Tivoli NetView for OS/390

IBM

APPN Topology and Accounting Agent Guide

Version 1 Release 4

Tivoli NetView for OS/390

IBM

APPN Topology and Accounting Agent Guide

Version 1 Release 4

Contents

Preface

This document is intended to help you plan and implement the IBM® Tivoli® NetView® for OS/390® (NetView) Advanced Peer-to-Peer Networking® (APPN) Topology and Accounting Agent (APPNTAA) on agent nodes.

This document applies only to the Graphical Enterprise feature.

Who Should Read This Document

This document is for data processing managers and their technical staff who are responsible for the following:

- Installing the APPNTAA on workstation
- Using the agent workstation
- Performing workstation and system diagnosis

Prerequisite and Related Documents

To read about the new functions offered in this release, refer to the *Tivoli NetView for OS/390 Installation: Migration Guide*.

You can find additional product information on these Internet sites:

Table 1. Resource Address (URL)

IBM	http://www.ibm.com/
Tivoli Systems	http://www.tivoli.com/
Tivoli NetView for OS/390	http://www.tivoli.com/nv390

The Tivoli NetView for OS/390 home page offers demonstrations of NetView, related products, and several free NetView applications you can download. These applications can help you with tasks such as:

- Getting statistics for your automation table and merging the statistics with a listing of the automation table
- Displaying the status of a JES job or cancelling a specified JES job
- Sending alerts to NetView using the program-to-program interface (PPI)
- Sending and receiving MVS commands using the PPI
- Sending TSO commands and receiving responses

What This Document Contains

This document includes the following parts, which contain chapters, and appendixes:

- "Chapter 1. Introducing the APPN Topology and Accounting Agent" on page 1 provides introductory information about the APPNTAA application of the NetView program and describes the agent's relationship to the APPNTAA topology manager and accounting manager.
- "Chapter 2. Planning and Storage Requirements" on page 5 provides information for planning the installation of the APPNTAA application. This chapter discusses hardware and software requirements, and space requirement calculations for

both topology and accounting agent functions, and provides an installation worksheet for recording calculations and defaults.

- "Chapter 3. Installing the APPN Topology and Accounting Agent" on page 11 describes how to install the APPNTAA application from the MVS host and from diskette. It also includes a sample accounting initialization file.
- "Chapter 4. Using the APPN Topology and Accounting Agent" on page 15 describes how to perform tasks using the APPNTAA interface.
- "Chapter 5. Problem Determination" on page 29 describes typical problem determination procedures for the APPNTAA application.
- "Appendix A. APPNMGMT Command Syntax" on page 35 contains formats, syntax diagrams, and explanatory information for the commands used by the APPNTAA.
- "Appendix B. Messages" on page 49 contains all APPNTAA messages.
- "Appendix C. System Error Log Entries" on page 63 contains all APPNTAA system error log entries.
- "Appendix D. CMIP Services Error Codes" on page 79 contains CMIP services error codes.

Conventions Used in This Document

The document uses several typeface conventions for special terms and actions. These conventions have the following meaning:

Bold   Commands, keywords, flags, and other information that you must use literally appear like **this**, in **bold**.

Italics   Variables and new terms appear like *this*, in *italics*. Words and phrases that are emphasized also appear like *this*, in *italics*.

`Monospace`   Code examples, output, and system messages appear like `this`, in a `monospace` font.

ALL CAPS   Tivoli NetView for OS/390 commands are in ALL CAPITAL letters.

Platform-specific Information

For more information about the hardware and software requirements for NetView components, refer to the *Tivoli Netview for OS/390 Licensed Program Specification.*

Terminology

For a list of Tivoli NetView for OS/390 terms and definitions, refer to http://www.networking.ibm.com/nsg/nsgmain.htm.

For brevity and readability, the following terms are used in this document:

NetView

- Tivoli NetView for OS/390 Version 1 Release 4
- Tivoli NetView for OS/390 Version 1 Release 3
- TME® 10 NetView for OS/390 Version 1 Release 2
- TME 10 NetView for OS/390 Version 1 Release 1
- IBM NetView for MVS Version 3
- IBM NetView for MVS Version 2 Release 4
- IBM NetView Version 2 Release 3

MVS   MVS/ESA™, OS/390, or z/OS operating systems.

Tivoli Enterprise™ software
> Tivoli software that manages large business networks.

Tivoli environment
> The Tivoli applications, based upon the Tivoli Management Framework, that are installed at a specific customer location and that address network computing management issues across many platforms. In a Tivoli environment, a system administrator can distribute software, manage user configurations, change access privileges, automate operations, monitor resources, and schedule jobs. You may have used TME 10 environment in the past.

TME 10
> In most product names, TME 10 has been changed to Tivoli.

V and R
> Specifies the version and release.

VTAM® and TCP/IP
> VTAM and TCP/IP for OS/390 are included in the IBM Communications Server for OS/390 element of the OS/390 operating system. Refer to http://www.software.ibm.com/enetwork/commserver/about/csos390.html.

Unless otherwise indicated, references to programs indicate the latest version and release of the programs. If only a version is indicated, the reference is to all releases within that version.

When a reference is made about using a personal computer or workstation, any programmable workstation can be used.

Reading Syntax Diagrams

Syntax diagrams start with double arrowheads on the left (►►) and move along the main line until they end with two arrowheads facing each other (►◄).

As shown in the following table, syntax diagrams use *position* to indicate the required, optional, and default values for keywords, variables, and operands.

Table 2. How the Position of Syntax Diagram Elements Is Used

Element Position	Meaning
On the command line	Required
Above the command line	Default
Below the command line	Optional

Required Syntax

The command name, required keywords, variables, and operands are always on the main syntax line. Figure 1 on page viii specifies that the *resname* variable must be used for the CCPLOADF command.

CCPLOADF

►►——CCPLOADF *resname*——————————————————————————————►◄

Figure 1. Required Syntax Elements

Keywords and operands are written in uppercase letters. Lowercase letters indicate variables such as values or names that you supply. In Figure 2, MEMBER is an operand and *membername* is a variable that defines the name of the data set member for that operand.

TRANSMSG

►►——TRANSMSG MEMBER=*membername*——————————————————————►◄

Figure 2. Syntax for Variables

Optional Keywords and Variables

Optional keywords, variables, and operands are below the main syntax line. Figure 3 specifies that the ID operand can be used for the DISPREG command, but is not required.

DISPREG

```
►►——DISPREG———————————————————————————————————————►◄
            └─ ID=resname ─┘
```

Figure 3. Optional Syntax Elements

Default Values

Default values are above the main syntax line. If the default is a keyword, it appears only above the main line. You can specify this keyword or allow it to default.

If an operand has a default value, the operand appears both above and below the main line. A value below the main line indicates that if you choose to specify the operand, you must also specify either the default value or another value shown. If you do not specify an operand, the default value above the main line is used.

Figure 4 on page ix shows the default keyword STEP above the main line and the rest of the optional keywords below the main line. It also shows the default values for operands MODNAME=* and OPTION=* above and below the main line.

RID

```
►►──RID TASK=opid─┬──────────┬──┬─────────────────┬─────────────────────►
                  ├─,STEP────┤  ├─,MODNAME=*──────┤
                  ├─,CONTINUE┤  └─,MODNAME=─┬─*────┤
                  ├─,END─────┤              └─name─┘
                  └─,RUN─────┘

►─┬───────────────────┬─────────────────────────────────────────────────►◄
  ├─,OPTION=*─────────┤
  └─,OPTION=─┬─*────────┬
             ├─HAPIENTR─┤
             └─HAPIEXIT─┘
```
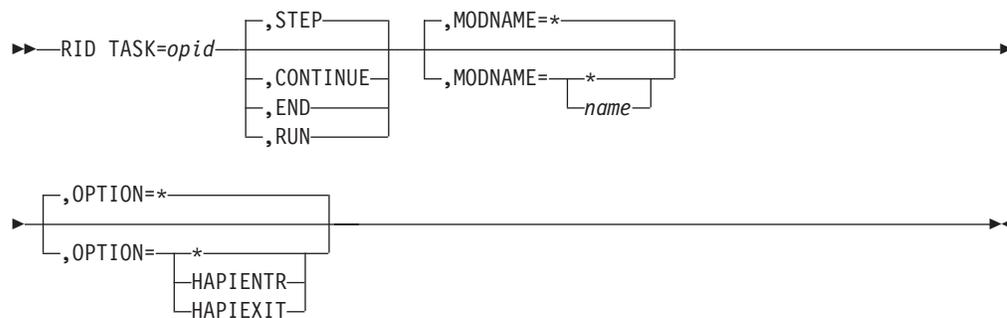
Figure 4. Sample of Defaults Syntax

Long Syntax Diagrams

When more than one line is needed for a syntax diagram, the continued lines end with a single arrowhead (►). The following lines begin with a single arrowhead (►), as shown in Figure 4.

Syntax Fragments

Commands that contain lengthy groups or a section that is used more than once in a command are shown as separate fragments following the main diagram. The fragment name is shown in mixed case. See Figure 5 on page x for a syntax with the fragments `ReMote` and `FromTo`.

BROWSE

```
►►─BROWSE─┬──────────┬─┬─ NETLOGA ─┬─┤ FromTo ├─┬────────────────►◄
          └─┤ ReMote ├─┘ ├─ NETLOGI ─┤          │
                         ├─ NETLOGP ─┤          │
                         └─ NETLOGS ─┘          │
                       ├─┤ MemBer ├─────────────┤
                       └─ Dataset Name ─────────┘
```

ReMote:

```
├── LU=luname ─┬─ OPERID=* ───────────┬─┬─ NETID=* ───────────┬──┤
               └─ OPERID=─┬─ * ───┬───┘ └─ NETID=─┬─ * ────┬───┘
                          └─ op_id ┘              └─ net_id ┘
```

FromTo:

```
├─┬───────┬─┬─ today ─┬─┬─ first_record ─┬─┬──────┬─┬─ today ─┬────►
  └─ FROM ┘ └─ date1 ─┘ └─ time1 ────────┘ └─ TO ─┘ └─ date2 ─┘

►─┬─ last_record ─┬──────────────────────────────────────────────┤
  └─ time2 ───────┘
```

MemBer:

```
├─┬──────────┬─┬─────────────┬─┬─ XINCL ─┬─┬─ NOKK ─┬─┬─ SUBSYM ─┬─┤
  └─ ddname. ─┘ └─ membername ┘ ├─ INCL ──┤ └─ KK ───┘ └─ NOSUBS ─┘
                                └─ NOINCL ┘
```
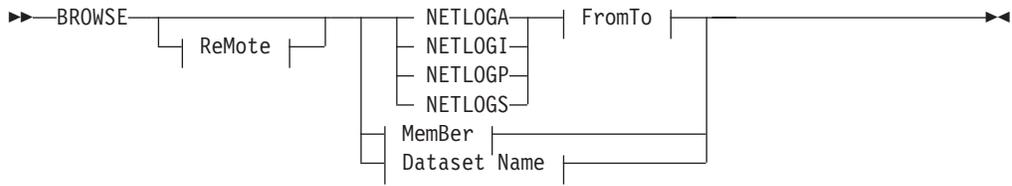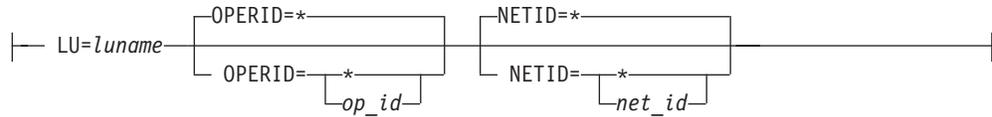
Dataset Name:
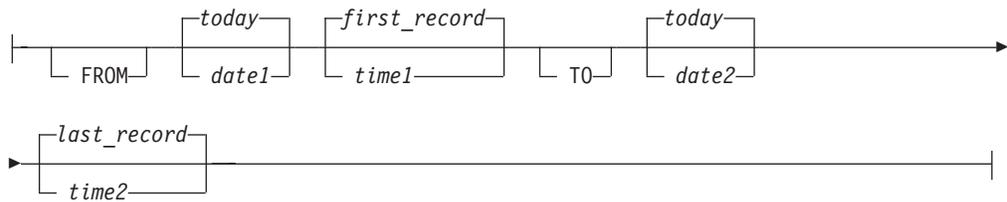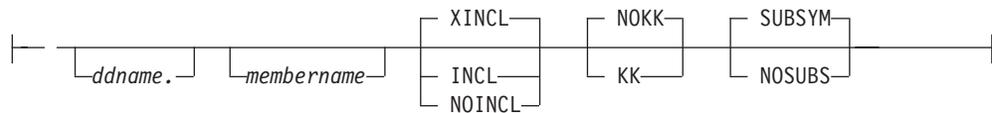
```
├── ─'fully qualified dataset name' ─────────────────────────────┤
```

Figure 5. Sample Syntax Diagram with Fragments

Commas and Parentheses

Required commas and parentheses are included in the syntax diagram. When an operand has more than one value, the values are typically enclosed in parentheses and separated by commas. In Figure 6 on page xi, the OP operand, for example, contains commas to indicate that you can specify multiple values for the *testop* variable.

CSCF

```
►►──CSCF──┬─┤ Pu ├─────────┬──────────────────────────────────────────────►◄
          ├─PURGE ALL──────┤
          └─┤ PurgeBefore ├┘
```

PurgeBefore

```
├── PURGE BEFORE date──┬──────────────┬──────────────────────────────────────┤
                       └──── time ────┘
```

Pu

```
├── PU=resname──┬────────────────────────────────────────┬───────────────────┤
                │                    ┌──,────┐            │
                └─,OP=(─────────▼──testop──┴──)──────────┘
```
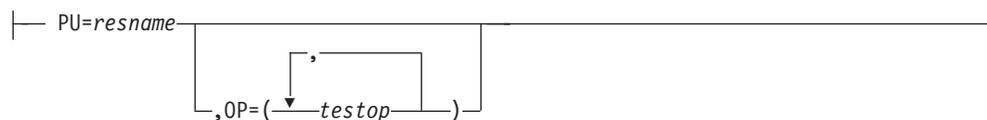
Figure 6. Sample Syntax Diagram with Commas

If a command requires positional commas to separate keywords and variables, the commas are shown before the keyword or variable, as in Figure 4 on page ix.

For example, to specify the BOSESS command with the *sessid* variable, enter:

```
NCCF BOSESS applid,,sessid
```

You do not need to specify the trailing positional commas. Positional and non-positional trailing commas either are ignored or cause the command to be rejected. Restrictions for each command state whether trailing commas cause the command to be rejected.

Highlighting, Brackets, and Braces

Syntax diagrams do not rely on highlighting, underscoring, brackets, or braces; variables are shown italicized in hardcopy or in a differentiating color for NetView help and BookManager® online books.

In parameter descriptions, the appearance of syntax elements in a diagram immediately tells you the type of element. See Table 3 for the appearance of syntax elements.

Table 3. Syntax Elements Examples

This element...	Looks like this...
Keyword	CCPLOADF
Variable	*resname*
Operand	MEMBER=*membername*
Default	*today* or INCL

Abbreviations

Command and keyword abbreviations are described in synonym tables after each command description.

Accessing Publications Online

The Tivoli Customer Support Web site (http://www.tivoli.com/support/) offers a guide to support services (the *Customer Support Handbook*); frequently asked questions (FAQs); and technical information, including release notes, user's guides, redbooks, and white papers. You can access Tivoli publications online at http://www.tivoli.com/support/documents/. The documentation for some products is available in PDF and HTML formats. Translated documents are also available for some products.

