phone number will be used, when in a fault case of a job on the one hand a service is missing in the emergency program and in additional in the configured job, if applicable, a service is also missing.

For safety reasons you should type in a valid phone number in each case now!

```

User....: TESTSJ
Display.: PHOENIX4
System: PHOENIX4
        6.03.06
        13:36:19
        PHOENIX SAFEJOBS
        PARAMETER/CONFIGURATION
        EDIT PARAMETER

Parameter.....: CTL0030

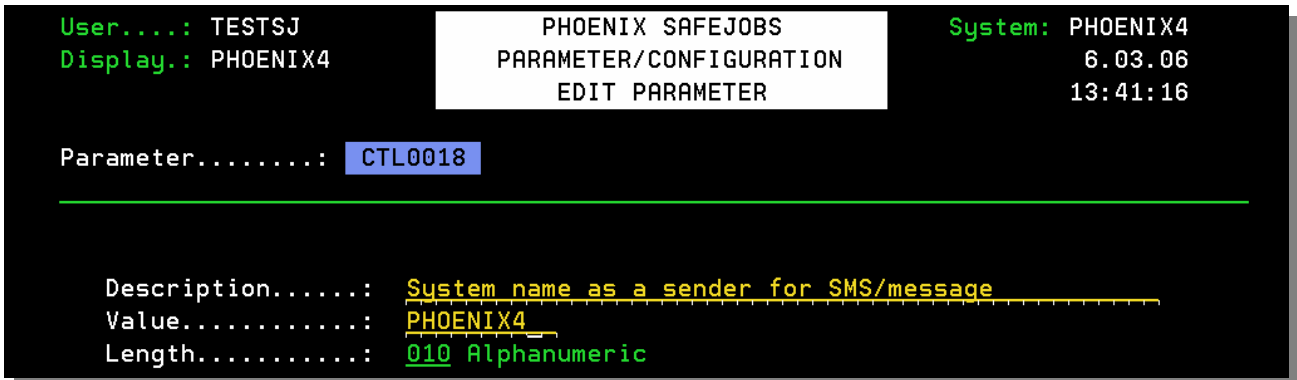
Description....: Last phone number, if no-one others indicated
Value.....: 0160 XXXX
Length.....: 018 Alphanumeric

```



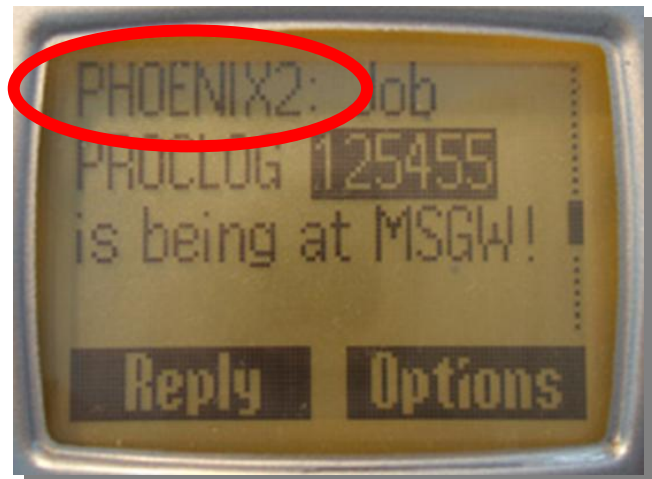
### 4.4.3 Configuration of the system name

The second to the last display EDIT PARAMETER for the parameter CTL0018 requires the detail of a system name for the notifications from **SafeJobs** by SMS.



Here in the example the system name PHOENIX4 was allocated. This corresponds to the technical name of the iSeries (AS/400) on which **SafeJobs** is installed. It is not required to take the pure technical name of your system as parameter value. You are also allowed to use other names which can better help identifying your technical system in the fault case.

In the picture on the right a SMS identifies according to the markedness of the parameter CTL0018 with the first word of the message "PHOENIX2" on which system the faulty job "Proclg" is being in the fault status.





### 4.4.4 Enabling SafeJobs with a licence key

With the last display as the case may be after completion of the installation of **SafeJobs** the input of your licence key is required.

```

User....: TESTSJ
Display.: PHOENIX4
System: PHOENIX4
        6.03.06
        13:38:54

Parameter.....: CTL0000

Description.....: License key
Value.....: 30CYHJPGFRC1RAD698
Length.....: 018 Alphanumeric

```

Each licence key is unique and is custom-built from the Phoenix-ICP GmbH for an iSeries (AS/400) system on which **SafeJobs** is installed. In return we need the following information from you:

- Serial and model number of the iSeries (AS/400) on which **SafeJobs** is installed;
- Time period, for which the licence has to be valid (e.g. the use of **SafeJobs** as demo version is possible for six weeks).

With the possession of a valid licence key you please proceed as follows (if you reside in the installation procedure at this time, you please skip the points 1 - 3):

1. Start **SafeJobs** with input of "STRSJ" in the system environment.
2. SafeJobs checks for a valid licence key with every start and sends a display message in the case of an invalid licence code:

```

                Nachrichten anzeigen
                System: PHOENIXN
Warteschlange . : PHOENIX3      Programm. . . . : *DSPMSG
Bibliothek . . : QSYS          Bibliothek . . . :
Bewertung . . . : 00           Zustellung. . . : *NOTIFY

Antwort eingeben (falls erforderlich) und Eingabetaste drücken.
Von . . . . . : TESTSJ          10.06.05  10:02:35
LIZENZCODE 0F0FQWXC0L*RLM1NG6 UNGÜLTIG

```

3. Give a receipt for this message with the data deallocation. Following this you are asked for the input of your licence key on the display EDIT PARAMETER in the field 'Value'
4. Enter your licence key in the field 'Value' (see above) and store the input with "F7". Please do not change the contents of the field 'Description'!
5. **SafeJobs** saves your input as the parameter CTL0000 and completes the input display with a return to the system environment.

Make the instruction "STRSJ" again. If your input has been fault-free, you directly reach the main screen of **SafeJobs**.

That settles the installation of **SafeJobs**!



## 5 Main menue (start display)

The main screen starts with entering of the instruction "STRSJ" in the system environment to the administration and configuration from **SafeJobs**.



Path: Hauptmenü

In the upper display area user data, display name as well as further system data are shown.

In the middle area above the main screen the current status of **SafeJobs** is displayed . It is deposited with a colour joist and green here in the picture for the status ACTIVE. This status means that **SafeJobs** is in the active status of monitoring for determined jobs, typed in by a user.

To reach the corresponding submenus, the input of the respective control command is necessary.

To switch off the active monitoring of **SafeJobs**, the input of the control command "1" is required in the field of 'Selection'. Before you will procede this step, please make carefully sure that switching the monitoring off cannot have any negative consequences for your productive mode! After switching of the monitoring no further notifications will be sent from **SafeJobs** in the fault case.



## 6 Start/Stop Monitoring

On the following display START/STOP MONITORING **SafeJobs** is instructed to stop the monitoring globally with a pressure of the function key "F7". Of course the process still can be stopped at this time with the function key "F12".



Path: Main menue ⇨ Start/Stop Monitoring

After switching off the monitoring function the main menue indicates a status which is set to INACTIVE. In analogy to red traffic lights the status is deposited with a joist in red colour.

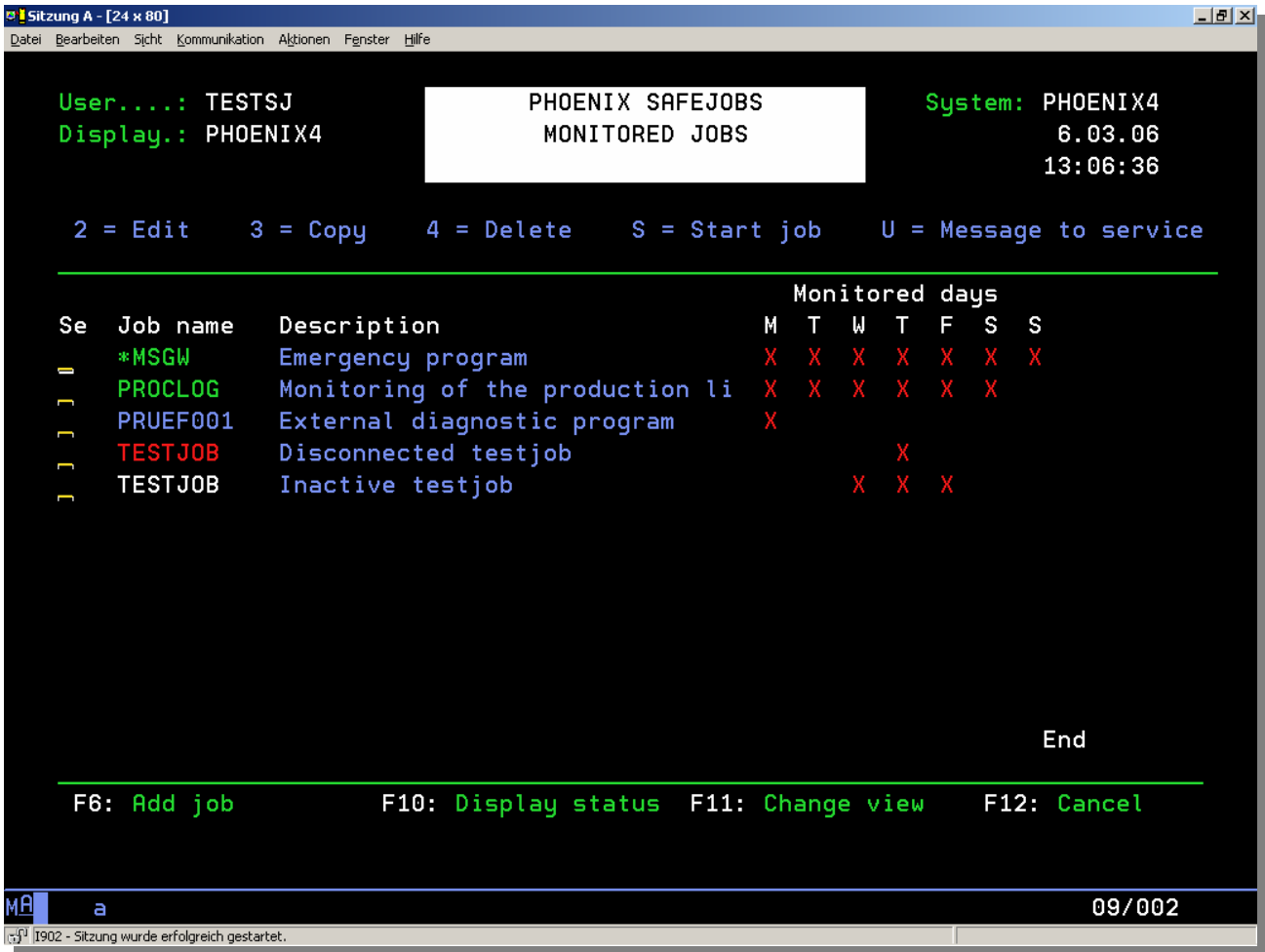


Path: Main menue

With the input of the control command "2" in the main menue the next display MONITORED JOBS follows.



# 7 Monitored Jobs



Path: Main menue ⇒ Monitored Jobs

The display MONITORED JOBS represents virtually the heart of **SafeJobs**. The user gets information of all monitoring activities there. As a rule any job listed in SafeJobs here corresponds to a concrete job on the iSeries (AS/400) with the exception of the job \*MSGW (near to this on page 36):

- Job name: This is the technical name of a job which is running on on the iSeries (AS/400). Depending on the deposited settings for the notification a job name is inked green, white, red or blue for the view:
  - Green: Normal condition for the monitoring and notification behaviour. In the case of a job fault each service will be informed which is assigned to the job.
  - White: Standard notification deactivated. In the fault case it arrives to the alternative notification about the services of the emergency program (\*MSGW).
  - Red: Job deactivated for notification cycles. In the fault case no service is hold for the notification for the job. So a fault is ignored.
  - Blue: Special case for tied customer programs. **SafeJobs** starts a diagnostic program developed by a customer with each monitoring cycle or alternatively once a day to a particular time (near to this on page 24).
- Description: With a short description the function of the monitored job is characterized.



- 3. Monitored days: With an 'X' all days are labeled, on which **SafeJobs** executes its monitoring activities for the job at defined times.
- 4. Status: The right column 'Status' shows for every job in which system state it is presently from view of the current session.

### 7.1 Configuration of different job views

```
F6: Add job      F10: Display status  F11: Change view  F12: Cancel
```

Path: Main menue ⇒ Monitored Jobs

#### 7.1.1 Display of job status

The display of the column 'Status' is suppressed per default. Otherwise the appearing of the screen MONITORED JOBS uses especially on older machines considerably more time. With the function "F10" (Display Status), however, the job status can be generated afterwards (see fig.). After the first construction of the status column the function "F10" again leads respectively to the update of the status column at the point under review.

To get the status column permanently shown you have to edit the parameter CTL0010 by changing the value to "2" (page 45).

#### 7.1.2 Display of further characteristics to a job differentiation

The function "F11" has an effect also on the representation of the screen of MONITORED JOBS (view change). This time the view is changed into regard on a more detailed display of jobs with the pressure of "F11".

User....: TESTSJ		PHOENIX SAFEJOBS			System: PHOENIX4							
Display.: PHOENIX4		MONITORED JOBS			6.03.06							
					13:17:02							
2 = Edit		3 = Copy		4 = Delete		S = Start job						
						U = Message to service						
Se	Job name	Owner	Library	Sub system	Monitored days					Status		
	*MSGW				X	X	X	X	X	X	X	
	PROCLG				X	X	X	X	X	X		MSGW
	PRUEF001				X							INAKT.
	TESTJOB	PHOENIX						X				INAKT.
	TESTJOB	TESTSJ				X	X	X				INAKT.

Path: Main menue ⇒ Monitored Jobs (display changed by F10 and F11)

Unlike the previous screen the display of the field 'Description' is exchanged by the fields 'User', 'Library', and 'Sub system' now. Here in the example the three mentioned fields have a supplementary specification on the screen for the two jobs of the same name "Test job" for the field 'Owner'.

When and why respectively jobs are to be included with these additional fields is to be explained more detailed in the next chapter (Add Job / Edit Job).

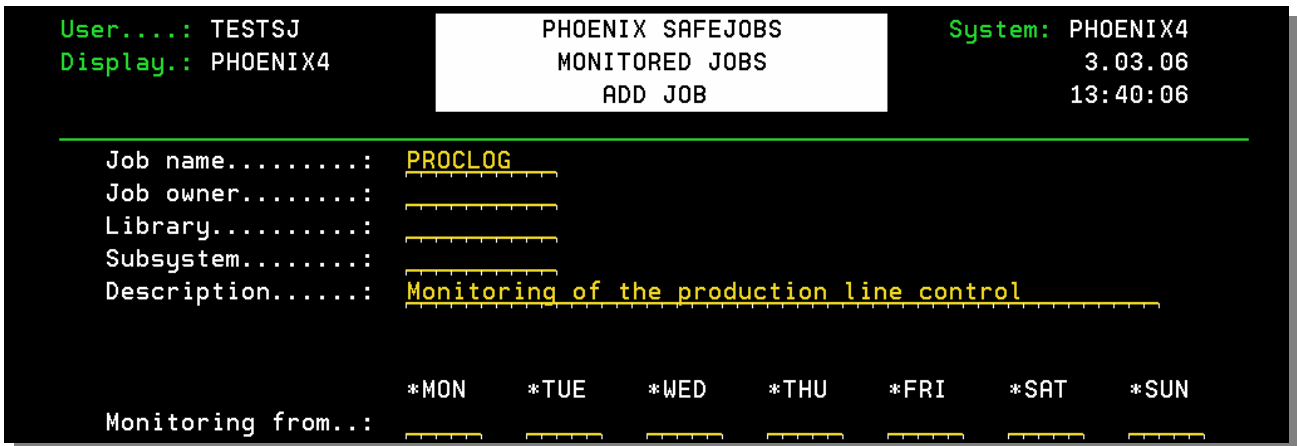
The repetition of the function "F11" leads back into the initial view of the jobs.

