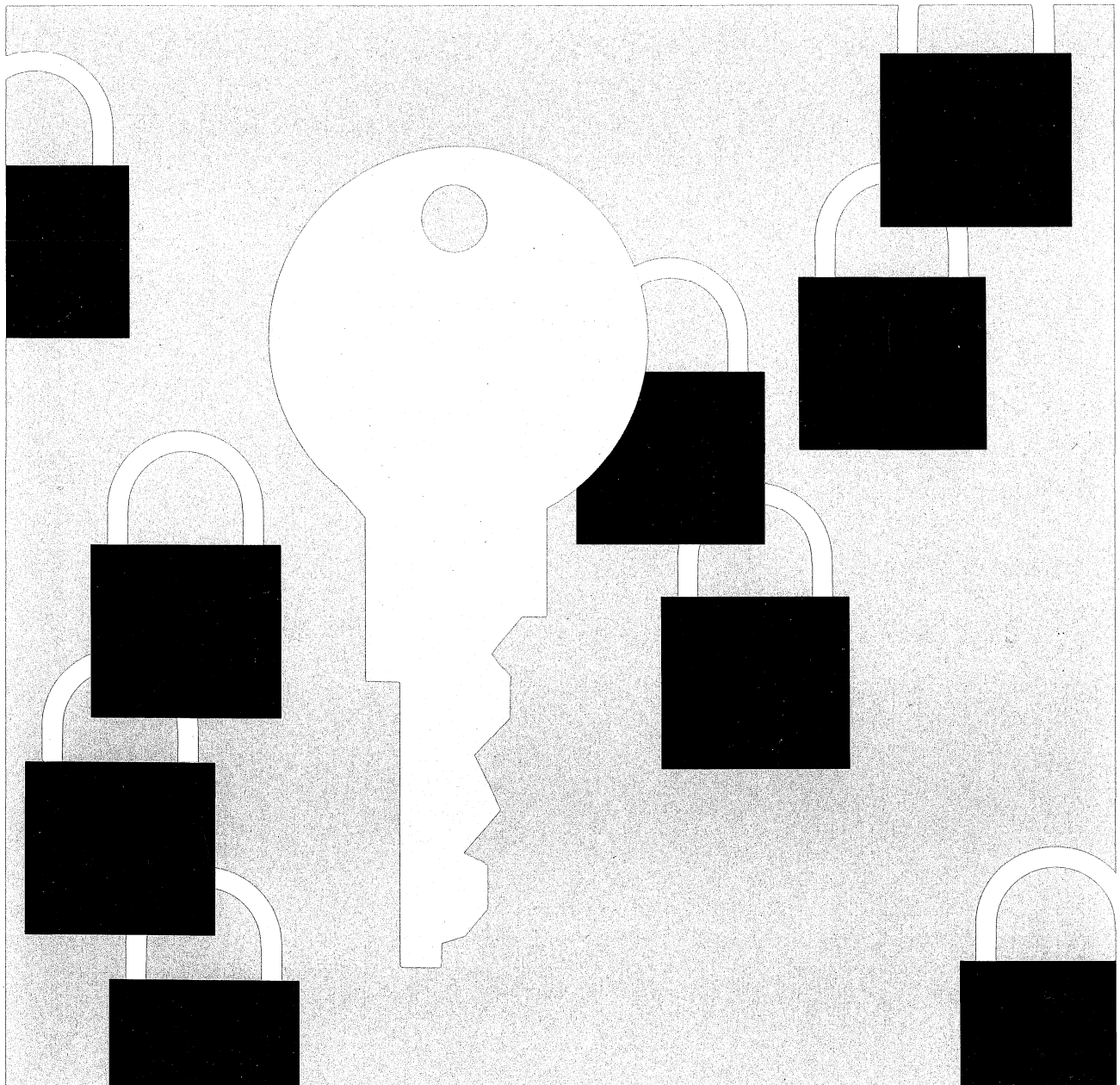# IBM

AS/400™, System/36, System/38

Key to Service:
- **Software**
- **Hardware**
- **AS/400™ Electronic Customer Support**
- **Customize Services**

IBM

AS/400™, System/36, System/38

Key to Service:
— Software
— Hardware
— AS/400™ Electronic Customer Support
— Customize Services

Special Notices

Contents

You and IBM Service Support

The purpose of this manual is to describe how the National Service Division (NSD) provides support for the AS/400*, System/36, and System/38. NSD's services are also described.

NSD Service Support is designed to meet your problem-solving needs quickly and efficiently. To accomplish this goal you have access to:

- Electronic Customer Support - AS/400 only

- The IBM Software Support Centers

  - Level 1 Software Support Center

  - Level 2 Software Support Center

  - Application Program MAPICS

- The IBM Hardware Support Centers

  - Area Communications Center (ACC)

  - Customer Assistance Group (CAG)

  - Network Support Center (NSC)

  - Branch Office Support

Note: For access to the following kinds of information, call your marketing branch office, alternate channel supplier, or refer to the *Electronic Customer Support User's Guide*, G360-1029.

  - Product operation questions

  - Orders/reorders to IBM software distribution

  - Conversion or performance guidance

  - Application Programs (CMAS, DMAS, and so on)

  - User programs/programming

  - Configuration type questions

  - System install or upgrade type questions

In this booklet we suggest one method of identifying the source of a programming problem. By following the suggested steps as a matter of routine, you will discover that working with IBM Service, support can be both easy and efficient.

1

Identifying the Problem – Overview

IBM provides a variety of support services for its hardware and software. To obtain prompt service for problems you encounter, you need to know which resource to use for each major type of problem you experience.

Note: The AS/400 electronic customer support will ask you a series of questions to determine if the problem is hardware or software. This is written up in a section of this booklet called "You and AS/400 Electronic Customer Support - Service Functions" on page 9.

The procedure you will normally follow to determine the problem source is basically the same for all problems.

Once a problem is detected, observe all the symptoms. Examples of these symptoms are System Reference Codes (SRC), error messages, abnormal ends of job, loops, machine checks, and program checks. Also, if there are any special conditions associated with the failure, they should be noted. These special conditions could be one or more of the following:

- A recent release update

- A change in the system configuration

- A new program function is being used

- A new procedure being used

- Something is different from the last time the program was run

These are the kinds of things that may have an effect on the failure. In all cases, you should record the symptoms and conditions you observe.

We will become more specific on how to identify the source of a problem for your system later in this booklet.

Identifying Problem Severity

When identifying the severity of a problem it is helpful to understand the terms being used. Following is a list of severities and their definitions to aid in this process.

- Severity 1:

  - Indicates the inability to use the program resulting in a critical impact on operations. The condition requires an immediate solution that is not already available.

- Severity 2:

  - Indicates the program is usable but severely restricted.

- Severity 3:

  - Indicates the program is usable without some functions which are not critical to the overall operation.

- Severity 4:

  - Indicates a circumvention to the problem has been found.

You and the IBM Software Support Center

The Software Support Center is staffed by personnel who are trained to handle software problems.

How the IBM Software Support Center Works

The following diagram shows how the Software Support Center is organized to accommodate your incoming calls. Depending on your specific needs, your call will be routed to the most appropriate person available to assist you.
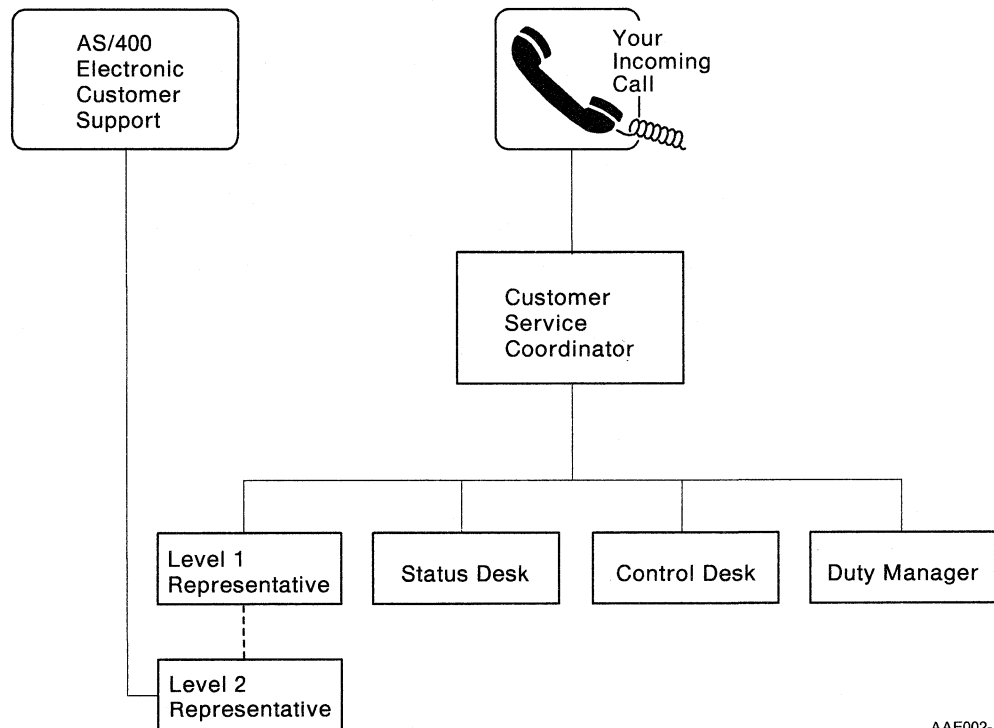
AAE002-1

Contacting the IBM Software Support Center

When you contact the Software Support Center, you need to know the access code that has been assigned to your installation. This unique code identifies you as an eligible user of the Software Support Center. Your access code will normally be given to you by your IBM marketing representative. In addition, you should gather the necessary information to enable the Software Support Center to assist you. Having done that, you are ready to contact the support center at (800) 237-5511.

