HARRY

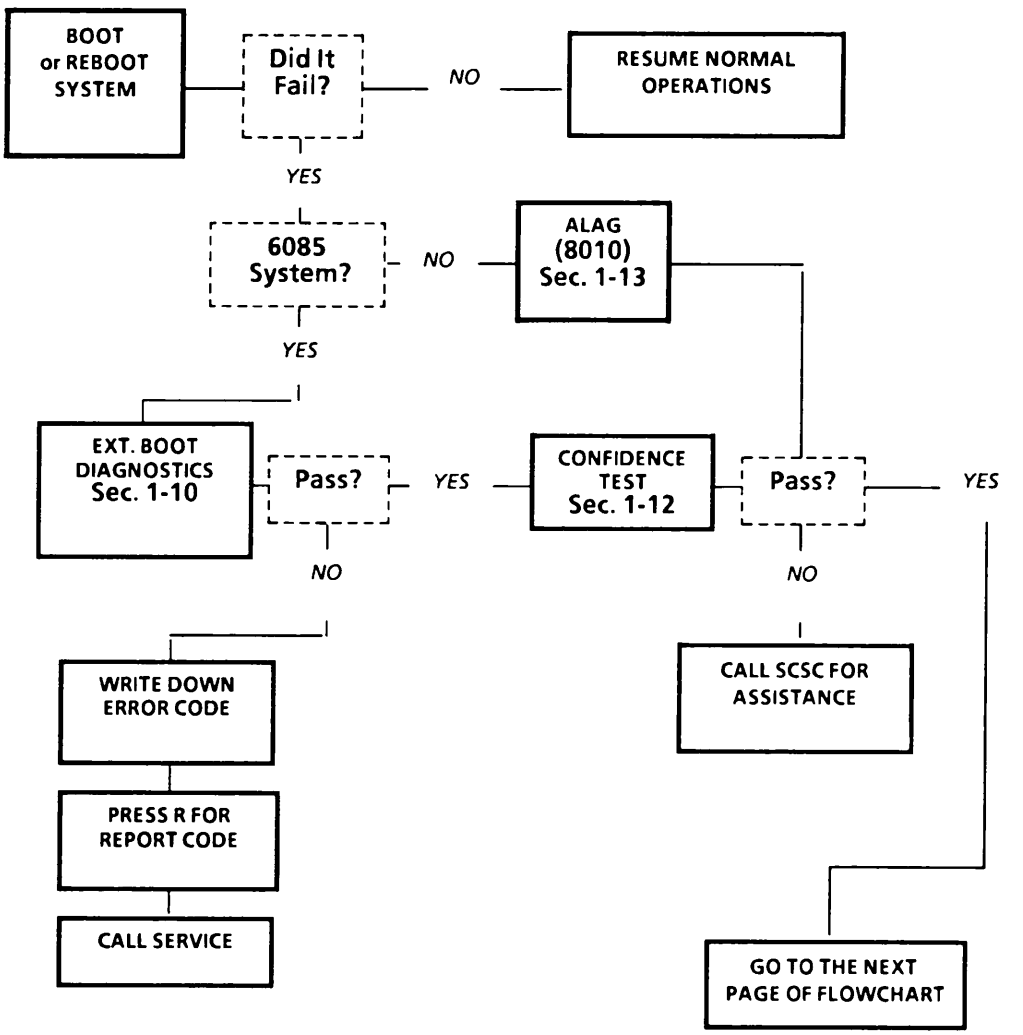
Section 1
Xerox ViewPoint Software

Section 1 Contents

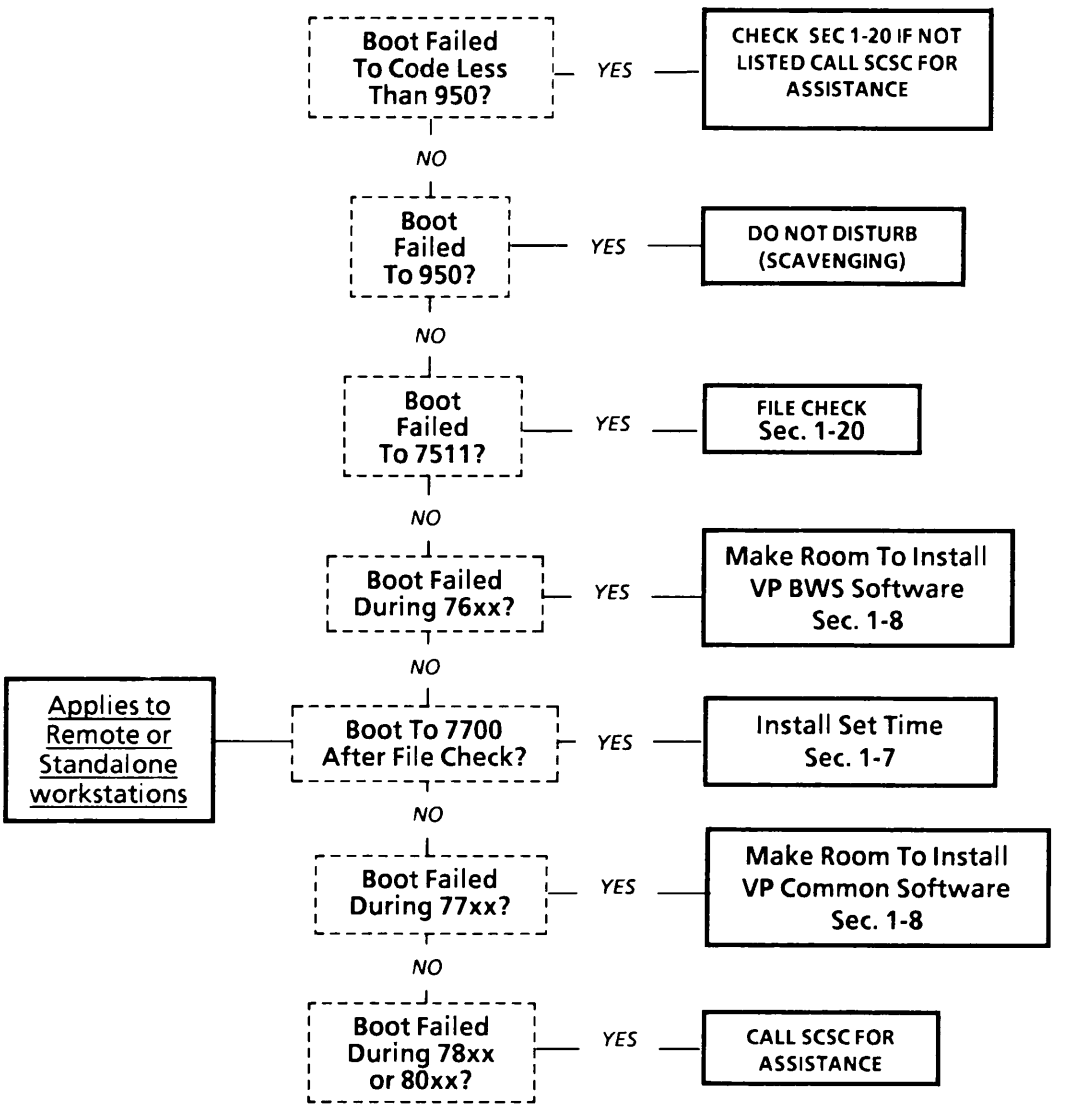
ViewPoint Software Error Recovery

ViewPoint Diagnostics Flowchart

Note: If your system has been up, and you were working inside an application when it crashed; write down the crash codes starting at 9999, then try re-booting first. **Reference Appendix 02 for Common MP and Cursor Codes.**



ViewPoint Diagnostics Flowchart (continued)



FULL DUPLEX

BY PASS INSTALLER 5

- ENTER .911

I ACCEPT THE RISK.

ONLINE

PROP/C

ONLINE

NSFIXER

ViewPoint Software Error Recovery

File Check

Background

File Check is a high level scavenger. Its purpose is to check the relationships of disk files, logical files and also check on attribute consistency. File Check is a Pilot Logical Volume scavenger and a Client File System scavenger for the User Volume on workstations running ViewPoint Software. It does the following:

- Reconstructs the Pilot file system using the labels of each page as the truth. (Assumes there are no label errors. If label error does exist, file cannot be reconstructed accurately.)
- Reads each sector and reconstructs the Logical Volume root page and accelerator files. (Root page and accelerator files can be considered pointers to actual location or layout of all other files.)
- Identifies problems in client files, and reports them to the client.
- Reconstructs directory system (hierarchy of files). It determines which documents belong in which file folders.
- Repairs damaged files in User Area,if possible; otherwise, it deletes them.

CAUTION: NEVER FILE CHECK A SYSTEM THAT DOES NOT HAVE SOFTWARE INSTALLED.

When is a File Check Necessary?

File Check Is necessary when:

- A system is interrupted during normal operation that scatters or erases system or software files (power surges).
- Systems hangs up at **7511** .
- Encountering a message of **"Insufficient Resources"** when opening a document icon. (Reboot, initially. If problem still exists, verify the virtual memory size on the system configuration utility.
- Incurring a **0915** code during a normal boot.
- Encountering a system message of **"VP Volume Needs Scavenging"**.
- Bad Pages found in the User Area or System Volume on a Rigid Disk.

CAUTION: Always check the stability of the hardware prior to File Checking a workstation by performing diagnostics. (Reference *Sec. 1-10 / Extended Boot Diagnostics*, *Sec. 1-12 / Confidence Test; <6085>*, *Sec. 1-13 / ALAG; <8010>*).

Irrecoverable data loss could occur if this is not done. If diagnostics clears, you can proceed to File Check. If not, a service technician should be contacted.

How To Run File Check On ViewPoint Workstations via Floppy Disk

1. **Insert** the Installer #1 diskette into the floppy drive and **reboot** the workstation. When the soft keys appear at the bottom of the screen, **press** the **<F2> (6085)** key or boot from **<002> (8010).** When prompted, **remove** Installer #1 from the floppy drive and **insert** Installer #2. (A message of **"No Response from Time Server"** will appear at this point on Standalone and

File Check (continued)

Remote workstations. Insert the correct time and date and continue.

Note: 8010 Viewpoint workstations have only one Installer disk labeled "***8010 ViewPoint Installer***".

2. When the Main Menu appears on the screen, type the number corresponding to the option labeled, "***ViewPoint: 6085/8010 Special Installation and Error Recovery Commands***", and press the **<RETURN>** key to access the Recovery Scripts.

3. When the "Recovery Scripts" menu appears on the screen, type the number corresponding to the option labeled, "***Install File Check Software***", and press the **<RETURN>** key.

4. Insert the File Check disk(s) as prompted.

Note: 8010 ViewPoint has 1 file check disk.

6085 ViewPoint 1.1, 1.1.2 has 3 file check disks.

6085 ViewPoint 2.0 has 2 file check disks.

"**Please Scavenge the Volume First**", may appear, while the last file check disk is loaded. Disregard this message and proceed with step 5.

5. When the installation is complete, a message of "**Floppy Closed**" appears and the "Recovery Scripts" menu reappears on the screen. Type the number corresponding to the option labeled, "***Run File Check***", and press the **<RETURN>** key.

A message appears, warning that a File Check should not be started unless Xerox ViewPoint software has been previously installed and startup has been attempted.

Note: If Xerox ViewPoint software has not been previously installed,and no user data resides on the rigid drive. Partition the rigid and install ViewPoint Software. If it has been installed proceed to the next step.

6. Type **<Y>** to confirm and press the **<RETURN>** key.

7. Type **<Y>** for the second confirmation and press the **<RETURN>** key. The system will boot up to **7500.** This indicates the system is being file checked.

Special Considerations:

When the number **7500** is on the workstation's display screen, or on the MP of the 8010 workstation, do not disturb the system by rebooting or by powering the system down.

Users should be aware that the time it takes to run this scavenge is dependent on the size of the rigid disk, its occupancy and the fragmentation found. Approximate times to complete, assuming no major problems are encountered, are listed below:

10 Mb	1 hr.
20 - 29 Mb	2 hrs.
40 - 42 Mb	3 hrs.
80 Mb	6 hrs.

If the system finds fragmentation on the rigid disk, the run time can be doubled or even tripled in length.

Note: After a successful completion of File Check, ViewPoint Networked

ViewPoint Software Error Recovery

File Check (continued)

workstations will boot to the bouncing keyboard.

Standalone and **Remote** workstations should only boot to a **7700** code and remain until the Set Time Utility is reinstalled. (Reference *Sec. 1-3 / Installing Set Time Utility*). The systems can sometimes bypass the 7700 code and boot to the bouncing keyboard. When this occurs the system will be operable with the exception of the 4045 printer. If you are unable to print following a filecheck. You will need to install the appropriate set time utility.

Installing Set Time Utility

Background

Set Time Utility is a software file that is designed to install time on Standalone or Remote workstations. This file resides on the ViewPoint Standalone Common Software and the VP RemoteCom Common Software diskettes.

When Is Set Time Utility Installed

This procedure will become necessary when:

- A Standalone or Remote workstation remains on a 7700 code after a File Check. (File Check erases the Set Time Utility).
- A Standalone or Remote workstation remains on an 0921 code when booting.
- Incorrect time or date problem offset from the proper time zone.

How To Install Set Time Utility

1. **Insert** the Installer #1 diskette into the floppy drive and **reboot** the workstation. When the soft keys appear at the bottom of the screen, **press** the **<F2>** key (6085) or boot from **<002>** (8010). When prompted, **remove** Installer #1 from the floppy drive and **insert** Installer #2. A message of **("No response from time server")** will appear at this point on Standalone and Remote workstations. **Insert** the correct time and date and proceed to the next step.

Note: 8010 workstations have only one Installer disk labeled **"8010 ViewPoint Installer".**

2. When the Main Menu appears on the screen, **type** the number corresponding to the option labeled, ***"ViewPoint:6085/8010 Special Installation and Error Recovery Commands"***, and **press** the **<RETURN>** key to access the Recovery Scripts.
3. When the "Recovery Scripts" menu appears on the screen, **type** the number corresponding to the option labeled:
   - ***"Install Set Time Utility On Standalone 6085 / 8010 Workstation"*** or
   - ***"Install Set Time Utility On Remote 6085 / 8010 Workstation"***

   and **press** the **<RETURN>** key.
4. **Insert** the **VP Standalone Common** or **VP RemoteCom Common Software** diskette into the disk drive and **press** the **<RETURN>** key.
5. When the software installation is complete, the message **"Floppy Closed"** will appear.Select from the resulting menu, the option labeled, ***"Start 6085/8010 System"***.