If there is already the request for a display of the additional feature fields with the screen call in principle, a corresponding adjustment of the parameter CTL0011 can also be carried out with the value "2" (page 45).

Further attributes of a job can be researched and edited if necessary with the input of the control command "2" ahead of the corresponding job.



## 7.2 Add Job / Edit Job



Path: Main menue ⇒ Monitored Jobs ⇒ Add Job

The screens ADD JOB and the screen EDIT JOB following on the next page are almost identical. The difference consists only in the fact that the name can not be changed any more when a job has been created.

### 7.2.1 Including the job attributes, variants of differentiation

The following rules apply to the award of the job names:

- The name should correspond to the technical name of the respective job on the iSeries (AS/400).  
The input of an arbitrary name leads to an error message at monitoring time since **SafeJobs** gives the fault status INAKT for a non existing job and sends appropriately valueless notifications!
- The above-mentioned rules do not apply to the use of external diagnostic programs (external checking programs are explained more precisely on page 24). The job name should point to the integration of the external checking program for reasons of the clarity here. "False" job names with assigned diagnostic programs only lead to error messages about the diagnostic programs themselves.
- A job name must not begin with a \* (star).

In certain cases several jobs exist with the same name on one system. For instance, when a productive system and a corresponding test system on the same machine consists besides each other. For this situation three recording variants for jobs can be listed:

#### 7.2.1.1 Variant 1: Acting notification of a service for several jobs of the same name

- It is determinated that in principle only a certain service is to be informed in the fault case and independent by the origin of a job of the same name.
- ➔ For this specification the work limits itself on the detail of its name for the recording of the job. The fields 'Library', 'Sub system', and 'Job owner' can be neglected.



**7.2.1.2 Variant 2: Separate notification of different services for every job of the same name**

- ☑ Depending on the origin of the job of the same name a certain service has to be informed respectively
  
- ➔ In dependence of the origin of the job two or more jobs of the same name are respectively with their name
  - and / or the job owner,
  - and / or the library,
  - and / or the sub system

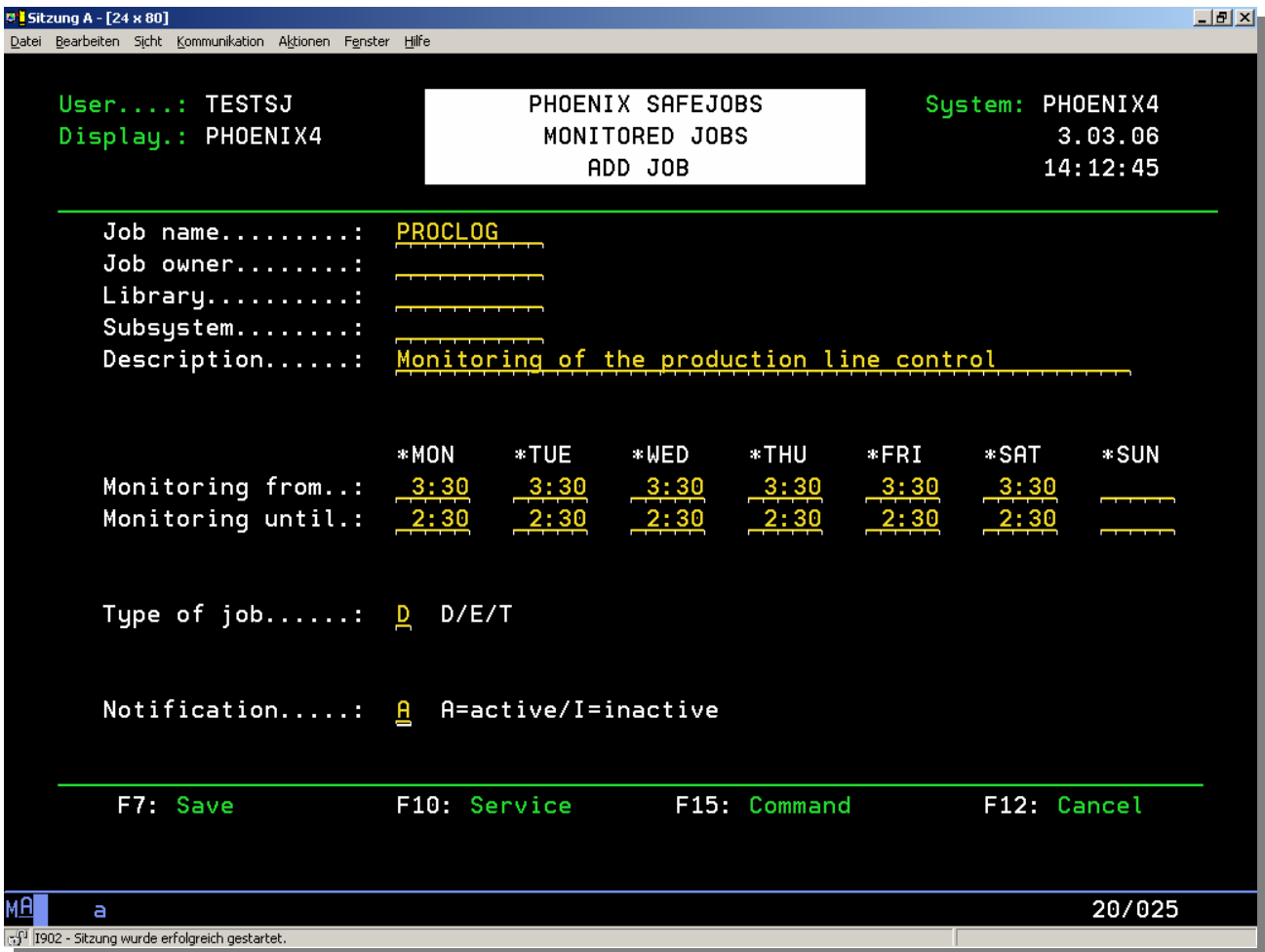
always parallel per field to record.

**7.2.1.3 Variant 3: Notification of a service for only a certain job of the same name**

- ☑ For the monitoring on the system only the status of a certain job is in someones interest. The other jobs of the same name must not lead to any notification in the fault case (e.g. in the period of program testing, at which the programmer is watching the status of a certain job).
  
- ➔ To the recording of the job it is to proceed just the same as it was described in variant 2 for. In addition those jobs, for which no notification is desired, have to be excluded explicitly from the monitoring. Please, as a job has to be excluded from the monitoring explicitly, you may look up on page 22 at "job deactivation with N".



### 7.2.2 Adjusting the times of monitoring



Path: Main menue ⇒ Monitored Jobs ⇒ Add Job

The desired periods of daily times of monitoring have to be recorded for the activity. Which attitudes make sense for the times of monitoring?

Many jobs are going on diurnally and shall be supervised round-the-clock. However, are regular interruptions of jobs e.g. for a regularly recurring backup foreseeable, the monitoring should be stopped for this time. Otherwise users assigned to the jobs (near to this on page 28) would be got superfluous or unwanted messages about a fault status of the monitored jobs during the temporarily stopped period of time of the backup.

Working example: A job shall be monitored diurnally from Monday until Saturday, but not at the backup time between 2:30 - 3:30 clock in the morning. It is to be entered under the category Monday (\*Mon) in the field Monitoring from: "3:30" and in the field Monitoring until: "2:30". So **SafeJobs** will supervise this job for 23 hours: Of 3:30 hour on Monday in the morning until 23:59 hour in the evening and of 0:00 in the night of the Monday up to the morning at 2:30 hour. These inputs have to be repeated for every further weekday.

**SafeJobs** interprets the missing times of monitoring on Sunday (\*Sun) with a 0:00 hour each as a time. So the Sunday is here in the picture on a time of 0:00 - 0:00 clock.

In principle, **SafeJobs** does not inform a standard service if both times are missing for a weekday. Nevertheless with this settings **SafeJobs** will send any message on sunday by the "emergency program".



### 7.2.3 Kind of job

With the menu item 'Kind of job' the user controls the manner of the monitoring behaviour. The characteristics "D", "E" and "T" are possible as well as as a special case "N" (not shown in the menu!).

#### 7.2.3.1 Job-Deactivation with "N"



Path: Main menu ⇒ Monitored Jobs ⇒ Edit Job

Originally conceived as internal solution for the developers of SafeJobs, this control was later unlocked also for the customers.

"N" (equal to no) does instruct **SafeJobs** not to send any message in the fault case for this job. For this an entry is published in the list of the fault protocols which informs the user that the "job is deactivated for monitoring".

#### 7.2.3.2 Characteristic "D"



Path: Main menu ⇒ Monitored Jobs ⇒ Add Job

The characteristic "D" will make sense in the majority of the cases for regular runners since jobs should by the majority be going on diurnally and be monitored appropriately permanent. As soon as a job is going on into a fault status within the defined monitoring time period, **SafeJobs** will send a message.

On the other hand, the backup job runs only one limited time period according to the previous example to end regularly afterwards. With the configured characteristic "D", in this case you would get an unwanted error message with each regular closing of the backup job. According to this another monitoring behaviour is required here.

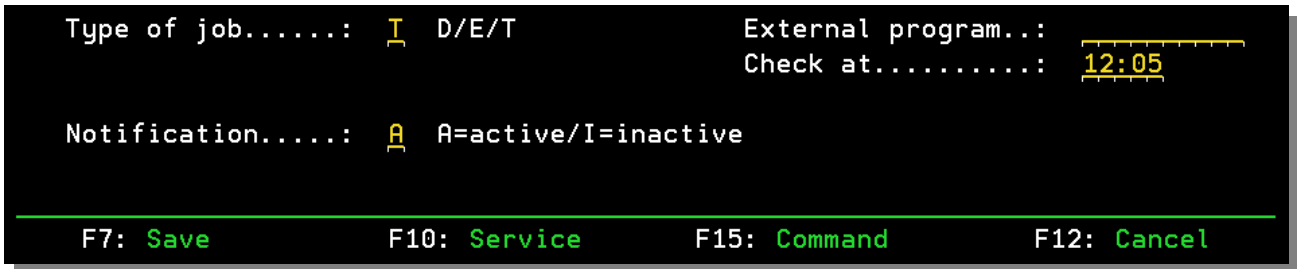
For this reason the developers of **SafeJobs** have made an alternative "monitoring" solution come true. This permits evaluating job protocols additionally at defined times.

Deploying this concept the permanent monitoring is given up for jobs. All inputs made in the area of monitoring times serve to **SafeJobs** as a "request" only to evaluate the accrued job protocols within the given period of time at particular examining times. Objective of the evaluation is the answer on the question whether the job has been going on to its running time without any fault. In the negative case a corresponding report is immediately transmitted to the registered service.

You activate this form of the job check with the characteristic "T".



7.2.3.3 Characteristic "T"



Path: Main menu ⇒ Monitored Jobs ⇒ Edit Job

By the characteristic "T" (T for daily - sorry it comes from german "täglich") **SafeJobs** is instructed to evaluate the run time response of the job with job protocols one time within a given monitoring time. If **SafeJobs** should find a fault in this protocol, a notification will be sent.

You always set the characteristic "T" (T equal to daily) for a single check of the temporary and proper execution of a job. As an effect of this setting **SafeJobs** generates an error message only for the irregular interruption of the job within its running time. On the other hand, **SafeJobs** does not complain the proper completion of the job.

Having typed the "T" and data release the additional entry fields 'External program' and 'Check at' appear on the right screen area.

In connection with this, the field 'External program' is not to fill (far to this on page 25). The exact time of the on-time check has to be typed in in the field 'Check at'.

The characteristic "T" is suited for the monitoring of a backup job very well.

Example: On Monday a backup job is running on 2:30 - 3:30 am. For this job a monitoring period for Monday of 12:00 - 12:15 pm may be typed in. The value "12:05" listed in the picture above in the category 'Check at' provides the moment of check directly. Therefore the backup job is checked by **SafeJobs** with its job protocols on Monday at 12:05 pm the only time. If it should have come to a problem during the morning running time of the job, the service receives a message about this against 12:05 pm.

If a period of time had been determined between 17:00 and 23:00 hours, **SafeJobs** would not have checked the job on Monday since the examining time specified with a 12:05 hours would have lain outside the given monitoring time period!

Remark:

The adjustment of a minute monitoring time period can cause under circumstances that **SafeJobs** does not execute the examination! This case can be derived from the adjustments of the parameter CTL0001, with which the temporal distances of the global regular checks certainly are controlled for **SafeJobs**:

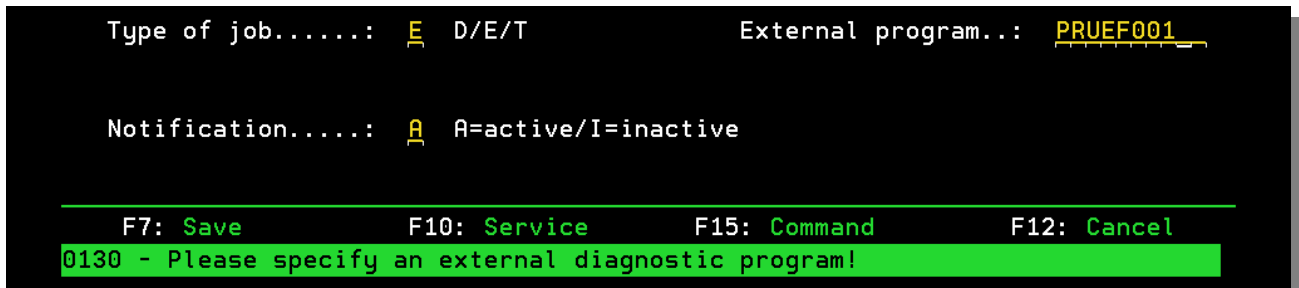
The regular examining interval is limited e.g. to a duration of ten minutes. With this adjustment **SafeJobs** deduces "itself" correspondending future points of time for its examinations. It then can be easily seen that possibly no point of check time will lie within the supervision interval chosen too briefly. The supervision time period should therefore always be an at least triple of the period of time of the examining interval from CTL0001 and be divided up appropriately symmetrically around the point of check time which is derterminded by "T".



### 7.2.3.4 Customer developed diagnostic programs

It happens again and again that customers make individual demands on the monitoring of quite certain jobs: For the smooth course of running the programs very special information about certain conditions of the system, from jobs and data are required. The customer would like to evaluate in detail and known with corresponding reports commented on these.

For the realization of these special requirements the developers of **SafeJobs** have created an interface. With that the integration of diagnostic programs - written by customers - into the regular running of **SafeJobs** is possible.



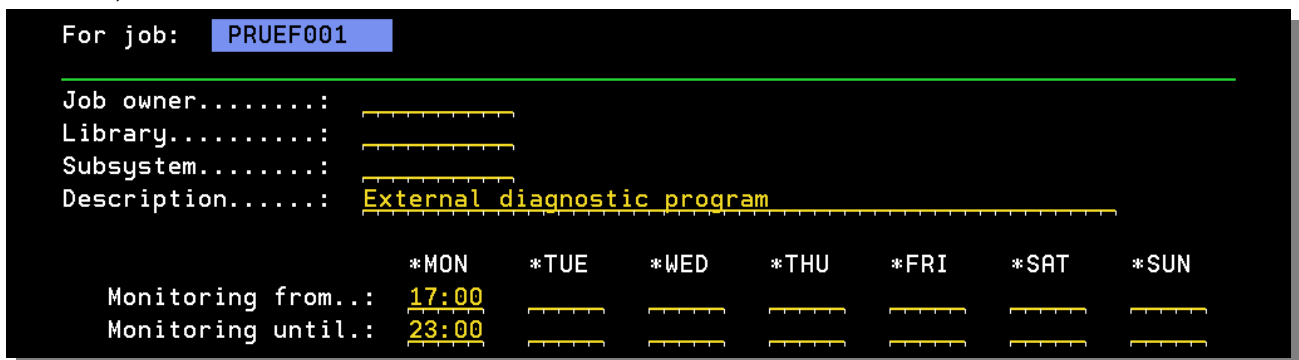
Path: Main menu ⇒ Monitored Jobs ⇒ Edit Job

You only can see the interface when you type in under 'Job kind' the exception characteristic "E" or "T". After data release the entry field 'External program' seems in addition. Now the name of the diagnostic program has to be typed in here (here in the example: PRUEF001).