To access most of the documentation, you need an ID and a password. To obtain an ID for use on the support Web site, go to http://www.tivoli.com/support/getting/.

Resellers should refer to http://www.tivoli.com/support/smb/index.html for more information about obtaining Tivoli technical documentation and support.

Business Partners should refer to "Ordering Publications" for more information about obtaining Tivoli technical documentation.

Note: Additional support is also available on the NETVIEW CFORUM (Customer Forum) through the IBMLink™ system. This forum is monitored by NetView developers who answer questions and provide guidance. When a problem with the code is found, you are asked to open an official problem management record (PMR) to get resolution.

Ordering Publications

Order Tivoli publications online at http://www.tivoli.com/support/Prodman/html/pub_order.html or by calling one of the following telephone numbers:
* U.S. customers: (800) 879-2755
* Canadian customers: (800) 426-4968

Providing Feedback about Publications

We are very interested in hearing about your experience with Tivoli products and documentation, and we welcome your suggestions for improvements. If you have comments or suggestions about our products and documentation, contact us in one of the following ways:
* Send e-mail to pubs@tivoli.com.
* Fill out our customer feedback survey at http://www.tivoli.com/support/survey/.

Contacting Customer Support

The *Tivoli Customer Support Handbook* at http://www.tivoli.com/support/handbook/ provides information about all aspects of Tivoli Customer Support, including the following:
* Registration and eligibility
* How to contact support, depending on the severity of your problem
* Telephone numbers and e-mail addresses, depending on the country you are in
* What information you should gather before contacting support

What Is New in This Release?

This document has been updated to reflect minor changes. Changes to this
document are marked with revision bars (|).

Chapter 1. Introducing the APPN Topology and Accounting Agent

The APPN® topology and accounting agent (APPNTAA) is an application that runs on any Operating System/2® (OS/2) 2.0 or higher workstation with Communications Manager/2 1.1 or later. Together with the NetView SNA topology manager and APPN accounting manager, APPN topology and accounting agent provides for the management of APPN topology and the collection of advanced program-to-program communication (APPC) accounting data from an APPN network.

SNA topology manager and APPN accounting manager provides APPN management functions according to a manager-agent relationship. This relationship is defined by the International Standards Organization (ISO) in terms of a managing system and a managed system, respectively. The manager applications for APPN topology and accounting are NetView applications. Agent applications that collect information for transmission to NetView reside on APPN network nodes and end nodes that use the OS/2® Communications Manager/2 platform. Communication between the manager and agent applications is over APPC sessions using Open System Interconnection (OSI) common management information protocols (CMIP) and the Systems Network Architecture (SNA) multiple-domain support (MDS). To support the CMIP services, APPN topology and accounting agent uses the management services (MS) transport.

Information in this chapter includes:
*   Manager-agent data flow
*   Introduction to the APPN topology agent
*   Introduction to the APPN accounting agent
*   Introduction to the APPN topology and accounting agent CMIP services
*   Introduction to APPN topology and accounting agent commands and interfaces
*   APPN topology and accounting agent installation

The agent function is installed, started, and maintained separately from the manager function. For more information about the manager function, refer to the *Tivoli NetView for OS/390 SNA Topology Manager and APPN Accounting Manager Implementation Guide*.

How Data Flows between Manager and Agent

The manager and agent communicate data and data requests across APPC sessions. A component called APPN topology and accounting agent CMIP services supports these transactions. For more information about CMIP services, see "APPN Topology and Accounting Agent CMIP Services" on page 3.

Accounting data is transferred between agent and manager based on a series of notifications and requests. In each case, the data transfer applies to a specified type of data; that is, conversation data, session data, or intermediate session data.

The APPN topology agent application supplies information about nodes, links, and ports in response to requests from the manager application.

How to Place APPN Topology and Accounting Agent

For more information about placing agent workstations, refer to the *Tivoli NetView for OS/390 SNA Topology Manager and APPN Accounting Manager Implementation Guide*.

Introduction to the APPN Topology Agent

Upon request, the APPN topology agent forwards APPN topology and status information to the topology manager. The manager stores the information in the Resource Object Data Manager (RODM) data cache at the NetView host, enabling the Graphic Monitor Facility host subsystem (GMFHS) to graphically display the information about the NetView management console (NMC). The topology information consists of the SNA nodes in an APPN network, the APPN transmission groups (TGs) between them, and the underlying logical links and ports supporting the TGs.

How the Topology Manager and Agent Work Together

The topology manager application works with one or more agent applications to gather topology from the SNA network. APPN topology and accounting agent applications can be located on APPN network nodes (NNs) and end nodes (ENs). NNs provide network and local topology; ENs provide local topology.

When an operator issues a command to start monitoring topology, the topology manager sends a request to the APPN topology and accounting agent. The agent obtains the requested network or local topology data from Communications Manger/2 and sends the data to the manager, then continues to send status and configuration updates to the manager. The agent also activates and deactivates ports and links when it receives requests from the manager to do so.

Introduction to the APPN Accounting Agent

The APPN accounting agent collects APPC session and conversation accounting data from Communications Manger/2, stores the collected data in a buffer file, and forwards the data upon request to the accounting manager. The manager stores the data in an external log at the NetView host, enabling the customer to determine the usage of resources, such as a database that uses APPC sessions or conversations for communications.

How the Accounting Manager and Agent Work Together

The NetView APPN accounting manager application works with a corresponding agent application to retrieve accounting data. The agent application collects APPC accounting information in response to requests from the manager application. You can set scheduled times or intervals for the manager to retrieve accounting data from a specified agent node, or set thresholds related to the number of records stored in the buffer file to trigger the retrieval of the data.

Assume the NetView operator has issued commands to start collecting session and conversation data at the agent. The agent creates separate accounting management control objects (AMCOs) to manage the collection of session endpoint data, intermediate session data, and conversation data. The AMCOs contain all the instructions for managing the data collection, such as under what conditions to notify the manager that data is ready to be retrieved.

APPN Topology and Accounting Agent CMIP Services

Common Management Information Protocol (CMIP) services is a component of APPN topology and accounting agent that provides communication between the topology and accounting managers and this agent application. Communication is over APPC sessions and uses the OSI CMIP and MDS. The CMIP requests and responses are enveloped inside multiple-domain support message units (MDS-MUs). CMIP services is the management services application that encodes an accounting manager or topology manager request into an OSI CMIP message and packages the request in an MDS-MU. Incoming responses to the request are unwrapped and decoded by CMIP services and sent to the accounting manager or topology manager.

Figure 7 shows APPN topology and accounting agent CMIP services in relationship to other components that are critical to its operation.
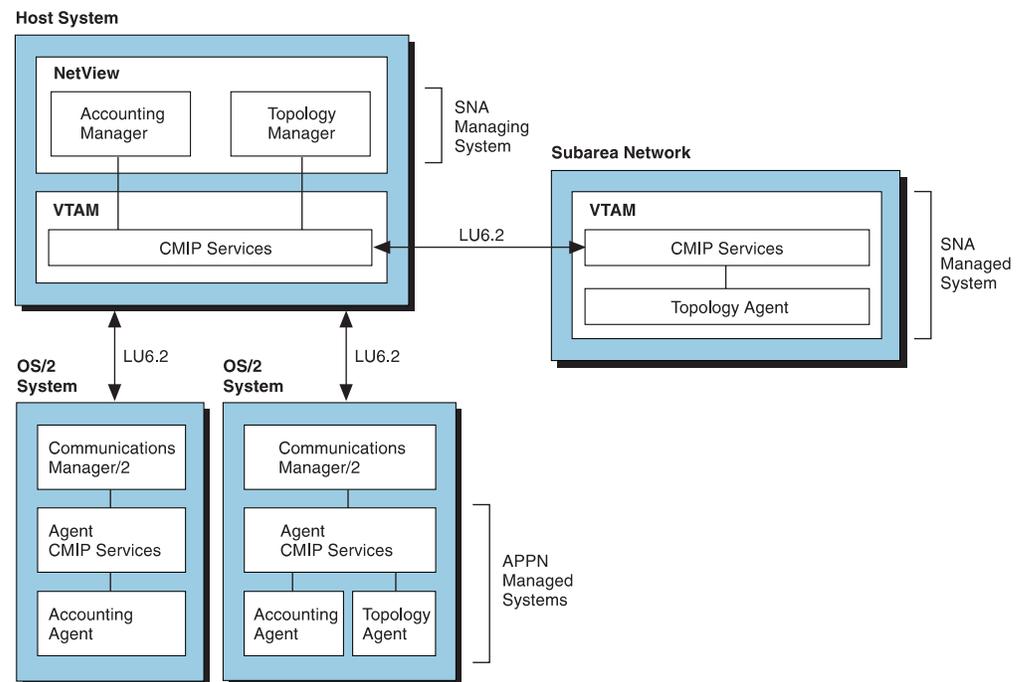
Figure 7. Agent CMIP Services

APPN Topology and Accounting Agent Commands and Interfaces

The APPN topology and accounting agent has two commands: APPNMGPM and APPNMGMT. The APPNMGPM command is used to start the APPN Management Presentation Manager® (APPNMGPM) program. APPNMGPM provides a graphical user interface (GUI) for the APPNTAA. Performing tasks using this interface is described in "Chapter 4. Using the APPN Topology and Accounting Agent" on page 15.

The APPNMGMT command is used on the OS/2 command line with parameters and options to perform user APPN topology and accounting agent tasks. For more information about the APPNMGMT command, see "Appendix A. APPNMGMT Command Syntax" on page 35.

APPN Topology and Accounting Agent Packaging Information

The agent application of the APPN topology and accounting agent is needed to provide APPN topology and accounting information from OS/2 nodes. It is available to download at `http:/www.tivoli/com/nv390_supported`.

Chapter 2. Planning and Storage Requirements

This chapter contains information used in planning APPN topology and accounting agent application implementation.

- Workstation hardware and software requirements
- Storage requirements
- Installation worksheet

Workstation Requirements

The workstation where the APPN topology and accounting agent application is installed should meet or exceed the hardware and software requirements indicated in the following sections.

Software Requirements

Prerequisite software for an agent workstation includes:

- OS/2 Warp 4.0 or later
- Communications Server/4.0 or higher
- Personal Communicator 4.1 or higher

Hardware Requirements

The APPN topology and accounting agent operates on the same hardware required for OS/2 Warp 4.0 and Communications Server 4.0. To determine the amount of additional disk space the APPN topology and accounting agent requires, see "Storage Requirements".

Workstation Application Priority Considerations

The APPN accounting agent thread that receives accounting information from Communications Manager/2 operates at a fixed-high (foreground server) priority class, with a priority level of one. This allows the APPN accounting agent adequate computer time for processing accounting records if other applications on the agent workstation are running at the regular priority class. If user applications are running at a higher priority class and level, the APPN accounting agent might not receive adequate computer time to process accounting information from Communications Manager/2 and accounting records could be lost.

If the APPN accounting agent cannot process records from Communications Manager/2 quickly enough, Communications Manager/2 stops sending accounting information for that particular data type. If this happens, stop and restart all AMCOs for the accounting data type using the NetView ACCTSNA STOP command, which is issued at the manager node. For more information about this command, refer to NetView online help.

Storage Requirements

When you are planning to install the APPN topology and accounting agent application on a workstation, consider the following disk storage requirements:

- APPNTAA program files
- Accounting agent generated files
- Trace buffer files
- Other dynamic files
- Multiple manager requests

Planning and Storage Requirements

Before installing the APPN topology and accounting agent application on a workstation, use the worksheet in Figure 8 on page 9 to record information needed during the installation. Refer to "APPN Topology and Accounting Agent Installation Worksheet" on page 7 for information on using the installation worksheet.

APPN Topology and Accounting Agent Program Storage Requirements

During installation the Software Installer for OS/2 provides space requirements to install the APPNTAA program application. This is approximately 1 600 000 bytes. If you are installing the APPN topology and accounting agent from the mainframe, the Software Installer for OS/2 requires an additional 800 000 bytes.

While the application is running, additional storage is required for dynamic files. The dynamic files include data and index files generated by the APPN accounting agent, trace buffer files, and the SWAPPER.DAT file generated by OS/2.

Accounting Agent Storage Requirements

Table 4 summarizes the estimated dynamic storage requirements for the APPNTAA APPN accounting agent.

Table 4. APPNTAA Accounting Agent Storage Requirements

Element	Disk Storage Required
Data files (Note 1)	512 bytes multiplied by the MaxBufRecs value. (See Note 1 and "Estimating Data File Storage".)
Index files (Note 2)	4 Bytes for each record collected (See Note 2.)
AMCO	1280 bytes for each AMCO

Notes:

1. Each data type requires a separate data file buffer. The agent's MaxBufRecs parameter regulates the size of the data file. Multiple AMCOs of the same data type share the same data file. Data is deleted after all accounting managers acknowledge receipt of that data. If more than one manager is requesting data, this can increase the amount of time data remains in the buffer.

2. Each AMCO has a separate index file. Each record collected by an AMCO adds one 4-byte entry to the file. The accounting agent compresses the index files at the following times to remove entries for records that have been deleted:
   • When the accounting agent is started
   • Every 24-hour period in which the agent remains active

To calculate the storage required for the dynamic APPN accounting agent files, see "Estimating Data File Storage".

Estimating Data File Storage

The following factors influence the amount of dynamic storage space needed on a disk to operate the APPN topology and accounting agent application:

• Allow 512 bytes per record for each type of accounting data (session, intermediate session, or conversation) the agent node is collecting. For each data type, multiply this amount by the MaxBufRecs value the node is using (the default is 1000). For more information about setting the MaxBufRecs value, see "Setting Maximum Logical Buffer Size for AMCOs" on page 17.

• For each data type, multiply the available accounting buffer file space calculated above by the number of managers using the agent. The available space needs to be up to twice as large if two managers collect that data from the same agent, three times as large for three managers, and so on.

A formula for calculating storage as previously described is shown in "Formula for Estimating Dynamic Storage".

- Allow enough storage for dumping requested traces to a file. Each trace block uses 64 KB. If the agent runs many types of traces at the same time, or traces for long periods of time, this buffer size might need to be larger than the default of 1. The maximum number of blocks is 32. For more information about setting trace blocks, see "Setting Trace Blocks" on page 23.

Formula for Estimating Dynamic Storage

The following formula summarizes the basic considerations for calculating dynamic APPNTAA storage:

```
Available Disk Space ≥ (512) × (MaxBufRecs value) × (number of AMCOs) bytes
```

Storage Estimate Examples

If your agent workstation records approximately 1 000 conversations per day, is reporting to two managers that are retrieving accounting data once every 24 hours, and you want a 3-block trace buffer, your estimate might be:

```
512 x 1000 x 2 = 1 024 000 bytes (dynamic storage)
3 x 65536      =   196 608 bytes (storage for dumping trace buffer)
               = 1 600 000 bytes (program files)
                 -------
                 2 820 608 bytes
```

If your agent workstation records approximately 10 000 conversations per day, is reporting to three managers that are retrieving accounting data twice every 24 hours, and you want a 10-block trace buffer, your estimate might be:

```
512 x 10000 x 3 ÷ 2 =  7 680 000 bytes (dynamic storage)
10 x 65536          =    655 360 bytes (storage for dumping trace buffer)
                    =  1 600 000 bytes (program files)
                       --------
                       9 935 360 bytes
```

Note: When agents and managers are in place, adjustments to retrieval frequencies can help control the amount of agent workstation disk space required.