If any problems occur while Installing Set Time Utility on the workstation, call the **SCSC**.

ViewPoint Software
Error Recovery

Special Installation and Recovery

Background

The Error Recovery Commands are obtained by booting from <F2> the Installer #1 and #2 diskettes. After the second diskette is booted, the Installer's Main Menu is displayed. From this menu, recovery scripts can be accessed by selecting the option of "**Special Installation and Error Recovery Commands**".

When this option is selected, a resulting menu of several recovery choices are displayed. Below are a few of those choices with notations of when to use certain Recovery Scripts.

Before doing any reloading of software, the user should **write down** the MP or Cursor codes and **reboot**. If the system comes up; then no reloading is necessary. If the system fails with the same codes; try reloading software. If reloading does not resolve the problem, contact the **SCSC** with the codes.

The reload process was designed to be used if the workstation crashed during boot up after a File Check or during the normal boot process. If your system fails while using an application, try rebooting first.

Note that if you crash with **xx45**; where **xx** is 76, 77, 78 or 80, you don't reload software. You should run Diagnostics (Reference *Sec. 1-10 / Extended Boot Diagnostics*, *Sec. 1-12 / Confidence Test*) and run File Check (Reference *Sec. 1-2 / File Check*). **The xx45 code means you have an unrecoverable disk error.**

When to Make Room To Install ViewPoint Basic Workstation Software

When the workstation fails to **boot** and the cursor codes **9999 / 76xx / +** cycles on the screen, the boot files (Basic Workstation Software) is either:

- Damaged
- Missing, or
- Installed improperly

Selecting this script will allow a user to delete the Basic Workstation Software without affecting the Common Software, Essential Applications, or the VP Series Application Software.

When the software is deleted, a code of **7604** appears on the screen. **Reboot** the workstation to obtain the Error Recovery Scripts as before; and select the option to "**Install ViewPoint Basic Workstation Software**". The system will prompt you step-by-step through the reinstallation successfully.

When to Make Room To Install ViewPoint Common Software

When the workstation fails to **boot** and the cursor codes **9999 / 77xx / +** cycles on the screen, the NetCom Common, Standalone Common, RemoteCom Common and ViewPoint Common Software is either:

- Damaged
- Missing, or
- Installed improperly

Selecting this script will allow a user to delete the Common Software without affecting the Basic Workstation Software, Essential Applications, or the VP Series Application Software.

When the software is deleted, a code of **7604** appears on the screen. **Reboot** the workstation to obtain the Error Recovery Scripts and select the option to "**Install the ViewPoint:**

Special Installation and Recovery (continued)

NetCom Common and View Point Common, or

Standalone Common and View Point Common, or

RemoteCom Common and View Point Common Software".

The system will prompt you step-by-step through the reinstallation successfully.

When to Delete All System Data Files INCLUDING All Applications

When the workstation crashes and the cursor codes **9999 /78xx or 80xx / + XXXX XXXX XXXX XXXX** cycles on the screen, and the maintenance start up codes, **(XXXX)** suggests an unspecified piece of software file is either:

- Damaged
- Missing, or
- Installed improperly

Selecting this script will allow a user to delete all of the system files along with VP Series Application software from the rigid disk.

When the software is deleted, a code of **7604** appears on the screen. **Reboot** the workstation to obtain the Main Menu Scripts and select the option to **"Install ViewPoint Software on 6085/ or 8010".** The system will prompt you step-by-step through the System Software Files reinstallation successfully.

When complete, **reboot** the workstation to copy all of the VP Series Application Software back into the Application Loader.

When to Delete All System Data Files EXCEPT Applications

When the workstation crashes and the cursor codes **9999 / 77xx + XXXX XXXX** or **80xx / + XXXX XXXX** cycles on the screen, and the maintenance start up codes, **(XXXX)** suggests a specific piece of software file is either:

- Damaged
- Missing, or
- Installed improperly

Selecting this script will allow a user to delete all of the system files from the rigid disk. When the software is deleted, a code of **7604** appears on the screen.

Reboot the workstation to obtain the Main Menu Scripts and select the option to **"Install ViewPoint Software on 6085 / 8010".** The system will prompt you step-by-step through the System Software reinstallation successfully

The VP Series Applications, such as Spelling Checker, List Manager, Data Driven Graphics, and Screen Fonts are not affected by the execution of this script and will remain in the loader.

ViewPoint Software Diagnostics

Extended Boot Diagnostics

Background

Extended Boot Diagnostics provide a set of tests for all hardware necessary to load and run the operational software; validating the major electronic portions of the 6085 Processor only, as well as checking the configuration.

This configuration check includes how much memory is installed, whether or not there is an installed PC Option Board or floppy disk drive, and which rigid disk drive is installed. The Printed Wiring Assemblies (PWAs) tested are the Backplane, the Input / Output Processor (IOP), the Display Control and Memory (DCM), the Mesa Processor Board (MPB), and, when applicable, the Memory Expansion Board (MEB) and/or the Personal Computer Option Board (PCO).

Comprehensive tests on the peripheral devices are not performed. To test these components, Extended Isolation, On-Line Diagnostics and / or Off-Line Diagnostics must be used.

When to Run Extended Boot Diagnostics

Extended Boot Diagnostics should be run when:

- The workstation is installed, both initially and after moving the workstation to another location.
- Any component of the workstation is exchanged.
- Encountering a 7511 code on workstation.
- Workstation fails to boot and displays a cursor code on the screen.
- A problem is suspected with any of the components of the workstation.

How To Run Extended Boot Diagnostics On 6085 Workstations From Floppy Disk

Viewpoint 1.1, 1.1.2, 1.3

1. **Reboot** the workstation with the **Offline Diagnostics #2** diskette in the floppy drive.
2. When the soft keys are displayed at the bottom of the screen, **press the <F6> key twice**, to initiate Extended Boot Diagnostics. During the progression of the Cursor Codes, all of the system hardware components along with some of the application software is being tested.

Note: Users of Documenter workstations should be aware that the 4045 Laser Printer must be "on" while running this diagnostic procedure or diagnostics will fail.

ViewPoint 1.5.2, 2.0, 2.0.1

1. Reboot the workstation with the **Offline Diagnostics Boot Diagnostics** diskette in the floppy drive.
2. When the soft keys are displayed at the bottom of the screen, **press the <F6> key twice**, to initiate Extended Boot Diagnostics. During the progression of the Cursor Codes, all of the system hardware components along with some of the application software is being tested.

Interpreting The Results

Extended Boot Diagnostics (continued)

This diagnostic test runs approximately fifteen minutes. When Extended Boot Diagnostics run successfully, the soft keys return to the display and remain until another soft key is depressed. If, however, the system fails a test during Extended Boot Diagnostics, the test stops at that test number. The Cursor Box then alternates with two sets of numbers. These are called **Error Codes**. These codes should be recorded for future reference.

By pressing **<R>** (for "Report"), four numbers and letters will be shown in the Cursor Box. This new code is called a **Report Code**. Record this code also. By pressing the **<Spacebar>**, the Report Code will flip back to the Error Codes.

Contact your local service technician with both the Error Codes and Report Code. This helps the technician in preparing to service the equipment.

ViewPoint Software Diagnostics

Confidence Test

Background

The Confidence Test does a thorough non-destructive verification of the rigid disk drive. It looks for hard (cannot be read) errors and an excess of soft (can be read after many tries) errors on disk pages. It determines if the rigid disk is in working order.

When to Run a Confidence Test

A Confidence should be run when:

- Isolating rigid disk
- Bad pages are not listed on the Bad Page Table
- Encountering a message of "VP Volume Needs Scavenging"
- Encountering a message of "Physical Volume Needs Scavenging"
- Encountering a **7511** code

How To Run A Confidence Test On 6085 Workstations From Floppy Disk

1. **ViewPoint 1.1, 1.1.2, 1.3**

   Reboot the workstation with the **Offline Diagnostics #1** diskette in the floppy drive and **depress** the **<F2>** key. The system will request the **Offline Diagnostics #2** diskette. **Remove** diskette #1 out of the floppy drive and **insert** diskette #2 and **press** the **<RETURN>** key.

   ViewPoint 1.5.2, 2.0, 2.0.1

   Reboot the workstation with the **Offline Diagnostics System Bootfile** diskette in the floppy drive and **depress** the **<F2>** key. The system will request the **Offline Diagnostics Workstation Diagnostics** diskette. **Remove** diskette #1 out of the floppy drive and **insert** diskette and **press** the **<RETURN>** key.

2. A menu will be displayed and the system will prompt the user to indicate which class of user s/he belongs to. **Choose** the option for "***Normal User***" and **press** the **<RETURN>** key.

3. A menu will be displayed and the system will prompt the user to choose an option. **Choose** the option for "***Rigid Disk Test***" and **press** the **<RETURN>** key.

4. A menu will be displayed and the system will prompt the user to choose an option. **Choose** the option for "***Confidence Test***" and **press** the **<RETURN>** key.

Interpreting The Results

The Confidence Test takes approximately 5 to 15 minutes to execute, depending on the size of the rigid disk. The Confidence Test results are shown with a **"PASSED"** or **"FAILED"** message. Included with the **"FAILED"** message is a Failure Code, which points to specific parts to replace or repair procedures for that failure.

Note: If **"FAILED"** with **Failure Codes 1, 2, 3, 7, or 8,** record the code and call the Service Technician.

If **"FAILED"** with **Failure Codes 4 or 6,** record the code and call the **SCSC** for assistance.

Should this test pass or fail and bad pages are listed, **always** record the page number(s) along with all other data regarding those pages and call the **SCSC** for assistance.

ALAG

Background

ALAG is a series Automated Load And Go diagnostic tests which isolate the cause of system crashes related to the rigid disk for an 8010 user. Running ALAG will determine the problem and either fix it or instruct the user for the appropriate repair action.

ALAG is a starting point for all troubleshooting procedures on the 8010 workstation. This series of diagnostic tests verify the processor and rigid disk drive for technical and software related failures. When successful, the total run time for ALAG is approximately 4 minutes and 15 seconds.

Initiation of ALAG takes the system through the following series of tests: Preboot diagnostics, Boot Diagnostics, Fault Analysis, Verify Physical Volume and Media Scan. After successful completion of ALAG a user may logon on to perform an extended version of the individual tests. The following is a list of the various tests that can be run.

1. **Preboot Diagnostics** - Designed to perform a series of sequential tests of the components needed to Boot (load) other software or diagnostics routines from the rigid or floppy. Preboot Diagnostics is initiated by the **<Power On>** or **<B Reset>** Switches.

   The MP codes associated with Preboot Diagnostics are from a blank MP to 0099, inclusive. This diagnostic tests/checks:

   - the portion of the IOP needed to continue the Boot process
   - the IOP, MP LEDs and the MP Harness
   - the Boot Selection Process (Boot Paths); if no **<ALT B>** selection, then software is loaded - otherwise
   - the Load Device is tested
     - o If Rigid is selected **<0001>**; checks IOP and Backplane Assembly
     - o If Floppy is selected **<0002>**; checks IOP and Floppy Disk Drive

   Failures during Preboot Diagnostics should be recorded and a service call should be placed.

2. **Boot Diagnostics** - Provides a comprehensive set of tests for all hardware necessary to load the operational software, including the Real Time Clock. Boot Diagnostics can be loaded from rigid or floppy disk. The boot program is loaded by Preboot Diagnostics and the MP codes associated with Boot Diagnostics are from 0300 to 0399, inclusive. This diagnostic tests/checks:

   - The IOP, CP, HSIO, MCC, MSC, OPT, BACKPLANE and Real Time Clock
   - The Ethernet connection (transceiver and cable)
   - the System Configuration (memory, type of RAM chip, whether there is an OPT board and which rigid disk drive - 10, 29, 42, 80 or 300 Mb. This is test #316.
   - the keyboard and mouse

   Failures during Boot Diagnostics should be recorded and a service call should be placed.

ViewPoint Software Diagnostics

Alag (continued)

3. **Fault Analysis** - This test detects, isolates, and reports hard disk errors in the rigid disk drive and the rigid disk controller on the High Speed Input / Output (HSIO).

   Failures during Fault Analysis should be recorded and a service call should be placed.

4. **Verify Physical Volume** - This test verifies the consistency of the Physical Volume. When no structural problems are found, this command normally will run almost instantaneously. If the Physical Volume is inconsistent, it will offer to scavenge the Physical Volume and ask the user for confirmation. It will display the message "**Physical Volume needs scavenging, Do you wish to scavenge the physical Volume (Y / N)**".

   This procedure is of a risky nature, and it is recommended that the **SCSC** be contacted. regarding any other messages received during this procedure.

5. **Media Scan** - This command will initiate a scan of the entire disk a user specified number of times. In addition, the user also specifies the retry count. Those pages with hard read errors (cannot be read successfully within the given retry count) and soft read errors (can be read with a retry) are listed as they are found.

   Failures during Media Scan may result in the message "**Fatal Error: Microcode**", and a service call should be placed.

6. **List Bad Pages** - This routine is optional and can be automatically invoked after completion of Media Scan. It instructs the system to list the pages which were entered into the system's Internal Bad Page Table along with additional information about the page(s).

The above tests take approximately 4 - 5 minutes to run. However, if **Verify PV** or **Media Scan** find errors, the run time may increase.

How To Run ALAG - Rigid Disk Diagnostics

The following instructions apply to **8010** Workstations only.

1. **Insert** the disk labeled 8000 Series Rigid Disk Diagnostics in the floppy drive
2. **Boot** the workstation from **<0005>**.

The run time for this diagnostic is dependent upon the size of the rigid drive.

When the diagnostic test has executed successfully, the message "**Successful Completion**" should be displayed on your workstation's display screen. If diagnostics fails, contact the Service Technician.

It is strongly recommended that, should ALAG complete successfully, an extended Media Scan be performed to test the stability of the rigid disk. You will need to contact the **SCSC** for assistance in performing this test.

System Configuration Utility

Background

The System Configuration Utility option resides on the ViewPoint Offline Diagnostics Disk.

The configuration of the system is set prior to the rigid disk being formatted. Controlled parameters are set to identify the size of the rigid disk, specify the Model type, specify the amount of RAM and Virtual Memory of the system, etc.

The System Configuration Utility records a description of a particular system's configuration onto its processor, for use by the software.