#### 7.2.3.4.1 Characteristic "E"

With the entry of an external diagnostic program and the job kind of 'E' (for external) the exemplarily mentioned diagnostic program PRUEF001 takes on responsibly to all checks requested and programmed respectively by the customer.

For the call of the specified diagnostic program **SafeJobs** orientates itself on the entries at the monitoring times and the value, which is deposited in the parameter CTL0001 (default: 120 seconds).

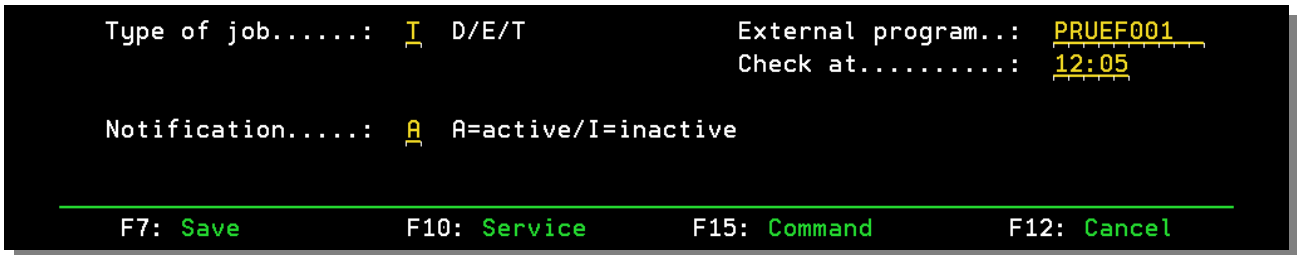


Path: Main menu ⇒ Monitored Jobs ⇒ Edit Job

Example: For the external diagnostic program PRUEF001 a monitoring period for Monday from 17:00 - 23:00 pm is registered. Therefore the diagnostic program is called by **SafeJobs** the first time at 17:00 pm. Within the next six hours to 23:00 pm it is called every 120 seconds once more in accordance with the setting of the parameter CTL0001. When 23:00 pm is passed no further call of the external diagnostic program will be made **by SafeJobs**.



### 7.2.3.4.2 Characteristic "T" with diagnostic program



Path: Main menue ⇒ Monitored Jobs ⇒ Add Job

With the characteristic "T" **SafeJobs** is instructed to call the external diagnostic program within a given monitoring time once a day.

Example: For the external diagnostic program PRUEF001 a period of monitoring time for Monday from 11:00 - 13:00 pm is registered. This time the registered value of "12:05" under 'Check at' provides the time to call directly. Therefore the diagnostic program has to be started by **SafeJobs** the only time on Monday at 12:05 pm. Since this time is within the given period of supervision time, the diagnostic program is called by **SafeJobs** at 12:05 pm successfully on Monday.

### 7.2.3.4.3 Description of interface

To incorporate a diagnostic programs of one's own into the service of **SafeJobs**, this expects mandatorily two handing over values of the diagnostic program:

- Parameter 1: 4-digit alphanumeric (error number)
- Parameter 2: 100-digit alphanumeric (error text, user-defined)

If there is no fault according to the idea of the diagnostic program, the "0000" has to be submitted to **SafeJobs**. As soon as an error number more greatly than "0000" is reported from the diagnostic program, **SafeJobs** delivers a message with the error text submitted by the diagnostic program in addition.

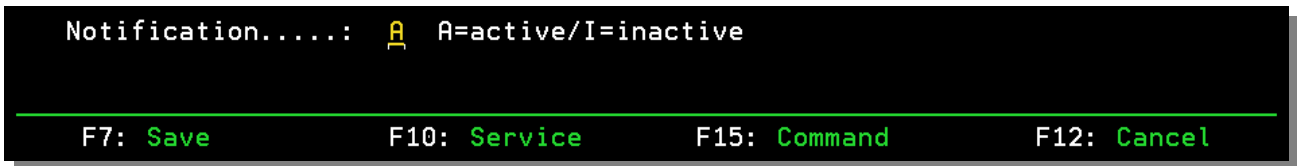
The type of notification depends on the notification settings for the registered services (see page 31).

If necessary a desired parameterisation of the diagnostic program can be carried out directly within **SafeJobs**. For this on the display PARAMETER the corresponding parameters are to be defined by the user (see page 43).

For the use of a diagnostic program, please, you take into account that your diagnostic program must be saved in the library of SAFEJOBS!



## 7.2.4 Notification Active/Inactive



Path: Main menu ⇒ Monitored Jobs ⇒ Edit Job

How or whom **SafeJobs** finally informs for a job, is defined in the lower area of the display ADD JOB / EDIT JOB by the activity characteristic in the field 'Notification'. The two possible activity statuses are "A" for *notification active* and "I" for *notification inactive*.

It has to be taken into account that **SafeJobs** will further inform also at notification activity switched off for a job for this in the fault case. This may sound contradictory at the first sight but a comprehensive security concept hides behind this. The following cases are conceivable:

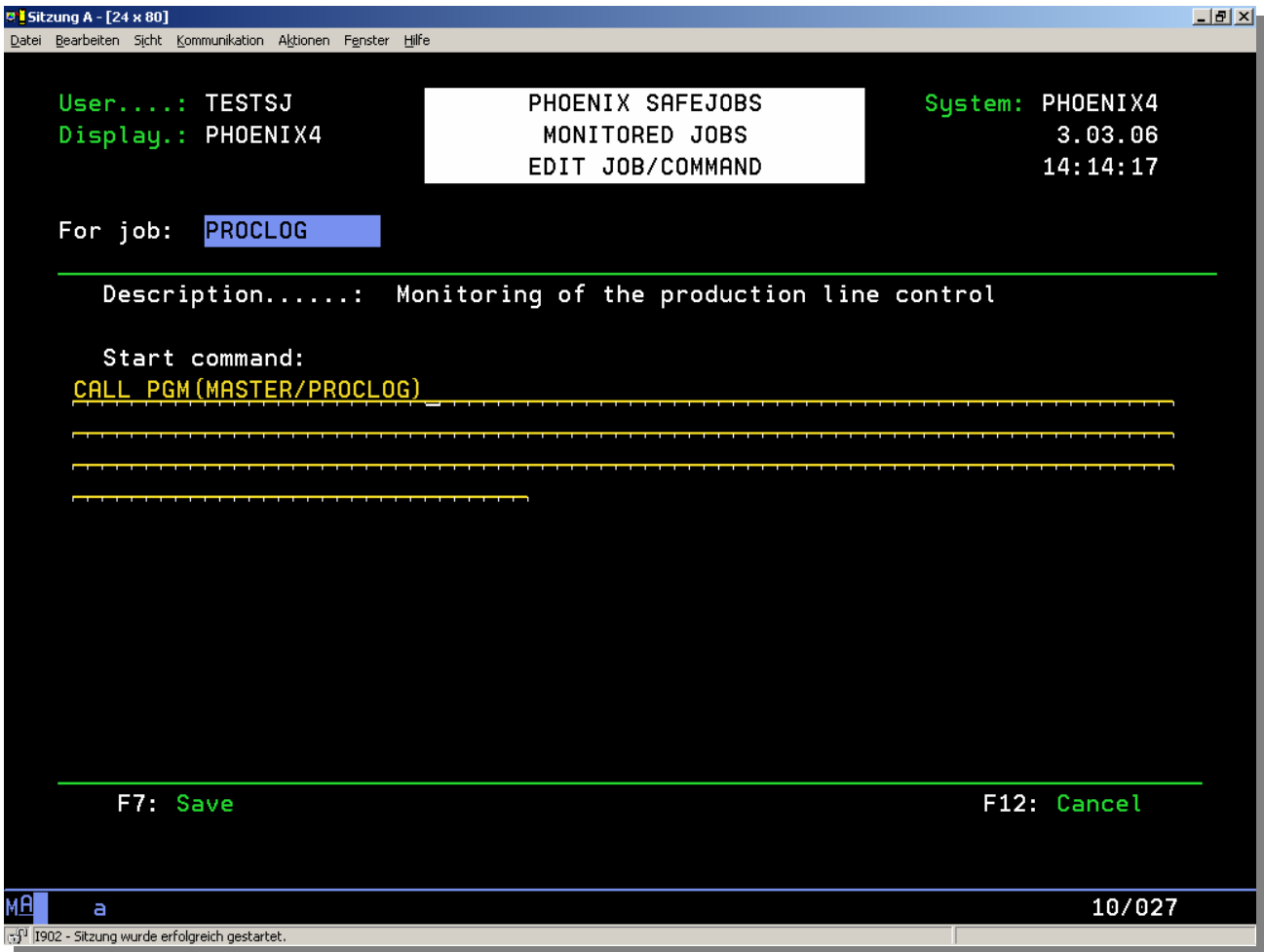
- A service (user) could inadvertently have switched the notification off for a job and furthermore be strongly convinced, that he will be informed in the fault case. This possibility is caught by **SafeJobs** with the so-called emergency program. Only other services are then informed from the emergency program in the occurred case.
- All jobs which are going on on the iSeries (AS/400) usually are not shown in **SafeJobs** for the monitoring. Who ought to be informed in the fault case of the other jobs? The emergency program is effective here a second time.

In this meaning the emergency program represents virtually the last sheet anchor for all undefined or "forgotten" cases.

So the effect of the difference between an active and inactive notification becomes presently only in the fault case of a job: If the activity characteristic is set on "I", it will be no longer informed according to the settings of services for a job settings but exclusive in accordance with the settings of the emergency program \*MSGW (further explanations to this on page 36).



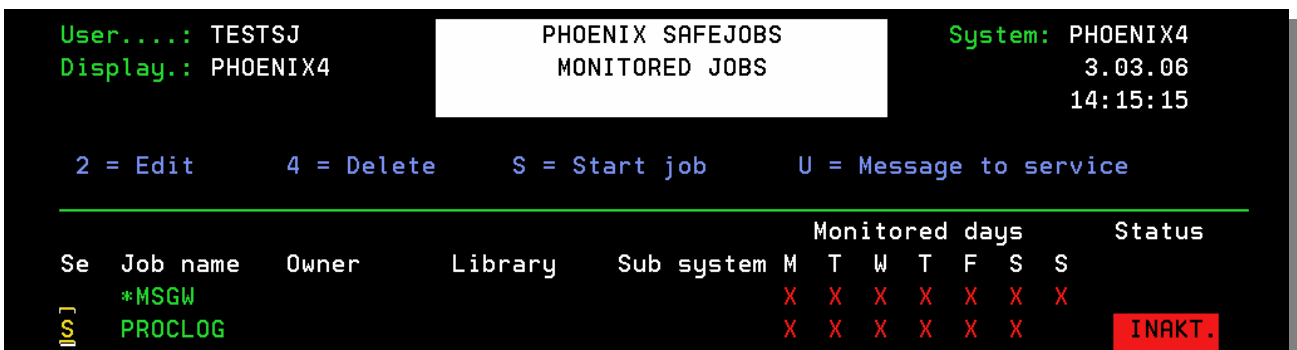
### 7.2.5 Command: Saving of run commands



Path: Main menue ⇒ Monitored Jobs ⇒ Edit Job ⇒ Add Job/Command

With displacing of the instruction "F15" (Command) on the display ADD JOB / EDIT JOB an input screen appears, in which the regular program call of the job has to be listed like in the system environment: "CALL PGM (LIBRARY/PROGRAM)".

This entry is not required mandatorily. Deposited but once it safeguards high-speed support directly by **SafeJobs** in the need: In the fault case the help of the control command "S" can possibly the job be then started once more on the display of MONITORED JOBS (see picture below).



Path: Main menue ⇒ Monitored Jobs⇒"S" (Start Job)



### 7.3 The connection of Job and Service

Who ought to be informed in the fault case of a job by **SafeJobs**? After the complete parameterisation of a job with the next step the receivers are to be defined for the notifications (Message to Service).

```

User....: TESTSJ
Display.: PHOENIX4
System: PHOENIX4
          3.03.06
          14:15:15

2 = Edit      4 = Delete      S = Start job      U = Message to service

-----
Se Job name  Owner      Library  Sub system  Monitored days  Status
  M  T  W  T  F  S  S
U *MSGW      X  X  X  X  X  X  X
  U  PROCLOG  X  X  X  X  X  X  X  INAKT.
  
```

Path: Main menue ⇒ Monitored Jobs⇒"U" (Message to service)

With the input of the control command "U" ahead of the desired job in the display of MONITORED JOBS the display opens up for MESSAGE TO SERVICE.

You can also reach this display directly from the display EDIT JOB (see below) by the function key "F10" (Service).

```

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

User....: TESTSJ
Display.: PHOENIX4
System: PHOENIX4
          3.03.06
          14:17:00

PHOENIX SAFEJOBS
MONITORED JOBS
EDIT JOB

For job:  PROCLOG

-----
Job owner.....: _____
Library.....:   _____
Subsystem.....:   _____
Description.....: Monitoring of the production line control

Monitoring from..: 3:30 3:30 3:30 3:30 3:30 3:30 _____
Monitoring until.: 2:30 2:30 2:30 2:30 2:30 2:30 _____
                    *MON *TUE *WED *THU *FRI *SAT *SUN

Type of job.....: D D/E/T

Notification.....: A A=active/I=inactive

-----
F7: Save      F10: Service  F15: Command  F12: Cancel

MA a 20/025
I902 - Sitzung wurde erfolgreich gestartet.
  
```

Path: Main menue ⇒ Monitored Jobs⇒Edit Job



## 7.4 Message to Service

```

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

User....: TESTSJ          PHOENIX SAFEJOBS          System: PHOENIX4
Display.: PHOENIX4       MONITORED JOBS           3.03.06
                                     MESSAGE TO SERVICE      14:44:36

 2 = Edit      4 = Delete
For job:      PROCL0G

-----
Se Service      Description          BRK SMS Mail Phone number  ES
-----
= PHOENIX      Status Phoenix internal  X  X  0160 1233456  1
- TESTSJ      Test user                X  0160 1043758  1

                                     End

-----
F6: New service      F8: Assign list      F12: Cancel

MA a 08/002
I902 - Sitzung wurde erfolgreich gestartet.

```

Path: Main menu ⇒ Monitored Jobs ⇒ Message to Service

The overview display MESSAGE TO SERVICE lists all services for a certain job which have to be informed in the fault case by **SafeJobs**. Different persons can be connected with different jobs. So it is possible to connect the know how of a specialist with a very critical job.

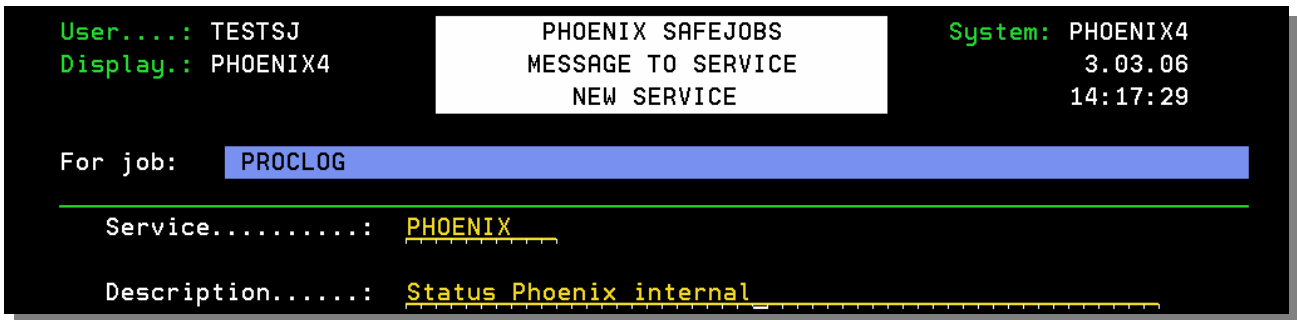
The menu on hand is built up like the overview display MONITORED JOBS:

1. 'Service': This is the technical name of a user who is recorded on the iSeries (AS/400) as a user.
2. 'Description': The description is the characterizing text which helps to identify the task of the service.
3. On the right area of the screen the notification categories 'BRK' (break message), 'SMS', 'Mail' and 'Phone number' are listed. A phone number must be registered if the category 'SMS' is labelled with an "X".
4. 'ES': Number of the allocated escalation level (step "1", "2" or "3").