APPN Topology and Accounting Agent Installation Worksheet

During APPN topology and accounting agent installation on the workstation, you must know the following:

NetView data set name
You must know the fully qualified data set name where your NetView programs are located. Installation instructions use the default NetView data set names shipped with the program code. If your facility has changed these default names, substitute your data set name.

Accounting work directory
Each APPN topology and accounting agent using a shared LAN server for accounting work directories must have a unique accounting work directory on that server. It must be a subdirectory of the directory that contains the BNTACCT.EXE APPN accounting agent program unless you have set an APPNACCT environment variable in the CONFIG.SYS file. The default installation (to the hard drive) assigns \IBMBNT\ACCTWRK.

Planning and Storage Requirements

Record the unique directory for a shared LAN server and use the information when you assign the APPNACCT environment variable during installation.

If the workstation has multiple fixed disks, consider placing the accounting work directory on a drive that does not contain the CONFIG.SYS and SWAPPER.DAT files.

MaxBufRecs value
The MaxBufRecs value that is specified when starting the APPN accounting agent on the workstation. For more information about the MaxBufRecs value, see "Setting Maximum Logical Buffer Size for AMCOs" on page 17.

Number of AMCOs
Each AMCO collects accounting data records of one type for one manager. For example, you have six AMCOs if the agent is collecting all three types of data for one manager, two types of data for a second manager, and one type of data for a third manager.

Trace dump file maximum
This value indicates how much space is being allocated for dumping trace records. For more information about trace blocks, see "Setting Trace Blocks" on page 23.

APPN Topology and Accounting Agent Installation Worksheet

NetView data set name _____

Accounting work directory (for shared LAN server) _____

1. Accounting buffer file space needed:

     Record length in bytes   A. _____512_____

     MaxBufRecs value (default 1000)   B. _____

     Number of AMCOs   C. _____

     Total Accounting data buffer file size (Multiply A x B x C)   _____ Bytes

2. Trace dump file maximum (1 to 32 x 64KB)   _____ Bytes

3. Total disk space needed (Add lines 1 and 2)   _____ Bytes

4. Program storage   _____1600000_____ Bytes

5. Total estimated disk storage needed (Add lines 3 and 4)   [_____] Bytes

Figure 8. APPN Topology and Accounting Agent Installation Worksheet

Chapter 3. Installing the APPN Topology and Accounting Agent

Before installing the APPN Topology and Accounting Agent, you must have the following required software and hardware.

Software Requirements

The following software is required:

1. IBM Operating System/2(*) (OS/2) Version 4.0 operating system or higher with REXX installed.
2. Communications Server 4.0 or higher, and Personal Communications 4.1 or higher, and one of the following:
   - APPC communications and any communication adapter that the Communications Server 4.0, or higher, supports for APPC.
   - 3270 emulator communications, for supporting NetView 3270 interfaces on the workstation, and any 3270 emulator adapter supported by Personal Communications 4.1 or higher.

Hardware Requirements

The minimum hardware requirements beyond those required for OS/2 4.0 or higher, and other currently running programs are the following:

1. A personal computer that operates OS/2 Version 4.0 or higher.
2. One MB of additional fixed disk space for the APPNTAA.
3. Color display in High Resolution mode for Japanese.
4. A two-button mouse or other pointing device.

The selection of computer model size, DASD, and memory depends on performance factors, such as the size of the supported network, the number of views, and the amount of network activity.

Installing the APPNTAA

To use the APPN topology and accounting agent, you must install it on workstations end nodes (ENs) or network nodes (NNs) in the network. Use the following instructions to install the APPN topology and accounting agent.

The APPN topology and accounting agent program is installed onto the workstation using the Software Installer for OS/2. Download and install the APPN topology and accounting agent program from our web site:

1. With your web browser, go to the following URL:`http://www.tivoli.com/nv390_supported`.
2. Download the APPN Topology and Accounting application into a temporary directory and save it as `bntappne.exe`.

The Software Installer for OS/2 can be used to update or delete the APPN topology and accounting agent program after it has been installed. See the workstation file BNTREAD1.ME (English) or BNTREAD3.ME (Japanese) for complete installation instructions, Software Installer hints and tips, and late-breaking news.

Installing the APPN Topology and Accounting Agent

The entire set of APPN topology and accounting agent code is available in self extracting .exe files from the Tivoli NetView for OS/390 Web page. The files can be copied and run to unpack all of the files that are needed to do an APPN topology and accounting agent install.

BNTAPPNE.EXE (English) or BNTAPPNJ.EXE (Japanese) can be copied to a directory (the suggested directory is \IBMBNT\IMAGES) and run to unpack all the files. When the files have been unpacked, installation can proceed.

Before you begin the APPN topology and accounting agent program installation, make sure you are in the directory where you unpacked either of these two files: BNTAPPNE.EXE or BNTAPPNJ.EXE.

Once in the directory, enter the following command:

```
BNTINSTS
```

The command you entered above brings up the Software Installer. Once it is running, perform the following steps:

1. From the File menu, select the **Open catalog–>Drive**.
2. Select the appropriate drive and directory for either the DNT001CB.ICF (English) or BNT081CB.ICF (Japanese) catalog file, then select **Open**.
3. Double-click on the package displayed or select the package and then select **Action–>Install** to begin the install.

Accounting Initialization File (BNTACCT.INI)

Included with the APPNTAA files is a sample accounting initialization file (BNTACCT.INI). The example shown is a duplicate of the BNTACCT.INI file installed with the APPNTAA files. In contains a description of accounting initialization file, rules for editing the file, AMCO name syntax, commented examples of AMCO entries, and error log information.

All lines in the sample BNTACCT.INI file supplied with the APPNTAA are comment lines (including those specifying AMCOs). The file does not function as supplied. To activate the BNTACCT.INI file, modify the sample AMCO entries with correct AMCO information for your facility and remove the double slashes to the left of these AMCOs.

You must stop and restart the APPN accounting agent to have your changes to the BNTACCT.INI file take effect.

```
//----------------------------------------------------------------------------
//----------------------------------------------------------------------------
//------------------  BNTACCT SAMPLE INITIALIZATION FILE  --------------------
//----------------------------------------------------------------------------
//----------------------------------------------------------------------------
//
// The purpose of this file is to give you a description of the APPNTAM
// accounting initialization file and the format of the LU 6.2 accounting
// management control object (AMCO) names that can be placed in this file.
//
// LU 6.2 AMCOs that are started by the accounting initialization file are
// called "auto-started" AMCOs, because they are automatically started
// when the APPNTAM accounting agent is started.  Auto-started AMCOs
// immediately begin collecting LU 6.2 accounting information from the
// Communications Manager/2.  The collected accounting information can be
// retrieved by the APPNTAM accounting manager once the ACCTSNA START
```

```
// command is issued at the manager system, specifying the network-qualified
// control point name of the accounting agent using this BNTACCT.INI file.
//
// The accounting initialization file has the following format rules:
//
// 1. It is an ASCII file and can be created or edited by the OS/2 system
//    editor, the OS/2 enhanced editor, or your favorite ASCII editor.
//
// 2. Comment lines are specified by using the "//" delimiter in the first
//    two columns of the line.
//
// 3. Each non-comment line must contain one valid and unique LU 6.2 AMCO
//    name.
//
// 4. An LU 6.2 AMCO name has the following syntax:
//
//                     MGR-NETID.MGR-SYSTEM-NAME.DATA-TYPE
//    where,
//
//    MGR-NETID       is the 1-8 character network identifier of the NetView
//                    node at which the accounting manager is located.
//
//    MGR-SYSTEM-NAME is the 1-8 character unqualified name of either the
//                    NetView VTAM control point name of the NetView system
//                    or NetView's LU, depending on the manager-system
//                    configuration.
//
//    DATA-TYPE       is one of the following: "CONVERSATION", "SESSION",
//                    "INTERMEDIATE-SESSION" in uppercase.
//
//
//----------------------------- Examples  ------------------------------------
//
// The following AMCO collects conversation data for a manager whose NETID is
// APPNNET1, and SYSTEM name is NV0001.
//
// APPNNET1.NV0001.CONVERSATION
//
//
//
// The following AMCO collects conversation data for another manager, whose
// NETID is APPNNET1, and SYSTEM name is NV0002.
//
// APPNNET1.NV0002.CONVERSATION
//
//
//
// The following AMCO collects session data for a manager whose NETID is
// APPNNET1, and SYSTEM name is NV0001.
//
// APPNNET1.NV0001.SESSION
//
//
//
// The following AMCO collects intermediate session data for a manager whose
// NETID is APPNNET1, and SYSTEM name is NV0001.  This AMCO is valid only if
// the accounting agent is installed on a network node.
//
// APPNNET1.NV0001.INTERMEDIATE-SESSION
//
//
//----------------------------- Logging Errors -------------------------------
//
// Any errors encountered by the APPNTAM accounting agent while starting
// AMCOs defined in the BNTACCT.INI file are written to the OS/2 system
// error log.  After the accounting agent initialization has completed, check
// the system error log for any AMCO auto-start errors.  If errors associated
```

Accounting Initialization File

```
// with the auto-started AMCOs are logged, change your BNTACCT.INI file to
// correct the errors.  Then stop the accounting agent program and start it
// again.
//
// The most common errors are duplicate AMCO definitions, invalid name syntax,
// and intermediate-session AMCOs on an end-node agent.
```

Chapter 4. Using the APPN Topology and Accounting Agent

You can perform APPN topology and accounting agent tasks using a graphical user interface (GUI) or by issuing commands at the OS/2 command line. This chapter shows how to access the APPN Management Control window, which is used for the following procedures:

- Starting components ("Starting Components" on page 16)
- Stopping components ("Stopping Components" on page 18)
- Controlling trace functions ("Controlling Trace Functions" on page 18)
- Resetting accounting agent data files ("Resetting the Accounting Agent Data Files" on page 25)
- Determining agent status ("Determining Agent Status" on page 25)
- Clearing messages ("Clearing Messages" on page 26)

If you perform agent functions using OS/2 commands, see "Appendix A. APPNMGMT Command Syntax" on page 35. This appendix also contains detailed information about parameters and options you can choose from the windows. In this chapter, when parameter and option information is not provided, you are referred to detailed information in Appendix A.

Accessing the APPN Management Control Window

You can access the APPN Management Control window on an agent workstation in the following ways:

- If the program is already running, press **Ctrl+Esc** and select **APPN Management Control** on the Window List.
- At the OS/2 command line, enter **APPNMGPM**.
- At the OS/2 command line, enter **APPNMGMT** with noparameters.

A Copyright window appears briefly and the APPN Management Control window shown in Figure 9 is displayed.
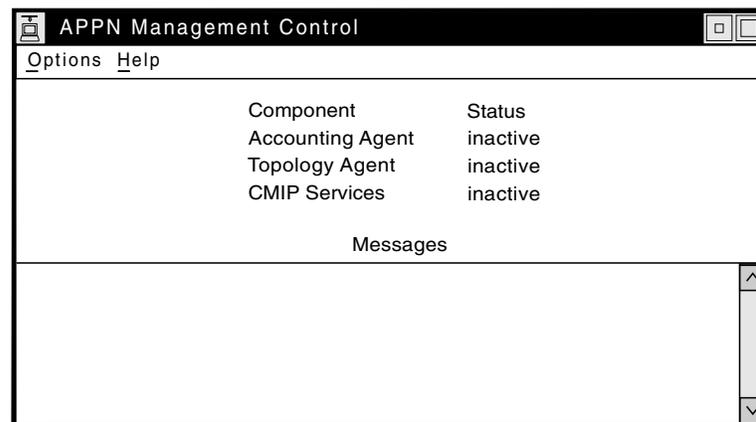
Figure 9. APPN Management Control Window

The APPN Management Control window shows the status for the three APPNTAA components. To get help with the interface, select **Help** on the menu bar. To continue with other user tasks, select **Options**. The **Options** menu, shown in Figure 10 on page 16, is displayed.

Accessing APPNMGPM

> **Attention:** The Reset accounting option discards all accounting data files. See "Resetting the Accounting Agent Data Files" on page 25 before selecting this option.

Starting Components

APPNTAA components are usually started at the agent workstation. The APPNTAA managers cannot start the agent or its components. However, by using the NetView RUNCMD command and specifying APPNMGMT and its parameters, you can start the APPNTAA. The agent workstation must have the Communications Manager/2 Remote Operations Services facility running to process the RUNCMD command. For more information about the APPNMGMT command, see "Appendix A. APPNMGMT Command Syntax" on page 35.

To start APPN topology and accounting agent components:

1. Select **Options** on the APPN Management Control window. The **Options** menu Figure 10) is displayed.
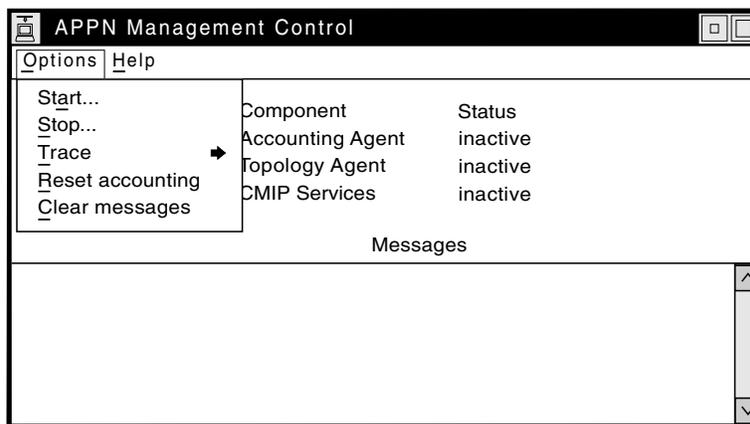
Figure 10. APPN Management Control Window Options Menu

2. Click **Start...**. The Start APPN Management Programs window (Figure 11) is displayed.
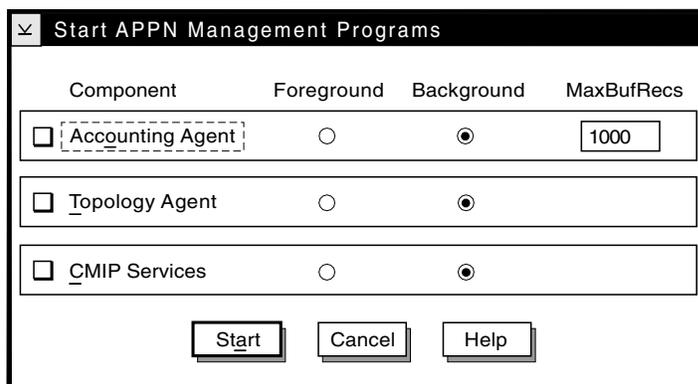
Figure 11. Start APPN Management Programs Window

3. Select the components you want to start.

> **Note:** If you start the APPN accounting agent or the APPN topology agent without starting CMIP services, CMIP services starts automatically.

4. Choose whether each component is to run in the foreground or background. Background is the default. See "Foreground or Background Operation".
5. If you are starting the APPN Accounting Agent, set the MaxBufRecs value. See "Setting Maximum Logical Buffer Size for AMCOs".
6. Click **Start**.

As the requested components start, messages are displayed on the bottom of the APPN Management Control window.

APPN Accounting Agent Startup

Accounting management control objects (AMCOs) that are active when the APPN accounting agent component is stopped are created again when the APPN accounting agent is restarted, unless a reset accounting operation is performed. The APPN accounting agent also automatically starts all AMCOs listed in the BNTACCT.INI APPN accounting agent initialization file. A sample BNTACCT.INI file is shipped with APPNTAA. For more information about the BNTACCT.INI file, see "Accounting Initialization File (BNTACCT.INI)" on page 12. AMCOs that are created again or automatically started begin collecting accounting information immediately; however, no data can be sent to the manager until the ACCTSNA START command is issued at the manager system for each AMCO.