When To Use The System Configuration Utility

- Upgrading components
- Installing a new system
- Installing a rigid disk
- Installing new options
- Installing additional memory

Accessing The System Configuration Utility

1. **ViewPoint 1.1, 1.1.2, 1.3**

   Insert the VP 1.1 Off-Line Diagnostics #1 diskette into the floppy drive and **reboot** the workstation. When the soft keys appear at the bottom of the screen, **press** the **<F2>** key. The system will progress through a series of numbers, pausing momentarily at **0920** and then proceeding to a prompt requesting Offline Diagnostics #2 diskette be inserted. **Remove** the Offline Diagnostic #1 diskette from the floppy drive and insert the Offline Diagnostic #2 diskette.

   ViewPoint 1.5.2, 2.0, 2.0.1

   Insert the VP **Off-Line Diagnostics System Bootfile** diskette into the floppy drive and **reboot** the workstation. When the soft keys appear at the bottom of the screen, **press** the **<F2>** key. The system will progress through a series of numbers, pausing momentarily at **0920** and then proceeding to a prompt requesting **Offline Diagnostics Workstation Diagnostics Disk** be inserted. **Remove** the **System Bootfile** diskette from the floppy drive and insert the **Workstation Diagnostics** diskette.

2. When the message "**What class of user do you belong to**" appears on the display,

   - Normal User
   - System Administrator, or
   - Technical

   type the number corresponding to Normal User and **press** the **<RETURN>** key.

3. A menu will appear, listing all of the available selections possible for the class of user you have indicated. Select from the menu, the option labeled, "***System Configuration Utility***" and **press** the **<RETURN>** key.

To check the system configuration:

1. Select from this menu, the option labeled, "***Show Configuration***" and **press** the **<RETURN>** key.

ViewPoint Software Diagnostics

System Configuration Utility (continued)

2. Select from the resulting menu "***Return to Previous Menu***" and press the **<RETURN>** key.
3. **Reboot** the workstation and continue.

To change the system configuration:

1. Select from this menu, the option labeled, "***Set Configuration***" and press the **<RETURN>** key.
2. Make the changes to the system configuration as necessary.
3. Select from this menu, the option labeled, "***Return to Previous Menu***" and press the **<RETURN>** key.
4. **Viewpoint 2.0 (only)**

   Will prompt is the disk formatted. Answer yes and then reboot.
5. Choose the option to "***Show Configuration***" and press the **<RETURN>** key or,

   Reboot the workstation and continue.

To abort working with the system configuration:

1. Select from this menu, the option labeled, "***Return to Previous Menu***" and press the **<RETURN>** key.
2. **Reboot** the workstation and continue.

Diagnostics Glossary

Backing Store
The disk location where the system stores data files temporarily, until permanently stored by the user. This location is in the Scavenger Volume on ViewPoint workstations.

Bad Page Table
The Bad Page Table is created when the rigid disk is formatted. It contains pages entered by the manufacturer or by the user.

Bit
Stands for "Binary Digit", which is the smallest unit of information recognized by a computer, and is represented by a 1 (one) or 0 (zero).

Byte
A byte is a set of varying contiguous bits arranging from 5-10 bits, which represent a character, symbol, or operation. Xerox uses an 8 bit structure.

CP
Stands for Central Processor. The CP PWA (Printed Wiring Assembly) resides in slot 3 of the 8000 processor.

CRC
Stands for Cyclic Redundancy Check, and is a numeric field written on the media and representative of the actual bits contained in the data field. When the data is read back, a CRC is calculated and compared to the CRC stored on the disk. If the two are unequal, the data is in question, and an error is normally posted.

Data Field
A field written with each sector of the disk describing the client data (user data, system software, etc.).

DCM
Stands for Display Control and Memory. The DCM PWA (Printed Wiring Assembly) resides in slot 1 of the 6085 processor.

Destructive Exerciser
The Destructive Exerciser command overwrites the entire disk. It is an exerciser program for detecting intermittent disk errors. It consists of random seeks, and writes and reads random data patterns.

Disk Exerciser
This command is a non-destructive exerciser that reads from random locations, and writes and reads on the diagnostic cylinder. It detects intermittent disk errors, but does not perform any fault isolation. This exerciser program outputs its results in the form of an error log. Each pass consists of a series of reads to random disk locations interspersed with non-destructive writes and reads on the diagnostics cylinder.

Fault Analysis
This command detects, isolates, and reports hard disk errors in the rigid disk drive and the rigid disk controller on the HSIO PWA.

File Check
File Check is a Pilot Logical Volume scavenger and Client File System scavenger for the User Volume on workstations running ViewPoint. (For servers the Scavenger utility is used.) File Check does the following:

1. Pilot Logical Volume Scavenger
   - Reconstructs the Pilot file system using the labels of each page as the truth. (Assumes there are no label errors. If label error does exist, file cannot be reconstructed accurately.)
   - Reads each sector and reconstructs the Logical Volume root page and accelerator files. (Root page and accelerator files can be considered pointers to actual

Diagnostics Glossary (continued)

location or layout of all other files.)

2. Client File System Scavenger

   - Identifies problems in client files, and reports them to the client.
   - Reconstructs directory system (hierarchy of files). Which documents belong in which file folders.
   - Repairs damaged files in User Area, if possible; otherwise, it deletes them.

Germ
A bootstrap loader which can load Pilot boot files into the processor, and place them into execution; i.e., it is a small piece of software which "pulls" the processor operating system into main memory.

Header Field
A field written with each sector of the disk describing location information with reference to cylinder, head, and sector.

HSIO
Stands for High Speed Input / Output. The HSIO PWA resides in slot 4 of the 8000 processor.

Initial Microcode Area
The Logical Volume which contains critical software dependent data pages including initial processor microcode instructions and bad page facilities. The Initial Microcode Area is also referred to as Cylinder 0.

Internal Bad Page Table
The Internal Bad Page Table is a listing of pages scanned bad or marginal by the system during a diagnostic session. It is held in memory until the workstation is rebooted.

IOP
Stands for Input / Output Processor. The IOP PWA resides in slot 1 of the 8000 processor or in slot C4 of the 6085 processor.

Label Field
A field written within each sector (page) of the disk describing the file to which the sector belongs and the relative position of the sector in the file.

Logical Volumes
The logical structuring of the media into specific categories such as Initial Microcode, Scavenger (VP workstation) and User Areas. The boundaries for these volumes are predetermined by software.

MCC
Stands for Memory Control Card. The MCC PWA resides in slot 5 of the 8000 processor.

MEB
Stands for Memory Expansion Board. The MEB PWA resides in slot C2 of the 6085 processor. This is an optional PWA.

Media Scan
The diagnostic program which examines the media page by page and reports errors accordingly. A "media scan" has commonly been referred to a test which examines the complete media surface for CRC errors.

Mesa Processor
Any "machine" capable of supporting the Mesa programming language.

Microcode
The lowest level of software that implements the MESA instruction set and low level operations.

MP
Stands for Maintenance Panel; this term is used primarily with 8000 processors.

MPB
Stands for Mesa Processor Board. The MPB PWA resides in slot C3 of the 6085 processor.

Diagnostics Glossary (continued)

MSC
Stands for Memory Storage Card. The MSC PWA resides in slot 6 of the 8000 processor.

Offline
This term refers to an activity or piece of equipment which is not directly connected to a computer. It also refers to diagnostic routines that do not reside on the system and are performed prior to logging on to a workstation.

Online
This term refers to an activity or piece of equipment which is directly connected to or interacting with a computer. It also refers to diagnostic routines that reside on the system and are performed after logging on to a workstation.

OPT
Stands for Options. The OPT PWA, if present, resides in slot 2 of the 8000 processor.

PCE
Stands for Personal Computer Emulation. The PCE PWA resides in slot C5 of the 6085 processor. This is an optional PWA. Also known as PCO.

Physical Volume
The Physical Volume is created during the format of the rigid disk. It is the highest level of logical structuring of the media (rigid disk).

Pilot
The operating system for the Mesa processor. It is a small nucleus of software which serves as an interface between the Mesa processor and all other software.

Pilot Volume
A Physical or Logical Volume which has the proper identifiers to be accessible by Pilot.

PWA
Stands for Printed Wiring Assembly. A PWA is also known as a Printed Circuit Board (PCB).

Root Page
The first page of the Physical Volume or each Logical Volume is the Root Page. It contains the name of the volume and specifies locations of files required to boot from the volume.

Scavenger
A software facility which is capable of making repairs of page / file order, structure, and in some cases, content on servers (similar to File Check for workstations).

Scavenger Volume
The Logical Volume which contains File Check, Set Time Utility (Remote and Standalone workstations only) and Backing Store.

User Area
The Logical Volume where user files and system files reside on ViewPoint workstations.

ViewPoint Software Diagnostics

Common MP and Cursor Codes

0149

Wait Boot File. This is an early code during the booting sequence and should remain only a few seconds during a normal booting process.

Possible causes: nonexistent device, no Initial Microcode installed on rigid or floppy, code is stored in the wrong place, no Initial Microcode installed on boot server, bad checksum on boot server's Initial Microcode, not connected to net during net boot.

ACTION: Follow the flowcharts labeled, "Unable to boot from 0149/0151".

0151

Boot device Error. Initial Microcode cannot be fetched from the boot device.

Possible causes: The system will time out to this code if no action is taken to correct the 0149.

ACTION: Follow the flowcharts labeled, "Unable to boot from 0149/151".

0200

Boot Code. Interpret Boot File.

ACTION: Follow the flowchart labeled, "Unable to boot past 0200 coded".

0201

Boot Code. The Mesa Microcode and Germ (or Diagnostic Microcode) cannot be fetched from the boot device (essential software cannot be accessed from boot device).

Possible causes: same as for code **0149**.

ACTION: Unable to boot past 0201.

0322 (8010 Workstations)

Executing Ethernet loop back test. The workstation is checking that it can successfully communicate with the transceiver. The system displays this cursor code until the connection is made or the **<NEXT>** key is pressed for Standalone or Remote systems.

ACTION: For Standalone or Remote systems, pres the **<NEXT>** key. Check the Ethernet connections. Run Diagnostics. If diagnostics fails, contact the System Administrator.

0912

Boot loader not compatible with MakeBoot used for boot file.

Possible causes: Floppy disk or floppy drive may be damaged.

ACTION: Follow the flowchart labeled, "Unable to boot past F2: 0912 Code".

0915

Ethernet Debugger Server in control. The system is waiting to talk to a remote Ethernet debugger. A local debugger is not being used because it is too early in initialization to find the local debugger.

ACTION: Follow the flowchart labeled, "Unable to boot past 0915 code".

0919

Boot loader has transferred control, but it is hung.

Possible causes: Incompatible software has been loaded. Boot service does not contain the correct version of software.

ACTION: Follow the flowchart labeled, "Unable to boot past 0919 code".

0921

Boot Loader device error on device being booted.

Possible causes: System is missing the set time utility on a standalone, remote or Dashlink system. Hardware changes are not reflected

Common MP and Cursor Codes (continued)

on the system configurations.
ACTION: Follow the flowchart labeled, "Unable to boot past 0921 code".

0934

Bootfile's StartList contains bad data.
Possible causes: System configuration has not been updated following hardware changes.
ACTION: Follow the flowchart labeled, "Unable to boot past 0934 code".

0935

Boot device is been asked to perform as a debugger.
ACTION: Follow the flowchart labeled, "Unable to boot past 0935 code".

0937

Attempting to locate time via Ethernet or hardware clock. Pilot is attempting to get the time of day from an Ethernet Time Server. If none responds, it attempts to get the time from the hardware clock. The system displays this cursor code until the time is available from one of these sources.
ACTION:

Note: On Standalone and Remote workstations, install Set Time Utility. (Reference *Sec. 1.3 / Installing Set Time Utility*).

0950

Logical Volume being scavenged. If a Logical Volume being booted or opened is in an inconsistent state, Pilot will display this code while it scavenges (verifies the contents of the volume). The amount of time required depends on the size, occupancy and fragmentation of the Logical Volume being scavenged. **DO NOT INTERRUPT THIS CODE.**

Note: See the **Special Considerations** section at the end of the File Check section on page 1-5.

7500

The File Check Software is running. This code remains displayed until File Check completes. The amount of time required depends on the size, occupancy and fragmentation of the Logical Volume being scavenged. **DO NOT INTERRUPT THIS CODE.**
Note: See the **Special Considerations** section at the end of the File Check section on page 1-5.

7504 (ViewPoint)
Volume needs Initializing.
ACTION: This code normally indicates the user file system must be initialized. However, if this appears after a workstation has completed booting once, **DO NOT initialize this volume.** Follow the flowchart labeled, " Unable to boot past 7504 code".

7511 (ViewPoint)
System is requesting a File Check be performed on the logical volume.
ACTION: Follow the flowchart labeled, " Unable to boot past 7511 code".

7530 / +
Unsuccessful File Check was attempted.
ACTION: Follow the flowchart labeled, " Unable to boot past 7511 code".

7545

Unrecoverable Disk Error. There is a disk page that contains invalid data.

ViewPoint Software Diagnostics

Common MP and Cursor Codes (continued)

This usually indicates rigid disk problem.
ACTION: Follow the flowchart labeled, "Unable to boot past 7545 code".

7600

Xerox ViewPoint software is being booted.
ACTION: Follow the flowchart labeled, "Unable to boot past 7600 code".

7604

System files have been deleted from the rigid disk.
ACTION: Follow the flowchart labeled, "Unable to boot past 7604 code".

7700

Xerox NetCom, VP RemoteCom or VP Standalone software is starting.
ACTION: Follow the flowchart labeled, "Unable to boot past 7700 code".