These described qualities can be edited with the input of the control command "2" ahead of a corresponding service. With "F6" a new service is created.

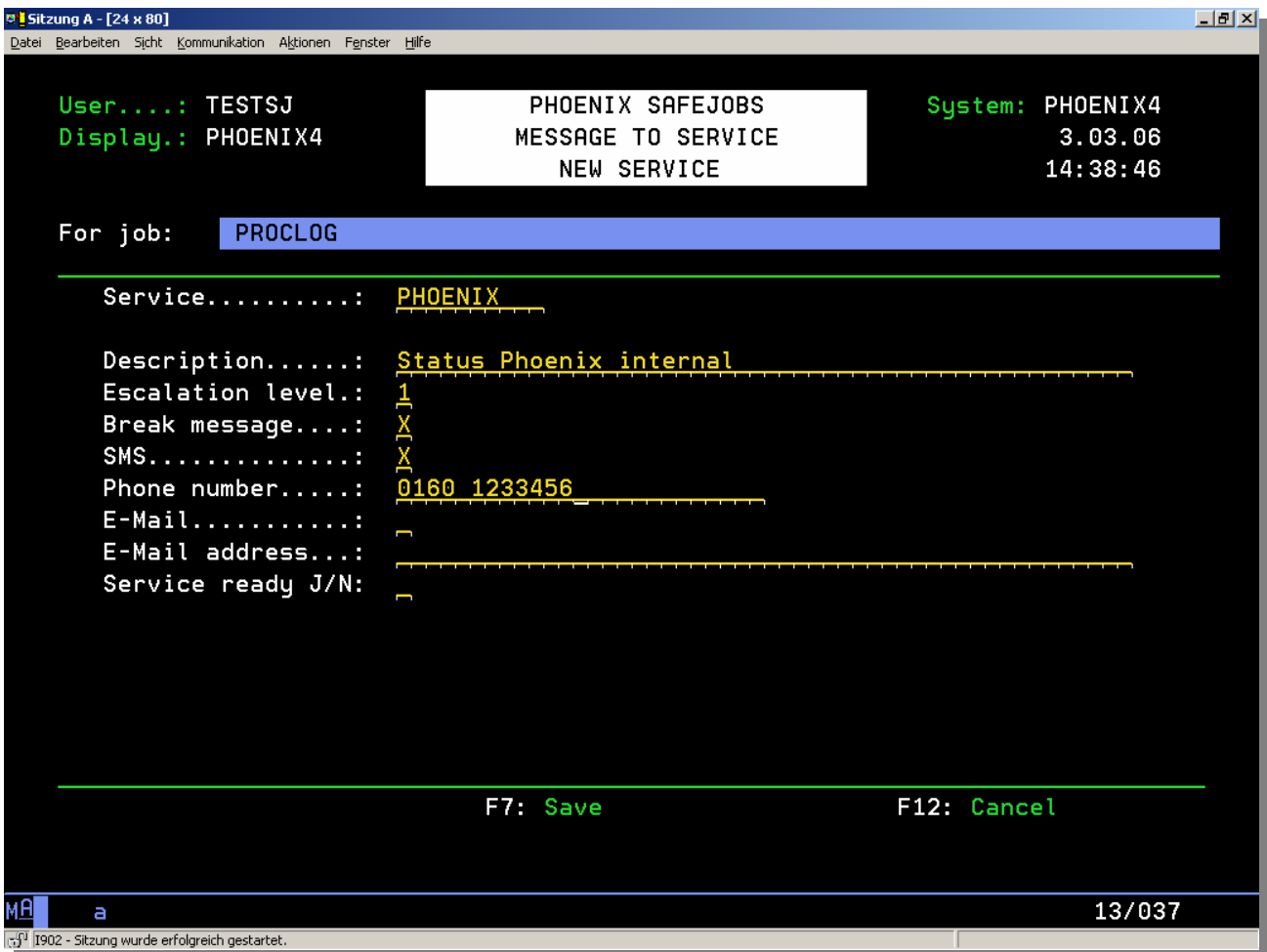


### 7.4.1 New Service / Edit Service



Path: Main menue ⇒ Monitored Jobs ⇒ Message to Service ⇒ New Service

The display NEW SERVICE and the following display EDIT SERVICE are almost identical. The difference consists only in the fact that the name cannot be changed any more when a service has been created.



Path: Hauptmenü ⇒ Monitored Jobs ⇒ Message to Service ⇒ New Service



#### 7.4.1.1 Escalation Level

In the fault case of a job **SafeJobs** can inform all assigned services at the same time in time of the adjusted notification sequence.

For the nightly monitoring this approach is not acceptable. Instead solutions are asked for which work according to a security buffer to activate no more services in the fault case at the same time: When the first service has been informed several times without success, a second (background-) service is included into the notification sequences according to an escalation. When the second service also should not have been reached, a third (background-) service is called in. This manner of the notification behaviour is carried out in **SafeJobs** with the concept of the escalation level.

Therefore the input of a number of "1", "2" or "3" is mandatorily required under the menu entry 'Escalation level'. With these three steps a notification behaviour is configurable according to the considerations cited above. This works as follows:

In principle, in the fault case SafeJobs starts as long as send messages until the fault is eliminated.

- A) A service with the highest priority therefore with the assigned escalation level "1" receives each (further) message from the start time of the first notification. The temporal distance between the notifications is determined by the entry of the parameter CTL0017 (page 45).
- B) A first subordinate one second service with a configured escalation level "2" only then receives messages if two notifications have been sent without the fault has being eliminated. With beginning of escalation level 2 the first and second service are informed respectively parallel.
- C) A second subordinate one third service with the escalation level "3" becomes one this informed only then when another report has been sent without the fault has being eliminated in the meantime. With beginning of escalation level 3 the first, second and third service are informed respectively parallel.

In the administration of services for a job at least one service must be allocated the escalation level "1". The last (or only) service with the escalation level "1" cannot be deleted any more.

#### 7.4.1.2 Type of notification

The types of notification 'Break message', 'SMS', and 'Mail' have to be marked with an "X" in the entry field respectively for the activation. At least one type of notification must be chosen so that in the fault case the service can be informed by **SafeJobs** correspondingly.

Also all types of notification may be selected. It has to be taken into account for a notification with e-mails that a SMS-server is in use parallel to the GSM-modem connected per default.

Furthermore this additional activity must have been advised to **SafeJobs** with the setting of "J" for the parameter CTL0027 (page 46)!

When the type of notification is marked as 'SMS' or 'E-Mail' you have to enter a corresponding phone number for the receiver under 'Phone number' and respectively the according e-mail adress under 'Mail adress'. As a phone number, in addition, a fixed network number can be used.

#### Remark:

We recommend storing the **SafeJobs** identifying phone number in your mobile telephone correspondingly. This way you can immediately recognize the origin in the display of your mobile telephone in the case of an alert.



### 7.4.2 Add List (Add Service List)

The screenshot shows a terminal window titled 'Sitzung A - [24 x 80]'. At the top, it displays 'User...: TESTSJ', 'Display.: PHOENIX4', and 'System: PHOENIX4'. A central box contains 'PHOENIX SAFEJOBS MONITORED JOBS MESSAGE TO SERVICE' and the date '3.03.06' with time '14:44:36'. Below this, it says '2 = Edit 4 = Delete' and 'For job: PROCLOG'. A table lists services: PHOENIX (Status Phoenix i) and TESTSJ (Test user). A dialog box is open with '14:45:25' and '3.03.06', showing 'LIST' and '1 = Selection'. Below the dialog, there are options '\*JIT\_AB07' and '\*NIGHT'. At the bottom of the dialog, it says 'F12: Cancel'. At the bottom of the terminal, it says 'F6: New service F8: Assign'. The status bar at the bottom shows '12/042' and a message 'I902 - Sitzung wurde erfolgreich gestartet.'

Path: Main menu ⇒ Monitored Jobs ⇒ Message to Service ⇒ F8 (Add List)

By pressing the function key "F8" within the display MESSAGE TO SERVICE, groups can be appended by services in the form of so-called service lists in addition to single services (for creating of service lists see page 38). A dialog mask for selections appears on which a list has to be selected with typing of "1". With data release the selection will be adopted by corresponding entries on the display MESSAGE TO SERVICE (see below).

Please take into account that only one list per job can be selected respectively.

The screenshot shows the same terminal window as above, but now the 'MESSAGE TO SERVICE' dialog is closed. The table of services is updated to include a new entry: '\*NIGHT'. The table has columns: Se, Service, Description, BRK, SMS, Mail, Phone number, and ES. The data rows are: '\*NIGHT' (empty), 'PHOENIX' (Status Phoenix internal, BRK: X, SMS: X, Mail: 0160 1233456, ES: 1), and 'TESTSJ' (Test user, SMS: X, Mail: 0160 1043758, ES: 1). The status bar at the bottom shows '12/042'.

Path: Main menu ⇒ Monitored Jobs ⇒ Message to Service



Service lists are "snapped shut" by default and do not point at further information about, which service of the list is appended or who is to be informed with any kind of notification.

F6: New service      F8: Assign list      F11: Change view      F12: Cancel

Path: Main menu ⇒ Monitored Jobs ⇒ Message to Service ⇒ F11 (Change View)

To also get this information you can "open" a service list by the help of the function key "F11" (change view). The representation mode then changes for the individual entries on the display MESSAGE TO SERVICE (see below).

It has to be taken into account that in this mode each element is represented page by page. If in addition still single services are registered next to a list, then it has to be scrolled back and forth per each list and / or service by the keys "Page down" and "Page Up".

```

User....: TESTSJ
Display.: PHOENIX4
                PHOENIX SAFEJOBS
                MONITORED JOBS
                MESSAGE TO SERVICE
System: PHOENIX4
                3.03.06
                15:06:26

 2 = Edit      4 = Delete
For job: PROCL0G *NIGHT

```

Se	Service	Description	BRK	SMS	Mail	Phone number	ES
	*NIGHT						
	ENGELKE	Admin (subordinated)		X		0160 65432121	2
	PHOENIX	Admin		X		0160 1233456	1

Path: Main menu ⇒ Monitored Jobs ⇒ Message to Service ⇒ F11 (Change View)

A renewed pressure with the key "F11" resets this representation mode on the original view mode again.

A service list and its registered services respectively cannot be edited at this place like a "normal" service since it is provided with references. The editing and creating respectively of service lists can only be carried out on the display ADMINISTRATION OF SERVICE LISTS (page 38).



### 7.5 Copying jobs

```

User....: TESTSJ
Display.: PHOENIX4
PHOENIX SAFEJOBS
MONITORED JOBS
System: PHOENIX4
7.03.06
11:43:59

2 = Edit    3 = Copy    4 = Delete    S = Start job    U = Message to service

Se Job name Description Monitored days
M T W T F S S
3 MSGW Emergency program X X X X X X X
PROTOTYPE Prototype to copy X X X X X X

```

The recording of a job with an assigned service is relatively time-consuming. After having layed out a job it recommends itself the use of the function copy to the rationalization of further work, if the next job to be included ought to be parametrized at once or at least similarly. The function 'Copy' is implemented in the screen of MONITORED JOBS and to be activated by the control command "3" with a corresponding selection of a job.

Path: Main menue ⇒ Monitored Jobs

Following the screen ADD JOB is directly shown after having executed the function 'Copy'.

```

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

User....: TESTSJ
Display.: PHOENIX4
PHOENIX SAFEJOBS
MONITORED JOBS
ADD JOB
System: PHOENIX4
7.03.06
11:44:54

Copy from job to job
Job name.....: PROTOTYPE
Job owner.....:
Library.....:
Subsystem.....:

Description.....: Prototype to copy
*MON *TUE *WED *THU *FRI *SAT *SUN
Monitoring from..:
Monitoring until.: 23:59 23:59 23:59 23:59 23:59 23:59
Type of job.....: D D/E/T
Notification.....: A A=active/I=inactive

F7: Save F12: Cancel

MA a 06/036
I902 - Sitzung wurde erfolgreich gestartet.

```

Path: Main menue ⇒ Monitored Jobs ⇒ Add Job / Copy (with "3")

On the upper right screen area a new job name and / or the characteristics for 'Job owner', 'Library' and 'Subsystem' have to be typed in. The other screen fields are disabled for editing at this time.



After storing with F7 **SafeJobs** leads the user directly into the screen EDIT JOB for the new generated job. All further characteristics (particularly the 'Description') can be changed there. If necessary the services can be edited on the screen MESSAGE TO SERVICE with "F10".

Remarks:

A) Please keep in mind, that copied jobs are deactivated per default with the job kind of "N" as long as, until an other job kind is adjusted by the user!

```
Type of job.....: N D/E/T
```

Path: Main menu ⇒ Monitored Jobs ⇒ Change Job

B) When copying jobs certain features are lost provided that they were laid out in the original job:

- Loss of the initial instruction ('Command' with "F15")
- Loss of the reference on an external diagnostic program
- Loss of the testing period for the job kind "T"

All other features, incl. the assigned services / service lists, are taken.

C) As an efficient procedure for the recording of jobs we recommend designing one or several types of sample jobs in the beginning of the job recording. These should respectively show a great parametric similarity for a larger number of jobs still to be included. Please, you are more important for the recording of a sample job in accordance with the description in the chapter 7th 2 - 7.4.



### 7.6 Exception: Emergency program \*MSGW

```

User....: TESTSJ
Display.: PHOENIX4
                PHOENIX SAFEJOBS
                MONITORED JOBS
                System: PHOENIX4
                6.03.06
                13:21:36

2 = Edit    3 = Copy    4 = Delete    S = Start job    U = Message to service
-----
Se Job name  Owner      Library      Sub system  Monitored days      Status
                *MSGW                X X X X X X X

```

Path: Main menue ⇒ Monitored Jobs

In principle, **SafeJobs** also monitors such active jobs on the system which have not been listed in **SafeJobs** for the monitoring<sup>1</sup>.

Which one has to be informed by **SafeJobs** if such a job produces a fault status? For this undefined circumstance **SafeJobs** provides the emergency program \*MSGW. It is an central part of **SafeJobs** and can be neither deleted nor changed.

```

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

User....: TESTSJ
Display.: PHOENIX4
                PHOENIX SAFEJOBS
                MONITORED JOBS
                EDIT JOB
                System: PHOENIX4
                6.03.06
                13:22:11

For job:  *MSGW

Description.....: Emergency program
-----
                *MON  *TUE  *WED  *THU  *FRI  *SAT  *SUN
Monitoring from..: 1      1      1      1      1      1      1
Monitoring until.: 23:59 23:59 23:59 23:59 23:59 23:59 23:59

Type of job.....: D

Notification.....: A

-----
                F10: Service                F12: Cancel
-----

MA a 24/080
I902 - Sitzung wurde erfolgreich gestartet.

```

Path: Main menue ⇒ Monitored Jobs ⇒ Edit Job

<sup>1</sup> A restriction of this rule is only possible with setting the parameter CTL0002 on "J" (page 44). With this measure the set of all monitored jobs is limited to jobs included in **SafeJobs** in the screen MONITORED JOBS.



With the pre-registered times of Monday until Sunday the complete day is respectively covered for the monitoring or for message activities. With "F10" services or service lists have as usual to be assigned.

Thus all services assigned here will receive a message in the fault case according to the fixed notification attitudes for jobs which are not listed in **SafeJobs** for the direct monitoring.