The Customer Service Coordinator

The customer service coordinator will request your access code and ask if you have a problem number.

If this is the first call on a problem, you will not have a problem number. Therefore, the coordinator will request the name of the operating system and the failing component (program). Then the coordinator will ask you to give your name and will assign a problem number. Your call will be routed to the appropriate Level 1 queue

(system support area). The problem number identifies a unique record in the IBM Problem Management system.

If you already have a problem number, the coordinator will ask if you have previously discussed the problem with a Level 2 representative. If you have already been contacted by Level 2 and want another call from that group, you will be referred to the status desk to initiate the Level 2 call.

Level 1 Representative

For assistance with problem source identification (PSI), the Level 1 representative will help you determine which component is failing and assist you in getting the necessary documentation to resolve the problem.

For problem calls, the Level 1 representative will ask for basic information about your problem, including the processor type and serial number where the problem was first encountered. Should you require assistance, the Level 1 representative will help you verify or confirm the severity of your problem.

As you give your problem data to the Level 1 representative, it is entered and used to conduct a search of the Software Support Facility (SSF) database to see if the problem you have encountered has already been reported and solved for another IBM customer. If so, the representative will give you the appropriate information on any circumventions or fixes that are currently available. If the SSF database search does not result in a fix for your problem, and the failing component has been identified, the Level 1 representative will refer your inquiry to a Level 2 representative.

Note: The SSF database contains records of all reported IBM programming problems and information on available corrections.

Level 2 Representative

Inquiries that are reported through but not resolved by Electronic Customer Support or Level 1 will be routed to a Level 2 representative. Level 2 will call you at the number recorded in the problem record. The Level 2 representative will perform in-depth analysis of the problem and may also contact other support resources, as needed, before calling you back. When a Level 2 representative calls you back about your problem, you may be asked to take some additional action or gather some additional documentation. In that event, you may need to call the support center back when you are ready and tell the coordinator that you are calling on a specific problem for Level 2.

If the problem is not found in SSF or in IBM-supplied documentation, the Level 2 representative may request that you gather documentation for an Authorized Program Analysis Report (APAR) data if required. When you notify Level 2 that you have the required data, the Level 2 representative will create the APAR, tell you the APAR number assigned, and give you the address where the supporting documentation should be sent.

At this point you may be wondering what kind of response time you should expect for your problem. As stated earlier, Level 1 will try to resolve any problems as soon as possible before referring your problem to Level 2. When a call is referred from Level 1, the severity you determine is converted to a call priority for Level 2. That priority sets the following response times that you should expect from Level 2.

- For priority 1 problems, the support center should contact you within 1 hour.

- For priority 2 problems, the support center should respond within 2 hours.

- For priority 3 and 4 problems, you should expect the support center to respond within 24 hours.

Normal operating hours for Level 2 are from 8 a.m. to 5 p.m. local time in all time zones, Monday through Friday, with the exception of six national holidays. Level 2 off-shift and weekend support is available only for priority 1 problems.

The Status Desk

The status desk is designed to provide quick access to open problem data where problem diagnosis or technical assistance is not required. The status desk handles the following types of information:

- The present status of an APAR or Program Temporary Fix (PTF)

- Place a caller on the Level 2 queue for further action on a problem previously handled by Level 2

- Updating or closing of a problem

- Changes in severity of a problem

The Control Desk

The control desk provides two main functions:

- It handles calls directly from the customer service coordinator that are in some way unusual. For example, the control desk handles calls about procedural questions or helps clarify access code mismatches.

- It acts as the focal point within the support center for all inquiries concerning services provided by both Level 1 and Level 2. The control desk takes appropriate action to alleviate any concerns or complaints and helps assure your satisfaction. If you wish to talk to the duty manager, simply indicate this to the representative at the control desk.

Duty Manager

The duty manager is always available to help resolve any unusual or unforeseen situation including those that cannot be resolved by the control desk.

You and IBM Hardware Support

IBM Hardware Service organization is committed to providing maximum availability of your information systems. With more than 60 years of dedicated expertise, IBM Service offers you the advantages of experienced, professional support and a level of quality unmatched in the industry.

How IBM Hardware Support Works

The following diagram shows how your hardware service requests on an AS/400 system are processed and responded to.

AS/400 Electronic Customer Support

Your Incoming Service Request 1-800-IBM SERV

Area Communications Center

Customer Service Coordinator

Prepare Problem Management Record & Dispatch Service Request

OR

Assigned Customer Engineer

Network Support Center

Customer Assistance Group

AAE010
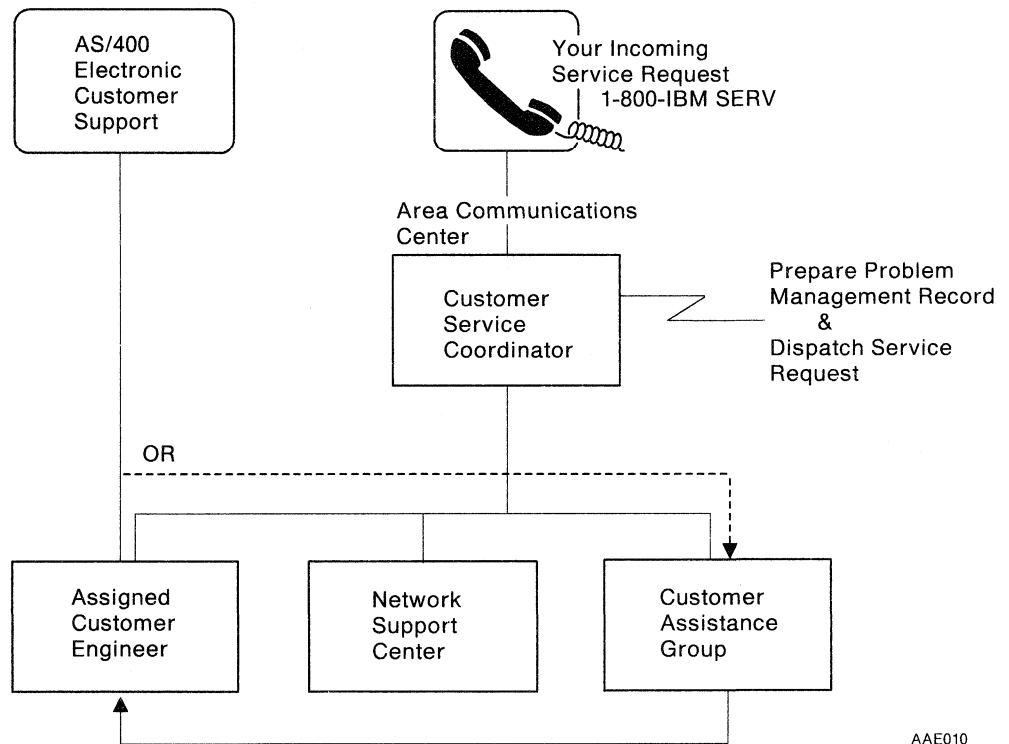
Area Communications Center – ACC

This center is staffed by customer service coordinators who are trained to handle your hardware service requests. They take your service request, log it, and expedite it to the appropriate remote support center or your assigned customer engineer. The ACC can be reached at (800) IBM-SERV.

Customer Assistance Group – CAG

The CAG is staffed with highly skilled support specialists that review and analyze your reported problems before a CE is dispatched. This technique of bringing problems of critical system units to the immediate attention of these CAG specialists has resulted in 30% of your service requests being resolved without dispatching a CE. In those instances where your problem is not resolved, diagnosis and parts replacement information is transmitted promptly to the CE, who is dispatched to your site with the recommended replacement parts.

Network Support Center — NSC

The NSC is staffed with highly skilled telecommunications support specialists. They review and analyze your reported problem before a CE is dispatched. They work directly with you on your telecommunications problems and in many instances will resolve your telecommunications problem without dispatching a CE. In those instances when your problem is not resolved, the NSC specialist provides remote assistance to your assigned CE, as required, to resolve your problem.