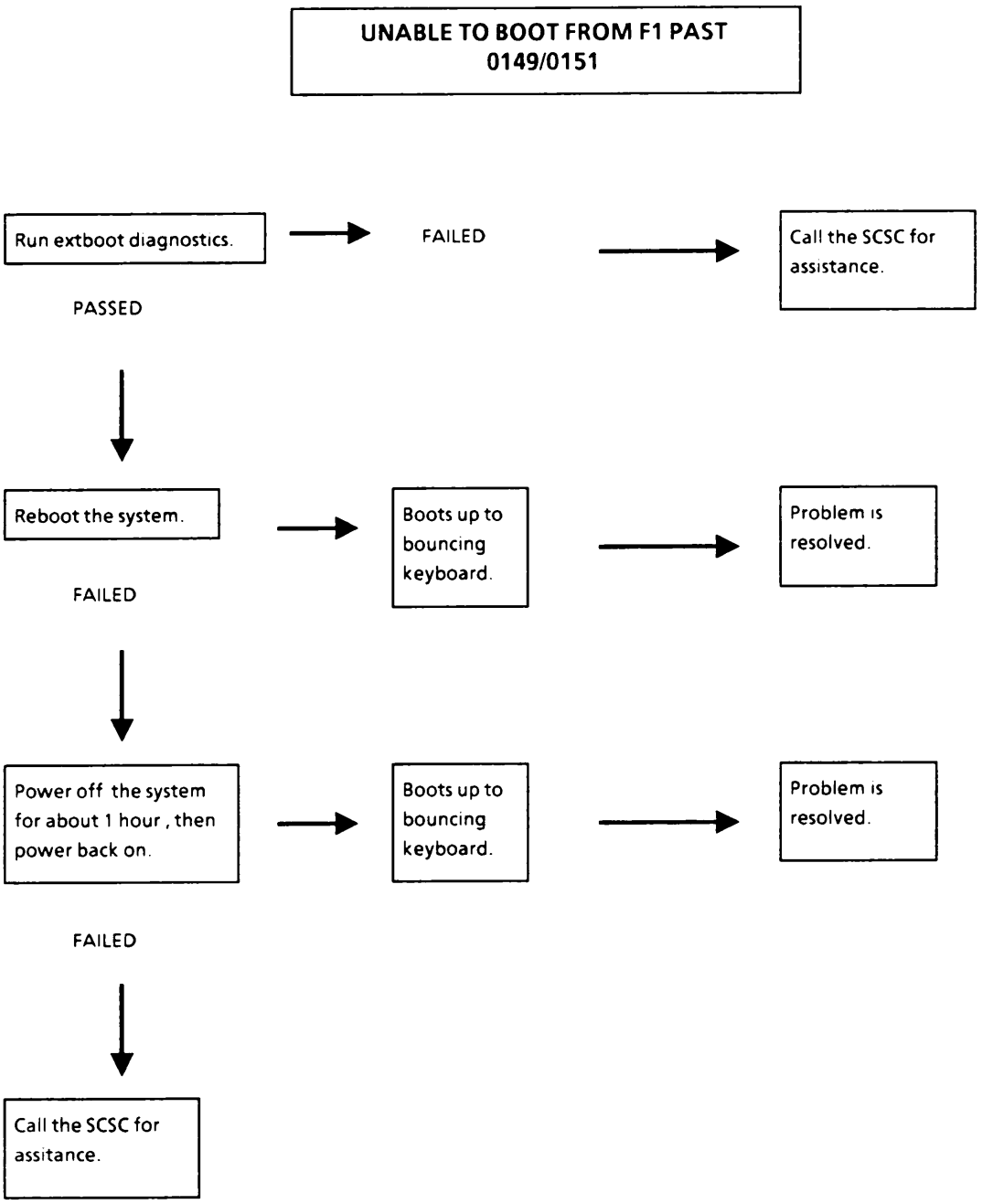
7800

All VP Series Applications that have been specified to load automatically at workstation boot time are now being loaded.
ACTION: Follow the flowchart labeled, "Unable to boot past 7800 code".

8000

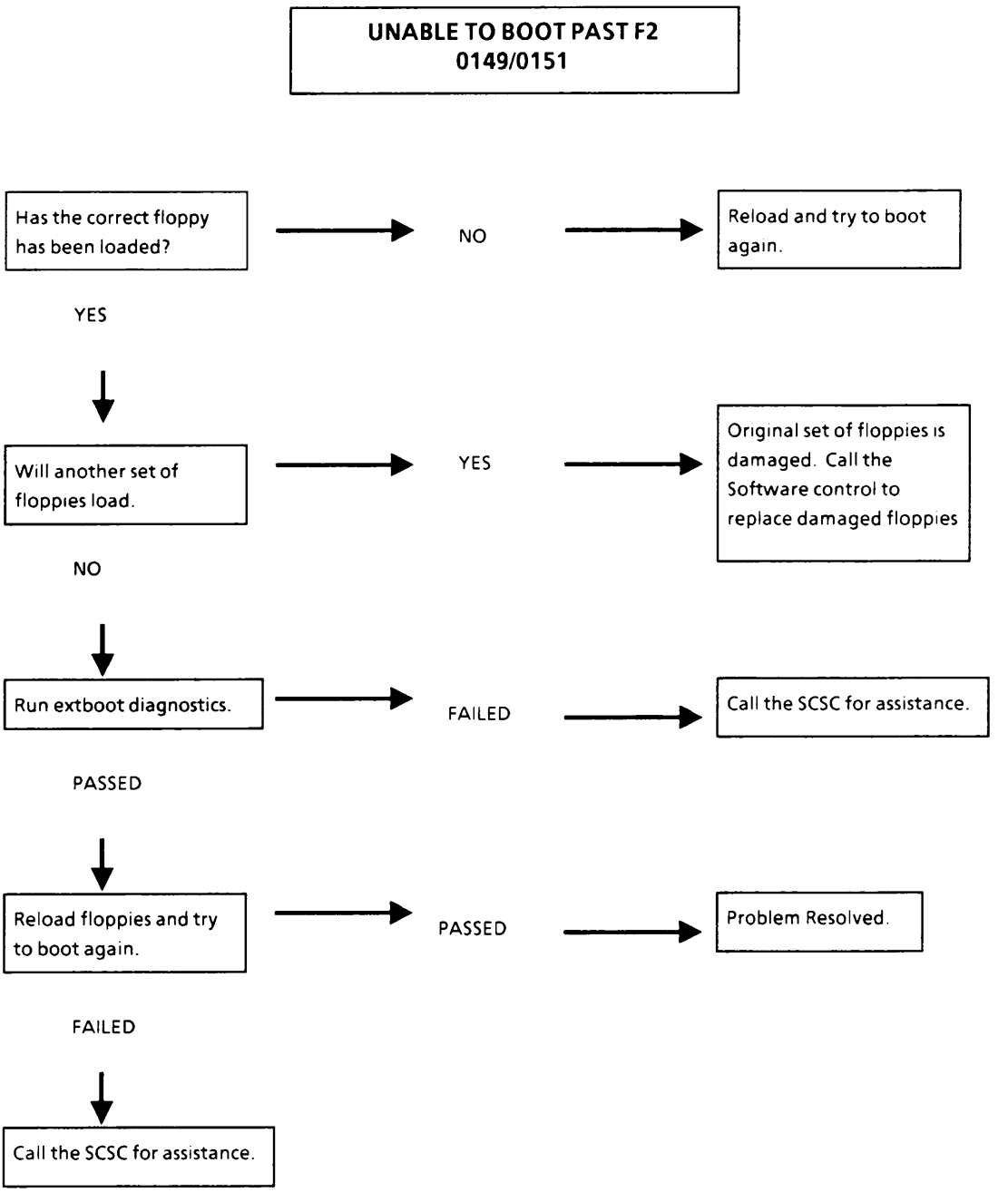
System is working fine.
ACTION: No Action Required.

Common MP and Cursor Codes (continued)

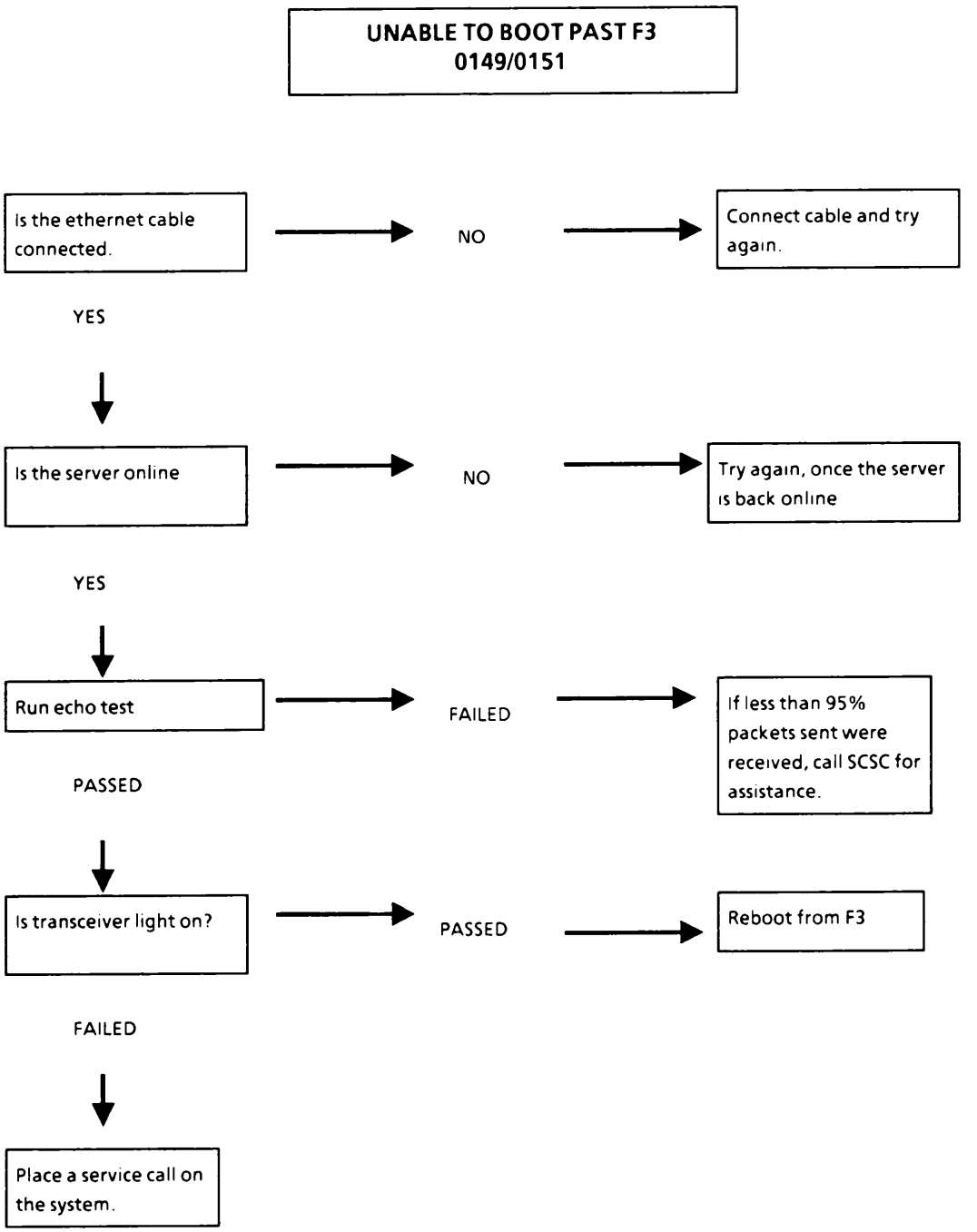


ViewPoint Software Diagnostics

Common MP and Cursor Codes (continued)

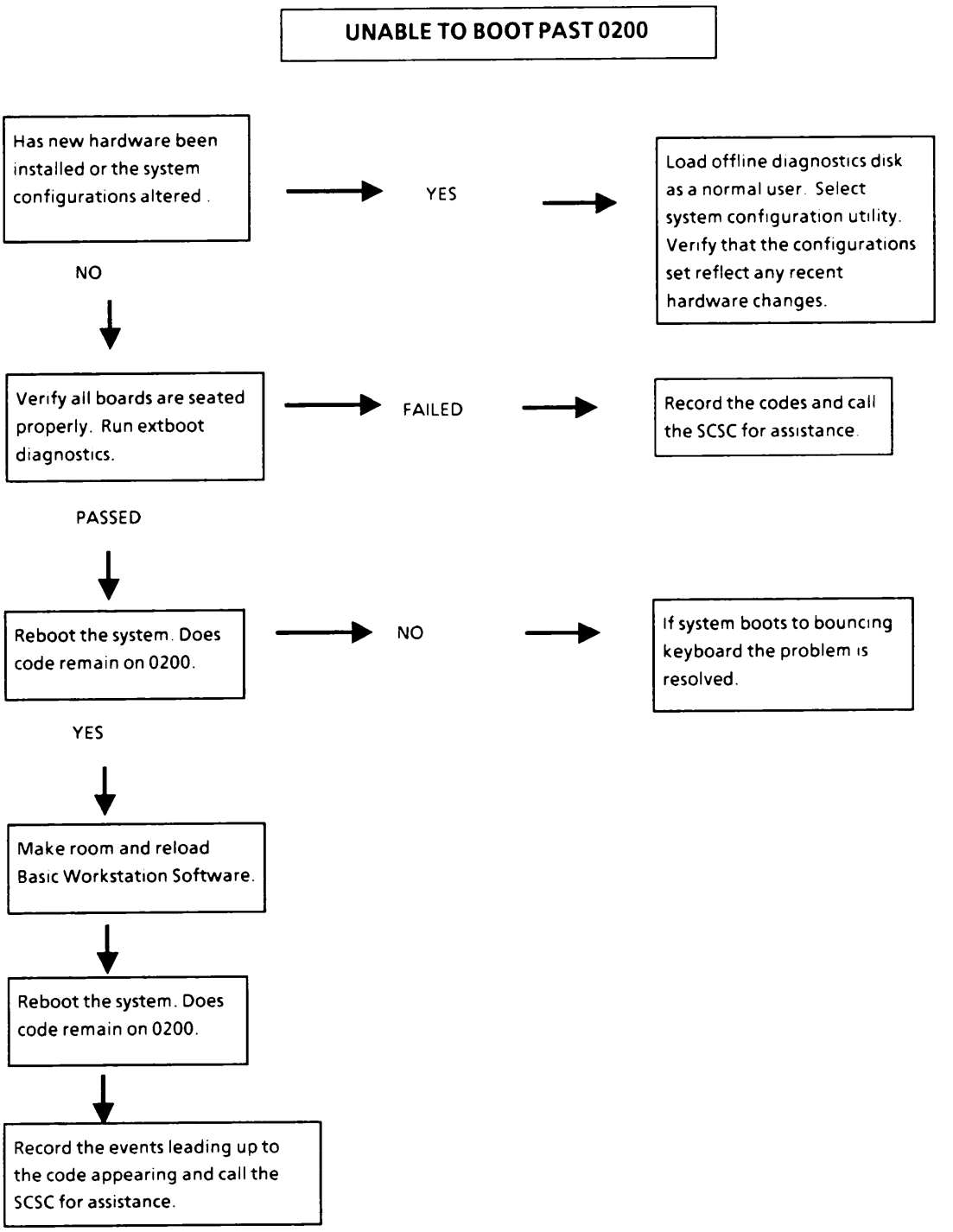


Common MP and Cursor Codes (continued)