Remarks:

- In the case that at least no service is assigned to the emergency program, **SafeJobs** informs the last authority in the fault case: This is the \*Default service whose phone number is deposited in the parameter CTL0030 (page 46). So you should carefully review how you want to use this emergency program.
- The emergency program informs in addition for registered jobs in the fault status if no services are assigned to the job or the notification level was set to "INACTIVE" for a job.

With the recording of jobs and the connection with services the substantial configuration work is finished within **SafeJobs**.

All other screens serves test purposes and as a daily support according to an administration and control of the monitoring activities **of SafeJobs**.



## 8 Administration of Service Lists

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

User....: TESTSJ          PHOENIX SAFEJOBS          System: PHOENIX4
Display.: PHOENIX4       ADMINISTRATION OF SERV.- LISTS  15.02.07
                                                17:26:50

                2 = Edit          4 = Delete          U = Service

-----
Se List      Description          BRK SMS Mail  Phone number
= *JIT_AB07  All JIT processes in section A
- *NIGHT     Administrators for the night s

                                                End

-----
F6: Add list          F11: Change view    F12: Escape

MA a 08/002
I902 - Sitzung wurde erfolgreich gestartet. HP LaserJet 4000 Series PCL EIN IP_192.168.0.33
```

Path: Main menue ⇒ Administration of Service Lists

With the input of the control command "4" in the main menue the overview screen ADMINISTRATION OF SERVICE LISTS follows.

As already described for the screen MESSAGE TO SERVICE, lists already typed in here have shut by default, too. With the function key "F11" they can be opened up and seen more nearly in accordance with the description on page 33.

Laying out a service list is not obligatory. The use of service lists makes, however, the work easier for the combination of services with jobs if there are certain prerequisites:

- You would like to assign a defined group of services to a larger number of jobs which are in a narrow relationship with each other according to the way respectively.
- You would like to get several services consistent hierarchically by assignment of escalation layers and this notification structure assign to all jobs.

An existing list has to be changed with the order "2". With the function key "F6" a new list is prepared.

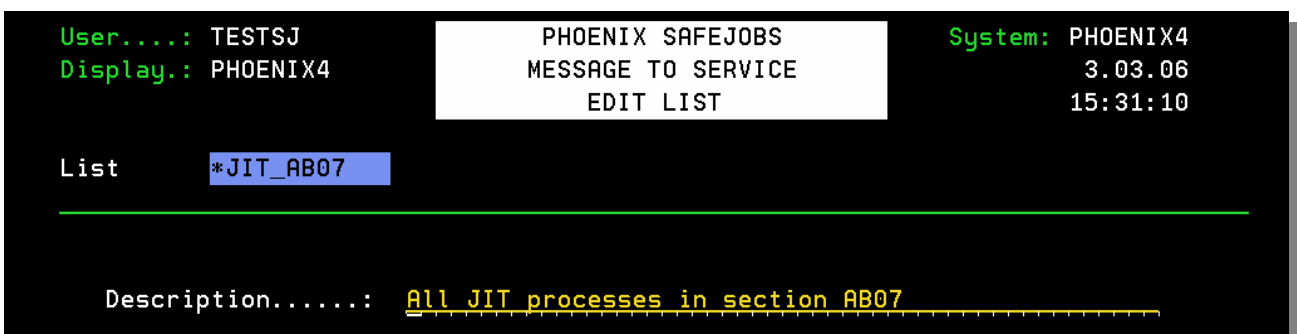


### 8.1 Add List / Change List



Path: Main menue ⇒ Administration of Service Lists ⇒ Add List

The screens ADD LIST and EDIT LIST are almost the same. The difference consists only in the fact that the name cannot be changed any more after having created a list.



Path: Main menue ⇒ Administration of Service Lists ⇒ Edit List

A name has to be allocated for the service list with a \* (star) going ahead in the field 'List' or 'Service list'. With the field 'Description' a corresponding description of the service list has to be carried out .

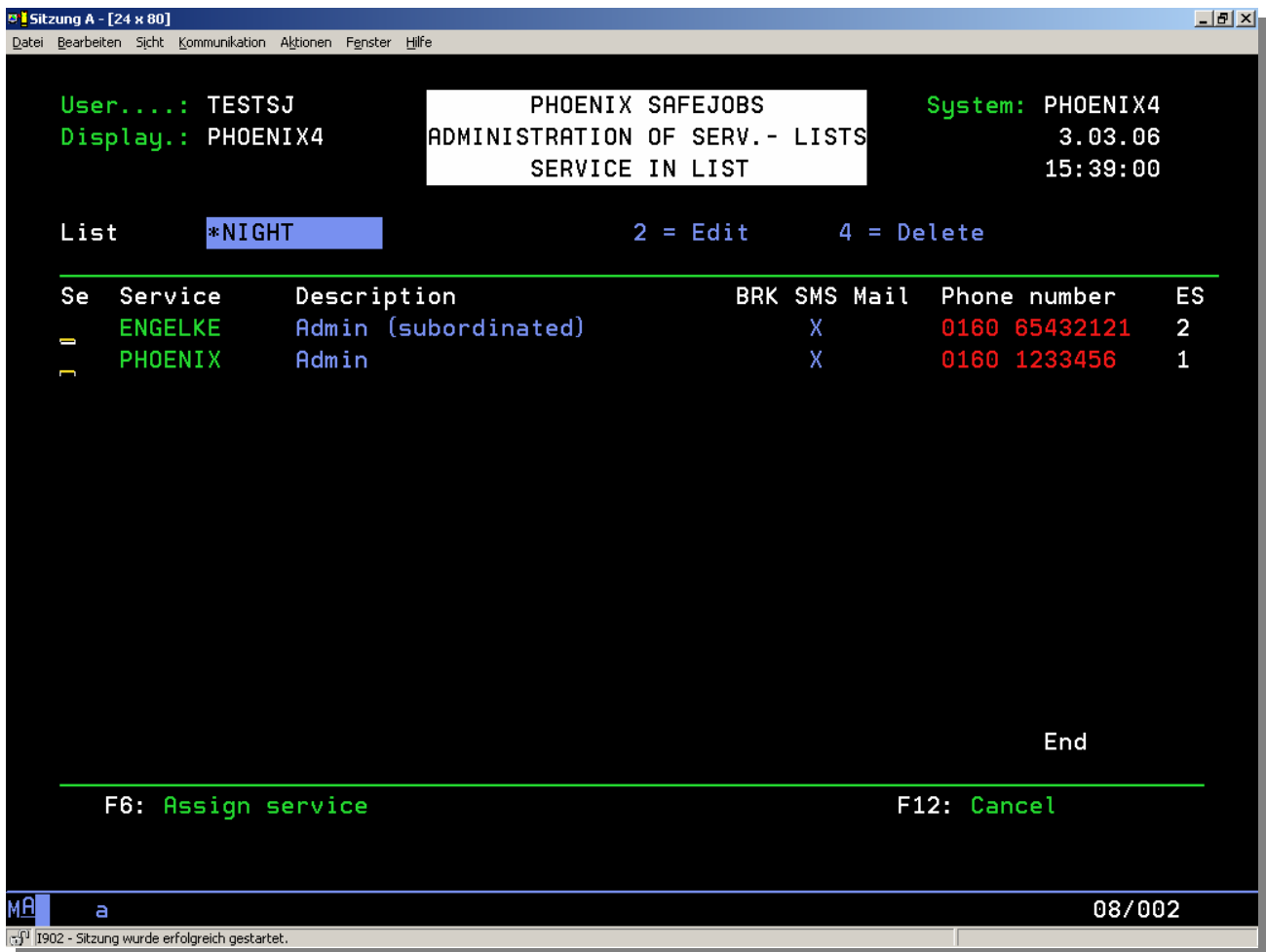


For laying out lists and the use of lists the following rules are to take into account:

- Every list is a virtual (no "real") service or user. In principle, the name of a list starts with a \*.
- The recursive use of a list within itself is not possible.
- Arbitrarily many services can be assigned to a list.
- A list can be assigned to arbitrarily many jobs.
- A list cannot be deleted if it is provided with references by at least one job.

After having typed in the name of the list and its description services are to be assigned to the list with "F8". This happens in the same manner as the assignment of services to a job (page 30).

### 8.2 Service in List



Path: Main menue ⇒ Administration of Service Lists ⇒ Add List ⇒ Service in List

The screen shown, SERVICE IN LIST, is almost like the screen MESSAGE TO SERVICE in its construction. The only difference consists that laying out a list with "F8" within a list is not possible for the above-mentioned conventions in accordance with this one here.

As usual one or more services can be added to the list with "F6" now.

Creating and editing of a service has been already explained for the screens NEW SERVICE / EDIT SERVICE. It is therefore referred first-classly to the explanations in accordance with page 30.



## 9 Parameter / Configurations

```

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

User....: TESTSJ          PHOENIX SAFEJOBS          System: PHOENIX4
Display.: PHOENIX4       PARAMETER/CONFIGURATION      6.03.06
                                                12:18:52

2 = Edit      4 = Delete

-----
Se Param.  Text                                     Value
-----
= CTL0000  License key                                30CYHJPGFRSZXFUW
. CTL0001  Latency until the next check (in sec)          000120
. CTL0002  Restrict monitoring to recorded jobs only? J/N  J
. CTL0003  SafeJobs in real run / test run (E/T)           E
. CTL0004  Call of SafeJobs interactive/batch (I/B)         B
. CTL0005  Program library for SafeJobs                    SAFEJOBS
. CTL0006  Data library for SafeJobs                       SJDTALIB
. CTL0007  REXX-library for SafeJobs                       SJREXLIB
. CTL0008  REXX-file SafeJobs                             QREXSRC
. CTL0009  Password request for start of SafeJobs (J/N)   N
. CTL0010  Default for F10 = Display status in MONITORED JOBS 1
                                                More...

-----
F6: Add parameter                               F12: Cancel

MA a 08/002
I902 - Sitzung wurde erfolgreich gestartet.

```

Path: Main menue ⇒ Parameter/Configurations

With the input of the control command "10" in the main menue the overview screen PARAMETER/CONFIGURATION follows. It lists all parameters which are required for the control of **SafeJobs**. The list for the description of the parameters consists according to the name 'Parameter', an explaining 'Text' as well as the corresponding control value 'Value'.

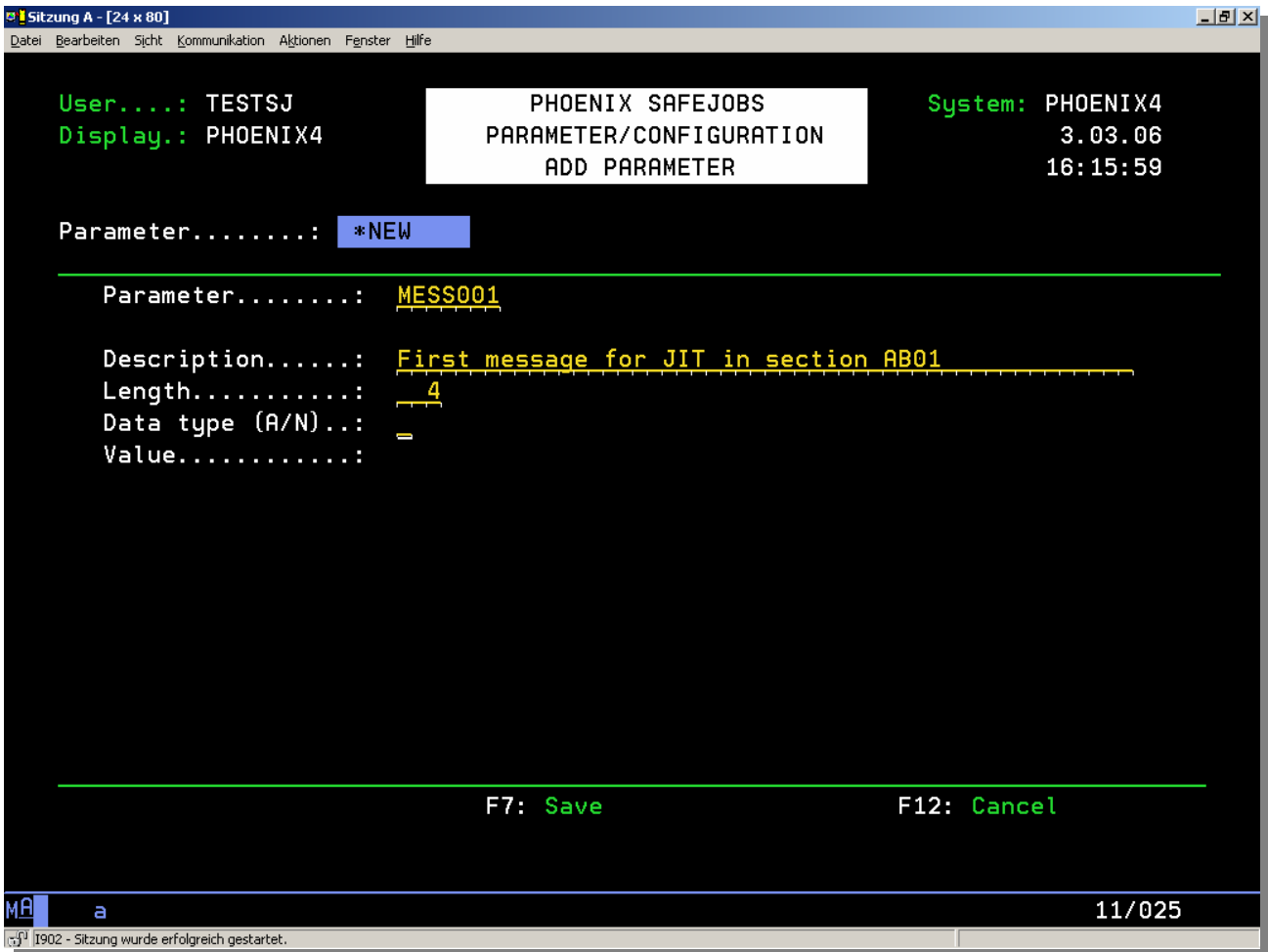
The differing color representation of the corresponding control values serves the user for the orientation: Values represented in red only can be changed by the administrator (user PHOENIX and SAFEJOBS). On the other hand, all values represented in green may be changed 'Value' by each user.

Laying out a user-defined parameter can be required when a corresponding diagnostic program has been made (see page 24) and this ought to be parametrized from **SafeJobs**. With these parameters you can submit values from **SafeJobs** to the diagnostic program. Please take into account that customer defined parameters make only sense in connection with this additional programs which you would like to tie into the operation of **SafeJobs**. In this case it must be ensured that the self-defined parameters use the interface of your program correctly.

With a corresponding selection of a parameter by the control command "2" a parameter can be edited. User-defined parameters can be deleted exclusively with "4". With "F6" new parameters can be added.



### 9.1 Add Parameter



Path: Main menu ⇒ Parameter/Configurations ⇒ Add Parameter

A customer defined parameter must not start by name with "CTL" since this namespace is reserved for the operation **of SafeJobs**. Each other name may be used with a length between one and seven alphanumeric characters.

According to the new installation of a parameter it is to determine the name of the 'Parameter', its characterizing 'Description' as well as the 'Length' for the field 'Value'. This limits the field length from at most 20 places to, if necessary, one place.

Before the last field 'Value' is editable, it is to determine the manner of its data type in the field 'Data type (A/N)' with "A" for alphanumeric or "N" for numeric.



After the data release the field 'Value' with the place length determined before is editable (see the following).