Branch Office Support

Your account is assigned to a highly skilled, trained Customer Engineer (CE). The CE is responsible to ensure that all your hardware system problems and reported service requests are resolved to your satisfaction. CEs have an extensive support structure backing them up. IBM has branch support, area support, and product engineering support available to assist the CE on difficult to resolve problems.

You and AS/400 Electronic Customer Support - Service Functions

This chapter describes the following:

- Create and submit a service request to:
  - Report a hardware problem
  - Report a software problem
- Create and submit a PTF request to:
  - Request a specific PTF
  - Request a list of PTFs (up to 20)
  - Request the latest cumulative PTF tape
  - Request a Preventive Service Planning (PSP) information package
  - Request the PTF summary list

Connection Numbers

A CL program, QESPHONE, is provided with your system to make it easy for you to modify the connection number in the AS/400 Electronic Customer Support.

The program can be used if your system cannot access the IBM service system using the primary number.

Established Data Areas

The supplied CL program uses four data areas to store the primary and alternative connection numbers for the IBM service system. The data area is called QESTELE in library QUSRSYS.

Note: This data rea is used to establish the connection instead of the phone number in the QESCTL controller description.

Changing the Connection Numbers

To display your current connection numbers, on any command line type DSPDTAARA QESTELE and press the Enter key. Record the number(s) displayed at offset(s) 0, 50, 100, 150 for later use.

To change your current connection numbers, on any command line type CALL QESPHONE and press the Enter key. Change the number in the New Number field to the number recorded in offset 50 and press Enter. The next data area will be displayed. Change the number in the New Number field to the number recorded in offset 0. Continue to press the Enter key to verify the changes.

How the AS/400 Electronic Customer Support Service Request Function Works

The following diagram shows how AS/400 Electronic Customer Support is organized to accommodate your needs for problem reporting and response.

```
                                    ┌─────────────────┐
                                    │  Problem        │
                                    │  Encountered    │
                                    └────────┬────────┘
                                             │
                                             ▼
                                    ┌─────────────────┐
                                    │  Analyze Problem │
                                    │  (ANZPRB or     │
                                    │  *MSG/PF14)     │
                                    └────────┬────────┘
                                             │
  ┌───────────────┐        ╔═══════════╗     │
  │ Work with     │        ║ Problem   ║     │
  │ Problems      │──────▶ ║ Log       ║─────┼──────▶
  │ (WRKPRB)      │        ╚═══════════╝     │
  └───────────────┘                          │
                                             ▼
                                    ┌─────────────────┐
                                    │  Transmit       │
                                    │  Service        │
                                    │  Request        │
                                    └────────┬────────┘
                                             │
  ┌───────────────┐   No  ╱─────────╲  No  ╱─────────╲
  │ Queue for     │◀──────  Is dispatch  ◀──── Is problem
  │ Customer      │       ╲ criteria met? ╲     with code? ╲
  │ Assistance    │        ╲─────────╱       ╲─────────╱
  │ Group         │           │ Yes              │ Yes
  └───────────────┘           ▼                  ▼
                      ┌─────────────┐      ╱─────────╲  Yes  ╱──────────╲  Transmit PTF
                      │ Dispatch CE │      │   PTF    │──────▶ Can PTF be │──◁
                      │ (Customer   │      │available?│       ╲transmitted?╲
                      │ Engineer)   │      ╲─────────╱         ╲──────────╱
                      └─────────────┘         │ No                 │ No
                                              ▼                    ▼
                                      ┌─────────────┐        ╱───────╲
                                      │ Queue for   │        │ Order  │
                                      │ Level 2     │        │ Tape   │
                                      │ Call Back   │        ╲───────╱
                                      └─────────────┘
```
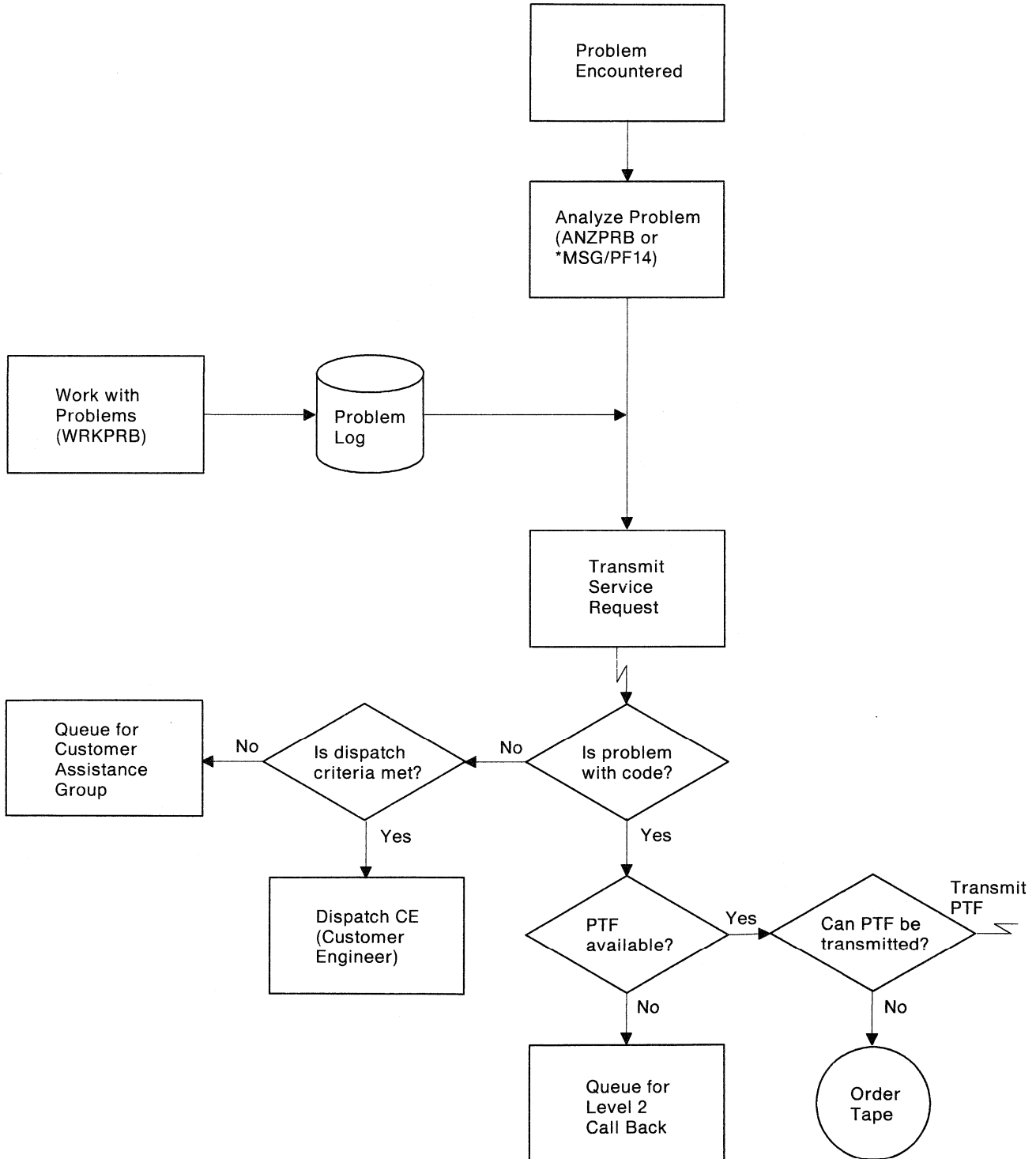
AAE007-5

Using the Problem Log Commands

The following are explanations of the problem log commands. For more detailed information about a particular command and its associated parameters, see the CL Reference or use the online help information.

WRKPRB — Subset/Search

To use the subset/search capability, type WRKPRB and press F4 (Prompt). To search on any of the displayed parameters, change the search criteria. The "More..." seen at the bottom indicates another display follows for more options.

```
                        Work with Problem (WRKPRB)

 Type choices, press Enter.

 Status type  . . . . . . . . . .   *ALL          *ALL, *OPENED, *READY...
                  + for more values
 Severity . . . . . . . . . . . .   *ALL          *ALL, 1, 2, 3, 4
                  + for more values
 Period:
   Start time and date:
   Start time . . . . . . . . . .   *AVAIL        Time, *AVAIL
   Start date . . . . . . . . . .   *BEGIN        Date, *BEGIN, *CURRENT
   End time and date:
   End time . . . . . . . . . . .   *AVAIL        Time, *AVAIL
   End date . . . . . . . . . . .   *END          Date, *END, *CURRENT
 Hardware:
   Device type  . . . . . . . . .   *ALL          Character value, *ALL
   Model number . . . . . . . . .   *ALL          Character value, *ALL
   Serial number  . . . . . . . .   *ALL          Character value, *ALL
 Resource name  . . . . . . . . .   *ALL          Name, *ALL
                                                                    More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

This is the second display of the WRKPRB display. Use this command to use the subset/search capability.