Foreground or Background Operation

When you start any component, you can operate in the foreground or in the background. When started in the foreground, a component is given a minimized window on the OS/2 desktop. The APPN accounting agent and APPN topology agent each have one window (BNTACCT.EXE and BNTTA.EXE). The CMIP services component has three separate windows,one each for the BNTINFRA.EXE, BNTRGSN.EXE, and BNTDISCR.EXE programs. No information is displayed in the program windows. When the three components are running in the foreground, you can see windows for the five .EXE programs on the OS/2 Window List.

Note: Closing individual APPNTAA windows causes components to stop or become unusable.

When started as a background session (the default), no window or icon is displayed for the component. Only the APPN Management Control window is listed on the OS/2 Window List.

Setting Maximum Logical Buffer Size for AMCOs

The value you type in the MaxBufRecs field specifies the maximum number of completed accounting records each accounting management control object (AMCO) can hold in its file buffer. The number of records you specify is used as the maximum logical buffer size for each AMCO.

You can specify any number in the range of 100–65 535 records. The default is 1000 records.

Note: Each accounting record is 512 bytes. Do not specify a MaxBufRecs value that is too large for your installation. For example, 10 000 records requires a file of approximately 5 megabytes.

Before selecting a number of records, consider the following:

Setting MaxBufRecs

- Amount of network traffic the agent node is expected to encounter. For example, a heavily-used print server can generate significant accounting data.
- Frequency of data transmissions to managers. For example, if three managers request the same data from one agent, and their collection interval is 1, 2, and 24 hours respectively, at least 24 hours must elapse before the data can be deleted from the buffer.

For more information about estimating the disk space required for operating the APPNTAA, see "Estimating Data File Storage" on page 6.

Stopping Components

On some occasions, you must stop an APPN topology and accounting agent agent component. For example, before you can reset the APPN accounting agent data files, you must stop it. To stop components:

1. Select **Options** on the APPN Management Control window. The **Options** menu (Figure 10 on page 16) is displayed.
2. Click **Stop**. The Stop APPN Management Programs window (Figure 12) is displayed.
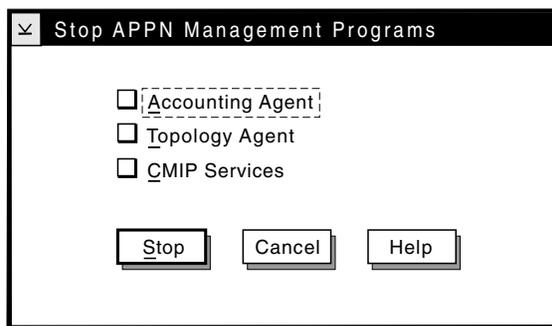
Figure 12. Stop APPN Management Programs Window

3. Select the components you want to stop.
4. Click **Stop**.

As the requested components stop, messages appear on the bottom of the APPN Management Control window.

Stopping CMIP services: Stopping CMIP services causes the APPN topology agent to stop. The APPN accounting agent continues collecting data, but is unable to respond to manager requests. Also, if both the APPN accounting agent and APPN topology agent are stopped, CMIP services is not needed and stops.

Traces: Traces that are running when components are stopped resume when the components are restarted. This can be useful for problem determination related to starting or stopping components.

Controlling Trace Functions

Trace functions are usually requested by network operators or IBM Service to obtain information to be used for problem determination.

When you select **Trace** on the APPN Management Control Options menu, the
Trace menu (Figure 13) is displayed.
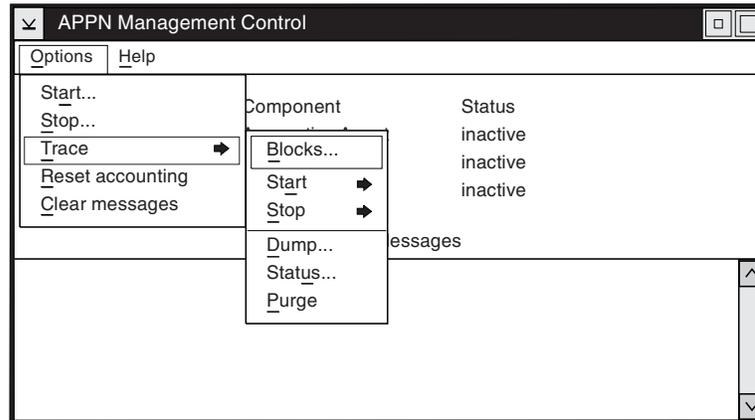
Figure 13. APPN Management Control Trace Menu

From the trace menu, you can:
- Start tracing ("Starting Trace Functions")
- Stop tracing ("Stopping Trace Functions" on page 21)
- Set trace blocks ("Setting Trace Blocks" on page 23)
- Dump trace records to a file ("Dumping Trace Buffers" on page 23)
- Determine trace status ("Determining Trace Block and Trace Event Status" on
  page 24)
- Purge trace records ("Purging Trace Buffers" on page 25)

Starting Trace Functions

When you select **Trace→Start** , the start menu shown in Figure 14 is displayed.
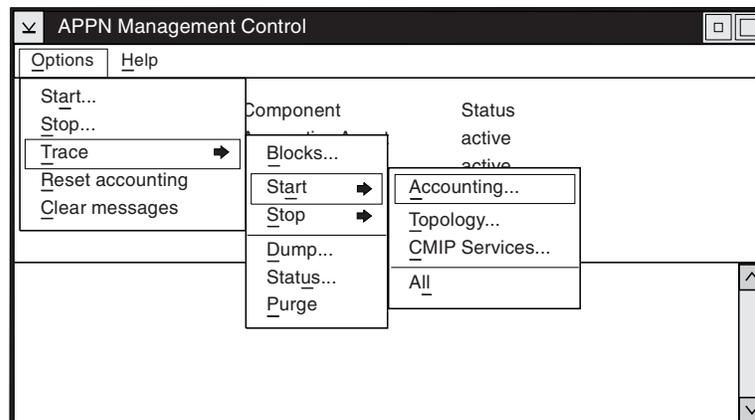
Figure 14. Trace Start Menu

You can start tracing for the following choices:
- Accounting
- Topology
- CMIP services
- All (See Note)

Starting Traces

Note: If you select **All** you are requesting to trace all events on all components. Unrestricted tracing of components can cause reduced workstation performance, and rapid filling of trace buffers. See "Setting Trace Blocks" on page 23.

When you select **Accounting** the Start Accounting Agent Traces window (Figure 15) is displayed.
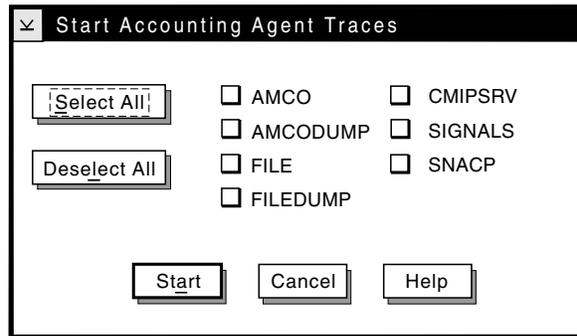
Figure 15. Start Accounting Agent Traces Window

When you select **Start → Topology** the Start Topology Agent Traces window (Figure 16) is displayed.
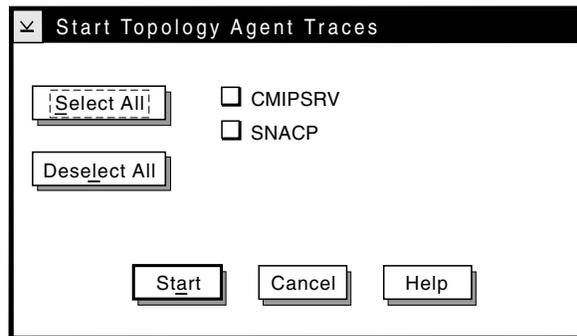
Figure 16. Start Topology Agent Traces Window

When you select **Start → CMIP Services** the Start CMIP Services Traces window (Figure 17) is displayed.
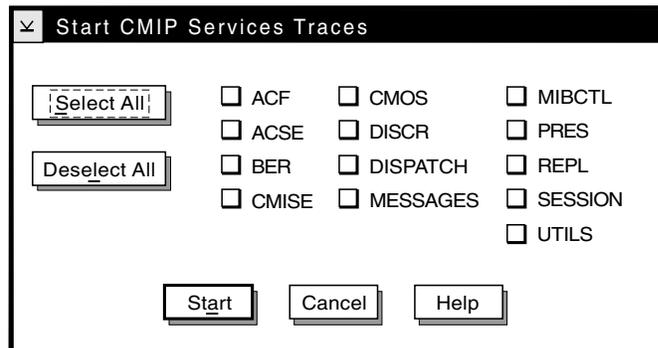
Figure 17. Start CMIP Services Traces Window

On any of the three Start Traces windows, select the check boxes for each type of event you want to trace. If you want to trace all events, click **Select All**. To remove or undo all selections, click **Deselect All**. The checked boxes are cleared.

Traces that are currently running appear lighter and are not selectable. When your selections are correct, click **Start** to begin tracing those events. If you do not want to start any traces, click **Cancel**.

For detailed trace event option information, see "Syntax" on page 42.

Stopping Trace Functions

When you select **Stop** from the Options menu, the stop menu shown in Figure 18 is displayed.
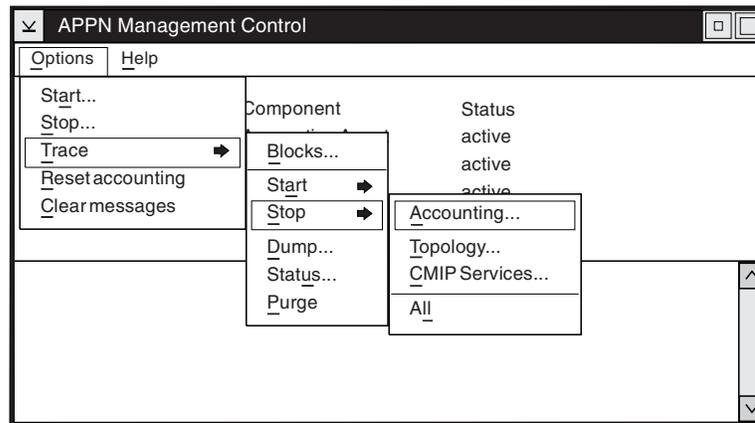
Figure 18. Trace Stop Menu

You can stop tracing for the following functions:
- Accounting
- Topology
- CMIP services
- All (See Note)

Note: If you click **All** you are requesting to stop tracing all events on all components.

When you click **Stop → Accounting** the Stop Accounting Agent Traces window (Figure 19 on page 22) is displayed.

Stopping Traces
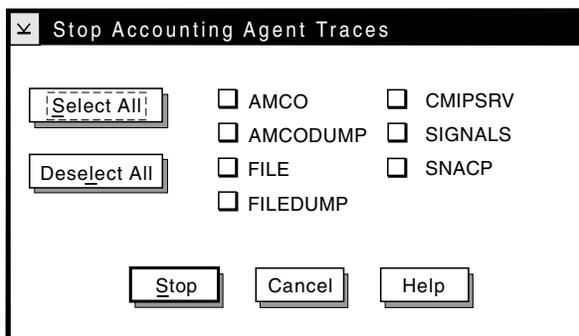
Figure 19. Stop Accounting Agent Traces Window

When you select **Stop → Topology** the Stop Topology Agent Traces window (Figure 20) is displayed.
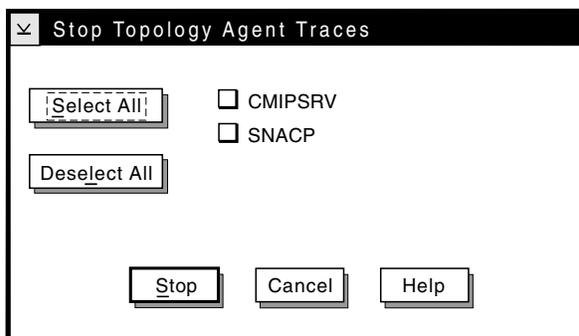
Figure 20. Stop Topology Agent Traces Window

When you select **Stop → CMIP Services** the Stop CMIP Services Traces window (Figure 21) is displayed.
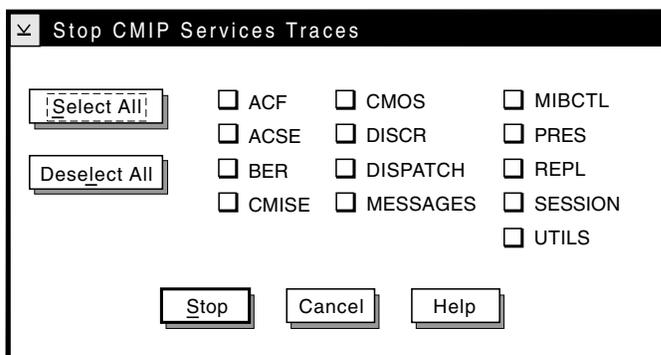
Figure 21. Stop CMIP Services Traces Window

On any of the three Stop Traces windows, select the check boxes for trace events you want to stop. If you want to stop all traces, click **Select All**. To remove or undo all selections, click **Deselect All**. The check boxes are cleared.

Traces that are not running appear lighter and are not selectable. When your selections are correct, click **Stop** to stop tracing those events. If you do not want to stop any traces, click **Cancel**.

For detailed trace event option information, see "Syntax" on page 42.

Setting Trace Blocks

When you select **Blocks** the Set Trace Blocks window (Figure 22) is displayed.
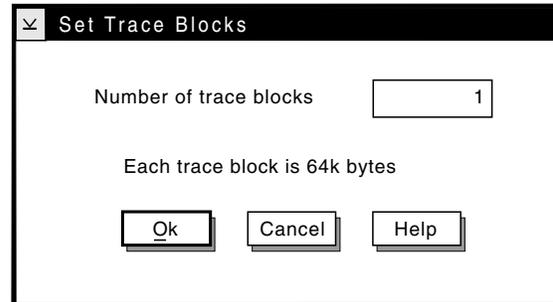
Figure 22. Set Trace Blocks Window

Type a number from 1–32 in the **Number of trace blocks** field. Each block allocates 65 536 bytes to the trace buffer. If you are going to perform multiple event tracing, adjust this value before starting the traces (trace blocks cannot be set while traces are running). The default is one block. Click **OK** to set your value.

How Many Blocks? If you do not know how many blocks to allocate for tracing, start the trace with the default (or a small number of blocks). Use the **Status** option described in "Determining Trace Block and Trace Event Status" on page 24 to determine the buffer status so you can make adjustments.

For detailed information about trace blocks, see BLOCKS in "Operand Descriptions" on page 41.

Dumping Trace Buffers

To use trace records for problem determination, dump the records being gathered in the trace buffers to a disk.

When to Dump: If the trace buffer is almost full or has been overwritten, you might want to dump the buffer. Use the **Status** option described in "Determining Trace Block and Trace Event Status" on page 24 to determine the buffer status.

All tracing activity must be stopped before you can dump the trace buffer.

When you select **Trace → Dump** the Trace Dump Buffer window (Figure 23 on page 24) is displayed.