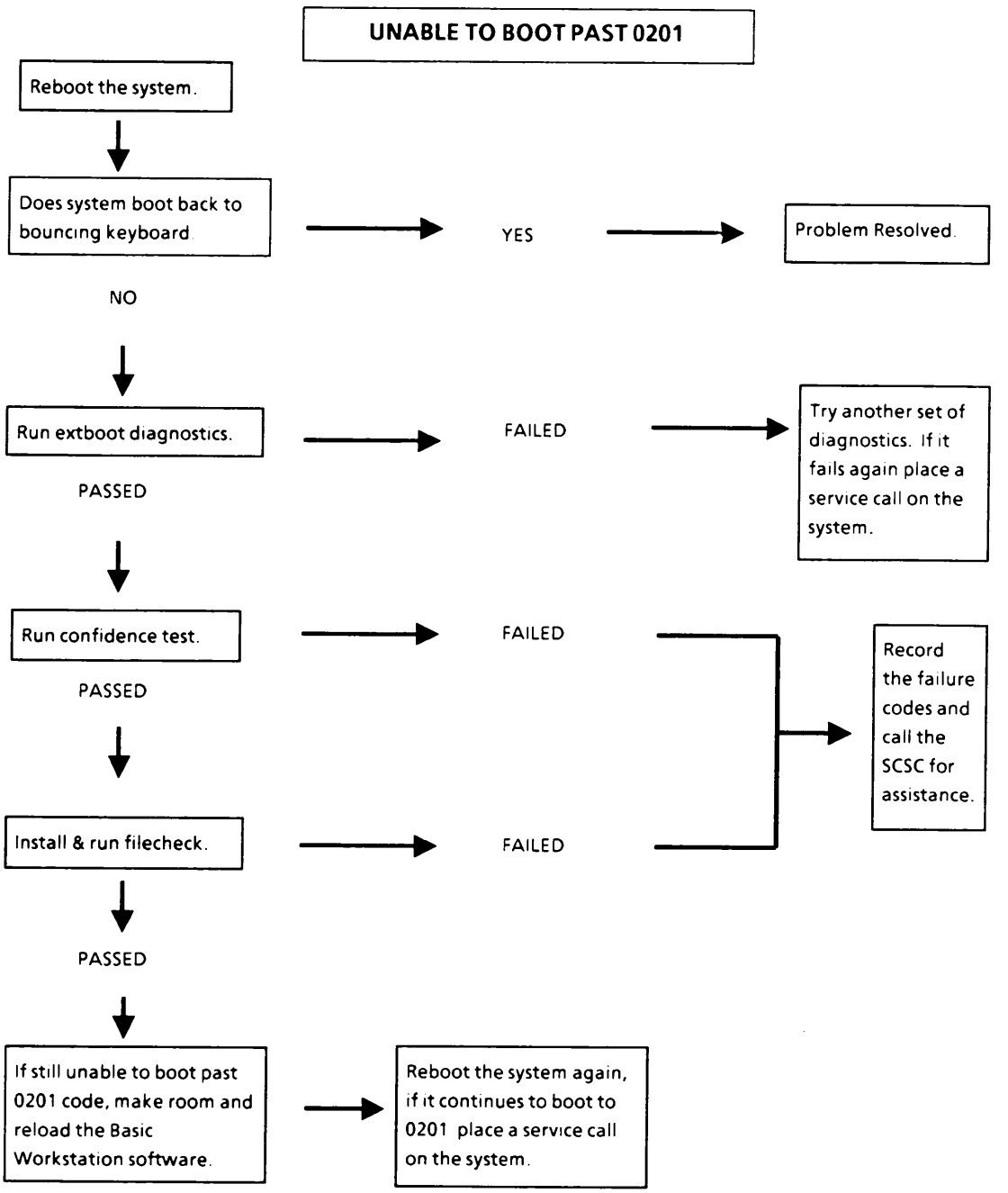


ViewPoint Software Diagnostics

Common MP and Cursor Codes (continued)

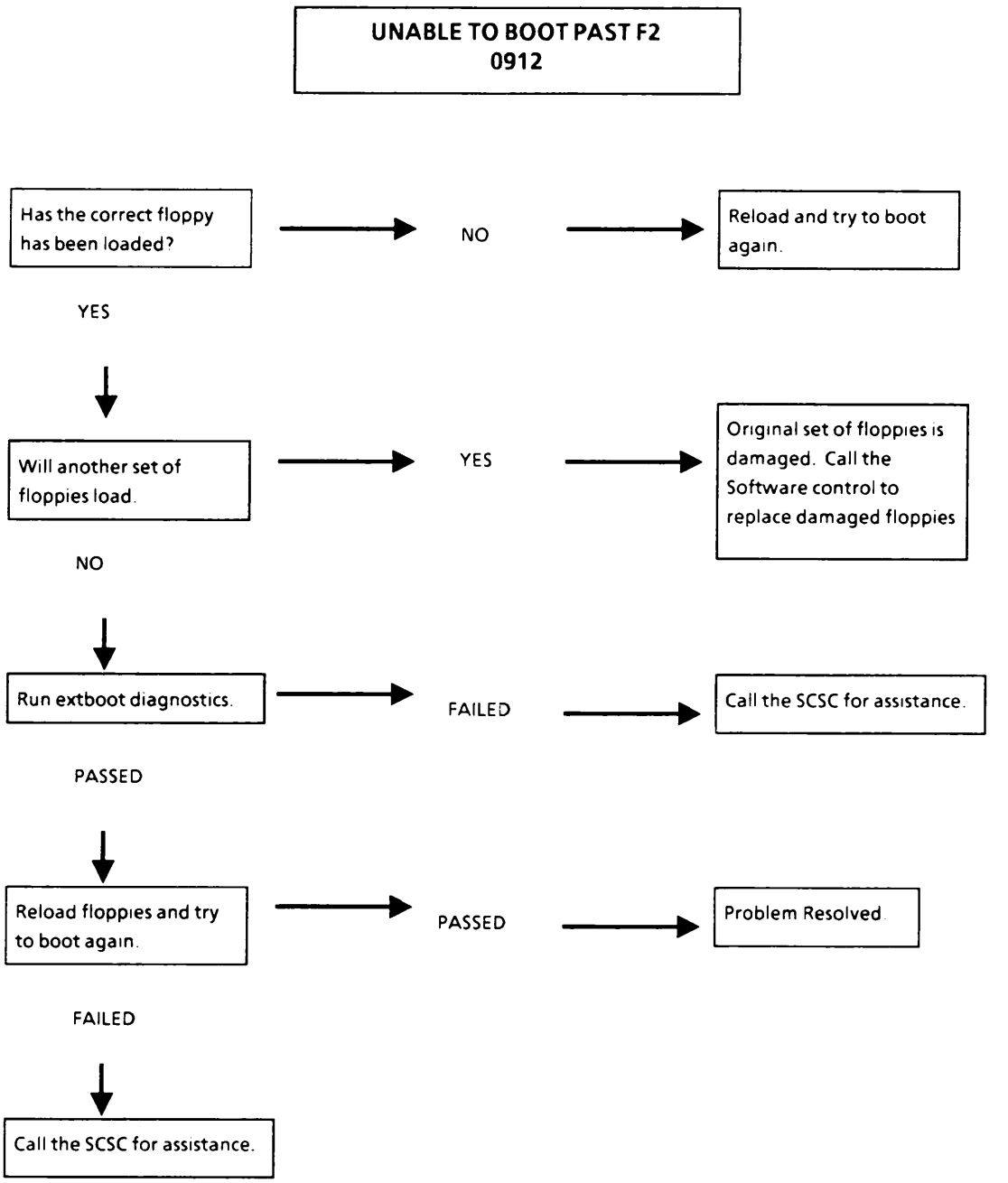


Common MP and Cursor Codes (continued)

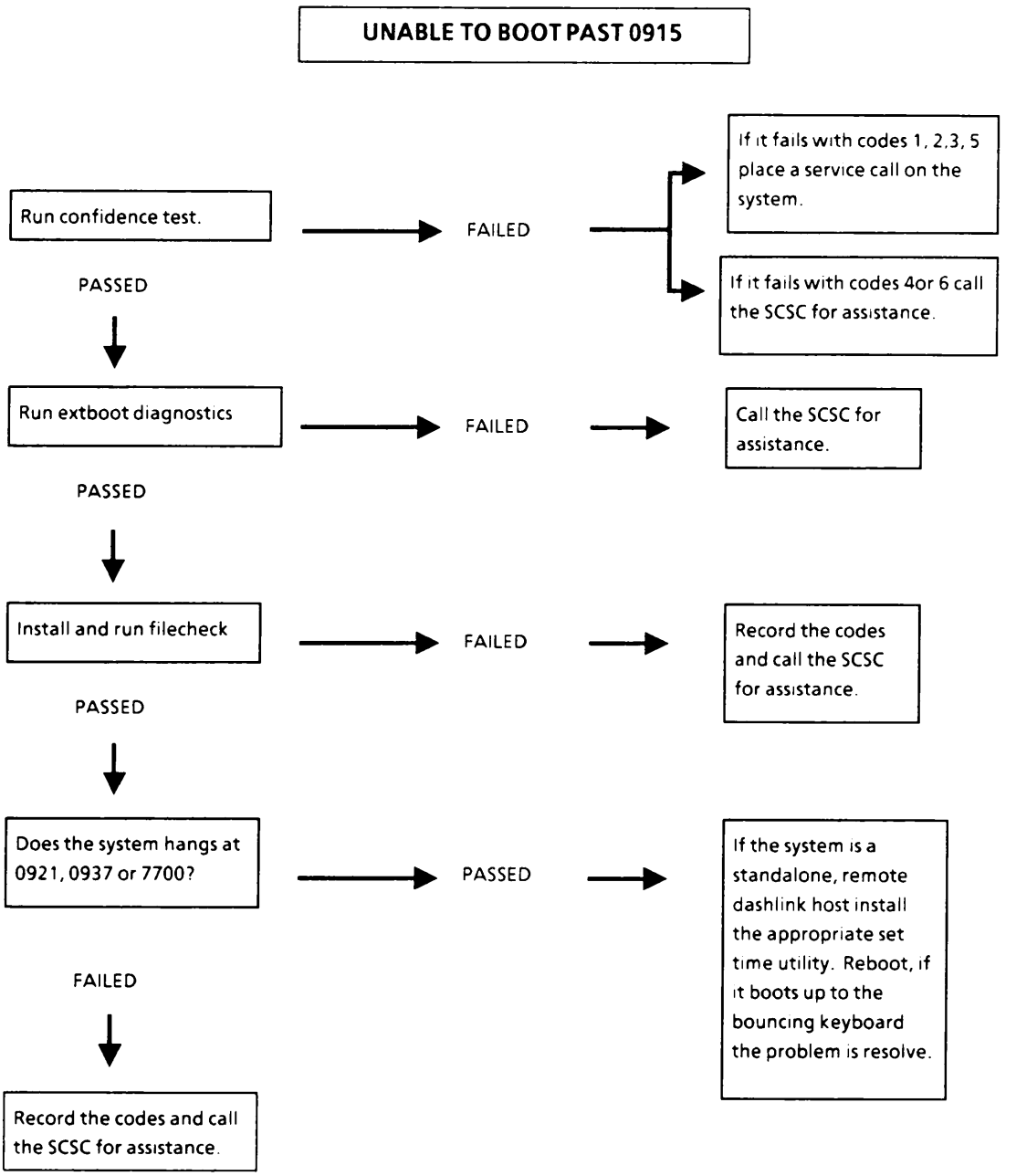


ViewPoint Software Diagnostics

Common MP and Cursor Codes (continued)

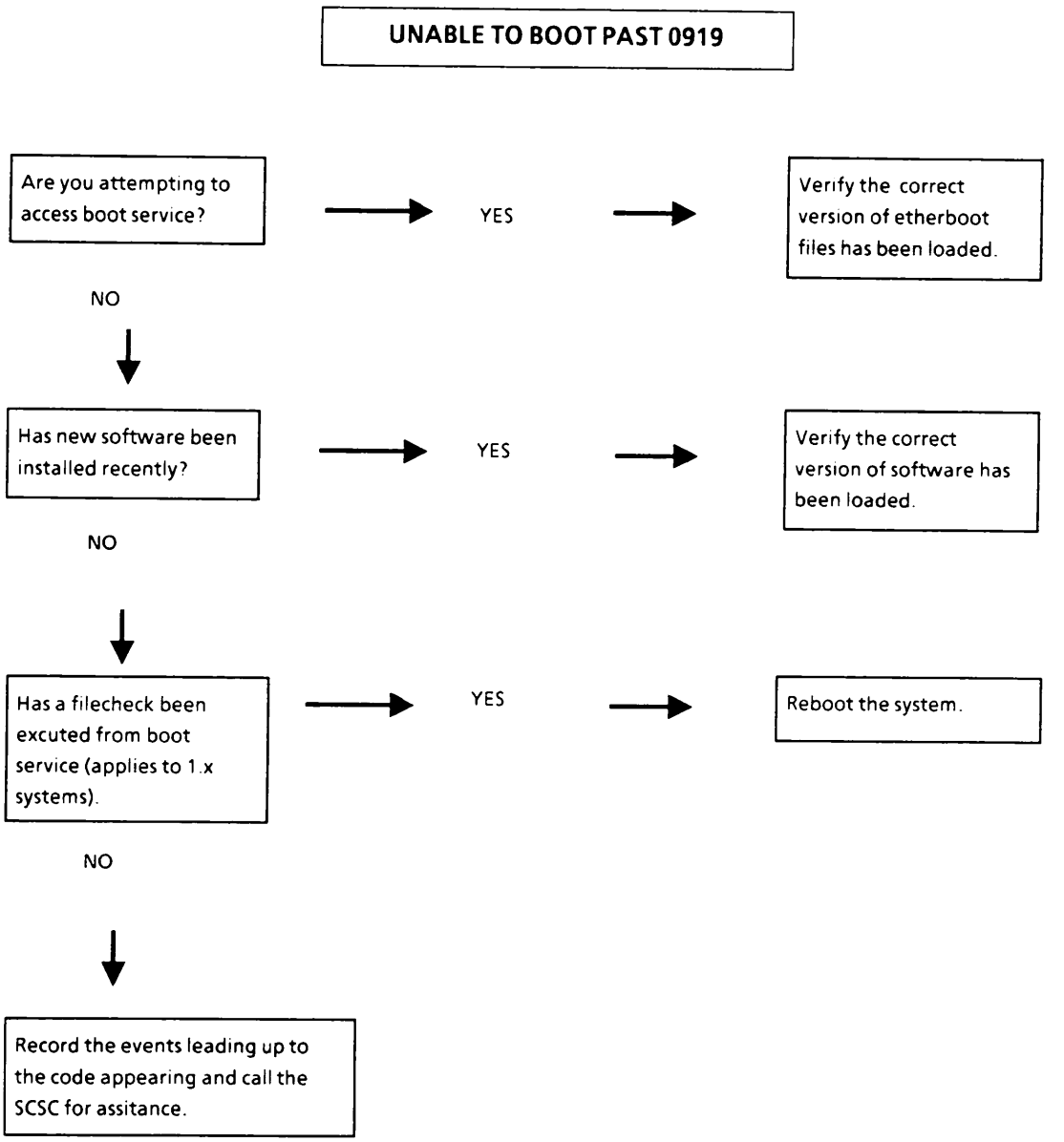


Common MP and Cursor Codes (continued)