```
User....: TESTSJ          PHOENIX SAFEJOBS          System: PHOENIX4
Display.: PHOENIX4       PARAMETER/CONFIGURATION    3.03.06
                                ADD PARAMETER              16:16:22

Parameter.....: *NEW

-----
Parameter.....: MESS001
Description.....: First message for JIT in section AB01
Length.....: 4
Data type (A/N)..: A
Value.....: ZU01
```

Path: Main menue ⇒ Parameter/Configurations ⇒ Add Parameter

With "F7" you store your inputs to the new parameter.

## 9.2 Edit Parameter

```
User....: TESTSJ          PHOENIX SAFEJOBS          System: PHOENIX4
Display.: PHOENIX4       PARAMETER/CONFIGURATION    3.03.06
                                EDIT PARAMETER             16:17:00

Parameter.....: MESS001

-----
Description.....: First message for JIT in section AB01
Value.....: ZU01
Length.....: 004 Alphanumeric
```

Path: Main menue ⇒ Parameter/Configurations ⇒ Edit Parameter

On the screen EDIT PARAMETER changes can be carried out once again for description and value if necessary. The name of the parameter as well as the value of the field 'Length' determined once can not be changed afterwards any more. If there is the necessity for an additional change of the length of the field 'Length', the parameter has to be deleted and to be laid out newly.



### 9.3 List of Parameters:

If you intend to change a parameter out of the namespace CTL, please take into account that you can disrupt the program operation of **SafeJobs** severely with wrong settings. In the worst case improper settings can prevent **SafeJobs** from monitoring. Therefore you only should change values, if you are conscious about the consequences of your settings.

Please take also into account that some parameters (values inked on the screen with red represented) are editable only by Phoenix-ICP!

**Phoenix-ICP GmbH assumes no liability for damages which results from improper settings of the parameters with the customer!**

#### Interpretation of Parameters:

Parameter	Text	Adjustable (Y/N)?	Value	Description
CTL0000	License key	Y		License key, which is required for the operation of <b>SafeJobs</b> .
CTL0001	Latency until the next check (in sec)	N	000120	Time period in seconds, after that a new system diagnosis (check job) will be started. (DEFAULT = 000120) The input of a value smaller than 60 seconds is not possible.
CTL0002	Restrict monitoring to recorded jobs only? J/N	Y	N	Limitation of the monitoring activities: J: <b>SafeJobs</b> only monitors jobs which are recorded in <b>SafeJobs</b> . N: <b>SafeJobs</b> monitors all jobs on the system.
CTL0003	SafeJobs in real run / test run (E/T)	N	E	Switch for test runs: E: (DEFAULT) In the real run <b>SafeJobs</b> generates continuously new check jobs. T: In the test run <b>SafeJobs</b> works only for the short live cycle of a check job. In the fault case this setting prevents <b>SafeJobs</b> from a continuously generating of the same fault message. The value "T" is preferably to be recorded at program innovations.
CTL0004	Call of SafeJobs interactive/batch (I/B)	Y	B	Switch for the kind of call of the check job: I: In interactive modus the start of check jobs results by a CALL. If the check job does not finish correctly, no further call will be done. B: (DEFAULT) In batch modus check jobs are started by SBMJOB as jobs of their own.
CTL0005	Program library for SafeJobs	N	SAFEJOBS	Program library of <b>SafeJobs</b>
CTL0006	Data library for SafeJobs	N	SJDTALIB	Data library for <b>SafeJobs</b>
CTL0007	REXX- library for SafeJobs	N	SJREXLIB	REXX- library for <b>SafeJobs</b>
CTL0008	REXX-file SafeJobs	Y	QREXSRC	REXX-Datei <b>SafeJobs</b>



Parameter	Text	Adjustable (Y/N)?	Value	Description
CTL0009	Password request for start of SafeJobs (J/N)	Y	N	One-/off turning of the password request for the start <b>of SafeJobs</b> .
CTL0010	Default for F10 = Display status in MONITORED JOBS	Y	1 (1 or 2)	Default view of the screen, when the menu MONITORED JOBS is called (at or switched off with F10 for the job status).
CTL0011	Default for F11=Change display in MONITORED JOBS	Y	2 (1 or 2)	Default view of the screen when the menu MONITORED JOBS is called (with F11 the view of the job description will be changed).
CTL0012	Virtual service name (without user profile)	Y	ADMIN	Virtual service for e-mail and SMS dispatch which does not have any user profile on the iSeries (AS/400).
CTL0013	Sub system SafeJobs	N	SAFEJOBS	Sub system from <b>SafeJobs</b> .
CTL0014	Job queue SafeJobs	N	SJJOBQ	Job queue for <b>SafeJobs</b> .
CTL0015	SafeJobs Active/Inactive (A/I)	Y	A	Turning on or off of the global monitoring. No job assays and messages are carried out at inactivity!
CTL0016	Time-lag first 2 messages (minimum: 5 min)	Y	5	Period of time after which the first warning is sent out when noticing a fault. After the first message another three messages are still sent out with this period of time provided that the job further is in the fault status
CTL0017	Time-lag every further message (minimum: 5 min)	Y	5	Period of time, 1. after which all further messages are sent out if the first four messages were sent out without reaction or the job further is in the fault status. 2. which passes between the notifications for escalation stages.
CTL0018	System name as a sender for SMS/message	Y	PHOENIX	The system identifying name which is reported within a SMS sent as a warning announcement.
CTL0019	WA real/test (E/T)	N	E	Switch for test runs. E: (DEFAULT) In the real run <b>SafeJobs</b> stores data in temporary files. T: In the test run <b>SafeJobs</b> stores data for the problem analysis tightly.
CTL0021	Global monitoring of time	Y	0200	Global: Start time for the monitoring
CTL0022	Global monitoring until time	Y	2300	Global: End time for the monitoring
CTL0023	1. additional library for diagnostic programs	Y		Another max. two libraries for tests e.g. of checking programs or at program patches. All checked programs must be stored into the library of SafeJobs!
CTL0024	2. additional library for diagnostic programs	Y		



Parameter	Text	Adjustable (Y/N)?	Value	Description
CTL0025	Mnemonic location for file name	Y	PH3	Being able to carry out distinctions between the systems, all files generated by <b>SafeJobs</b> for the FTP dispatch starts with this contraction.
CTL0026	GSM-modem active J/N	Y	J	Shall messages be sent by GSM-modem? (You can have sent messages both over the GSM-modem and by SMS server.)
CTL0027	SMS-server active J/N	Y	N	Shall messages be sent by FTP about a SMS server? (You can have messages sent both by SMS servers and over the GSM modem, see 8 8 also.)
CTL0029	National language for SafeJobs	Y	EN	Setting, for the national language the user interface of <b>SafeJobs</b> is represented
CTL0030	Last phone number, if no-one others indicated	Y		Number which SafeJobs uses to send messages in the fault case of a job and for this one exists no valid service or no phone number <b>and</b> also in the *MSGW no valid service was typed in.
CTL0031	Monitoring message queue QSYSOPR J/N	Y	N	With activation of this parameter no alarm messages are carried out for certain jobs in the MSGW. These must not be included in SafeJobs under MONITORED JOBS.
CTL0032	Display for field 'Job' with all attributes (J/N)	Y	N	If jobs are included once only about their names, the value should be N. Effect: The jobs are announced only with job names and description in all depending screens. In the other case the fields 'Owner', 'Library' and 'Subsystem' are shown instead of 'Description'.



## 9.4 Adding a second supervision instance by the use of CTL0031

**SafeJobs** starts an additional and autonomous supervision instance by switching to ("J") of the parameter CTL0031 for the parallel check of all jobs on the QSYSOPR news. These messages are filtered by **SafeJobs** in the following way for the output of an error message:

- 1) Only messages are evaluated whose level is greater than 30 and
- 2) an operator intervention is required to these.

All other QSYSOPR news are ignored by **SafeJobs**. I.e., they do not become rated as a fault in principle!

### Remark:

The activation of the second supervision instance leads to exactly one additional listing entry in the fault case of a job with technical indications for the fault status of the job.

## 9.5 Restricting of monitoring on recorded jobs with CTL0002

The automated supervision of all jobs on large systems can lead to unwanted "secondary effects". In the worst case the services receives frequent and regular error messages from **SafeJobs** which in the long run reduce the alertness of the services due to Habituation. Just at the time of beginning operation of an automated monitoring such an introduction effect can "surprise" the users. Under circumstances therefore people want to concentrate for the first step on some safety critical jobs without being able to be turned away of the error messages to "less" critical jobs.

For this one-time situation the parameter CTL0002 is implemented: It serves **SafeJobs** as an instruction to monitore either all jobs of a system or a subset of jobs included in **SafeJobs** with safety critical qualities.

By the default setting of "N" **SafeJobs** monitores all jobs of a system. According to the explanations, so the parameter has to be set to "J" to have a subset of all jobs beeing monitored.

### Remark:

We urgently recommend to use this pragmatic solution temporarily. In the long run only the global monitoring of a system makes sense since a restricted selection of safety critical jobs can get obsolete for a longer time period.

On the other hand there is the possibility of improving the system by the global monitoring in the interplay of all its jobs gradually. For this the list of the protocols supports the administrator by helping him to interpret the fault histories in the sense of fault regularities also. When such fault cycles are recognized once, it is only another small step to defuse preventively these and to clear them iteratively. This way most faults can gradually be remedied over a longer time period.

To the further support of the users a statistical evaluation function is planned in one of the next **SafeJobs** releases for protocols in the display DISPLAY PROTOCOLS.



## 10 Initialization modem

If there are doubts about the ability of the GSM-modem to communicate, the initialization of the GSM-modem should be taken into consideration. To substantiate a suspicion concerning the operation, dropping a SMS over the menu item "14" recommends itself. If the **attempt of delivery** should fail with an established phone number, some further examinations are required:

1. Make sure that your GSM-modem is operational. For this simple function control the green LED lamp of the GSM-modem should flash to show around a properly running power supply for instance.
2. Check the SIM card of the GSM-modem for operability in another mobile telephone.

If these two tests should not provide any reference to any defect in the scope of the GSM-modem, you can start with the initialization of the GSM-modem within **SafeJobs**. It still has to be made sure before executing the procedure that there is an exclusive access for **SafeJobs** to the V.24 connection. Otherwise the initialization will fail.

Displacing the control command "11" in the main menu **SafeJobs** starts with a four-step initialization sequence of the GSM-modem which cannot further be parametrized or interrupted:

Step 1: Taking offline of the GSM-modem

```
Step 1: SafeJobs is testing the modem. This will take up some seconds...
```

Step 2: Taking online of the GSM-modem

```
Step 2: SafeJobs is testing the modem. This will take up some seconds...
```

Step 3: Sending of certain initialization orders to the GSM-modem

```
Step 3: SafeJobs is testing the modem. This will take up some seconds...
```

Step 4: Availability test with reservation of the GSM-modem

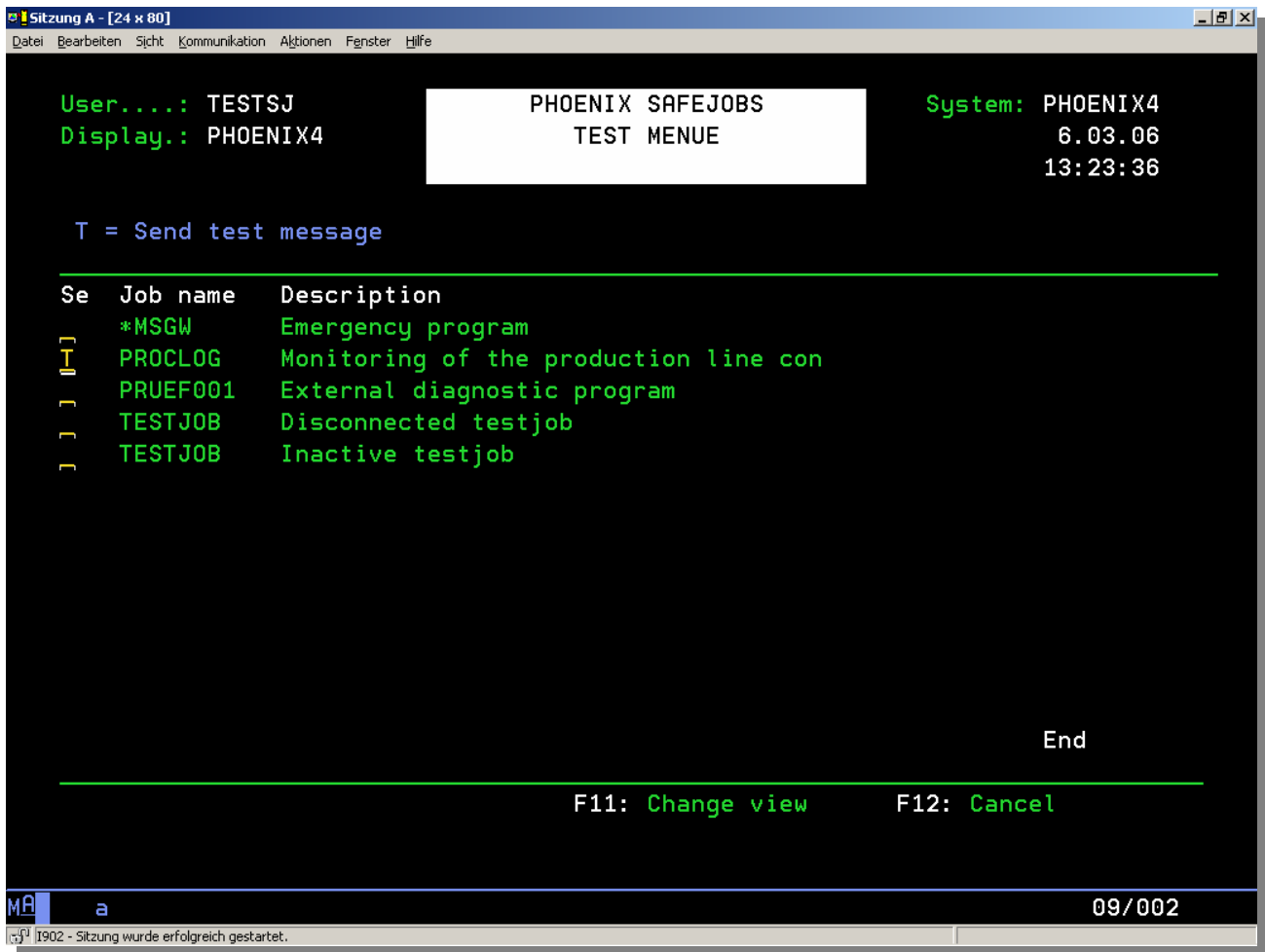
```
The modem was initialized successfully!
```

The first three steps are passed respectively with a period of time for about ten seconds. After completion of one step a report is given (see above). The latency for the last step can if necessary be up to 60 seconds. With the successful course of the initialization **SafeJobs** completes the sequence with a report of success within the main menu.

In the case of a faulty initialization **SafeJobs** stops on the respective initialization step and reports the abortion within the main menu.



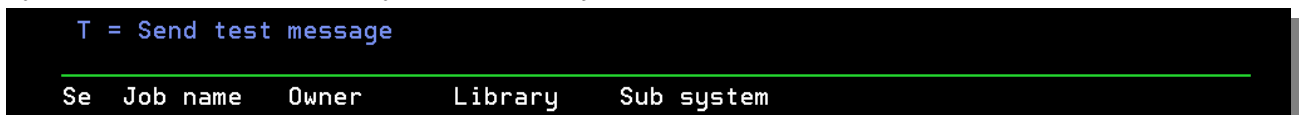
# 11 Test menue



Path: Main menue ⇒ Test menue

With the control command "12" in the main menu the display TEST MENUE starts. With this display the monitoring behaviour can be controlled specifically at an arbitrary time for certain jobs. Each job taken for the monitoring is listed here as a simple representation once again with its description and its job name.

If several jobs of the same name are included for the monitoring, the display can be switched over by means of "F11" for a subtly differentiated job advertisement to the better orientation:

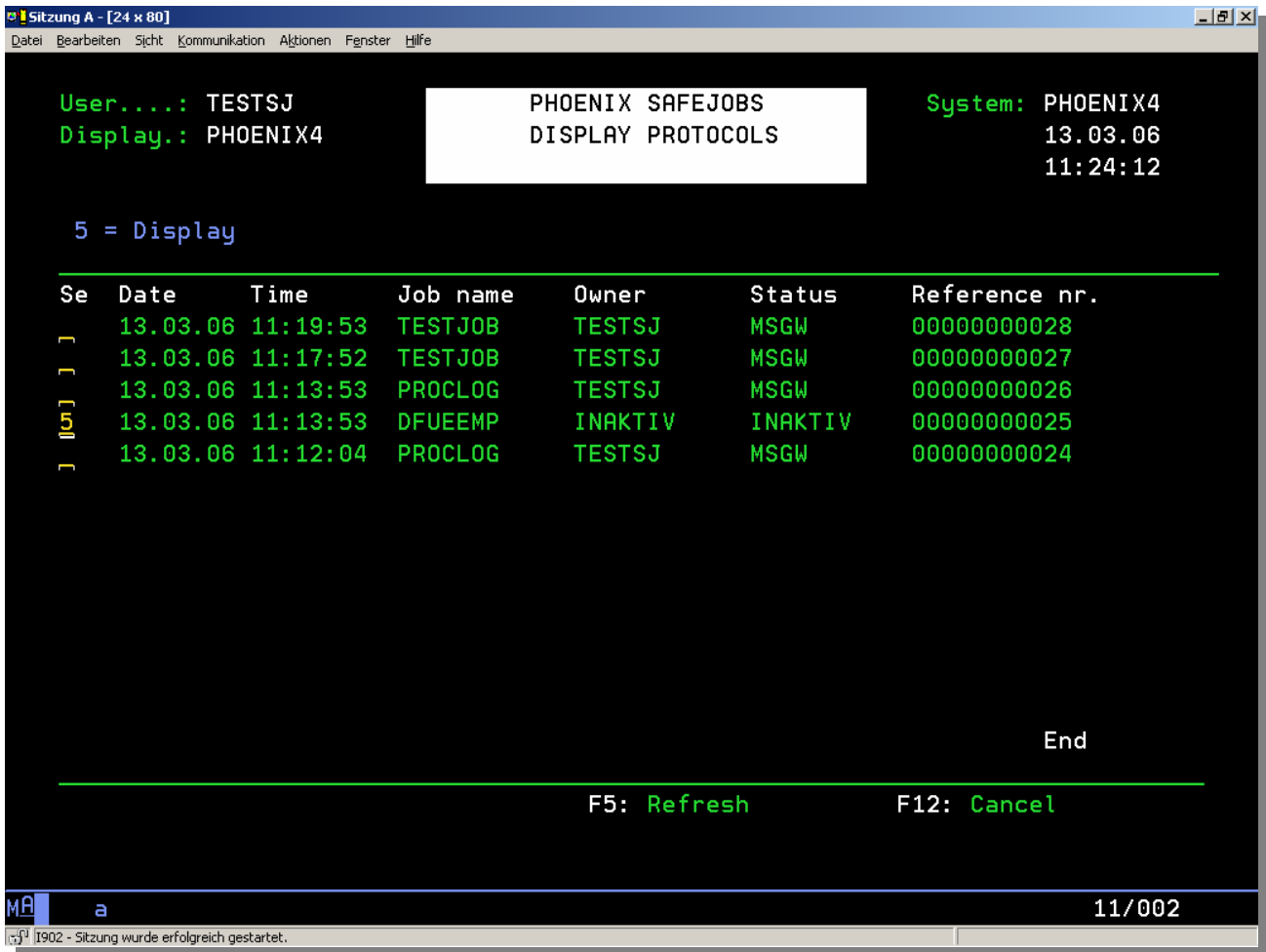


With a corresponding selection by the control command "T" a test notification assigned to the job is aroused. For this all types of notification configured in the corresponding job are carried out for the test notification. This way it can be made definitely sure that all inputs have been made without faults and as requested (e.g. the correct phone number for the registered service).

Only one job can be respectively selected for a test. **SafeJobs** carries out the corresponding test at a multiple selection of different jobs only for the first selected job from the list!



## 12 Display Protocols



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

User....: TESTSJ          PHOENIX SAFEJOBS          System: PHOENIX4
Display.: PHOENIX4       DISPLAY PROTOCOLS        13.03.06
                                                11:24:12

5 = Display

-----
Se  Date      Time      Job name  Owner      Status      Reference nr.
]   13.03.06  11:19:53  TESTJOB   TESTSJ     MSGW        00000000028
]   13.03.06  11:17:52  TESTJOB   TESTSJ     MSGW        00000000027
]   13.03.06  11:13:53  PROCLOG   TESTSJ     MSGW        00000000026
] [5] 13.03.06  11:13:53  DFUEEMP   INAKTIV    INAKTIV     00000000025
]   13.03.06  11:12:04  PROCLOG   TESTSJ     MSGW        00000000024

End

-----
F5: Refresh      F12: Cancel

MR a 11/002
1902 - Sitzung wurde erfolgreich gestartet.
```