Dumping Trace Buffers

```
┌─────────────────────────────────────────────────┐
│ ⊻  Trace Dump Buffer                             │
│                                                  │
│  Dump filename  ┌───────────────────────────┐    │
│                 │|                          │    │
│                 └───────────────────────────┘    │
│                                                  │
│                 ☐ Replace existing file          │
│                                                  │
│        ┌────────┐  ┌────────┐  ┌────────┐        │
│        │  Ok    │  │ Cancel │  │  Help  │        │
│        └────────┘  └────────┘  └────────┘        │
│                                                  │
└─────────────────────────────────────────────────┘
```
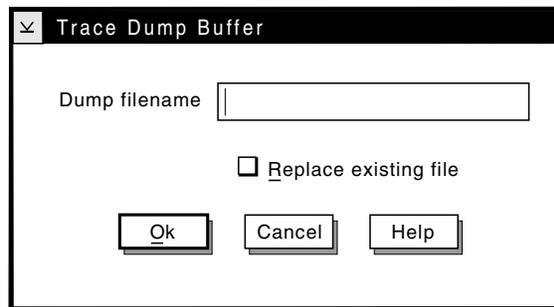
Figure 23. Trace Dump Buffer Window

Type the name of the file to which you want to dump the trace records.

Default: If you do not specify a drive or path, the drive and path specified for the APPNMGMT environment variable is used. The default installation sets this to C:\IBMBNT.

If you have used the file name before, select the **Replace existing file** check box. You cannot append trace records to an existing dump file. If you do not want to replace the existing file, type a different file name in the **Dump filename** field. Click **OK** to start the dump process.

Determining Trace Block and Trace Event Status

To determine tracing status and which event categories are being traced on an agent workstation:

Select **Trace → Status** on the APPN Management Control window **Options** menu. The Trace Status window (Figure 24) is displayed.

```
┌─────────────────────────────────────────────────┐
│ ⊻  Trace Status                                  │
│ ┌─────────────────────────────────────────────┐ │
│ │                                             │ │
│ │    Trace used 1 of 1 blocks and wrapped 3 times. │ │
│ │    Tracing is active for the following categories: │ │
│ │                                             │ │
│ │      ┌────────────────────────┬──┐          │ │
│ │      │ Accounting Agent       │ ^│          │ │
│ │      │    AMCO                │──│          │ │
│ │      │                        │  │          │ │
│ │      │ Topology Agent         │  │          │ │
│ │      │    SNACP               │ ▓│          │ │
│ │      │                        │ v│          │ │
│ │      └────────────────────────┴──┘          │ │
│ │                                             │ │
│ │        ┌────────┐   ┌────────┐              │ │
│ │        │   OK   │   │  Help  │              │ │
│ │        └────────┘   └────────┘              │ │
│ │                                             │ │
│ └─────────────────────────────────────────────┘ │
└─────────────────────────────────────────────────┘
```
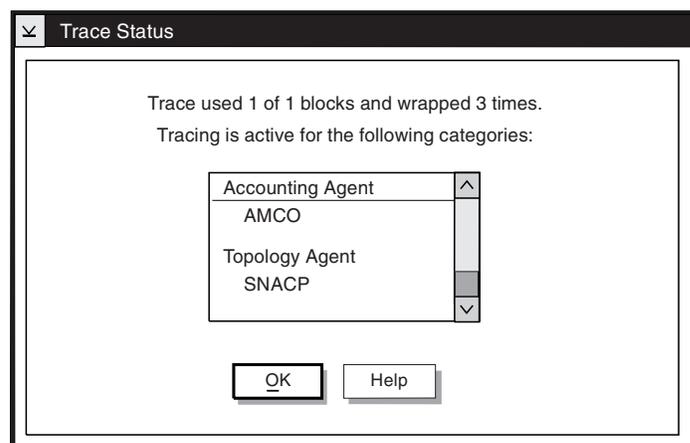
Figure 24. Trace Status Window

The current status of your trace blocks is indicated at the top of the window. For example, if you took the system default of one trace block for running traces, you might see:

```
Trace used 1 of 1 blocks and wrapped 3 times.
```

This indicates that you ran traces with one block allocated and that trace information was overwritten three times. To reduce the chance of trace data being overwritten, do one or more of the following:
- Increase the number of blocks for the trace.
- Dump your trace buffer more frequently.
- Reduce the number of events being traced.

The second statement tell whether tracing is active. If tracing is active, the scrollable list box lists the events that are being traced for each of the APPNTAA components.

This window is for displaying information only. When you are finished viewing the information, click **OK**.

Purging Trace Buffers

If you have collected unnecessary trace records, or want to empty old trace records from the buffer, you can purge the buffers.

When you select **Trace → Status** a pop-up window appears. Click **Yes** to purge the trace buffers. If you do not want to purge the trace buffers, (for example, if you intended to select **Dump** click **No**.

Resetting the Accounting Agent Data Files

Reset the APPN accounting agent data files any time you want to discard all accounting data (for example, after running a test sample collection), or if you receive an error message indicating that a clean up failed (for example, BNT0206E or BNT0210E).

To reset the APPN accounting agent data files:

Note: If the APPN accounting agent is already inactive, go to step 4.
1. Click **Stop** on the APPN Management Control window **Options** menu.
2. Select **Accounting Agent** check box on the Stop APPN Management Programs window.
3. Click **Stop**. You are returned to the APPN Management Control window. Messages indicate that the APPN accounting agent is stopping.
4. Select **Reset accounting** on the APPN Management Control window Options menu.
5. On the Reset Accouting pop-up window, click **Yes** to begin the reset process, or click **No** (the default) to keep all data files.
6. Restart the APPN accounting agent. (See "Starting Components" on page 16.)

Note: To avoid data loss, try to start an inactive APPN accounting agent without resetting accounting data files. This is not always possible, especially after a clean-up error, which occurs when the data is unusable.

Determining Agent Status

If a manager program is not receiving requested data from your agent workstation, verify the status of your agent components.

Determining Agent Status

To determine the status of agent components, access the APPN Management Control window as shown in "Accessing the APPN Management Control Window" on page 15.

On the APPN Management Control window, component status can be one of the following:

active The component is started and ready for use.

inactive

The component is not started, or successfully stopped. Start the component for it to become usable.

unusable

The component is not usable because it did not complet initialization. In addition, CMIP services is unusable when at least one of its three programs is not active.

Possible Causes: An unusable status can result from an incomplete initialization. One cause of incomplete initialization of CMIP services is stopping CMIP services before it has become active. Closing one of the three CMIP services program windows, which are accessible during foreground operation, also causes an unusable status.

To make an unusable component active, stop and then restart the component. (See "Stopping Components" on page 18 and "Starting Components" on page 16.) To make an unusable component inactive, stop the component.

For information about component statuses, see "APPNMGMT DISPLAY" on page 45.

Clearing Messages

Messages are displayed on the bottom of the APPN Management Control window (Figure 25) when you start or stop components, enter a value that is not valid, and so on.

```
┌──────────────────────────────────────────────────────────┐
│ ▐  APPN Management Control                       □  □     │
│ O̲ptions  H̲elp                                             │
│                                                            │
│               Component          Status                    │
│               Accounting Agent   inactive                  │
│               Topology Agent     inactive                  │
│               CMIP Services      inactive                  │
│                                                            │
│                      Messages                              │
│ ┌────────────────────────────────────────────────────┬──┐ │
│ │ BNT0101: Unable to find the CMIP services main program.│ ⌃│ │
│ │ BNT0140: Unable to find the CMIP services system registration program. │ │ │
│ │ BNT0141: Unable to find the CMIP services discriminator object program.│ │ │
│ │ BNT0123: Unable to find the accounting agent program.  │  │ │
│ │                                                     │  │ │
│ │                                                     │ ⌄│ │
│ └────────────────────────────────────────────────────┴──┘ │
└──────────────────────────────────────────────────────────┘
```

Figure 25. APPN Management Control Window with Messages

New messages are added to the bottom of the display area. To view messages that have scrolled upward, use the scroll bar at the right of the message area.

Clearing Messages

To remove all messages from the display area, select **Options → Clear messages** from the APPN Management Control window. The message area is cleared.

Chapter 5. Problem Determination

This chapter contains user information to aid in problem determination for the APPNTAA agent components and programs.

The APPN topology and accounting agent uses diagnostic tools provided by Communications Manager/2 and OS/2 to help you identify and resolve problems, including Communications Manager/2 First Failure Support.

For more information about using the diagnostic tools, including the FFST/2™ message log formatter and the system error log formatter, and information about SNA sense data, refer to the *IBM Communications Manager/2 Problem Determination Guide.*

Problem Determination Procedures

The problem determination procedures describe how to diagnose problems encountered while attempting to use the APPNMGMT and APPNMGPM programs. These problems include the following:

- Configuration errors
- Network errors
- Program errors
- Communication errors

The procedures in this chapter lead you through the diagnostic process in a logical manner and attempt to help you identify and solve problems.

All problem determination for the APPNMGMT and APPNMGPM programs begins with Figure 26 on page 30.

FFST/2 Diagnostics

001

Messages can be either displayed in the message area at the bottom of a window or written to an error log.

Was an error message displayed in a window?
Yes   No

002

Continue with Step 006.

003

Perform the action indicated in the help for the error message.

Did you correct the problem?
Yes   No

004

Continue with Step 006.

005

You have corrected the problem. To minimize your problem determination efforts in the future, keep records of the solutions for all APPNMGMT and APPNMGPM problems.

006

Record the time that the problem occurred so that you can refer to possible system error log entries. Any errors logged around the failure time can be relevant. To save time, check for and read any associated messages before attempting to solve the problem.

Are there any entries in the error logs corresponding to the failure time?
Yes   No

007

Contact Tivoli Customer Support.

008

Record the error codes found in the logs and see Appendix C, "System Error Log Entries " for information on error recovery.

For information about accessing and extracting information from the system error log, see "OS/2 System Error Log".

Figure 26. Problem Determination

OS/2 System Error Log

The CMIP services, APPN accounting agent, and APPN topology agent components log errors in the OS/2 system error log. The format of error log entries for these components is different from that of Communications Manager/2 entries.

This section discusses the following:
- Accessing error log records
- Extracting problem determination information from the error log for agent components
- Selecting APPNTAA agent error log records

- Printing error log records

For additional information about the OS/2 system error log, refer to *OS/2 Command Reference*.

Accessing Error Log Records

To access the system error log, select **System Error Log** from the FFST/2 folder or type **SYSLOG** at an OS/2 command line. The OS/2 Error Log Formatter window is displayed.

Figure 27 shows the OS/2 Error Log Formatter window containing a sample APPNTAA error log record.

```
┌──────────────────────────────────────────────────────────────────┐
│  OS/2 Error Log Formatter - C:\OS2\SYSTEM\LOG0001.DAT      □ │▣│  │
├──────────────────────────────────────────────────────────────────┤
│  File   View   Options   Help                                      │
├──────────────────────────────────────────────────────────────────┤
│   Record ID:   FFDC                      Date:   09-03-93      ∧   │
│                                                                    │
│   Qualifier:   ACS              1   Time:   16:32:29               │
│ 2 Originator:       APPN-AA                                        │
│ 3 Process name:       C:\IBMBNT\BNTACCT.EXE                        │
│   Formatted by:   EPWELG01                                         │
│                                                                    │
│   MACHINE TYPE:           8590              S/N:          0TXLKC    │
│   APPL, NAME:             IBMCOMM           VERSION:      V01R00M0  │
│   MESSAGE TEXT:           NO MESSAGE                                │
│   ERROR CODE:      4      00000077-00000517  PROBLEM ID:   ACSLPMAV │
│   SYMPTOM DATA:           PIDS/562125400 LVLS/100 RIDS/APPN-AA      │
│   PCSS/0B204005 PRCS/00000077  PRCS/00000517                       │
│   EXTRA SYMPTOM DATA:            PTFS/WR06000_PID/36 TID/6          │
│ 5 NO DUMP REQUESTED      ALERT:  N                                  │
│ 6 ADDITIONAL DATA                                                  │
│   00 AB 13 10 00 49 13 11 20 81 0A 01 E4 E2 C9 C2    .....1........ │
│   D4 D5 D9 40 0A 02 D5 D9 C9 F2 F4 E9 F0 F0 0A 03    ...@.......... │
│   23 F0 F1 F0 40 40 40 40 20 82 0A 01 E4 E2 C9 C2    #... @@@@ .... │
│   D4 D5 D9 40 0A 02 D5 D9 C9 F2 F4 E9 F0 F0 0A 03    ...@.......... │
│   30 F0 F7 F6 40 40 40 40 05 90 02 E0 00 00 35 15    0... @@@@ ..5. │
│   49 16 01 0A 01 E4 E2 C9 C2 D4 D5 D9 40 0A 02 D5    1.........@.... │
│   D9 C9 F2 F4 E9 F0 F0 0A 04 23 F0 F1 F0 40 40 40    ......#.. @@@ . │
│   40 11 02 E1 00 01 42 07 C9 09 03 10 20 15 55 4E    @....B......UN  │
│  ◁                                                             ▷    │
└──────────────────────────────────────────────────────────────────┘
        ┌───────────┐      ┌───────────┐
        │ Next Rec  │      │ Prev Rec  │
        └───────────┘      └───────────┘
```

Figure 27. A Sample Agent Error Log Record

The system error log shows the most recent record first. Click **Prev Rec** to view older records and click **Next Rec** to view newer records. You can also use function keys **F7** to select older records and **F8** to select newer records.

If you do not see expected records, your error log might be overwritten. Change the system error log buffer size. See README file for instructions.

Extracting Problem Determination Information from the Error Log

The reference keys in Figure 27 identify fields containing valuable information for performing problem determination.

1 Date and time of the error. This information is useful when comparing information from other FFST/2 services and other diagnostic tools to get a complete picture of system events at a particular time.

2 Error originator. This is the code which represents the APPNTAA function that reported the error. Table 5 on page 32 shows valid APPNTAA error originators.

OS/2 System Error Log

Table 5. Error Originators and Associated Functions

Originator	Associated Function	Program (.EXE)
APPN-OSI	CMIP services component	BNTINFRA, BNTRGSN, BNTDISCR
APPN-AA	APPN Accounting agent component	BNTACCT
APPN-TA	APPN Topology agent component	BNTTA

3   Name of the process that was running when the error occurred.

4   Error code. The first eight digits to the left are the major error code, and the remaining eight digits are the minor error code. Table 6 shows where you can find information about the minor error codes for each major error code.

Table 6. Minor Error Code Information for Major Error Codes

Major Code (Source)	Minor Code Log Entries
00000022 (OS/2)	"Major Code=22" on page 63
00000076 (CMIP services)	"Major Code=76" on page 63
00000077 (APPN Accounting Agent)	"Major Code=77" on page 68
00000078 (APPN Topology Agent)	"Major Code=78" on page 75
00000079 (Utilities)	"Major Code=79" on page 77

5   The dump file name, and whether the error log record is (Y) or is not (N) an SNA alert. If the error log record is not an alert, `NO DUMP REQUESTED` is displayed in place of the file name.

6   Additional problem data provided by the application.

The Additional Data section can consist of up to 16 columns of paired hexadecimal digits (0–9 and A–F). Each pair of hexadecimal digits represents a byte. The first pair of hexadecimal digits on the first row is at offset 0. The first pair of hexadecimal digits on the second row is at offset 16. The number of bytes associated with a field is referred to as the length.

For example, if an error log description states that the error code is located in the Additional Data section at offset 2 with length 2, count pairs of hexadecimal digits until you reach offset 2 and note that the two pairs (length) of hexadecimal digits beginning at offset 2 are the error code.