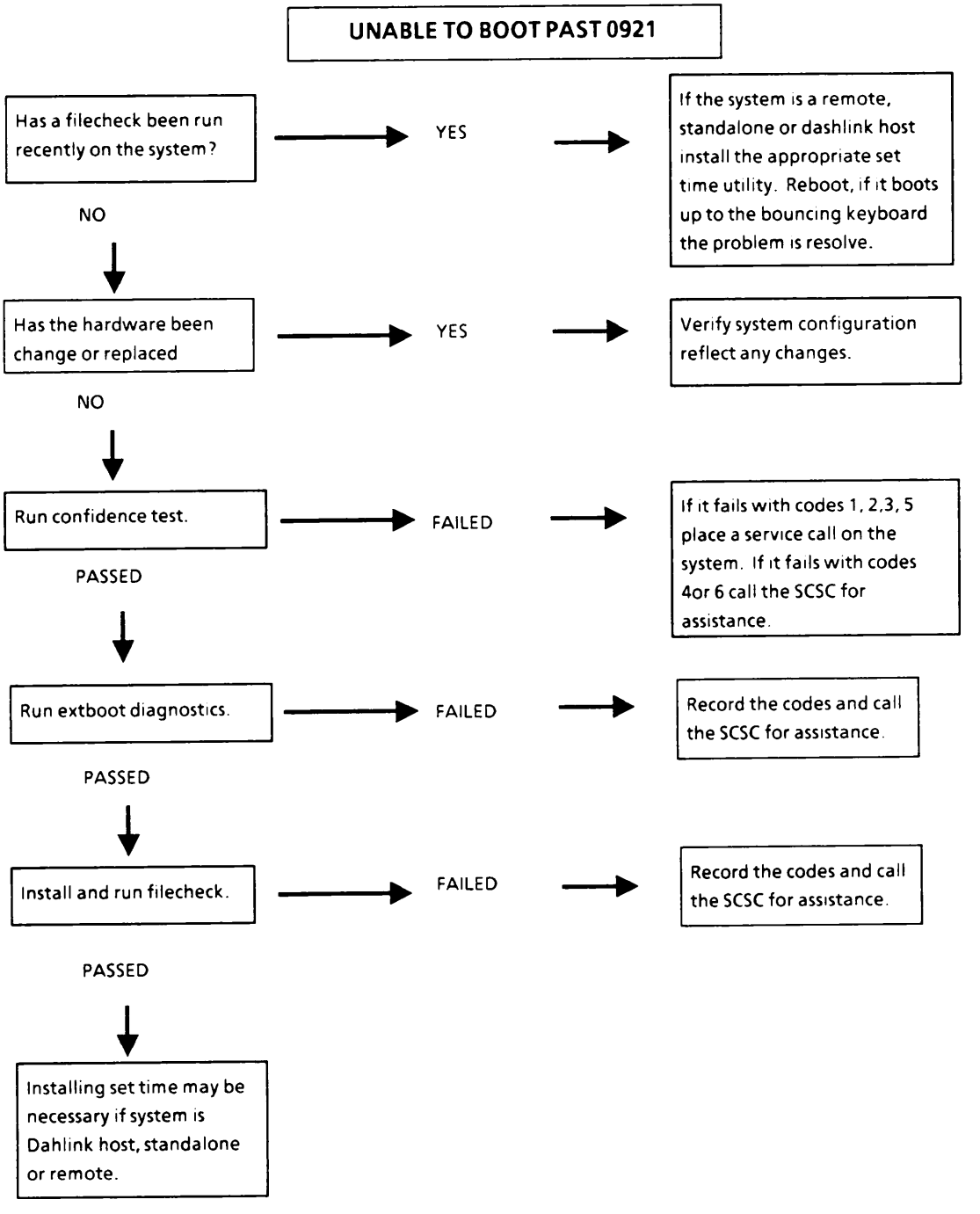


ViewPoint Software Diagnostics

Common MP and Cursor Codes (continued)

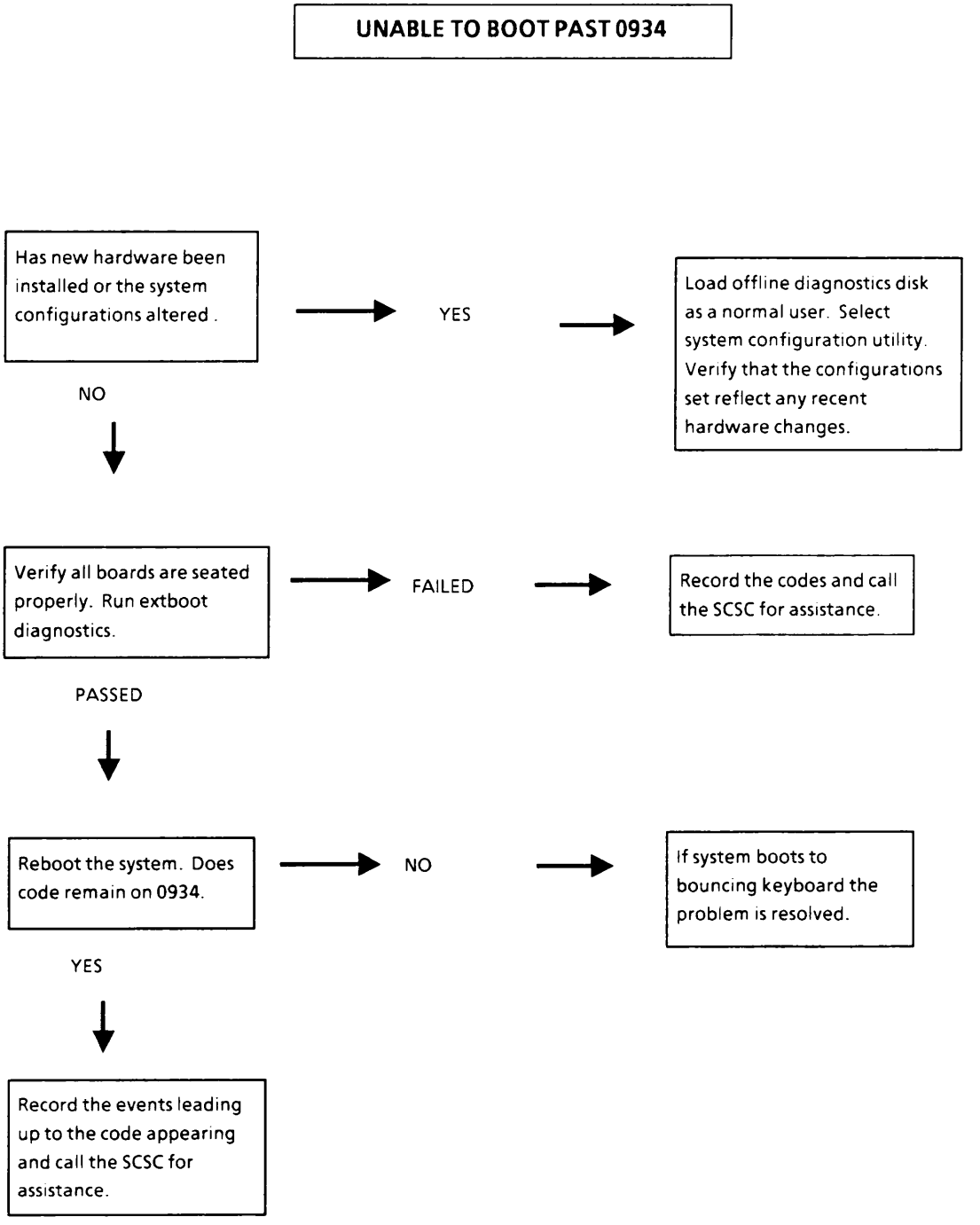


Common MP and Cursor Codes (continued)

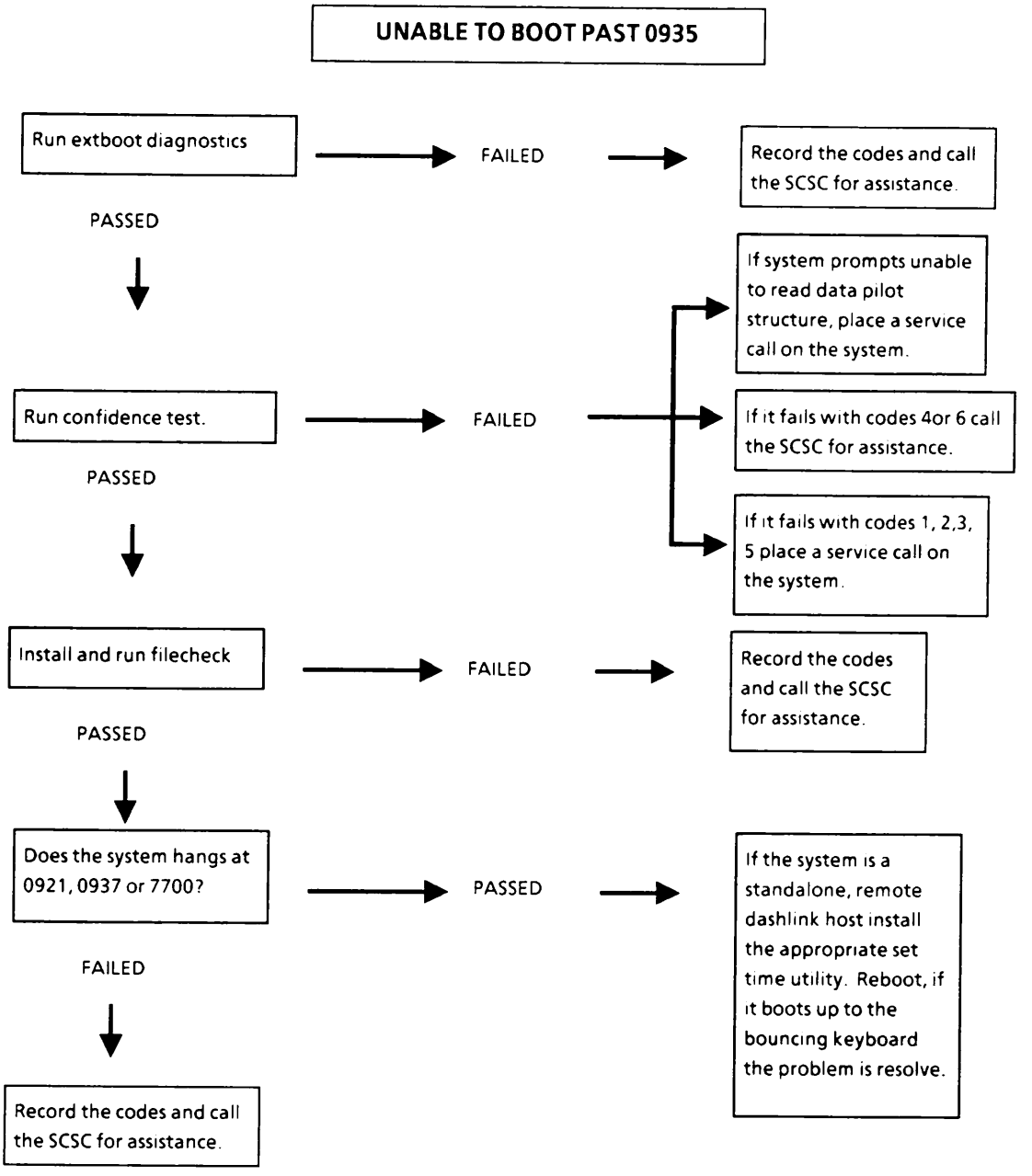


ViewPoint Software Diagnostics

Common MP and Cursor Codes (continued)