```
                         Work with Problem (WRKPRB)

 Type choices, press Enter.

 Licensed program:
   Program identifier . . . . . .   *ALL        Character value, *ALL
   Release  . . . . . . . . . . .   *ALL        Character value, *ALL
   Modification level . . . . . .   *ALL        Character value, *ALL
 Function . . . . . . . . . . . .   *ALL
 Program  . . . . . . . . . . . .   *ALL        Name, generic*, *ALL
 Message identifier . . . . . . .   *ALL        Name, generic*, *ALL
 Origin:
   Network identifier . . . . . .   *ALL        Name, *ALL, *NETATR
   Control point name . . . . . .   *ALL        Name, *ALL, *NETATR
 Service number . . . . . . . . .   *ALL        Character value, *ALL




                                                                  Bottom
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

- The Service number is the RETAIN Problem Management Record (PMR) number. This function can be used to quickly find the problem when IBM calls.

WRKPRB — Work with Problem Command

To work with a problem or problems from the list of problems existing in your system's problem log, type the Work with Problem (WRKPRB) command on any command line. If you specify any of the parameters, you can work with a specific problem or group of problems.

When you run the WRKPRB command, the Work with Problem display is shown with a list of all the problems logged on the system or a specific group of problems you requested when you specified the parameter values. From the Work with Problem display you can:

- Delete a problem record

- Display or print the details about a problem

- Work with an individual problem (problem management tasks)

- Work with the alert associated with a problem

- Enter or edit your own notes about a problem

```
                          Work with Problems
                                                   System:    RCHAS209
       Position to . . . . . . .    _____        Problem ID

       Type options, press Enter.
         4=Delete    5=Display details   6=Print details    8=Work with problem
         9=Work with alerts    12=Enter notes

       Opt  Problem ID  Status       Problem Description
        __    9000487704  ANSWERED     User detected a software problem on this AS/400
        __    9000486464  VERIFIED     User detected a software problem on this AS/400
        __    9000477781  OPENED       Interface check on the device.
        __    9000477490  OPENED       Media error found on volume  on device .
        __    9000477354  READY        User detected a software problem on this AS/400
        __    9000476835  OPENED       Interface check on the device.
        __    9000476544  CLOSED       Media error found on volume  on device .
        __    9000476452  READY        User detected a software problem on this AS/400
        __    9000472765  ANSWERED     Fix request
        __    9000472649  SENT         User detected a software problem on this AS/400
        __    9000472519  ANSWERED     Fix request
                                                                        More...
       F3=Exit      F5=Refresh     F6=Print list    F11=Display dates and times
       F12=Cancel  F16=Report prepared problems      F24=More keys
```

To view and use the additional function keys, press F24 (More keys) on the above
display and the following display is shown. You can then use the F14 (Analyze a
new problem) if the problem is not listed as an OPENED problem in the system's
problem log. See "Analyze Problem" on page 17 for details on using the analyze
problem function.

```
                          Work with Problems
                                                   System:    RCHAS209
       Position to . . . . . . .    _____        Problem ID

       Type options, press Enter.
         4=Delete    5=Display details   6=Print details    8=Work with problem
         9=Work with alerts    12=Enter notes

       Opt  Problem ID  Status       Problem Description
        __    9000487704  ANSWERED     User detected a software problem on this AS/400
        __    9000486464  VERIFIED     User detected a software problem on this AS/400
        12    9000477781  OPENED       Interface check on the device.
        __    9000477490  OPENED       Media error found on volume  on device .
        __    9000477354  READY        User detected a software problem on this AS/400
        __    9000476835  OPENED       Interface check on the device.
        __    9000476544  CLOSED       Media error found on volume  on device .
        __    9000476452  READY        User detected a software problem on this AS/400
        __    9000472765  ANSWERED     Fix request
        __    9000472649  SENT         User detected a software problem on this AS/400
        __    9000472519  ANSWERED     Fix request
                                                                        More...
       F14=Analyze new problem   F10=Work with alerts    F24=More keys
```

If you have found your problem on the Work with Problems display and you want to
add a note to the problem before sending it to IBM, you can enter a 12 in the option
field for the problem you are working with, as shown above.

If you have entered the ANZPRB command after pressing the F14 key (Analyze new
problem) and you want to add a note to the problem before sending it to IBM, you
would do the following:

• On the Report Problem display, press F12 (Cancel) to leave the display.

• Press F5 (Refresh) on Work with Problems display.

• Enter 12 next to the top most problem with Ready status.

WRKPRB – Note Editing

The Note Editing function has been enhanced in Release 3 Modification 0 to provide the ability to change, insert, and delete lines in the note log. As in Release 2 Modification 0, only the first 23 note lines are sent to IBM.

Service recommends notes be added in the following format to keep a chronological record of events.

• On the first line, write a brief description of the problem.

• On the second line, key in the current date (for example, 11/01/90).

• On the third line, key in the note that you want to send to IBM.

• Use as many additional lines (up to 20) as you need.

This format will allow you to resend the problem to IBM with additional notes using the following format.

• On the first line, use F6 to insert a line.

• On the second line, key in the current date (11/02/90).

• Use F6 to insert a line.

• On the third line, key in the note that you want to send to IBM.

• Use as many additional lines (up to 20) as you need using F6 to insert each line you need.

Because the Note Log function will send the first 23 lines of notes to IBM, this format will ensure that the additional notes are sent to IBM and that you have a chronological record of events for the problem. The following display shows an example of the above format.

```
                            Enter Notes
                                                System:   RCHAS209
Problem ID . . . . . . . :    9000477781
Origin . . . . . . . . . :    RPC.RCHAS209
Current status . . . . . :    OPENED
Problem  . . . . . . . . :    Interface check on the device.


Type notes, press Enter.
Brief description of the problem is written on this line.
11/02/90
Additional information about the problem to be sent to IBM line 1.
Additional information about the problem to be sent to IBM line 2.
Additional information about the problem to be sent to IBM line 3.
11/01/90
Additional information about the problem to be sent to IBM line 1.
Additional information about the problem to be sent to IBM line 2.
Additional information about the problem to be sent to IBM line 3.
Additional information about the problem to be sent to IBM line 4.

                                                          Bottom

F3=Exit      F6=Insert line   F12=Cancel   F14=Delete line   F17=Top
F18=Bottom   F20=Right
```

To exit the Enter Notes display, press F3 (Exit). On the next display, select option 1 (Save notes and exit) from the Exit Notes display and press the Enter key.

If you are ready to send the problem to IBM, you can type 8 in the Opt column next to the problem record and press the Enter key. Select option 2 (Report problem) from the Work with Problem display.

WRKPRB — Problem States

Following is a brief description of the problem states. For more information see the help text.

OPENED The problem has been detected or created by the user.

READY Problem analysis information has been added to the problem.

PREPARED The problem has had information added necessary for sending to IBM.

SENT A service request has been sent to IBM.

ANSWERED The solution to the problem is known.

VERIFIED The problem has been verified that it is correct.

CLOSED The problem tracking is complete, updates can no longer be made.

WRKPRB — Problem History

To view the problem history of a specific problem, you can enter the WRKPRB command on any command line. Key in option 5 in the option field and press enter. This will take you to the problem detail and from there you can use F6 to see the problem history. Activity logged in the problem history is as follows:

- Any time the problem changes state or a significant activity occurs, an event is logged.

- *SYSTEM indicates the activity was performed automatically by the system.

```
                        Display Problem History
                                                  System:    RCHAS209
  Problem ID . . . . . . . :   9000975625
  Origin . . . . . . . . . :   RPC.RCHAS536
  Current status . . . . . :   CLOSED
  Problem  . . . . . . . . :   Fix request


  Date       Time       User ID    Event
  01/09/90   14:05:43   *SYSTEM    Service request received
  01/09/90   14:05:44   *SYSTEM    Problem answered
  01/09/90   14:05:44   *SYSTEM    Fixes sent electronically
  01/10/90   18:20:35   JSMITH     Problem entry closed




                                                            Bottom
  Press Enter to continue.

  F3=Exit    F12=Cancel
```

DLTPRB — Delete Problem Command

The Delete Problem (DLTPRB) command allows you to delete problem records from the problem log. The following display shows the default values for the Delete Problem (DLTPRB) command.

```
                        Delete Problem (DLTPRB)

 Type choices, press Enter.

 Problem identifier . . . . . . .   *ALL          Character value, *ALL
 Status type  . . . . . . . . . .   *ALL          *ALL, *OPENED, *READY...
               + for more values   _____
 Days . . . . . . . . . . . . . .   30            0-999
 Origin:
   Network identifier . . . . . .   *NETATR       Name, *NETATR, *ALL
   Control point name . . . . . .   *NETATR       Name, *NETATR, *ALL




                                                                  Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```

On this display you can delete a specific problem or delete problems that originated on a particular system.

Note: The 30-day restriction has been removed and is controlled by a system value. Use the WRKSYSVAL command to change it.

You can view this display on your system by keying the DLTPRB command on the command line and pressing F4 to prompt.

To delete problems having any status other than CLOSED, the problems must be OPENED longer than the number of days specified by the system value for problem hold interval (QPRBHLDITV).

To delete problems with a status of CLOSED, the problems must be CLOSED longer than the number of days specified by the system value for problem hold interval (QPRBHLDITV).

You can set this system value using the Change System Value (CHGSYSVAL) command. The default value for QPRBHLDITV is 30 days. IBM Service Support recommends keeping problem data for 30 days.

WRKSYSVAL — Work With System Value Command

To change the system value for QPRBHLDITV, you can enter the WRKSYSVAL command on the command line. This will give you the Work with System Values display, then place the cursor on the *position to* field at the top and enter QPRBHLDITV. This places QPRBHLDITV at the top of the list of system values. Enter a 2 in the option field to show the following display.