Refer to the message associated with the error entry for information about deciphering this data for a specific error.

Selecting Error Log Records

The error log can contain many records. You can choose to limit the records you view to those records that occurred at a specified date and time or that have a particular qualifier.

Use the following procedure to view selected records in the error log:

1. From the OS/2 Error Log Formatter menu bar, select **Options → Display Options**.

    The Log File Search Criteria window appears (see Figure 28 on page 33).

```
┌──────────────────────────────────────────────┐
│ ⌄   Display Options                            │
│                                                │
│    Log file search criteria                    │
│                                                │
│    Qualifier:          ┌──────┐    (Optional)  │
│                        └──────┘                │
│    Starting record ID: ┌──────┐    (Optional)  │
│                        └──────┘                │
│    Ending record ID    ┌──────┐    (Optional)  │
│                        └──────┘                │
│    Starting date:   ┌──────────────┐ (Optional)│
│                     └──────────────┘           │
│    Ending date:     ┌──────────────┐ (Optional)│
│                     └──────────────┘           │
│    Starting time:   ┌──────────────┐ (Optional)│
│                     └──────────────┘           │
│    Ending time:     ┌──────────────┐ (Optional)│
│                     └──────────────┘           │
│                     ┌──────────────┐           │
│                     └──────────────┘           │
│                                                │
│   ┌─────────┐  ┌─────────┐  ┌─────────┐        │
│   │ Display │  │ Cancel  │  │  Help   │        │
│   └─────────┘  └─────────┘  └─────────┘        │
└──────────────────────────────────────────────┘
```

Figure 28. Log File Search Criteria Window

2. Use the Log File Search Criteria window to enter search criteria to select the error records you want to view. Enter a starting date and time or a unique qualifier to limit the number of records shown.

3. Click **Display** to display the most recent error log record that meets the search criteria you specified.

   The Error Log Formatter window is displayed again with records meeting the search criteria you specified.

Printing Error Log Records

You might want a printout of the error log for your records.

Use the following procedure to print selected error records.

1. Use the Log File Search Criteria window to display the records you want to print.

2. From the OS/2 Error Log Formatter menu bar, select **File** and select **Print**. The Print window appears.

3. Select the printer and click **Print**.

Viewing the Message Log

If you want to view the OS/2 message log (for example, if you want to see the extended help for an information message), type the following command at an OS/2 prompt:

```
MSGLOGF C:\OS2\SYSTEM\OS2MLOG.DAT
```
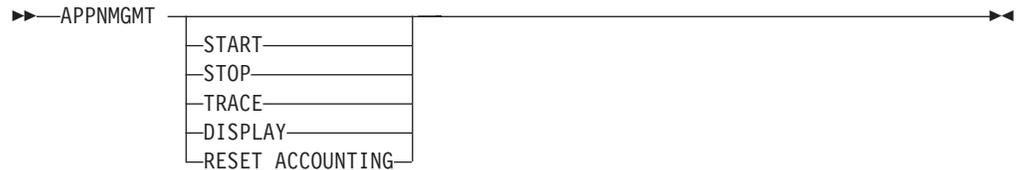
Note: You can also select the Message Log from the FFST/2 folder on the Desktop.

On the Message Log Formatter window, double-click the informational message for which you want extended help. The complete help text is displayed in the Full Details for Entry window.

Appendix A. APPNMGMT Command Syntax

The APPNMGMT command enables you to control APPN management functions from the OS/2 command line. APPNMGMT accepts command line arguments and responds by issuing messages to the command (OS/2) window.

The following shows the general syntax for the APPNMGMT command:

```
►►──APPNMGMT ─┬─────────────────┬──────────────────────────────────────►◄
              ├─START───────────┤
              ├─STOP────────────┤
              ├─TRACE───────────┤
              ├─DISPLAY─────────┤
              └─RESET ACCOUNTING┘
```

When the APPNMGMT command is issued with no parameters, the APPN Management Presentation Manager (APPNMGPM) program is started. APPNMGPM starts the APPN Management Control window, which provides a menu-driven interface for the APPNMGMT command functions.

Because the APPNMGMT command has several parameters, the command descriptions are based on the command name (APPNMGMT) and first parameter. Each command description includes the purpose of the command, a syntax diagram, a list of parameters, a discussion of the options, remarks, and examples.

For a list of shortened forms of the APPNMGMT command parameters and options, see "Abbreviations for APPNMGMT Command Parameters and Options" on page 47.
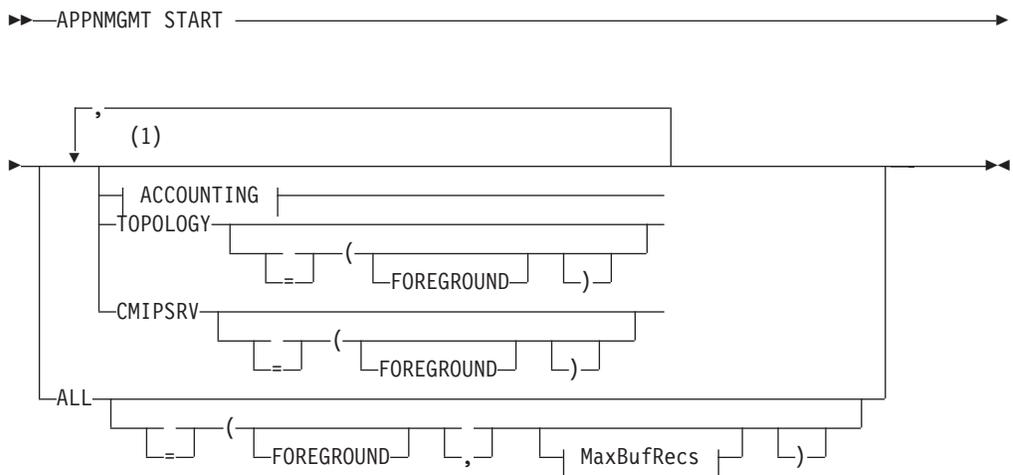
APPNMGMT START

Purpose of Command

Starts one or more components or starts all components. You can specify individual parameters for each component.
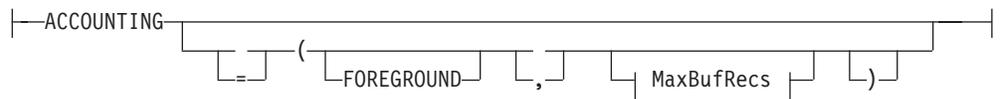
See "Starting Components" on page 16 for more information.

Comments

APPNMGMT START

```
►►──APPNMGMT START ──────────────────────────────────────────────────►

                         ┌─ , ────────────────────────────────┐
                         │                 (1)                 │
        ►─────────────────┬─────────────────────────────────────┬────►◄
                         ├─┤ ACCOUNTING ├────────────────────┤
                         ├─TOPOLOGY─┬──────────────────────────┤
                         │          │      ┌──(──────────────┐ │
                         │          └─┬───┬─┴─┬───────────┬─┬─)─┘
                         │            └─=─┘   └─FOREGROUND─┘   │
                         ├─CMIPSRV──┬──────────────────────────┤
                         │          │      ┌──(──────────────┐ │
                         │          └─┬───┬─┴─┬───────────┬─┬─)─┘
                         │            └─=─┘   └─FOREGROUND─┘   │
                         └─ALL─────────────────────────────────┤
                                 ┌───┐ ┌──(──────────────────────────────────┐
                                 └─=─┘ └──┬───────────┬─┬───┬─┬────────────────┬─)─┘
                                          └─FOREGROUND─┘ └─,─┘ └┤ MaxBufRecs ├┘
```

ACCOUNTING

```
├──ACCOUNTING────────────────────────────────────────────────────┤
             ┌───┐ ┌──(───────────────────────────────────────┐
             └─=─┘ └──┬───────────┬─┬───┬─┬──────────────────┬─)─┘
                      └─FOREGROUND─┘ └─,─┘ └┤ MaxBufRecs ├────┘
```

MaxBufRecs:

```
    ┌─MAXBUFRECS=1000──────────────────┐
├───┼──────────────────────────────────┼───────────────────────────┤
    └─MAXBUFRECS─┬───┬─n───────────────┘
                 └─=─┘
```

Notes:

1   Although only a comma is shown as a repetition separator, one or more spaces can be used instead of the comma; either is valid.

Operand Descriptions

ACCOUNTING

Specifies to start the APPN accounting agent component. When the APPN

accounting agent is started, the CMIP services component starts automatically if it is not already started.

TOPOLOGY

Specifies to start the APPN topology agent component. When the APPN topology agent is started, the CMIP services component starts automatically if it is not already started.

CMIPSRV

Specifies to start the CMIP services component. If not already started, the CMIP services component starts automatically when the APPN accounting agent or APPN topology agent is started.

ALL   Specifies to start all components.

Syntax

The following parts of the command are the options. The options are separated from parameters by a required left parenthesis, with either one or more spaces or a comma between each option. The last option for a parameter must be followed by a right parenthesis. In the examples for this command, `FOREGROUND` and `MAXBUFRECS` are the options.

FOREGROUND

Causes the APPN accounting agent, APPN topology agent, and CMIP services components to be started in foreground sessions. When started in the foreground, a component is given a visible window on the OS/2 desktop. The APPN accounting agent and APPN topology agent each have one window. The CMIP services component has three separate windows, one each for the BNTINFRA.EXE, BNTRGSN.EXE, and BNTDISCR.EXE programs.

When started as a background session (the default), a component has no appearance on the desktop. No entry appears on the Window List, nor is an icon displayed for the component.

See "Foreground or Background Operation" on page 17 for more information.

MAXBUFRECS=_n_

Specifies the maximum number of completed accounting records each accounting management control object (AMCO) can hold in its file buffer, where _n_ is the number of records for each AMCO's logical buffer. The number of records specified for this option is used as the maximum logical buffer size for all AMCOs.

You can specify any number in the range of 100–65535 records. The default is 1000 records.

How Large? Each accounting record is 512 bytes. Make sure you do not specify a MaxBufRecs value that is too large for your installation. For example, 10000 records requires a file of approximately 5 MB.

See and "Setting Maximum Logical Buffer Size for AMCOs" on page 17 for more information.

Results

The MAXBUFRECS option is only valid when starting the APPN accounting agent component with the ACCOUNTING or ALL parameter.

When started, the APPN accounting agent component creates AMCOs again that were active when the APPN accounting agent was last stopped unless a reset accounting operation was performed. The APPN accounting agent also automatically starts all AMCOs listed in the BNTACCT.INI APPN accounting agent initialization file. AMCOs that are created again or automatically started begin collecting accounting information immediately.

Examples

The following are examples of APPNMGMT START command usage:

- To start all components in the background using the default value for the MAXBUFRECS option, enter:

  ```
  APPNMGMT START ALL
  ```

- To start all components as foreground sessions and set the maximum logical buffer size of each AMCO to 2000, enter:

  ```
  APPNMGMT START ALL(FOREGROUND MAXBUFRECS=2000)
  ```

- To start the CMIP services component as a foreground session and the APPN topology agent component in the background, enter:

  ```
  APPNMGMT START CMIPSRV(FOREGROUND) TOPOLOGY
  ```

- To start the APPN topology agent component in the background, the APPN accounting agent component in the background with a maximum logical buffer size of 2000, and the CMIP services component as a foreground session, enter:

  ```
  APPNMGMT START TOPOLOGY() ACCOUNTING(MAXBUFRECS=2000) CMIPSRV(FOREGROUND)
  ```
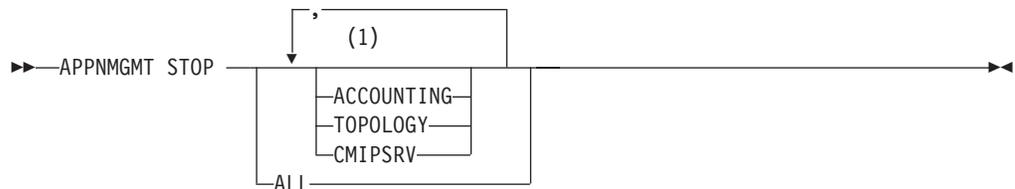
APPNMGMT STOP

Purpose of Command

Stops one or more components or stops all components.

Comments

APPNMGMT STOP

```
                              ,
                          (1)
►►──APPNMGMT STOP ──┬──┬───────────┬──┬──────────────────►◄
                    ▲  ├─ACCOUNTING─┤
                    │  ├─TOPOLOGY───┤
                    │  └─CMIPSRV────┘
                    └─ALL───────────┘
```

Notes:

1   Although only a comma is shown as a repetition separator, one or more spaces can be used instead of the comma; either is valid.

Operand Descriptions

ACCOUNTING
Specifies to stop the APPN accounting agent component.

TOPOLOGY
Specifies to stop the APPN topology agent component.

CMIPSRV
Specifies to stop the CMIP services component. If there are no remaining active agents, the CMIP services component stops automatically when you stop the APPN accounting agent or APPN topology agent. Therefore, you normally do not need to explicitly stop the CMIP services component.

ALL   Specifies to stop all components.

Results

When started, the APPN agent components run until you explicitly stop them.

Stopping CMIP services causes the APPN topology agent to stop. The APPN accounting agent continues collecting data, but is unable to respond to manager requests. Also, if both the APPN accounting agent and APPN topology agent are stopped, CMIP services is not needed and stops.

Examples

The following are examples of APPNMGMT STOP command usage:

- To stop only the APPN topology agent component, enter:
  ```
  APPNMGMT STOP TOPOLOGY
  ```
- To stop all components, enter:
  ```
  APPNMGMT STOP ALL
  ```

APPNMGMT TRACE

Purpose of Command

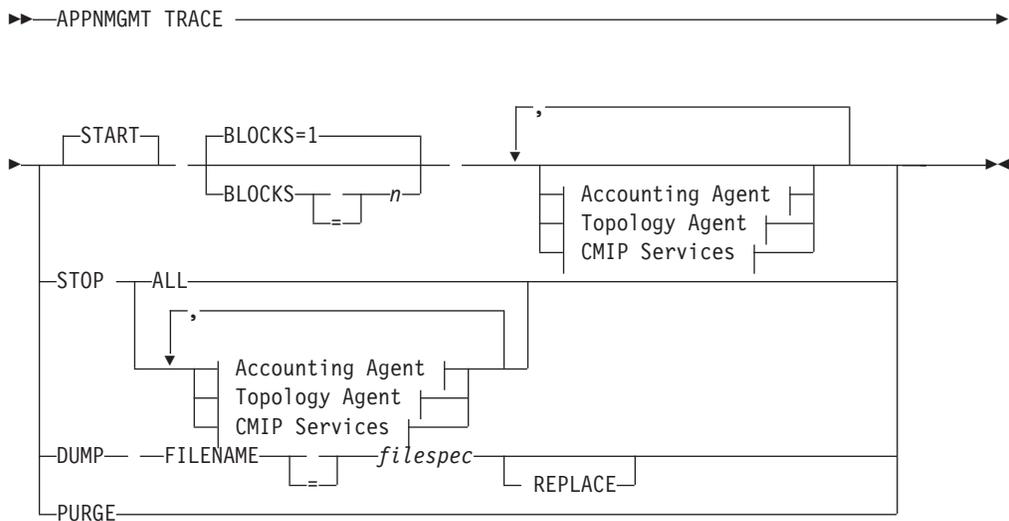Controls tracing by performing the following functions:
- Start tracing for one or more components or start tracing for all components.
- Stop tracing for one or more components or stop tracing for all components.
- Dump records in the trace buffer to a file.
- Purge the trace buffer from memory.