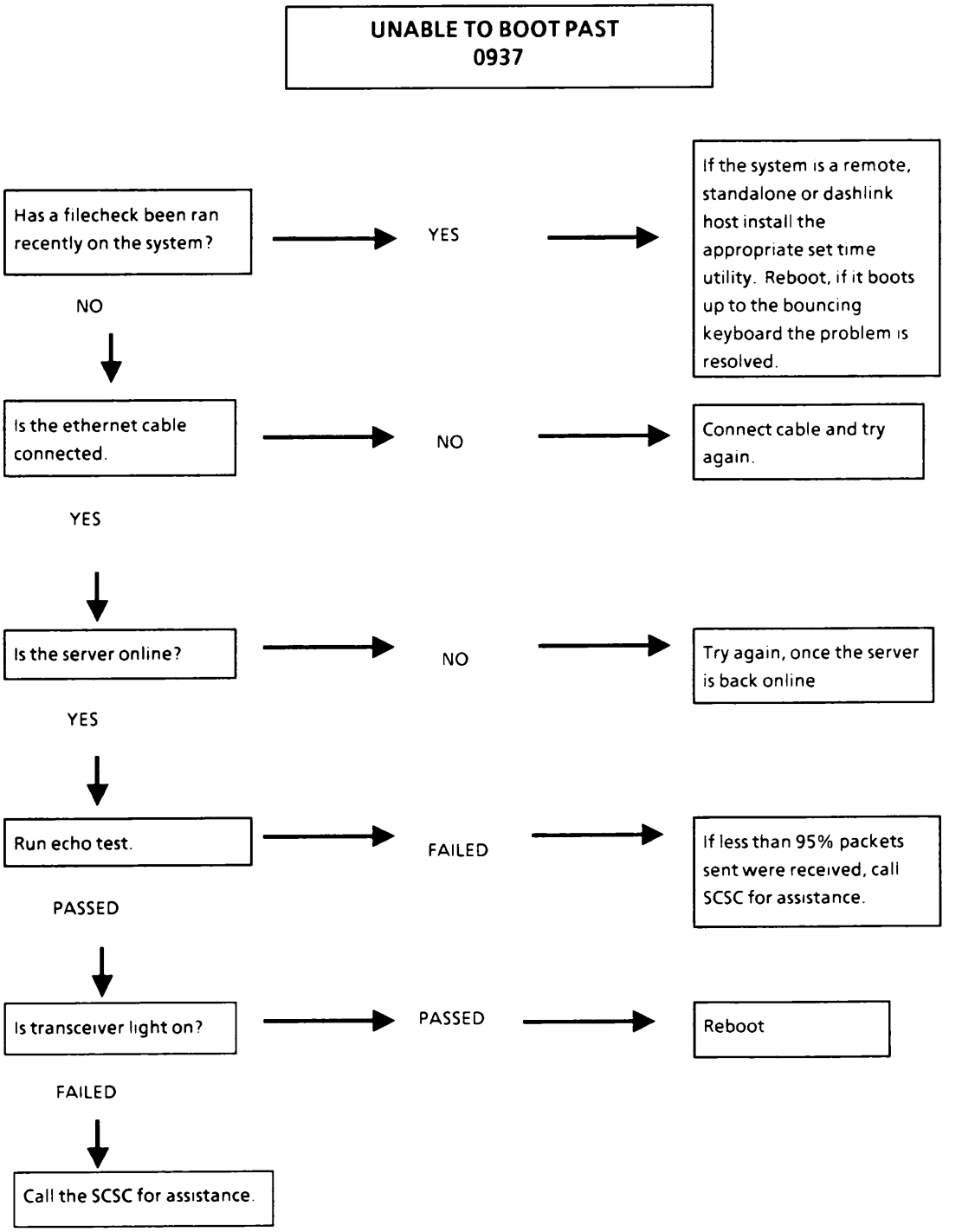


Common MP and Cursor Codes (continued)

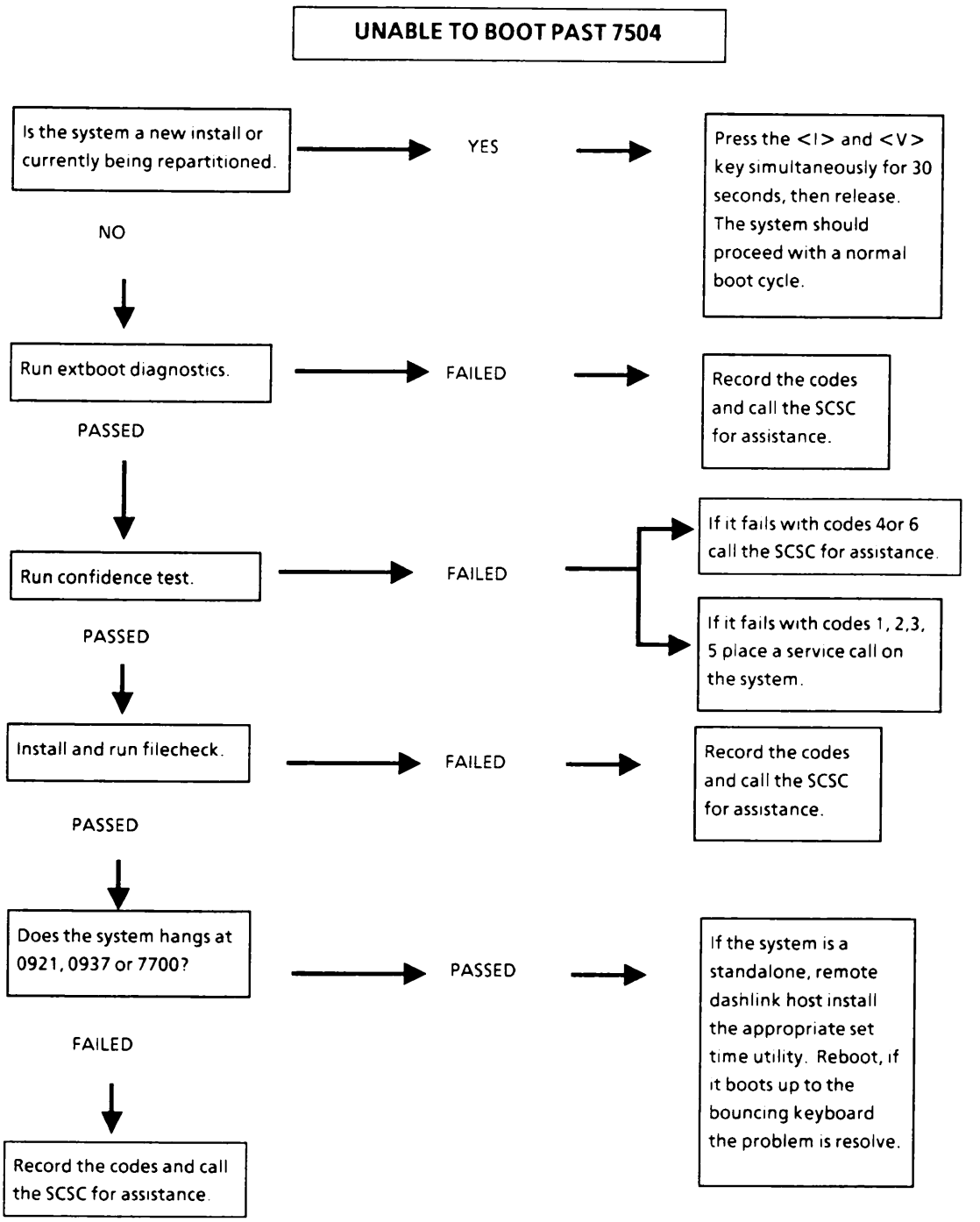


ViewPoint Software Diagnostics

Common MP and Cursor Codes (continued)

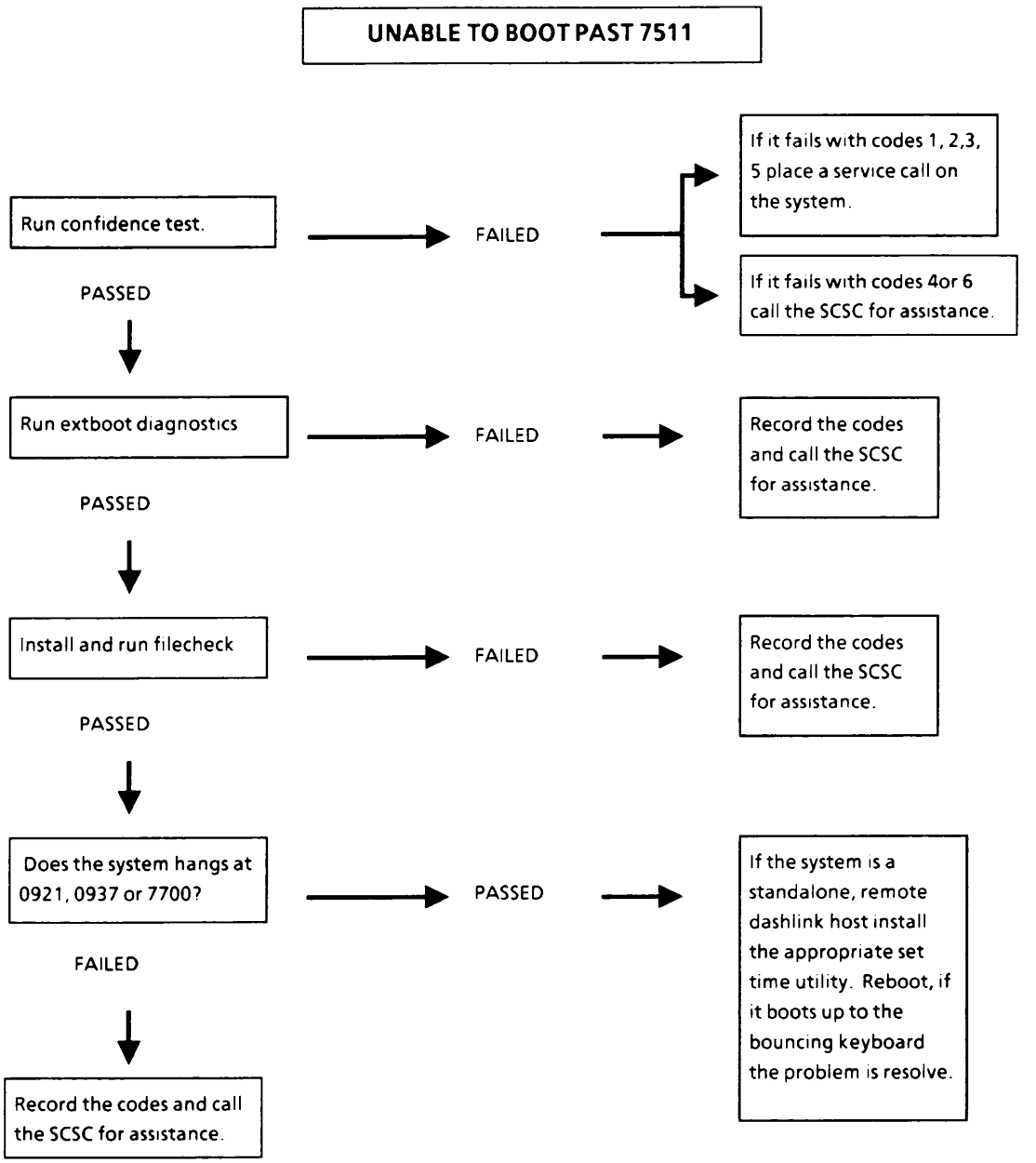


Common MP and Cursor Codes (continued)

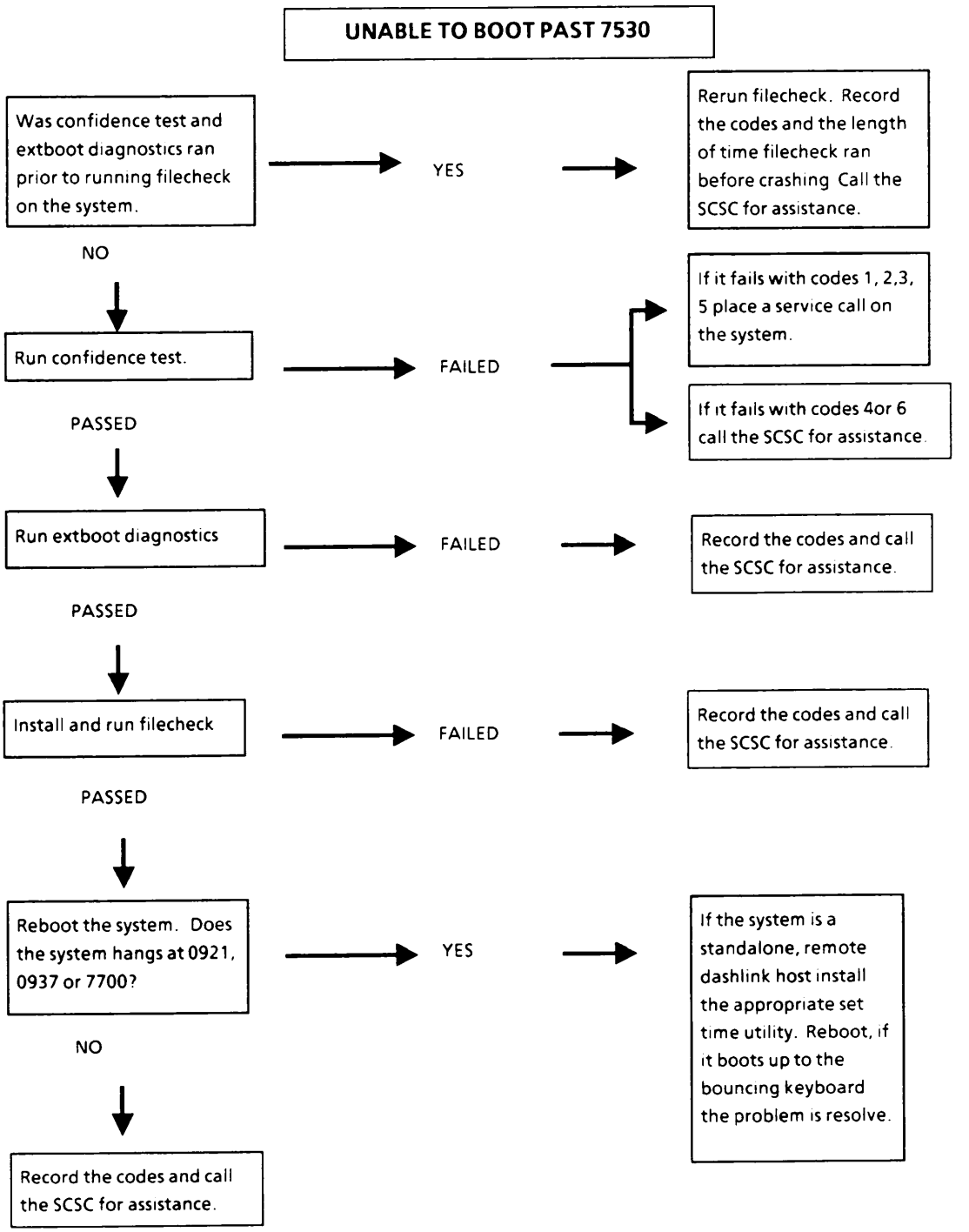


ViewPoint Software Diagnostics

Common MP and Cursor Codes (continued)