```
                    Change System Value

System value . . . . . :    QPRBHLDITV
Description  . . . . . :     Problem log hold interval
Initial value  . . . . :    30


Type choice, press Enter.

  Problem hold interval
    in days  . . . . . .    3___        0-999










 F3=Exit    F5=Refresh    F6=Retrieve initial value    F12=Cancel
```

You can now enter a new value for the *Problem hold interval in days* prompt to
change the system value for problem deletion if required.

Analyze Problem

Running problem analysis gives you the opportunity to resolve system problems
before you need to call a service representative. In many cases, problem analysis
can identify the cause of a problem and the location of the program or equipment
that is failing. Sometimes you can even correct the problem yourself without any
assistance from a service representative. If problem analysis is completed, and a
service request is sent to your service provider through Electronic Customer
Support, the service representative can come to you with the replacement part or
the necessary Program Temporary Fixes (PTFs) can be distributed immediately to
the site with the problem. When reporting the problem by phone, the symptom
string is already generated to assist your provider of service in searching the
problem database. This limits the amount of time spent on service calls and
restores normal system operations more quickly.

To begin to analyze a new problem, do one of the following:

- Press F14 for a message with an asterisk (*) in front of it.

- Type the **ANZPRB** command and press the Enter key.

- Type **GO PROBLEM** and press the Enter Key. Then select the "Work with Prob-
  lems" option and press the F14 key while looking at the Select Problem display.

- Type **WRKPRB** and press the Enter key. Then press F14 while looking at the
  Select Problem display.

The following display is shown.

ANZPRB – Display

```
                        Select Type of System
                                                    System:    S1015109
        Select one of the following:

          System with the problem is
                1. This AS/400 or attached devices
                2. Another AS/400
                3. Another type of system, not an AS/400




          Selection or command
          ===> 1






          F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel
```

If you select option 1 (This AS/400 or attached devices), you will be given the following display.

```
                        Analyze a New Problem
                                                    System:    1015109
        Select one of the following:

          Analyze a Problem
                1. Job or program problem (application or system)
                2. System performance problem
                3. Hardware problem
                4. Communications hardware problem

          Describe a Problem to Report
                5. Problem occurred during IPL of this AS/400
                6. Job or program problem (application or system)




          Selection or command
          ===>

          F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel
```

The selections under *Analyze a Problem* will guide you through problem analysis routines to assist you in developing the symptom string. The selections under *Describe a Problem to Report* will allow you to describe the symptom string. All of the selections will guide you to reporting the problem.

Note: If you are not sure which choice is correct, use the Help key for assistance.

After responding to the Analyze a New Problem display, you will be presented with a series of displays to guide you through problem determination. While you are progressing through the displays, a symptom string is being built from your responses. When you complete problem analysis, the information that has been

collected is placed in the Problem Log and you are given the following choices on the Select Reporting Options display:

- Send service request now

- Do not send service request

- Report service request by voice

Note: If you send a service request and do not receive the expected results, check the job log for messages and the problem log for additional information.

- For further information regarding the job log refer to the *AS/400 CL Programmers Guide*, SC21-8077.

- For further information regarding the problem log refer to the *AS/400 Operator's Guide*, SC21-8082.

Send Service Request Now

If you want to use the note log function to send a note with the service request, you would not use this option at this time. You should select the Do Not Send Service Request option and use the WRKPRB command to add the note to the service request.

If you choose to send the service request now, the problem log entry is packaged as a service request and transmitted to IBM. The following happens:

- The IBM Service Support System determines whether the request is for hardware or software service.

    - If the request is for hardware service, either a Hardware Service Representative is dispatched or a Customer Assistance Group Representative will call back to help further define the problem.

    - If the request is for software service the following happens:

        - A search is performed against the IBM software database using the symptom string you created using Analyze Problem. If a match is found and a PTF is available, the PTF is either transmitted to you or a tape is ordered for you, depending on the size of the PTF.

        - If a match is not found or the PTF is not available, the service request is forwarded to the IBM Level 2 Software Support Center or the IBM Customer Assistance Group for call back.

Do Not Send Service Request

If you choose not to send the service request, you return to a display with a command line. You may return to the problem at a later time for further action by using the Work with Problems (WRKPRB) command.

Note: If you want to send a note along with the problem you would select this option at this time.

Report Service Request by Voice

If you choose to report a problem by voice, refer to "How the IBM Software Support Center Works" on page 3, for software problems, or "How IBM Hardware Support Works" on page 7, for hardware problems.

Note: If after selecting this option you decide to send the request using AS/400 Electronic Customer Support, just follow the instructions for using the Work with Problems command.

How the AS/400 Electronic Customer Support PTF Request Function Works

The following diagram shows how AS/400 Electronic Customer Support is organized to accommodate your needs for preventive information and fixes.

Preventive
Fixes or
Information
Needed

GO CMDPTF
then Option 11

SNDPTFORD
(send PTF order)

Select Item
• Specific PTF
  (up to 20)
• Preventive
  Package
• PSP
• PTF Summary List

Transmit Service
Request

What is
requested?

PTF Summary
List

Preventive Service
Planning (PSP)
Information

Preventive
PTF Package

Specific PTF(s)

Transmit List

Transmit PSP

Order
Tape

Can PTF be
transmitted?

No

Order
Tape

Yes

Transmit PTF(s)

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SNDPTFORD – Send PTF Order Command

The Send PTF Order command allows you to order one or more specific PTFs or cover letters. This command also supports the following functions:

- Allows use in batch

- Orders a list of PTFs with cover letters or cover letters only

- Defines whether the requisite PTFs should be sent or only the exact PTF request

- Defines the service provider that is the target of the request

- Defines the mode of delivery as by way of the Electronic Customer Support Service connection or by any means possible (service connection or tape)

  Note: The default for mode of delivery is *LINKONLY. If the PTF cannot be sent on the Service connection, the order will be rejected. You will have to resubmit the order and specify *ANY to receive the order on tape.

To use send PTF order, you need to do one of the following:

- Type **GO CMDPTF** and press the Enter key; the PTF Commands display is shown. Type an 11 (Send PTF order) and press the Enter key.

- Type the **SNDPTFORD** command and press PF4 (Prompt).

The Send PTF Order (SNDPTFORD) display will now be shown.

- Lists of PTFs (up to 20)

- Cover letter only

- Electronic only (*ANY lets you have a tape)

- Specific PTF or requisites

- Reorder

```
                       Send PTF Order (SNDPTFORD)

  Type choices, press Enter.

  PTF identifier . . . . . . . . . > SF00245       Character value
                                   > SF01003
                  + for more values > SF01500
  PTF parts  . . . . . . . . . . .   *ALL          *ALL, *CVRLTR

                          Additional Parameters

  Delivery method  . . . . . . . .   *LINKONLY     *ANY, *LINKONLY
  Remote control point . . . . . .   *select       Name, *IBMSRV, *SEL
  Remote network identifier  . . .   *NETATR       Name, *NETATR
  Order  . . . . . . . . . . . . .   *REQUIRED     *REQUIRED, *PTFID
  Reorder  . . . . . . . . . . . .   *NO           *NO, *YES