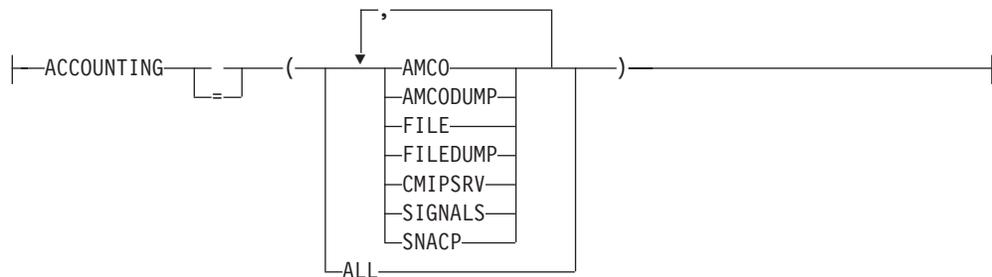You can specify individual trace categories for each component.

When APPNMGMT TRACE is issued without a START, STOP, DUMP, or PURGE parameter, APPNMGMT TRACE START is assumed.

See "Controlling Trace Functions" on page 18 for more information.

APPNMGMT TRACE

```
►►──APPNMGMT TRACE ──────────────────────────────────────────────►
```

```
                                                      ,
        ┌─START─┐  ┌─BLOCKS=1───────┐         ┌────────────────────┐
   ►────┴───────┴──┤                │─────────┼──┤ Accounting Agent ├──┼───►◄
                   └─BLOCKS─┬───┬─n─┘          │ ┤ Topology Agent   ├─ │
                           └─=─┘               └─┤ CMIP Services    ├──┘

      ├─STOP ──ALL───────────────────────────────────────────┐
      │        ┌─────────────────────────────┐               │
      │        │              ,               │               │
      │        ┼──┤ Accounting Agent ├────────┼               │
      │           │ ┤ Topology Agent   ├──┐    │               │
      │           └─┤ CMIP Services    ├──┘    │               │
      ├─DUMP──┬─FILENAME─┬───┬──filespec──┬──────────┬───────┤
      │                 └─=─┘             └─REPLACE──┘        │
      └─PURGE───────────────────────────────────────────────┘
```
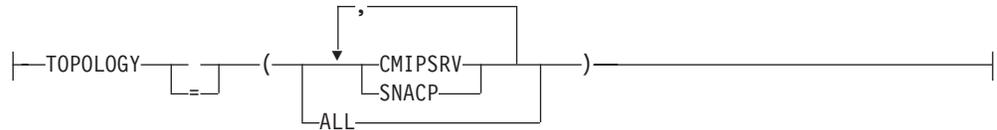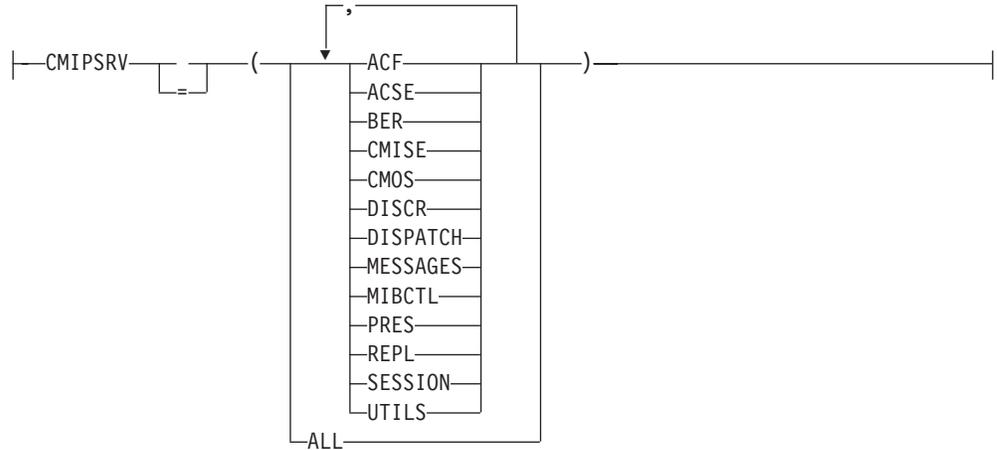
Accounting Agent:

```
                              ,
              ┌─────────────────────────┐
   ├──ACCOUNTING─┬───┬──(──┼──AMCO──────┼──)─────────────────┤
                └─=─┘       │ ─AMCODUMP─ │
                           │ ─FILE───── │
                           │ ─FILEDUMP─ │
                           │ ─CMIPSRV── │
                           │ ─SIGNALS── │
                           │ ─SNACP──── │
                           └─ALL────────┘
```

Topology Agent:

```
                            ,
              ┌──────────────────────┐
├─TOPOLOGY─┬───┬─▼─┬──CMIPSRV──┬──────────┬─)───────────────────────────┤
          └─=─┘   │  └─SNACP───┘          │
                  └──ALL──────────────────┘
```

CMIP Services:

```
                          ,
              ┌──────────────────────┐
├─CMIPSRV─┬───┬─▼─┬──ACF──────┬─)─────────────────────────────┤
         └─=─┘   │  ├─ACSE─────┤
                 │  ├─BER──────┤
                 │  ├─CMISE────┤
                 │  ├─CMOS─────┤
                 │  ├─DISCR────┤
                 │  ├─DISPATCH─┤
                 │  ├─MESSAGES─┤
                 │  ├─MIBCTL───┤
                 │  ├─PRES─────┤
                 │  ├─REPL─────┤
                 │  ├─SESSION──┤
                 │  └─UTILS────┘
                 └──ALL────────┘
```

Notes:

1   Although only a comma is shown as a repetition separator, one or more spaces can be used instead of the comma; either is valid.

Operand Descriptions

START
Specifies to start tracing for one or more components. If the STOP, DUMP, or PURGE parameter is not used on the APPNMGMT TRACE command, START is assumed.

BLOCKS=n
Specifies the number of trace blocks to use for the trace buffer, where n is the number of blocks to allocate. Each trace block occupies 65536 bytes of main memory.

You can specify any number in the range of 1–32. The default is 1.

Note: When the trace buffer fills up, older trace records are overwritten as new records are accumulated. If trace records are being overwritten, increase the number of blocks allocated to the trace buffer.

See "Setting Trace Blocks" on page 23 for more information.

ACCOUNTING
Specifies to start or stop tracing for the APPN accounting agent component, depending on whether the START or STOP parameter is used with APPNMGMT TRACE.

TOPOLOGY

Specifies to start or stop tracing for the APPN topology agent component, depending on whether the START or STOP parameter is used with APPNMGMT TRACE.

CMIPSRV

Specifies to start or stop tracing for the CMIP services component, depending on whether the START or STOP parameter is used with APPNMGMT TRACE.

STOP Specifies to stop tracing for one or more components.

ALL Specifies to stop tracing for all components at once, when the STOP parameter is used with APPNMGMT TRACE. If no components are specified, ALL is assumed.

DUMP Specifies to format trace records collected in the trace buffer and to write them to a file. The DUMP parameter is valid only after all tracing is stopped.

Note: The trace buffer is purged after trace records are written to the file.

FILENAME

Specifies the name of the file to receive the trace records, where *filespec* indicates the drive, path, and file name. Any valid OS/2 file name can be specified. The drive and path in *filespec* are optional. If you are using APPNMGPM, the drive and path default to the SET APPNMGMT environment variable set during installation. The default installation sets this variable to C:\IBMBNT. If you are using an OS/2 command, the drive and path default to the current drive and current working directory on the drive.

REPLACE

Specifies to replace the trace dump file indicated by *filespec*, if it exists. If the file does not exist, the trace facility creates it.

PURGE

Specifies to delete all trace records in the trace buffer from memory.

Syntax

The following parts of the command are options that indicate the event categories to be traced. The options are grouped by component.

Options are separated from parameters by a required left parenthesis with either one or more spaces or a comma between each option. The last option for a parameter must be followed by a right parenthesis.

APPN Accounting Agent Event Options:

ALL Starts or stops tracing for all APPN accounting agent event categories.

AMCO

Starts or stops tracing for execution of the accounting management control object (AMCO) finite state machine.

AMCODUMP

Starts or stops a snapshot of the AMCO control block for each AMCO trace entry.

FILE Starts or stops tracing for execution of the APPN accounting agent's file management services (FMS) element.

FILEDUMP
    Starts or stops a snapshot of the FMS control blocks for each FILE trace entry.

CMIPSRV
    Starts or stops tracing for all calls from the APPN accounting agent to CMIP services, along with all data sent and received.

SIGNALS
    Starts or stops tracing for all APPN accounting agent inter-component command signals and response signals.

SNACP
    Starts or stops tracing for all calls from the APPN accounting agent to the APPN control point (Communications Manager/2), along with all data sent and received.

APPN Topology Agent Event Options:

ALL   Starts or stops tracing for all APPN topology agent event categories.

CMIPSRV
    Starts or stops tracing for all calls from the APPN topology agent to CMIP services, along with all data sent and received.

SNACP
    Starts or stops tracing for all calls from the APPN topology agent to the APPN control point (Communications Manager/2), along with all data sent and received.

CMIP Services Event Options:

ALL   Starts or stops tracing for all CMIP services event categories.

ACF   Starts or stops tracing for interactions in the association control function (ACF).

ACSE Starts or stops tracing for interactions in the association control service element (ACSE).

BER   Starts or stops tracing for interactions in the basic encoding rules (BER) element.

CMISE
    Starts or stops tracing for interactions in the common management information service element (CMISE).

CMOS Starts or stops tracing for interactions in the CMIP-over-SNA (CMOS) element.

DISCR
    Starts or stops tracing for interactions in the discriminator element.

DISPATCH
    Starts or stops tracing for interactions in the CMIP services dispatcher.

MESSAGES
    Starts or stops tracing for messages issued by CMIP services. These messages are also logged to the OS/2 system error log.

MIBCTL
    Starts or stops tracing for interactions in the management information base control (MIBCTL) element.

PRES Starts or stops tracing for interactions in the presentation layer.

REPL Starts or stops tracing for interactions in the replication element.

SESSION
> Starts or stops tracing for interactions in the session layer.

UTILS Starts or stops tracing for interactions in the utility functions.

Examples

The following are examples of APPNMGMT TRACE command usage:

- To start tracing for all APPN accounting agent event categories and the SNACP APPN topology agent event category using 4 blocks for the trace buffer, enter:

  `APPNMGMT TRACE START BLOCKS=4 ACCOUNTING(ALL) TOPOLOGY(SNACP)`

- To stop all tracing, enter the following:

  `APPNMGMT TRACE STOP`

- To stop tracing for all APPN accounting agent event categories and the SNACP APPN topology agent event category, enter the following:

  `APPNMGMT TRACE STOP ACCOUNTING(ALL) TOPOLOGY(SNACP)`

- To stop tracing for all APPN accounting agent event categories and the ACF and CMOS CMIP services event categories, enter the following:

  `APPNMGMT TRACE STOP ACCOUNTING(ALL) CMIPSRV(ACF CMOS)`

- To dump trace records to a file named `MYFILE.TRC` in the root directory of the C drive, enter the following:

  `APPNMGMT TRACE DUMP FILENAME=C:\MYFILE.TRC`

- To dump trace records to a file named `MYFILE.TRC` on the C drive and replace an existing file with the same name, enter the following:

  `APPNMGMT TRACE DUMP FILENAME=C:\MYFILE.TRC REPLACE`

- To dump trace records to a file named `MYFILE.TRC` on the current drive and directory, enter the following:

  `APPNMGMT TRACE DUMP FILENAME=MYFILE.TRC`

- To delete all trace records in the trace buffer, enter the following:

  `APPNMGMT TRACE PURGE`

APPNMGMT DISPLAY

Purpose of Command

Displays the status of the APPN accounting agent, APPN topology agent, and CMIP services components.

Comments

APPNMGMT DISPLAY

```
                                 ┌─STATUS─┐
►►──APPNMGMT DISPLAY ────────────┴────────┴──────────────────────────────────────►◄
```

Operand Descriptions

STATUS

Specifies to display the status of components.

Results

You can use this command to query the status of components running in a background session.

The following status values are displayed:

active The component is started and ready for use.

inactive

The component has not been started. Start the component for it to become usable.

unusable

The component is not usable because it did not complete initialization. In addition, CMIP services is unusable when at least one of its three programs is not active.

Note: An unusable status can result from an incomplete initialization. One cause of incomplete initialization of CMIP services is stopping CMIP services before it is active. Closing one of the three CMIP services program windows, which are accessible during foreground operation, also causes an unusable status.

To make an unusable component active, stop and then restart the component.

See "Stopping Components" on page 18 and "Starting Components" on page 16. To make an unusable component inactive, stop the component.

Examples

The following are examples of APPNMGMT DISPLAY command usage:

*   To display the status of components, enter one of the following commands. Both commands display the same results:

```
APPNMGMT DISPLAY

APPNMGMT DISPLAY STATUS
```

Typical screen output:

```
Status of topology agent component   : inactive
Status of accounting agent component : active
Status of CMIP services component    : active
```

APPNMGMT RESET ACCOUNTING

Purpose of Command

Deletes all accounting records and AMCO files stored in the accounting work directory. Files with the extensions .AMC, .BAK, .NDX, and .DAT are deleted. This command does not affect the BNTACCT.INI APPN accounting agent initialization file or the trace files.

Note: If you delete files in the accounting work directory either manually or with another procedure, do not delete the BNTACCT.INI APPN accounting agent initialization file. For more information about the BNTACCT.INI file, see "Accounting Initialization File (BNTACCT.INI)" on page 12.

See "Resetting the Accounting Agent Data Files" on page 25 for more information.

Comments

```
►►──APPNMGMT RESET ACCOUNTING──────────────────────────────────────────►◄
```

Operand Descriptions

ACCOUNTING
Specifies to reset the APPN accounting agent data files.

Results

Use this command only if you want to discard the accounting records collected by the previous run of the APPN accounting agent. The APPN accounting agent component must be inactive to use this command.

Examples

The following is an example of using the APPNMGMT RESET ACCOUNTING command:

- To delete all accounting records and AMCO files stored in the accounting work directory, enter:

```
APPNMGMT RESET ACCOUNTING
```

Abbreviations for APPNMGMT Command Parameters and Options

Table 7 shows the minimum abbreviations and the synonyms (in parentheses) you can use for the APPNMGMT command parameters and options.

Table 7. APPNMGMT Abbreviations and Synonyms

Keyword	Minimum Abbreviation (Synonym)
ACCOUNTING	ACC (ACCT)
ACF	ACF
ACSE	ACS
ALL	ALL
AMCO	AMCO

APPNMGMT Command Abbreviations

Table 7. APPNMGMT Abbreviations and Synonyms (continued)

Keyword	Minimum Abbreviation (Synonym)
AMCODUMP	AMCOD
BER	BER
BLOCKS	BLO (BLKS)
CMIPSRV	CMIP
CMISE	CMISE
CMOS	CMO
DISCR	DISCR
DISPATCH	DISPA
DISPLAY	DISPL
DUMP	DUM
FILE	FILE
FILEDUMP	FILED
FILENAME	FILEN
FOREGROUND	FOR
MAXBUFRECS	MAX
MESSAGES	MESS (MSG)
MIBCTL	MIB
PRES	PRE
PURGE	PUR
REPL	REP
REPLACE	REPLA
RESET	RES
SESSION	SES
SIGNALS	SIG
SNACP	SNA
START	STAR
STATUS	STAT
STOP	STO
TOPOLOGY	TOP
TRACE	TRA
UTILS	UTI

Appendix B. Messages

All APPNTAA messages start with the prefix BNT.