Path: Main menu ⇒ Display Protocols

With the control command "13" from the main menu the display DISPLAY PROTOCOLS starts. In this overview screen **SafeJobs** quotes all reports which were already produced chronologically in a list. Therefore every report is listed by 'Date', 'Time', 'Job name', 'Job user' as well as 'Status' and 'Reference nr.'

With "F5" the list of the protocols can be updated provided that protocol entries are written by **SafeJobs** due to one or several job faults at this time.

The corresponding selection with the control command "5" leads into the detailed display of a protocol entry.



```

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

User....: TESTSJ
Display.: PHOENIX4

PHOENIX SAFEJOBS
DISPLAY PROTOCOLS

System: PHOENIX4
        6.03.06
        13:24:04

Job name.....: DFUEEMP           Reference number : 00000025
Job number.....: 000000
Date.....: 13.03.06
Time.....: 11:13:53
Text: 11:13:53 PHOENIX4: Job DFUEEMP is not active!

-----
Service   MSG-Date/-time   B/S/M   Tel/Display/E-Mail
PHOENIX   13.03.06 11:13:53   SMS    017112345678
PHOENIX   13.03.06 11:13:54   CALL   017112345678
PHOENIX   13.03.06 11:13:55   MAIL   administrator@phoenix-icp.de
PHOENIX   13.03.06 11:19:55   SMS    017112345678
PHOENIX   13.03.06 11:19:56   CALL   017112345678
PHOENIX   13.03.06 11:19:59   MAIL   administrator@phoenix-icp.de

End

F5: Refresh      F12: Cancel

MA a 24/080
I902 - Sitzung wurde erfolgreich gestartet.

```

Path: Main menu => Display Protocols => View

In the detailed display of the upper screen area the point of time is repeated once again with 'Date' and 'Time' which was already listed on the previous overview screen. This is the point of time at which **SafeJobs** noticed the faulty job. The period of time defined in seconds for the periodical monitoring of a job is listed under the menu item 'Parameter'. In the field 'Text' **SafeJobs** informs about the message which were sent out by SMS to a certain service at notification time.

In the lower screen area the name of the service to be informed is listed in the column 'Service'. With the column 'MSG-Date/-Time' the notification time is written at which **SafeJobs** had sent out a message after having noticed appearance of the fault case. The column 'B/S/M' informs about the type of the notification. Either BRK, SMS, CALL or Mail is listed here. Depending on the selected type of notification the last column 'Tel/Display/E-Mail' contains either a phone number, an e-mail address or the name of the display.

Here in the example **SafeJobs** informs the service Phoenix with a SMS, a CALL (alert) and additional with an e-mail at 9:25 am. Almost 10 minutes later **SafeJobs** informs once again the service Phoenix because it has not turned out well until this time to start the faulty job once more.

A table is shown in the appendix about the notification behaviour for better understanding about this according to which rules **SafeJobs** informs services in the fault case.



## 13 Send SMS

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

User....: TESTSJ
Display.: PHOENIX4

PHOENIX SAFEJOBS
SEND SMS

System: PHOENIX4
        6.03.06
        12:31:20

-----

Phone number.....: 0160 1236556456
SMS text.....: PLEASE COME INTO PLANT II IMMEDIATELY. COLLEAGUE
                MÜLLER HAD AN ACCIDENT HERE ON THE WAY!
Alarm call.....: J J/

-----

F7: Send SMS                                F12: Cancel

MA a 11/064
I902 - Sitzung wurde erfolgreich gestartet.
```

Path: Main menu ⇒ Send SMS

With the control command "14" in the main menu the screen SEND SMS starts.

**SafeJobs** offers the possibility in addition, to have users in certain situations informed who have not been typed in for a message within the menu MONITORED JOBS.

So only a 'Dial number' has to be entered in the menu with corresponding 'SMS text'. Having to be sent an 'Alert' for the phone number parallel is to be initiated by the "J".



## 14 Deinstallation of SafeJobs

If you like to carry out a deinstallation of **SafeJobs**, all libraries made for **SafeJobs** and entries carried out on the side of the operating system which were carried out in the course of the installation and later configurations are removed.

Carrying out the deinstallation of **SafeJobs** please do as the following:

1. Make sure that no user works with **SafeJobs** actively.
2. Pay attention, that no other program accesses **SafeJobs** or communicates with **SafeJobs** (e.g. an external diagnostic program).
3. Start with STRSJ **SafeJobs** a last time to update your library list.
4. Then end **SafeJobs** again and displace the following order in the system environment:  
**CALL UNINSTAL**  
Please keep in mind that you need the QSECOFR rights for it!

After having displaced the "Uninstal" order the "Uninstal" procedure reports with the following screen. If you still liked to stop the deinstallation anyway, push "F12". Otherwise push "F8" to start with the deinstallation irrevocably.

```
Sitzung A - [24 x 80]
Datei Bearbeiten Sicht Kommunikation Aktionen Fenster Hilfe
TESTSJ                SafeJobs deinstallation                System PHOENIXN
                                                                Date 16.06.05
                                                                Time 13.41.32

Dieses Programm löscht Ihre SafeJobs Installation!
Alle Arten von *SBS und *CTL Einträgen werden gelöscht!
Sie benötigen die QSECOFR Rechte für diese Aufgabe!
Safejobs muß heruntergefahren sein!
Prüfen Sie bitte,
ob das System von anderen Usern oder Programmen benutzt wird!
Drücken sie nicht F8, wenn Sie sich nicht sicher sind!

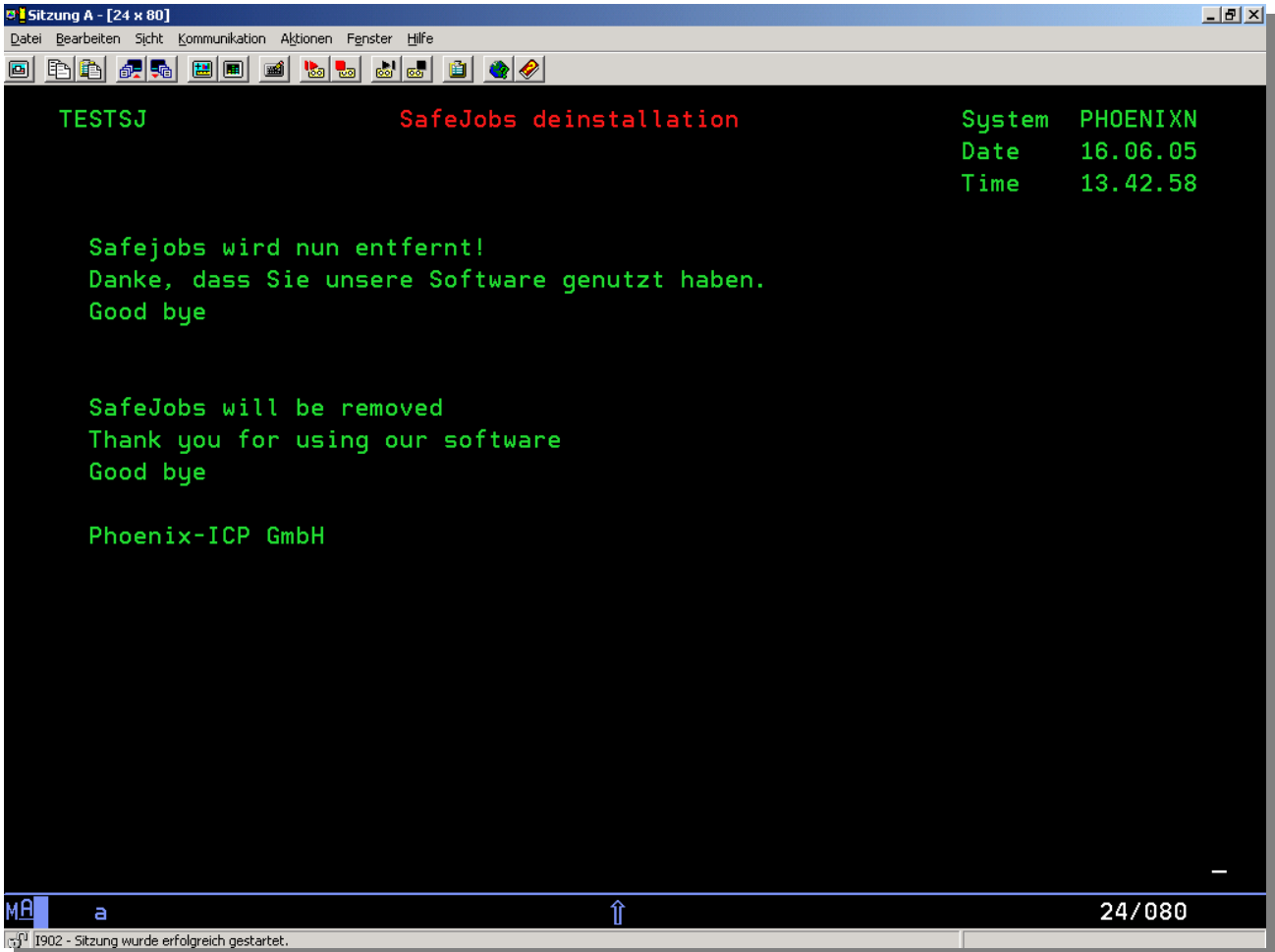
All libraries will be deleted !
All kind of *SBS and *CLT entries will be removed !!
You need QSECOFR rights to run this Job!
Safejobs must be shut down !
Check that the system is not in use by other users or programs !!!
Don't press F8 if you are not shure !!!