  F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
  F24=More keys
```

Then type the PTF number: nnnnnnn to get a specific PTF, where nnnnnnn is the PTF number. Example: SF00753 to order PTF number SF00753.

Note: A maximum of 20 PTFs may be specified.

The following reserved PTF numbers can only be ordered individually and not as part of a list.

- SF97vrm to get the PTF summary list, where v is the version, r is the release, and m is the modification level.

  - Example: SF97130 to order the PTF summary list for release 1.3.0.

- To get Preventive Service Planning (PSP) information you would key one of the following depending on what you intend to do.

  - SF98vrm to get cumulative PTF package preventive service planning information, where v is the version, r is the release, and m is the modification level.

    - Example: SF98130 to get cumulative PTF package information for release 1.3.0

  - MF98vrm to get hardware preventive service planning information, where v is the version, r is the release, and m is the modification level.

    - Example: MF98130 to get hardware information for release 1.3.0.

  - SF98vrn to get software install or upgrade preventive service planning information, where v is the version, r is the release, and n is the modification level + 1.

    - Example: SF98131 to get software install or upgrade information for release 1.3.0.

- SF99vrm to get the (entire) cumulative PTF package, where v is the version, r is the release, and m is the modification level.

  - Example: SF99130 to get the cumulative PTF package for release 1.3.0.

Note: To determine the Release and Modification level of your system, type GO LICPGM (Go Licensed Program) and press Enter. Then take option 10, Display Installed Licensed Programs.

After you have typed in one of the above, press Enter and a Problem Log entry is created for this service request. You should now follow the prompts to the Select Reporting Option display where you will be given these choices:

- Send service request now

- Do not send service request

- Report service request by voice

The effect of these choices is similar to those given in "Analyze Problem" on page 17. The major difference is that the information you typed takes the place of a symptom string.

SMU – AS/400 System Management Utility

The AS/400 System Management Utility (SMU**) allows you to set up centralized problem and Program Temporary Fix (PTF) management in a network environment. You can have a single AS/400 system or multiple AS/400 systems designated for providing service to the remaining systems in the network. The AS/400 system or systems on which you install the SMU Licensed program are called service providers. The remaining systems in the network are called service requesters.

Service Requesters

An AS/400 system is a service requester whenever the operator sends a service request or an order of PTFs. An AS/400 system acting as a service requester only, does not need to have the System Management Utility (SMU) installed to request service from an AS/400 service provider. However, the systems must be properly configured for communications and set up to use the service functions provided by the System Management Utility (SMU).

The current release of Operating System/400* (OS/400*) provides the following functions to enhance an AS/400 system's ability to request service from another AS/400 system.

- Send a test request to insure that the communication configurations and entitlement files at the service provider are correct.

- Maintain a list of service providers.

- Prepare a problem for reporting that indicates the severity of the problem and to whom the problem should be reported.

- Send and possibly forward alerts that indicate a system-detected problem.

- Send a request for service to report a hardware, software or microcode problem.

- Send a PTF order for one or more specific PTFs.

- Receive PTFs in response to a PTF order or service request.

Service Providers

An AS/400 system with the System Management Utility installed has the ability to be a service provider for a group of AS/400 systems in a network. A service provider can receive and process service requests and PTF orders from other AS/400 systems called service requesters. Depending on the size of your network, there can be more than one service provider. An AS/400 system acting as a service provider can perform the following functions:

- Define service requesters which are AS/400 systems entitled to service.

- Receive and process service test requests to insure proper communications configuration.

- Verify a system requesting service is entitled to service.

- Receive PTF orders and service requests from other AS/400 systems.

- Notify the system or network operator of alerts, service requests, or PTF orders.

- Create problem log entries for remote problems from service requests or alerts received from service requesters in the network, provided alert support has been set up so that the service provider is also an alert focal point.

- Forward requests to IBM Service Support or another higher level service provider if necessary.

- Perform problem analysis remotely on the service requester system.

- Update the problem log on both the service provider and service requester systems following remote problem analysis.

- Automatically search a PTF database for possible answers to a problem based on a symptom string constructed during problem analysis.

- Answer remote problems automatically if all necessary PTFs are available on the service provider.

- Order and distribute groups of PTFs based on the corresponding product using the object distribution facility (ODF).

- Provide problem tracking data for problems detected on remote service requesters.

For further information regarding the System Management Utility (SMU) licensed program, refer to the *Application System/400 System Management Utility Users Guide*, SC21-8201.

You and IBM Customize Services

SystemXtra

SystemXtra allows you to reduce the resources you expend on system problems and concentrate them on your business. It does this in two ways. First, SystemXtra provides you with a single point of contact for all of your hardware and software problems and questions—the Technical Service Center (TSC). The TSC experts are available around the clock to assist you in resolving all of your system concerns promptly. The TSC owns your problem and accepts full responsibility until it is resolved.

Secondly, SystemXtra will increase your system availability by providing an on-site expert who will install PTF's on your system on a quarterly basis. In addition, installation activities are coordinated by an IBM Project Manager. Call IBM Mid-Range Services for more information at 1-507-286-XTRA.

Installation Quickstart

IBM Installation Quickstart offers you a fast track to getting your AS/400 system up and running and the ability to dramatically reduce your investment in planning and installing your AS/400 system. From site planning through hardware and software installation to education and training, this offering provides the total installation solution. Your IBM Project Manager takes complete responsibility for coordinating the installation of your AS/400 system, including coordination of all IBM and non-IBM equipment. Your IBM Installation Representative not only installs and tailors the hardware and software, but trains your operator in systems operation and recovery management. For further information on this offering, please contact your local IBM Marketing Branch Office.

Mid-Range Enhanced Software Service – MRESS

With the IBM Mid-Range Enhanced Software Service (MRESS) offering, a Level 2 programming representative is assigned to your account and serves as a focal point for software problem resolution and notification. The representative manages your AS/400 system, System/38 and System/36 software problems; ensures all problems are resolved in a timely manner to your satisfaction; makes Program Temporary Fix (PTF) recommendations; provides notification tailored to your requirements on software problems, fixes, restrictions and documentation errors; and serves as an advocate for resolving your problems.

Since MRESS provides you with the same software service representative every time, the results are: faster problem resolution, fewer system outages, increased system operator and programmer productivity, and less time spent on software problem management. Your assigned representative will become acquainted with your operation and learn what areas are most critical to you and will make recommendations on which PTFs should be applied to your systems. As new problems are discovered with the licensed programs that are likely to impact your operation, the representative will notify you of these problems. You will also be notified of HIPER (High Impact or PERvasive) APARs and defective PTFs.

A second Level 2 programming representative is assigned to you as a backup to handle your problems when your assigned representative is unavailable. For further information on this offering, please contact your local IBM Marketing Branch Office.

Business Recovery Services – BRS

Business Recovery Services provide you with the ability to restore your data processing environment and services in the event of a disaster. IBM Business Recovery Services Centers (BRSC) provide support for your needs in disaster recovery. This includes planning, education, support services, and computer facilities. For further information on this offering, please contact your local IBM Marketing Branch Office.

Preparing to Request Service for Software

Identifying the Problem — Detail

The following information outlines the steps involved in identifying the source of an IBM programming problem. This will help you understand what and why the IBM Support Center will need to handle a service request. In the following text, we offer some suggestions on how you can complete these steps if you choose to proceed without assistance.

1 Observe Symptoms

2 Observe Special Conditions

3 Determine Severity

4 Identify the Failing Component

5 Document the Problem
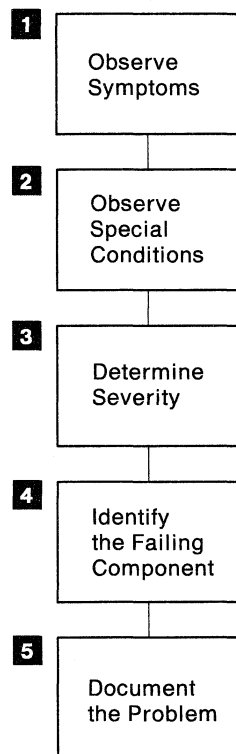
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Once you have determined that your problem is related to NSD-supported IBM software, you can follow the steps explained below to identify the problem source.

1 **Observe Symptoms**

Symptoms may be revealed through error messages, system dumps, or indications that the system is just not functioning properly. As the first step in problem source identification, pay careful attention to any and all symptoms. Record your observations and note the frequency with which these symptoms occur. Check error messages or codes on the system or in your system message manuals. As you examine symptoms, try to determine if the problem is related to IBM operating system software, IBM licensed programs, or other software.

2 **Observe Special Conditions**

Take note of any special conditions that might have an effect on your system. Try asking yourself these questions:

- Is this a new application?

- Is this a new release?

- Is this a new microcode?

- Is this a new licensed internal code level?

- Have PTFs been installed recently?

- Are new procedures being used?

- Is this a recurring problem?

- Are there any recent changes that might be affecting the system?

All of these questions point to special conditions that may be directly tied to the symptoms you observed.

3 **Determine Severity**