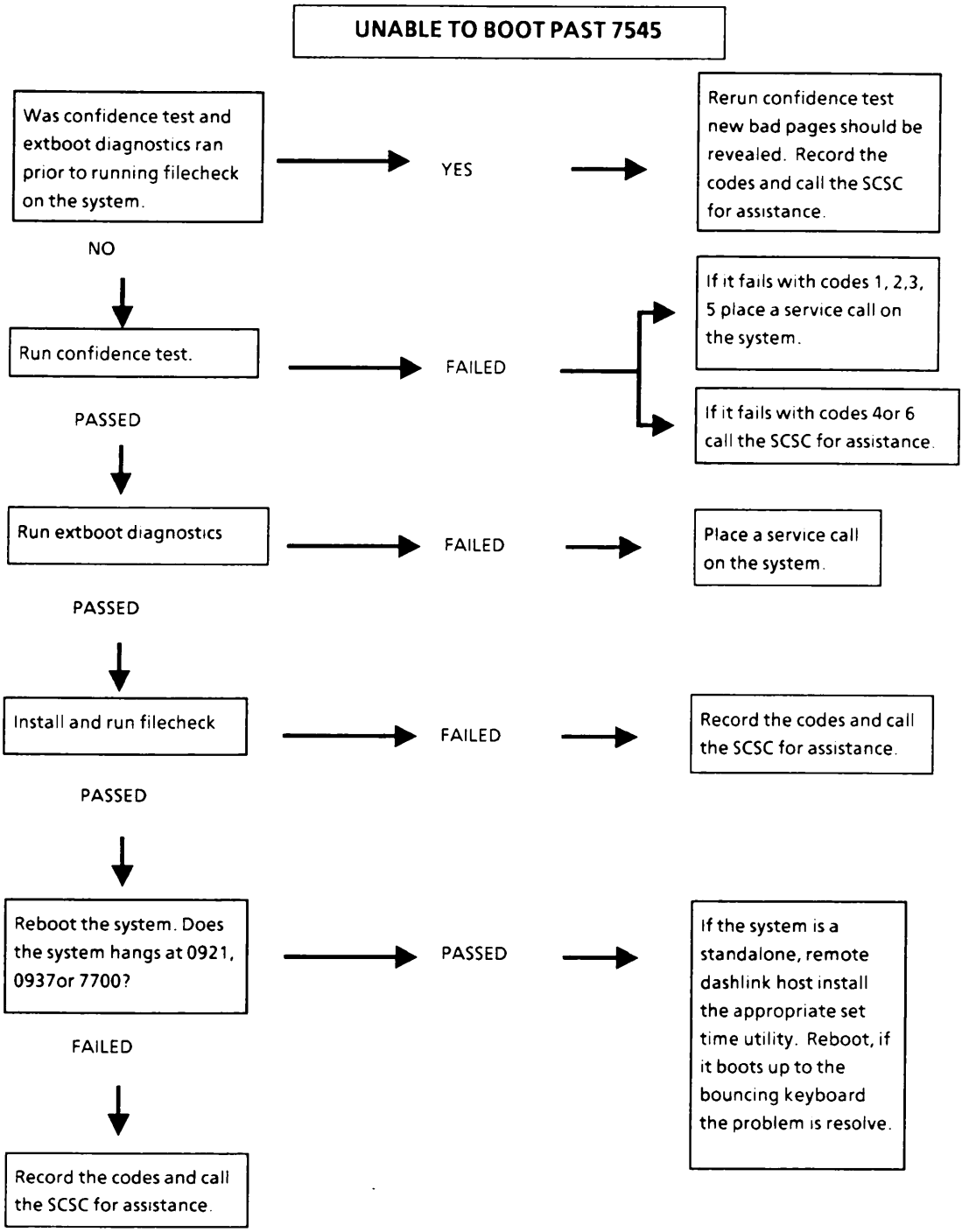


Common MP and Cursor Codes (continued)

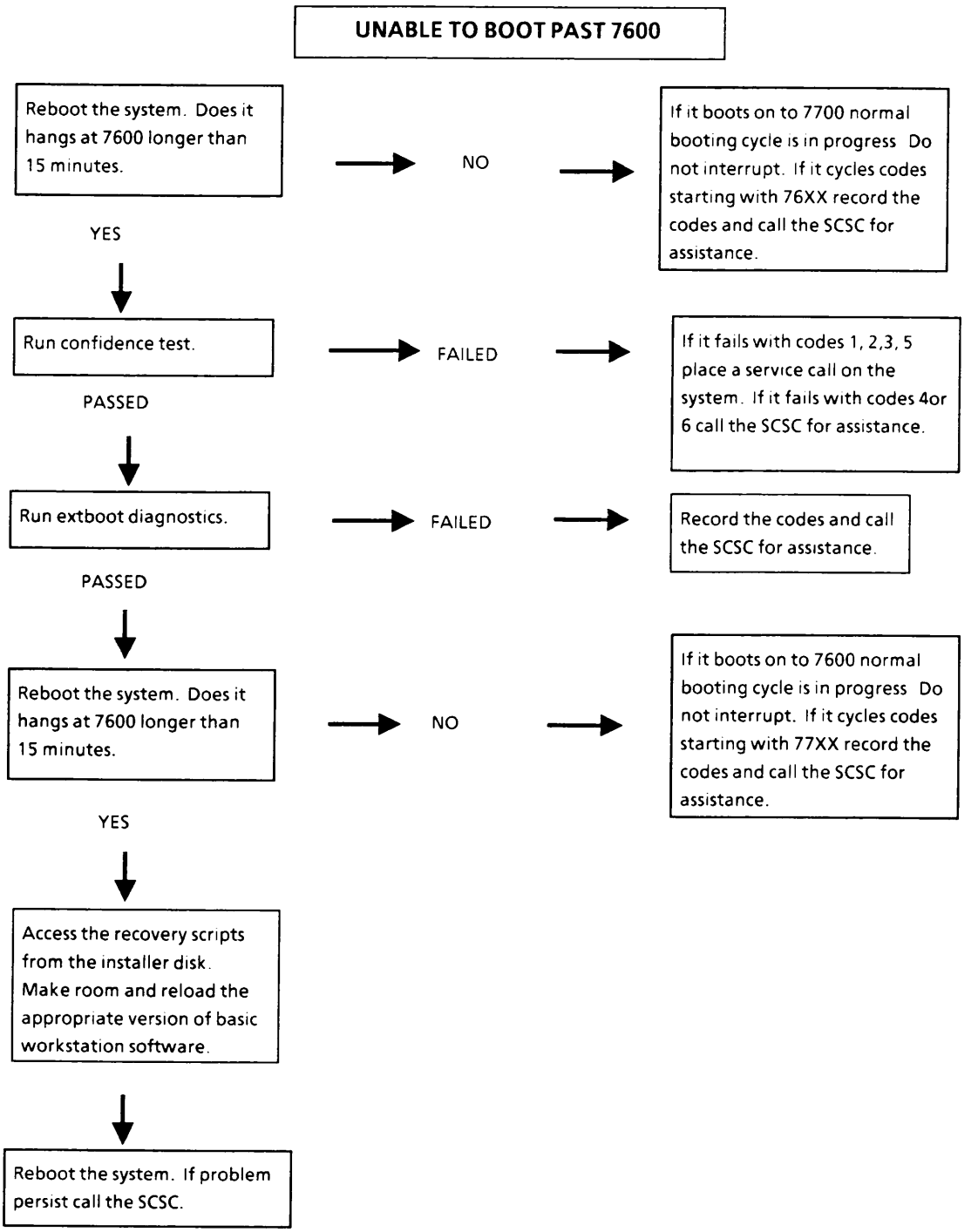


ViewPoint Software Diagnostics

Common MP and Cursor Codes (continued)

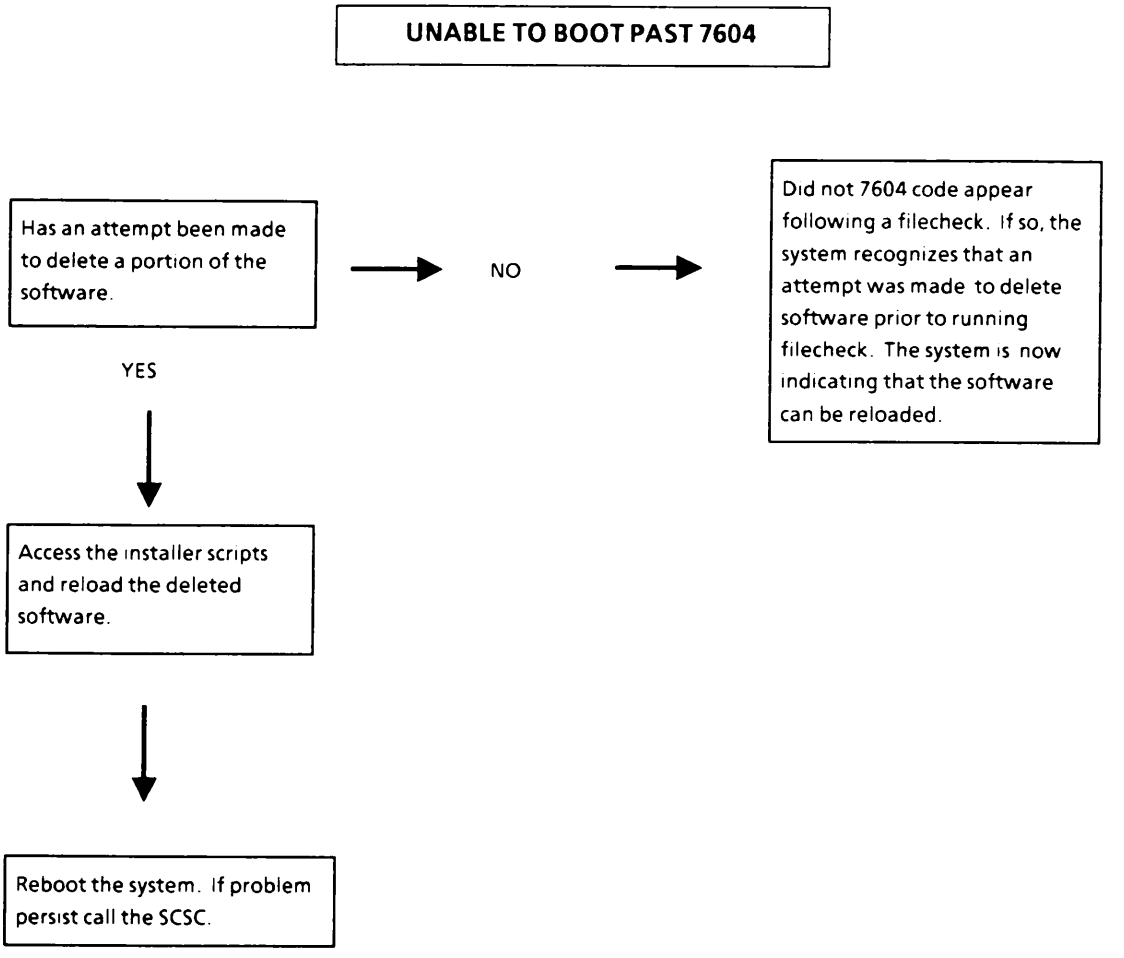


Common MP and Cursor Codes (continued)

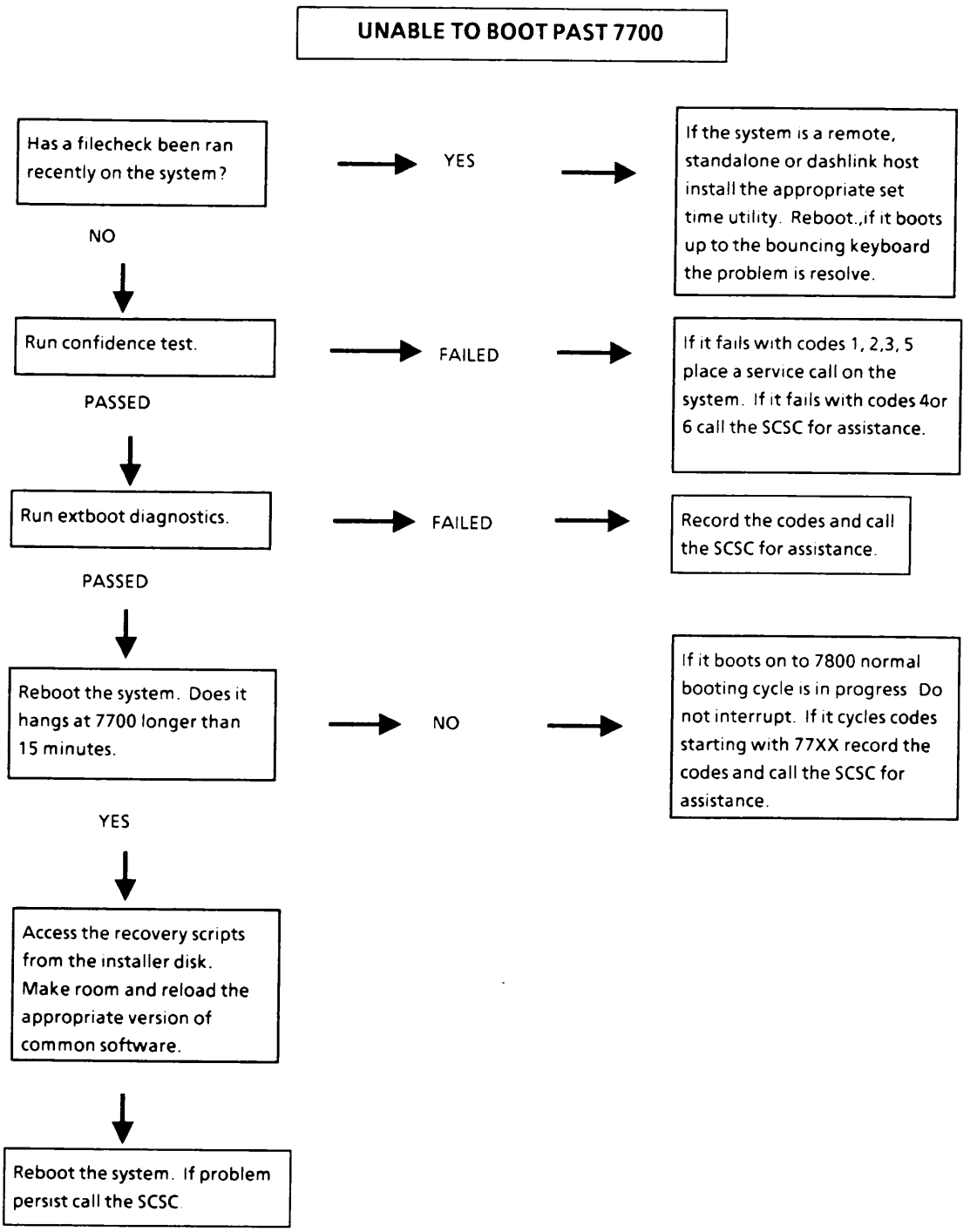


ViewPoint Software Diagnostics

Common MP and Cursor Codes (continued)



Common MP and Cursor Codes (continued)



ViewPoint Software Diagnostics

Common MP and Cursor Codes (continued)