F8=Remove SafeJobs   F12=Cancel
PLEASE PRESS F8

MA a                               24/080
I902 - Sitzung wurde erfolgreich gestartet.
```



The "Uninstal" procedure takes its work now. During the deinstallation of all objects the following screen is shown.



After a successful execution of the "Uninstal" procedure you reach back directly the system environment. You have deinstalled **SafeJobs** with that!



## 15 Licensing agreement

### § 1) Software licence agreement

- I. Following the terms and conditions are listed for the use of software of Phoenix-ICP GmbH (called Phoenix-ICP in the following) by you yourself (called licensee in the following) .

### § 2) Terms and conditions

- I. Object of the contract is the computer program **SafeJobs** recorded on data carriers (diskettes or other storage media) as well as the necessary documentation and hardware (GSM-modem). These components are described as "licence software" or "licence hardware" in the following.

### § 3) Size of the use

- I. Phoenix-ICP grants the licensee the exclusive right (called "licence" in the following) to the use of the licence software and the licence hardware for the duration of the contract on an AS/400 (iSeries, eServer i5). The licence applies to all users of this system.
- II. The licence is not transferable. A more outreaching use is not permitted.

### § 4) Copying permission

- I. The licensee receives the right to the making of machine-readable copies of the licence software for the storage in an archive, if such copies are intended for it, replacing / reconstructing copies of the licence software used up or destroyed and being used only in the context of the rights transferred with this contract.
- II. With completion of this contract or a subsequent treaty on the same licence software and licence hardware the licensee is obliged to delete or to destroy all copies of the licence software as well as the necessary documentations completely.
- III. The originals which the licensee has got from Phoenix-ICP are excepted from the destruction/deletion.

### § 5) Rights from Phoenix-ICP for the licence software

- I. With accepting this contract Phoenix-ICP remains holder of all properties and other rights with the licence software, the documentation and data carrier and other documents which are delivered to the licensee in execution of this contract. Phoenix-ICP is therefore entitled to the further sale of its licence software to other according to this contract.

### § 6) Secrecy of the licence software

- I. The licensee has this one received licence software by Phoenix-ICP, all copies and all documentations to use exclusively for purposes of its own and to keep it secretly in front of third parties. He has to meet precautions, that no third parties and no one employee of its own in concrete case of unauthorised gets access to the licence software, can copy the licence software completely or partly or gets or could have the possibility for that. The licensee is liable to Phoenix-ICP for all damages and / or resultant damages, which Phoenix-ICP suffers, since the licensee has not kept the programs secret or with insufficient care.
- II. The licensee is not authorized particularly to give rights to use to third parties at the licence software. A leasing or a rental agency of the licence software is particularly forbidden.



**§ 7) Guarantee and liability**

- I. It is known for Phoenix-ICP and the licensee that malfunctions of the licence software and hardware cannot be excluded at the greatest care either to the level of the technique. Therefore the absolute functionality of the licence software and hardware and / or the remedying of all bugs cannot be guaranteed.
- II. The liability of Phoenix-ICP for program errors of the licence software and hardware, also of later update versions in the context of this contract, is restricted of this exclusively on cases of the firm intention to be represented of Phoenix-ICP or gross negligence.
- III. Though highly Phoenix-ICP takes on the liability towards to the licensee that at the time of the contract end the licence software and licence hardware are fault-free material technically under normal operating conditions. If the data carriers or the licence hardware should be faulty, then the licensee can demand substitute delivery during a period of 6 months as of delivery of the licence software and licence hardware.
- IV. He must give the storage medium with the licence software (including the reserve copy) or the licence hardware back to Phoenix-ICP to this together with manuals and documentations as well as a copy of the invoice.
- V. Phoenix-ICP assures for the duration of 6 months as of contract end to make free of charge all reasonable efforts for the guarantee of the function of the licence software according to the specifications in the program description. For the licence hardware Phoenix-ICP promises a one-year guarantee and a year warrantee.
- VI. It is prerequisite of this guarantee that the licence software and hardware in the scheduled configuration under operating conditions as agreed are operated. Phoenix-ICP does not guarantee an uninterrupted and fault-free operation.
- VII. Any liability benefit entitlements of the licensee are dropped, if it intrudes on the licence software and hardware from itself, it as modified always, too, has independently on which scale such modifications take place and / or taken place. After choice of Phoenix-ICP the guarantee can be made by modification of the licence software or licence hardware or by exchange for another licence software or licence hardware. If and in this respect in the context of the warrantee the extent of the licence software changes, particularly more storage capacity is required for the program, the licensee can not assert any rights against Phoenix-ICP.
- VIII. More detailed rights are not entitled to the licensee. Phoenix-ICP is not liable for any damages to the licence software or licence hardware, for damages to other programs and / or at the used hardware, for the failure of work results, sales volume or profit, for direct or indirect damages of the licensee or third party, unless such damages would have been caused by Phoenix-ICP deliberately or roughly negligently. Phoenix-ICP does not take on any liability for it particularly that soft and hardware meets the requirements and tacks of the buyer or cooperates with other programs chosen by it the licence. The licensee takes the responsibility for the right choice and results which are for the use of the licence software and licence hardware as well as this one with that intended or achieved.



**§ 8) Term and termination of the contract**

- I. This contract steps with the purchase of the software and is unlimited valid up to the termination either by the licensee or by Phoenix-ICP.
- II. The right to the termination without notice for an important reason is up to both contracting parties. If the licensee violates one of the obligations held tight prominently, this is then regarded as an important reason for the termination of the licence agreement by Phoenix-ICP. The form of the termination for an important reason is up to Phoenix-ICP.
- III. With effective development of the termination of this contract the licensee has to give Phoenix-ICP the originals of the licence software and hardware back left to him by Phoenix-ICP, to destroy all copies and notes of the licence software and to insure the destruction in writing obligatorily.

**§ 9) Penalty for breach of contract**

- I. The asserting of claims for compensation as well as other consequences (termination of the agreement etc. without notice) particularly reserves Phoenix-ICP for itself.

**§ 10) Concluding provisions**

- I. To this contract as well as its interpretation applies exclusively the law of the Federal Republic of Germany.
- II. If a regulation of this licence agreement should completely or partly be or get ineffective, then this does not touch the validity of the other regulations. The parties rather oblige themselves to replace the ineffective regulations by an effective regulation which if possible gets close to the economic purpose of the regulation which is wanted originally but ineffective.
- III. Phoenix-ICP can make on the right disputes sub judice after its choice also at the seat of the licensee.



# 16 Appendix

## 16.1 Input combination possibilities of jobs of the same name

Jobs of the same name must be different at least in one another key field!

Job name	Owner	Library	Sub system
Equal	<i>Different</i>	Empty or equal	Empty or equal
Equal	<i>Different</i>	Empty or equal	Empty or equal
...	...	...	...
n-Equal	<i>n-Different</i>	n-Empty or equal	n-Empty or equal

Job name	Owner	Library	Sub system
Equal	Empty or equal	<i>Different</i>	Empty or equal
Equal	Empty or equal	<i>Different</i>	Empty or equal
...	...	...	...
n-Equal	n- Empty or equal	<i>n Different</i>	n-Empty or equal

Job name	Owner	Library	Sub system
Equal	Empty or equal	Empty or equal	<i>Different</i>
Equal	Empty or equal	Empty or equal	<i>Different</i>
...	...	...	...
n-Equal	n-Empty or equal	n-Empty or equal	<i>n-Different</i>

```

User....: TESTSJ          PHOENIX SAFEJOBS          System: PHOENIX4
Display.: PHOENIX4      MONITORED JOBS              14.03.06
                                           15:28:33

  2 = Edit   3 = Copy   4 = Delete   S = Start job   U = Message to service
-----
Se Job name  Owner      Library    Sub system  Monitored days  Status
=  TESTJOB  PHOENIX   Library    Sub system  M T W T F S S
-  TESTJOB  TESTSJ    Library    Sub system  M T W T F S S
                                           X
_  TESTJOB  TESTSJ    Library    Sub system  M T W T F S S
                                           X X X
                                           INAKT.
                                           INAKT.

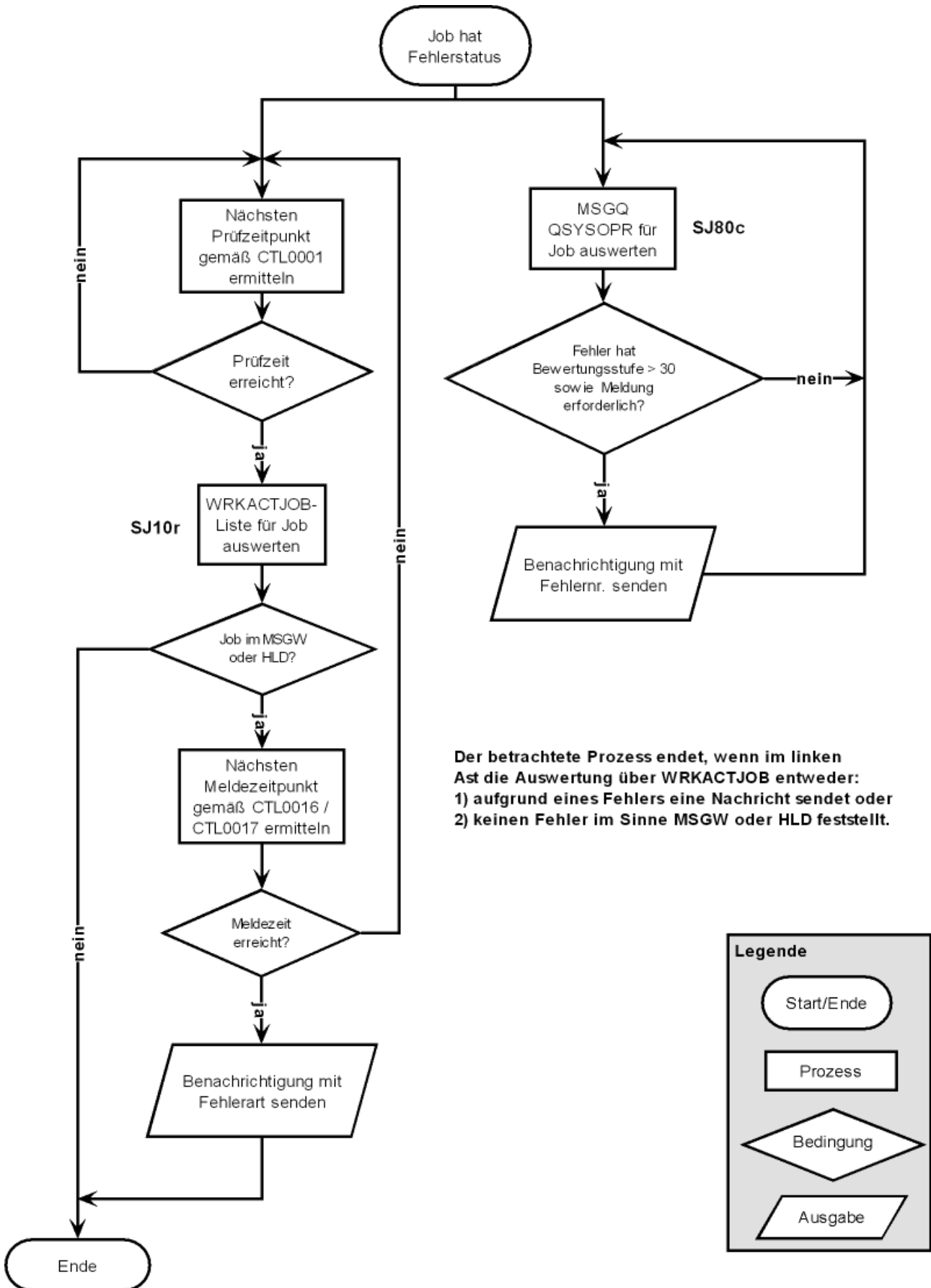
```

In the given example the job of the same name, TESTJOB, is distinguished about different expressions in the field 'Owner'.



### 16.2 Flow chart for the notification behaviour of SafeJobs (only german)

Each "real" MSGW fault causes two different messages in the first successful control cycle!





## 16.3 Notification behaviour for job faults

Fault no	Status from WA-list:	Job typed in	Notification activated (A, I)	Switched off (N)	M-time included	Fault within M-time	Job: Characteristic assigned	*MSGW: Characteristic assigned	Kind of notification	Appears in the protocol?
1	Msgw	Y	Y	N	Y	Y	Y	N	Standard	Y
2	Msgw	Y	Y	N	Y	Y	N	N	*DEFAULT	Y
3	Msgw	Y	Y	N	Y	Y	Y	Y	Standard	Y
4	Msgw	Y	Y	N	Y	Y	N	Y	*MSGW	Y
5	Msgw	Y	Y	N	Y	N	Y	N	*DEFAULT	Y
6	Msgw	Y	Y	N	Y	N	N	N	*DEFAULT	Y
7	Msgw	Y	Y	N	Y	N	Y	Y	*MSGW	Y
8	Msgw	Y	Y	N	Y	N	N	Y	*MSGW	Y
9	Msgw	Y	N	N	Y	-	Y	N	*DEFAULT	Y
10	Msgw	Y	N	N	Y	-	N	N	*DEFAULT	Y
11	Msgw	Y	N	N	Y	-	Y	Y	*MSGW	Y
12	Msgw	Y	N	N	Y	-	N	Y	*MSGW	Y
13	Msgw	Y	Y	N	N	-	Y	N	*DEFAULT	Y
14	Msgw	Y	Y	N	N	-	N	N	*DEFAULT	Y
15	Msgw	Y	Y	N	N	-	Y	Y	*MSGW	Y
16	Msgw	Y	Y	N	N	-	N	Y	*MSGW	Y
17	Msgw	Y	N	N	N	-	Y	N	*DEFAULT	Y
18	Msgw	Y	N	N	N	-	N	N	*DEFAULT	Y
19	Msgw	Y	N	N	N	-	Y	Y	*MSGW	Y
20	Msgw	Y	N	N	N	-	N	Y	*MSGW	Y
21	-	Y	N	N	Y	-	Y	N	-	<b>N</b>
22	-	Y	N	N	Y	-	N	N	-	<b>N</b>
23	-	Y	N	N	Y	-	Y	Y	-	<b>N</b>
24	-	Y	N	N	Y	-	N	Y	-	<b>N</b>



Fault no	Status from WA-list:	Job typed in	Notification activated (A, I)	Switched off (N)	M-time included	Fault within M-time	Job: Characteristic assigned	*MSGW: Characteristic assigned	Kind of notification	Appears in the protocol?
25	-	Y	Y	N	Y	Y	Y	N	Standard	Y
26	-	Y	Y	N	Y	Y	N	N	*DEFAULT	Y
27	-	Y	Y	N	Y	Y	Y	Y	Standard	Y
28	-	Y	Y	N	Y	Y	N	Y	*MSGW	Y
29	-	Y	Y	N	Y	N	Y	N	-	N
30	-	Y	Y	N	Y	N	N	N	-	N
31	-	Y	Y	N	Y	N	Y	Y	-	N
32	-	Y	Y	N	Y	N	N	Y	-	N
33	-	Y	N	N	N	-	Y	N	-	N
34	-	Y	N	N	N	-	N	N	-	N
35	-	Y	N	N	N	-	Y	Y	-	N
36	-	Y	N	N	N	-	N	Y	-	N
37	-	Y	Y	N	N	-	Y	N	*DEFAULT	Y
38	-	Y	Y	N	N	-	N	N	*DEFAULT	Y
39	-	Y	Y	N	N	-	Y	Y	*MSGW	Y
40	-	Y	Y	N	N	-	N	Y	*MSGW	Y
41	Msgw	N	-	-	-	-	-	Y	*MSGW	Y
42	Msgw	N	-	-	-	-	-	N	*DEFAULT	Y
43	Msgw	Y	N	Y	Y	-	Y	Y	-	Y
44	Msgw	Y	Y	Y	Y	Y	Y	Y	-	Y
45	Msgw	Y	Y	Y	N	-	Y	Y	-	Y
46	-	Y	Y	Y	N	-	Y	Y	-	N

Notification kind of standard:  
Notification kind of \*MSGW:  
Notification kind of \*DEFAULT:

It becomes the service or the service list informed, which one this job is assigned directly  
It becomes the service or the service list informed, which one the emergency program is assigned directly.  
For the notification of the \*Default service the phone number of the parameter CTL0030 is taken.



## Contact

*The documentation represents the current stage of development of **SafeJobs**. Do you have further questions? Please feel free to contact us.*

*We permanently endeavour to take into account your suggestions and wishes. Do you lack an important function? Do you have suggestions for improvement?*

*Your opinion is important to us!*

*Call us!*

Phoenix-ICP GmbH:

Phone: 05331 / 90 30-0

E-Mail: [info@phoenix-icp.de](mailto:info@phoenix-icp.de)



# Order sheet for demo CD

Phoenix-ICP GmbH  
Westernweg 22

Fax.: +49 (0) 5331 90 30 90

38300 Wolfenbüttel

fold here

I hereby order the free demo CD from **SafeJobs**.

Name:	
First name:	
E-Mail:	
Phone:	
Fax:	
Company:	
Department:	
Street:	
Zip code / Place:	
Country:	
Branch:	

## Notes:

- To the inauguration of **SafeJobs** you need a free V.24-port at your iSeries (AS/400)!
- **SafeJobs** only works on an iSeries (AS/400) with an unique license key. To get the demo version you need a corresponding demo license key. This we generate for a four-week period of use (your input in the table below) in connection with user specific data of your iSeries (AS/400) model- and serial number.

Model <sup>1</sup> :		
Serial number <sup>2</sup> :		
Date period of use:	From:	To:

To <sup>1</sup>: You can receive the number of your model by order: DSPSYSVAL QMODEL.

To <sup>2</sup>: You can receive the serial number by order: DSPSYSVAL QSRLNBR.

Date: \_\_\_\_\_ Signature: \_\_\_\_\_