Having noted the symptoms and special conditions related to your problem, you must make a practical decision. You need to make a good estimate of how the problem impacts your operation.

Naturally, all problems deserve your attention. But some problems are likely to have more of a direct impact on your operations than others. You should place your problem within one of the four severity types described below.

Severity 1: Indicates the inability to use the program resulting in a critical impact on operations. The condition requires an immediate solution that is not already available.

Severity 2: Indicates the program is usable but severely restricted.

Severity 3: Indicates the program is usable without some functions which are not critical to the overall operation.

Severity 4: Indicates a circumvention to the problem has been found.

In determining the severity of your problem, neither understate nor overstate the severity. If the severity of a problem changes at any time, you can increase or decrease it by calling the support center. If you do not specify a severity, a severity of 3 is assigned.

In all cases, no matter what the severity of the problem, the support center will try to resolve your problem as soon as possible.

4 **Identify the Failing Component (Program)**

For some types of problems such as undocumented error messages or incorrect output, it may only be necessary to report what actually occurred and supply the supporting documentation. But, for other problems, you may need to perform an additional step identifying the failing component. In reporting certain types of problems such as program checks or loops, it is usually necessary to identify the particular component that failed. If you can identify the problem source at the component level, you will expedite problem resolution. The more information you have, the better you are able to communicate with the support center. Level 1 can assist you if you need help with problem source identification (PSI).

Note: The Analyze problem (ANZPRB) command on the AS/400 system is designed to assist you in this task.

5 **Document the Problem**

First: You will need to organize and record your observations to ensure that nothing is overlooked that can assist the support center in resolving your problem.

Second: You will want to maintain your own in-house tracking system for programming problems. Problem tracking offers you some important benefits.

           A problem tracking system records and documents all problems. This information can then be used for planning, organizing, communicating, and establishing priorities for controlling and resolving problems.

           A problem tracking system offers these advantages:

- A single kind of problem report

- A central system of tracking

- A current status report and information for status meetings

- A record of problems classified as unknown

- A record of open problems

- A record of problem history

The next section of this booklet shows a form to help you record problem information and gives you instructions on how to fill it out. This form is a tool to assist you in getting the facts on paper before you call the support center. The last page of this booklet is a blank form which you can copy and use. If you are already using a similar form, just check to be sure it contains the same basic information.

Documenting the Problem

Your objective in the problem source identification process is to identify the problem source down to the component (program) level. You can use the *Problem Inquiry Data Sheet* and *Problem Inquiry Additional Data Sheet* to help you organize your findings before you contact the support center.

PROBLEM INQUIRY DATA SHEET   Sheet 1 of ——

1 Initial/Follow up Date ——/——/——   Reported by ——————————————————

Initial/Follow up Time —— :—— A/P   Handled by ——————————————————

IBM Problem Number ——————————   Log ID ——————————————————

Severity ——————————————   Access Code ——————————————

2 SYSTEM/MACHINE INFORMATION: **3** SUPPORT CONTACTS: ——————————————

Type ————Model ————————   ——————————————————————

Serial Number ——————————   ——————————————————————

Release Level ——————————   ——————————————————————

PTF/Cumulative Level ——————

4 SYSTEM FUNCTION BEING USED: (Operating System, PC Support, Office, RPG, and/or Command, Menu, Procedure etc.) ——————————————————————————————

5 SYSTEM/MACHINE PROBLEM INDICATION:

☐ System Panel   ☐ System Attention   ☐ Processor Active   ☐ SRC
☐ Program Check   ☐ Processor Check   ☐ ————————   ☐ ————————
☐ Job Log   ☐ History Log   ☐ Subsystem Log   ☐ Qsysopr Log
☐ Problem Log   ☐ Error Log   ☐ ————Log   ☐ ————Log

6 SYMPTOM:

System Message ———————— ———————— ———————— ———————— ————————

SRC ———————— ———————— ———————— ———————— ———————— ————————

☐ Incorrect Output   ☐ Performance   ☐ Unpredictable
☐ Loop   ☐ Wait   ☐ Documentation

7 DESCRIPTION OF PROBLEM: ——————————————————————————————

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8 RESOLUTION: ——————————————————————————————————————

——————————————————————————————————————

APAR Number ——————————   Closing ——————————   PTF # ——————————————

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Section **1** : **Basic Information**

Initial/Follow up Date :
> The initial date of the problem or follow up date.

Reported By: The name of the person reporting the problem.

Initial/Follow up Time:
> The initial time of the problem or follow up time.

Handled By: The name of the person handling the problem.

Problem Number: The problem number assigned by the support center. Sometimes identified as a Problem Management Record number (PMR).

Log ID: The number assigned by your installation or the AS/400 Problem Log number.

Severity: A number between 1 and 4 that corresponds to the severity level you have determined for your problem.

Access code: The number assigned by IBM to identify your installation.

Section **2** : **SYSTEM/MACHINE INFORMATION**

Type: Failing machine Type.

Model: Failing machine model.

Serial Number: Failing machine serial number.

Release Level: The Operating System Program or Program Product release level.

PTF/Cumulative LEVEL:
> The Program Temporary Fix (PTF) or Cumulative PTF LEVEL applied to the system.

Section **3** : **SUPPORT CONTACTS**

List the names of the support center contacts you talked with.

Section **4** : **SYSTEM FUNCTION BEING USED**

Identify the system function and the IBM command being used.

Section **5** : **SYSTEM/MACHINE PROBLEM INDICATION**

From among the system/machine problem indication, check the one(s) that most accurately indicated your problem.

Section **6** : **SYMPTOM**

From among the symptoms, check the one that most accurately describes your problem.

Section **7** : **DESCRIPTION OF PROBLEM**

Write a brief but specific description of the problem.

Section **8** : **Resolution**

The support center staff will provide you with the information you need to enter in this part of the data sheet. This information can save you

considerable time if the problem occurs again on another system within your installation.

It will only take you a few extra minutes to use AS/400 Electronic Customer Support or to fill in the *Problem Inquiry Data Sheet*. The preparation time you spend now will help assure smooth communication when you contact the support center as well as facilitate problem tracing. It is a good habit to document your problem and to identify the problem source to the component (program) level.

To Summarize

When you have determined that the problem you're experiencing involves IBM operating system software or licensed program products, you should complete the steps in the "You and AS/400 Electronic Customer Support - Service Functions" on page 9 or "Preparing to Request Service for Software" on page 29 in this book.

When you have identified the source of your problem, you are ready to submit a service request by using electronic customer support on the AS/400 system or call the IBM Support Center (toll-free) for help in handling the problem you have identified. If you cannot identify the specific component that is failing, call the support center and request problem source identification (PSI) assistance. They will assist you in determining the failing component.

Diagnostic Tools and Aids

Diagnostic tools and aids cover a large range of uses and provide many benefits. Probably the most significant benefit is the time you can save maintaining a system or determining the source of programming problems.

Tools and aids give you a standard form of information that can be used to communicate a problem. Many of the tools and aids provide convenient methods of obtaining descriptive problem data and recording tracking information. Other tools and aids help isolate problems to the pertinent area for information gathering. Some information needed for determining the source of a problem cannot be found in any other way.

IBM's diagnostic tools and aids can help you in several ways. They can:

- Help make problem source identification easier

- Enhance your communication with the support center

- Obtain the necessary documentation to resolve your problem

For a complete listing and description of the diagnostic tools and aids available for your system, see the appropriate system manual.

Program Temporary Fix

Defects in IBM licensed programs are corrected by the application of Program Temporary Fixes (PTFs). When the support center has determined that a PTF is applicable to your problem, the PTF is distributed via the most appropriate method (for example, courier or postal service) as determined by the severity of your problem and/or the size of the PTF. For an explanation of the PTF procedure for your system, refer to the appropriate system manual.

Software Maintenance Strategy

Overview

Software maintenance planning is recommended for all customers because software continues to evolve over time. This evolution occurs as new releases of software and maintenance fixes are distributed.

New releases include major new functions as well as the consolidation of fixes for previously found problems.

Program Temporary Fixes (PTFs) are the vehicle for delivering software service and minor enhancements between releases. PTFs can also be used to fix problems that appear to be hardware failures.

The System/36, System/38, and Application System/400* Software Maintenance Strategy is made up of two parts:

- Corrective Services: Used to fix problems that you report to your software service organization.

- Preventive Services: Used to avoid problems that have previously been resolved in the current release.

Corrective Services

If you encounter a problem that appears to be a defect in the IBM-supplied software, contact your provider of software support and report the problem.

If a Corrective Service PTF is available, it is sent to you. If the problem is a newly discovered defect in the IBM-supplied software, you are asked to submit further information so that a fix can be developed for your problem.

Note: For the OS/400 licensed program, the problem can be described by using the WRKPRB command for system detected failures or the ANZPRB command for user-detected problems. You are given the option to report the problem with electronic customer support or by voice. If you report electronically and a corrective PTF is available, it will be sent to you either electronically or on other media.

Preventive Services

Cumulative PTF packages are the primary means of performing Preventive Services on the System/36, System/38, and AS/400 system. Cumulative PTF Packages contain new and previously distributed fixes for the current release level and are updated on a regular basis. Interdependencies between individual PTFs have been resolved for you within these packages (for example, Prerequisites/Corequisites).

Note: PTFs requiring special handling are not included in these packages and must be ordered separately.

The frequency of cumulative PTF package installation should be based upon your operating environment:

* Stable environments where no problems are being encountered do not need to install every package. However, periodic installation is recommended on a 3-to-4-month basis.

* Before making major changes to your environment (such as adding new hardware/software or applications), you should consider installing the most recent cumulative PTF package.

On an ongoing basis IBM provides update information for the Cumulative PTF Package. These PTFs are listed in the service recommendations section of the Preventive Service Planning (PSP) information. This information is available from your IBM Software Support Center. Refer to "Preventive Service Planning — PSP" on page 41 of this manual.

System Saves

After applying a corrective or cumulative PTF package, the system software and all affected libraries should be saved.

Any customers using the Distributed Software License Option (DSLO) should also save distribution libraries.

Initial System Install and Release Upgrade

When installing a system or upgrading to a new release level, the latest Cumulative PTF Package is included with your software. Therefore, you should order your software just before installation. This ensures that you have the most current cumulative PTF package at the time of installation. However, if you have experienced a delay in the installation of the new software of more than 6 to 8 weeks, you should consider ordering and applying a more current cumulative PTF package soon after the installation is complete.

System/36 PTF Application

PTFs applied to your system may be removed, so long as the backup PTF libraries still exist or another PTF package has not been applied. Once the backup libraries have been deleted or another package has been applied, the previous level of PTF cannot be removed.

Generally, the backup PTF libraries should be saved to diskette or tape and placed in a safe place. This allows you to remove them from the system to free up the disk space they occupy.

System/38 PTF Application

PTFs may be applied to your system on a temporary or permanent basis. Temporarily applying PTFs allows you to remove them (if required). Once a PTF is applied permanently, it cannot be removed.

Generally, PTFs should be temporarily applied to your system when received. Once you are satisfied that the PTFs are functioning properly in your environment, they should be permanently applied. This reduces the amount of time required to install any subsequent PTFs that may be required as well as free up the storage that the temporary copy used.

Application System/400 PTF Application

PTFs can be applied to your system on a temporary or permanent basis. Temporarily applying PTFs allows you to remove them (if required). Once a PTF is applied permanently, it cannot be removed.

Generally, PTFs should be temporarily applied to your system when received. Once you are satisfied that the PTFs are functioning properly in your environment, they should be permanently applied. This reduces the amount of time required to install any subsequent PTFs that may be required as well as free up the storage that the temporary copy used.

Additional information on installing electronic customer support and PTFs can be found in the *AS/400: Operators Guide*, SC21-8082, or by contacting your software support provider.

Preventive Service Planning – PSP

PSPs are a collection of information that is used when installing a product (for example, Office or Cobol), a cumulative PTF package, or hardware. The PSPs are divided into upgrades and their subsets. Separate PSPs are used when you are doing a software release installation, when you are considering a cumulative PTF package installation, or when you are installing hardware. These PSPs can be ordered through Level 1 or for AS/400 customers, they can be ordered through the electronic customer support function (this is described in Send PTF Order section of this book).

Each of these upgrades has information that is related to the installation of that particular function. These should be reviewed 1 to 2 weeks before to an installation to understand everything contained within the PSP or in the case of the cumulative package, a review is suggested every 1 to 2 weeks. Then just before to installation, call Level 1 or use electronic customer support to see if there is any new information that has been added.

Each of these PSPs are described below.

Software Install PSPs

The following products have these upgrades:

- System 36: Upgrade - 5727R051

- System 38: Upgrade - 5714R080

- AS/400 Release 1.3.0: Upgrade - 5728R130 (Level 1) / SF98131 (electronic customer support)

The upgrade names for each of the systems remains the same between releases except for the last 3 digits, which will represent the Version, Release and Modification levels.

Each of these upgrades has various subsets. These subsets are named for the licensed program (for example, Operating System, Communications, Office, Languages, PC, and so on). These individual subsets need to be used when installing those products.

Each of the subsets contains a variety of information. Some of that information needs only to be read and understood. There is one section (Section 4) on which you should take action. This section describes any High Impact and PERvasive (HIPER) problems that have been found in the code since the product was developed. A HIPER is a problem, described by an APAR, that has been determined to be of significant impact to warrant a designation of "HIPER." Each of the HIPER entries in Section 4 should be reviewed, and if applicable, the recommendation should be followed.

Cumulative Package PSPs

The following products have these upgrades:

- System 36: Upgrade - 36PREVENT051

- System 38: Upgrade - 38PREVENT080

- AS/400 Release 1.3.0: Upgrade - 40PREVENT130 (Level 1) / SF98130 (electronic customer support)

The upgrade names for each of the systems remains the same between releases except for the last 3 digits, which represent the Version, Release and Modification levels. Each of these upgrades may have multiple subsets. There is one subset for each cumulative PTF package. The subset names are the same as the name of the PTF package (for example, 3710, PCF, C9069112, and so on).

These subsets contain information that is pertinent to that service level package. There is information of a general nature and there is once again information on which action should be taken. The following is a summary of Sections 4 and 5 which should be carefully reviewed before installing the cumulative package:

- Section 4 "Service Recommendations": This section lists those HIPERs that have been discovered in the base code since shipment and not yet fixed (included) in this cumulative package. As before, these recommendations should be reviewed based upon your system's setup and configuration.

- Section 5 "PTFs in Error" (PE): This section contains a list of PTFs that are included on this cumulative package that, since shipment, have been found to be defective. You have two options: decide you may not want to apply those PTFs in error or you can install the fixing PTFs, if available. This section lists the defective PTF, the users affected, the reason the PTF is defective, and the recommended action to take.

Corrective PSP

For the AS/400 system, there is also a subset called "CORRECTIVEPE," which is contained in the "40PREVENTXXX" upgrade. This subset in Section 5 contains a listing of all PTFs that have been marked as defective. This should be used as a guide if you have installed single PTFs.

Hardware Install PSPs

The following products have these Upgrades:

- AS/400 Release 1.3.0: upgrade - 940xDEVICE30 (Level 1) / MF98130

The upgrade names for each of the systems remain the same between releases except for the last 2 digits, which represent the Release and Modification levels.

Each of these upgrades has various subsets. These subsets are named for the 9406, 9404, and 9402. These individual subsets need to be used when doing an install, and only if you are installing hardware to that device.

Each of the subsets contains a variety of information. Some of that information needs only to be read and understood. There is one section (Section 4) on which you should take action. This section describes any High Impact and PERvasive (HIPER) problems that have been found in the code since the product was developed. A HIPER is a problem, described by an APAR, that has been determined to be of significant impact to warrant a designation of "HIPER." Each of the HIPER

entries in Section 4 should be reviewed, and if applicable, the recommendation should be followed.

Problem Inquiry Forms

PROBLEM INQUIRY DATA SHEET

Sheet 1 of ____

Initial/Follow up Date ____/____/____

Initial/Follow up Time ____:____ A/P

IBM Problem Number _____

Severity _____

Reported by _____

Handled by _____

Log ID _____

Access Code _____

SYSTEM/MACHINE INFORMATION:

Type _____ Model _____

Serial Number _____

Release Level _____

PTF/Cumulative Level _____

SUPPORT CONTACTS: _____

_____

_____

_____

SYSTEM FUNCTION BEING USED: (Operating System, PC Support, Office, RPG, and/or Command, Menu, Procedure etc.) _____

SYSTEM/MACHINE PROBLEM INDICATION:

☐ System Panel
☐ Program Check
☐ Job Log
☐ Problem Log

☐ System Attention
☐ Processor Check
☐ History Log
☐ Error Log

☐ Processor Active
☐ _____
☐ Subsystem Log
☐ _____ Log

☐ SRC
☐ _____
☐ Qsysopr Log
☐ _____ Log

SYMPTOM:

System Message _____ _____ _____ _____ _____

SRC _____ _____ _____ _____ _____ _____

_____ _____ _____

☐ Incorrect Output
☐ Loop

☐ Performance
☐ Wait

☐ Unpredictable
☐ Documentation

DESCRIPTION OF PROBLEM: _____

_____

_____

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_____

_____

_____

RESOLUTION: _____

_____

APAR Number _____   Closing _____   PTF # _____

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PROBLEM INQUIRY ADDITIONAL DATA SHEET

Initial/Follow up Date ____/____/____

Initial/Follow up Time ____:____ A/P

IBM Problem Number _____

Reported by _____

Handled by _____

Log ID _____

ADDITIONAL SYMPTOMS:

Command/Menu/Procedure/Program _____ _____ _____ _____

SRC _____ _____ _____ _____ _____ _____ _____ _____

_____ _____ _____

System Message	Return Code	Message Variables	From/Send Program	Inst	To/Receive Program	Inst	System Log
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

ADDITIONAL PROBLEM INFORMATION:

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ADDITIONAL APAR SUPPORTING DOCUMENTATION:

_____ PTF Listing

_____ Program Listing

_____ Communication Trace

_____ Task Dump

_____ Compiler Listing

_____ Vlogs

_____ System Dump

_____ System Output

_____ Job Trace

_____ _____

_____ _____

_____ _____

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Reader's Comments

AS/400™, System/36, System/38
Key to Service:
— **Software**
— **Hardware**
— **AS/400™ Electronic Customer Support**
— **Customize Services**
Publication No. GA21-9992-1

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