Note: APPNTAA manager messages begin with the prefix FLB; refer to *Tivoli NetView for OS/390 Messages and Codes*.

To see the complete error message help while using the APPNTAA, at the OS/2 window command prompt enter the following:

```
HELP BNTxxxx
```

where *xxxx* is the 4-digit message number displayed on the OS/2 window or in the message area of the APPN Management Control window. Help text for the message is displayed in the OS/2 window.

To see extended help for information messages (messages without numbers), see "Viewing the Message Log" on page 33.

Message Descriptions

BNT0002I   CMIP services program '*programname*' is initializing.

Explanation: The CMIP services program is beginning its initialization processing.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: Message BNT0003I is logged in the message log to verify that initialization has completed successfully.

BNT0003I   CMIP services program '*programname*' successfully completed initialization.

Explanation: The CMIP services program has completed initialization processing.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: When all three programs are active, CMIP services is ready to process work.

BNT0004E   Initialization of CMIP services program '*programname*' failed.

Explanation: The CMIP services program cannot complete its initialization because of a processing error.

Message Variables:

programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: The CMIP services program logs an error in the system error log and then stops.

Response: See the system error log to get information to help you diagnose and correct the problem. Restart the component. If you cannot restart the component, contact IBM Service.

BNT0005E   CMIP services program '*programname*' cannot open input file '*filename*'.

Explanation: The CMIP services program cannot open the initialization file.

The probable cause of the error is:
- The file does not exist.
- An error occurred when attempting to open the file.
- The initialization file is not in the current working directory.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

filename
> The name of the file that cannot be opened.

System Action: The CMIP services program logs an error in the system error log, and then stops.

Response: See the system error log to get information to help you diagnose and correct the problem. Restart the component. If you cannot restart the component, contact IBM Service.

BNT0006E   **CMIP services program '*programname*' cannot read input file '*filename*'.**

Explanation: The CMIP services program cannot read the initialization file. Either the file is unreadable or the file is damaged.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

filename
> The name of the file that cannot be read.

System Action: The CMIP services program logs an error in the system error log and then stops.

Response: See the system error log to get information to help you diagnose and correct the problem. Restart the component. If you cannot restart the component, contact IBM Service. If the file is damaged, install APPNTAA again.

BNT0007E   **Insufficient memory for CMIP services program '*programname*' to process request.**

Explanation: The CMIP services program cannot obtain enough memory to process a request from another component or process an incoming message.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: Processing of the request or message is canceled. The CMIP services program attempts to log an error in the system error log. If the error occurred during initialization, the CMIP services program stops.

Response: This condition can be temporary. To obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. Change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

Restart the CMIP services component using APPN Management Control.

BNT0008E   **CMIP services program '*programname*' encountered a processing error.**

Explanation: In the course of its processing, the CMIP services program encountered an internal processing error. This message is issued for both normal and abnormal shutdown of the indicated CMIP services program.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: The CMIP services program stops. If *programname* is BNTINFRA.EXE, CMIP services programs BNTDISCR and BNTRGSN and the topology agent component also shut down. The accounting agent component does not shut down when BNTINFRA shuts down; the accounting agent component continues to collect any specified accounting records until the accounting buffers are filled.

Response: Contact IBM Service. If accounting data collection is no longer wanted, stop the accounting agent component.

BNT0009I   **CMIP services program '*programname*' is shutting down.**

Explanation: This message is issued in response to a request to stop the CMIP services program. This message is issued for both normal and abnormal shutdown of the indicated CMIP services program.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: If *programname* is BNTINFRA.EXE, CMIP services programs BNTDISCR and BNTRGSN and the topology agent component also shut down. The accounting agent component does not shut down when BNTINFRA shuts down; the accounting agent component continues to collect any specified accounting records until the accounting buffers are filled. Message BNT0010I verifies that shutdown completed normally.

Response: If accounting data collection is no longer wanted, stop the accounting agent component.

BNT0010I   **CMIP services program '*programname*' successfully completed shutdown.**

Explanation: The CMIP services program has successfully shut down. This message is issued for both normal and abnormal shutdown of the indicated CMIP services program.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: If *programname* is BNTINFRA.EXE, CMIP services programs BNTDISCR and BNTRGSN and the topology agent component also shut down. The

accounting agent component does not shut down when BNTINFRA shuts down; the accounting agent component continues to collect any specified accounting records until the accounting buffers are filled.

Response: If accounting data collection is no longer wanted, stop the accounting agent component.

BNT0012E CMIP services program '*programname*' was started improperly.

Explanation: The CMIP services program was started without using APPNMGMT or APPNMGPM.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: Initialization fails.

Response: Start the CMIP services component using APPNMGMT or APPNMGPM.

BNT0013E CMIP services program '*programname*' was started improperly.

Explanation: The CMIP services program was started without using APPNMGMT or APPNMGPM.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: Initialization fails.

Response: Start the CMIP services component using APPNMGMT or APPNMGPM.

BNT0014E CMIP services program '*programname*' was started improperly.

Explanation: The CMIP services program was started without using APPNMGMT or APPNMGPM.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: Initialization fails.

Response: Start the CMIP services component using APPNMGMT or APPNMGPM.

BNT0016E CMIP services program '*programname*' was started improperly.

Explanation: The CMIP services program was started without using APPNMGMT or APPNMGPM; or Communications Manager/2 was not running.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: Initialization fails.

Response: Ensure Communications Manager/2 is running. Start the CMIP services component using APPNMGMT or APPNMGPM.

BNT0019E CMIP services program '*programname*' encountered an incorrect ASN.1 module.

Explanation: During its initialization processing, the CMIP services program encountered an ASN.1 module that is incorrect.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: The CMIP services program stops.

Response: Install APPNTAA again.

BNT0020E Initialization of CMIP services program '*programname*' failed.

Explanation: The CMIP services program cannot complete its initialization because of a processing error.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: The CMIP services program logs an error in the system error log and then stops.

Response: See the system error log to get information to help you diagnose and correct the problem. Restart the component. If you cannot restart the component, contact IBM Service.

BNT0026E CMIP services program '*programname*' received an error indication. See the system error log for details.

Explanation: The specified CMIP services program received an error indication. The specific error information is logged to the system error log.

Message Variables:
programname
> The name of the CMIP services program. The program names are BNTINFRA, BNTRGSN, and BNTDISCR.

System Action: Related errors are logged in the

system error log and the CMIP services program continues processing.

Response: See the system error log to get information to help you diagnose and correct the problem. Restart the component. If you cannot restart the component, contact IBM Service.

BNT0027W CMIP services cannot complete initialization. SNA subsystem has not been started by Communications Manager/2. Will retry.

Explanation: During initialization, the CMIP services component failed to connect to the SNA subsystem of Communications Manager/2 and tries again to establish the connection. Up to six retries at 30-second intervals are made to attempt to successfully connect CMIP services to the SNA subsystem of Communications Manager/2.

One possible cause is that Communications Manager/2 is not running or is not fully initialized.

System Action: CMIP services begins retrying after the first 30-second interval for up to 6 tries.

Response: No action is necessary in response to this message. If the error is because the SNA subsystem has not completed its initialization, the CMIP services retry attempts should succeed once the initialization has completed. If the CMIP services component fails to connect to the SNA subsystem, it issues message BNT0016E. Ensure that Communications Manager/2 is running. See the system error log to diagnose the error.

BNT0100E The APPNMGMT command requires additional parameters.

Explanation: The APPNMGMT program could not complete the command because of missing parameters.

System Action: The command fails.

Response: Check and correct the syntax for the APPNMGMT command. If you are not sure of the correct syntax for the command, see "Appendix A. APPNMGMT Command Syntax" on page 35.

BNT0101E Unable to find the CMIP services main program.

Explanation: An attempt to start the CMIP services component failed because one or more of its executable modules could not be found in the path specified by the APPNMGMT environment variable or, if the APPNMGMT environment variable is not defined, in the search path specified by the PATH system environment variable.

System Action: The CMIP services component is not started.

Response: Check the APPNMGMT environment

variable, if defined, to be sure the variable includes the directory where the BNTINFRA.EXE, BNTDISCR.EXE, and BNTRGSN.EXE programs are located. If the APPNMGMT environment variable is not defined, check the PATH system environment variable in the CONFIG.SYS file to be sure it includes the directory where these programs are located.

BNT0102E Unable to start tracing; return code is _rc_.

Explanation: Tracing cannot be started. The return code indicates the cause of the error.

Message Variables:
rc The return code issued by the APPNMGMT or APPNMGPM program. The return codes are:
  5 = Trace blocks could not be allocated (not enough memory)
  6 = BNTTRACE.EXE background trace program could not be found in the search path specified by the PATH system environment variable or the APPNMGMT environment variable

System Action: Tracing is not started.

Response: Start the trace again with fewer trace blocks. Check the location of the BNTTRACE.EXE program to be sure it is in a directory specified by the PATH system environment variable in the CONFIG.SYS file or on the APPNMGMT environment variable.

BNT0103E The trace buffer cannot be dumped or purged while tracing is active.

Explanation: An attempt was made to purge or dump the trace buffer while tracing was still active.

System Action: The command is ignored and no trace dump or purge operation is performed.

Response: Stop all tracing and try the dump or purge operation again.

BNT0104E The number of trace blocks is not between 1 and 32; 1 is assumed.

Explanation: A trace start operation was attempted with an incorrect number of trace blocks. The number of trace blocks must be a value between 1 and 32.

System Action: The incorrect value is ignored and the trace start operation is started with the number of trace blocks set to 1.

Response: If you need more than 1 trace block, stop all tracing and restart the trace start operation with a correct number of trace blocks.

BNT0105E   Component '*componentname*' has an
inappropriate trace category '*category*'.

Explanation: A trace start or stop operation was
requested with a trace category inappropriate for the
specified component.

Message Variables:
componentname
        The name of the component.
category
        The inappropriate trace category.

System Action: The trace start or stop operation for
the inappropriate trace category is ignored, and other
correct combinations of component and category are
processed.

Response: Enter the command again with the correct
trace category. If you are not sure of the correct trace
categories, see "APPNMGMT TRACE" on page 40 for a
list of trace categories for the component.

BNT0106E   Unable to query the current drive.

Explanation: While attempting to start one of the
components, the operating system could not query the
current drive. The start operation attempts to change to
the drive and directory where the component resides,
start the component, and return to the initial drive and
directory. The query current drive function is used to
record the initial drive.

System Action: The start operation fails.

Response: If you start APPNMGMT or APPNMGPM
when the current drive is a diskette, leave the diskette
inserted in the drive while the APPNMGMT or
APPNMGPM program is running. If this message
continues to display, change to another valid drive and
restart the APPNMGMT or APPNMGPM program.

BNT0107E   Unable to query the current directory.

Explanation: While attempting to start one of the
components, the operating system could not query the
current directory. The start operation attempts to change
to the drive and directory where the component resides,
start the component, and return to the initial drive and
directory. The query current directory function is used to
record the initial directory.

System Action: The start operation fails.

Response: If you start APPNMGMT or APPNMGPM
when the current directory is on a diskette, leave the
diskette inserted in the drive while the APPNMGMT or
APPNMGPM program is running. If this message
continues to display, change to another valid drive and
restart the APPNMGMT or APPNMGPM program.

BNT0108E   Unable to select the drive for
'*programname*'.

Explanation: The APPNMGMT or APPNMGPM
program cannot select the drive where the program
resides.

Message Variables:
programname
        The drive, path, and name of the program.

System Action: The component associated with the
program is not started.

Response: Ensure the drive where the program
resides is selectable.

BNT0109E   Unable to change to the directory for
'*programname*'.

Explanation: The APPNMGMT or APPNMGPM
program cannot change to the directory where the
program resides.

Message Variables:
programname
        The drive, path, and name of the program.

System Action: The component associated with the
program is not started.

Response: Ensure the directory exists and is
accessible.

BNT0110E   Unable to start CMIP services program
'*programname*'; return code is *rc*.

Explanation: The APPNMGMT or APPNMGPM
program cannot start the CMIP services program.

Message Variables:
programname
        The name of the CMIP services program.
rc   The return code from the DosStartSession
        OS/2 control program function call.

System Action: The CMIP services program fails to
start. Other CMIP services programs might start or
already be started.

Response: Find the return code value in Appendix B
of the *OS/2 Control Program Programming Reference* in
the *IBM Operating System/2 Technical Library* ,
10G3356, to identify and fix the problem. If you do not
have access to this publication, call IBM Service. Start
the CMIP services component. If the program continues
to not start, ensure the referenced program is not
corrupted. If the file is damaged, install APPNTAA again.

BNT0111E   Unable to return to the current drive
and directory.

Explanation: After starting a component, the
APPNMGMT or APPNMGPM program could not return
to the drive and directory that was current before the

start operation. For example, if you start APPNMGPM or APPNMGMT from a diskette, and then remove the diskette, you cannot enter commands without reinserting the diskette.

System Action: The initial command completes. When the APPNMGMT or APPNMGPM program stops, the drive and directory might be different from the drive and directory that was current before the start operation.

Response: If you start APPNMGMT or APPNMGPM when the current directory is on a diskette (started from a diskette drive), leave the diskette inserted in the drive while the APPNMGMT or APPNMGPM program is running.

BNT0112E   Unable to open the trace dump file.

Explanation: The APPNMGMT or APPNMGPM trace dump procedure could not open the specified output file.

The probable cause of the error is:
- Write access to the file, directory, or drive is denied.
- No more OS/2 directory entries are allowed.

System Action: The trace dump procedure fails.

Response: Specify another trace dump file or directory. If you are dumping to diskette, ensure the write-protect tab allows writing. If you are dumping to a LAN server drive, ensure you have write privileges on the target drive and directory.

BNT0113E   Trace I/O error occurred while dumping the trace buffer to a file.

Explanation: An I/O error occurred while the trace dump procedure was dumping the trace buffer to a file.

Probable causes of the error include:
- An incorrect OS/2 file name was specified.
- The drive is full.

System Action: The trace dump operation stops abnormally.

Response: Ensure you specify a valid OS/2 file name. Specify another trace dump file or directory. If you are dumping to diskette, Ensure the write-protect tab allows writing. If you are dumping to a LAN server drive, make sure you have write privileges on the target drive and directory.

BNT0114I   Starting the CMIP services program '*programname*'.

Explanation: The CMIP services program is starting. When APPNMGMT or APPNMGPM starts the topology agent or accounting agent, it also starts the CMIP services component automatically if it is not already started.

Message Variables:

programname
> The drive, path, and name of the CMIP services program. The CMIP services programs are:

BNTINFRA.EXE
> The CMIP services main program.

BNTRGSN.EXE
> The CMIP services system registration program.

BNTDISCR.EXE
> The CMIP services discriminator object program.

System Action: The CMIP services program loads and starts. Message BNT0002I is logged in the message log to verify that initialization has started.

Response: Use this message to verify that the correct directory and program are being used to start the CMIP services component.

BNT0115I   Starting the accounting agent program '*programname*'.

Explanation: APPNMGMT or APPNMGPM is starting the accounting agent program.

Message Variables:
programname
> The drive, path, and name of the accounting agent program.

System Action: The accounting agent program loads and starts. Message BNT0201I is logged in the message log to verify that initialization has started.

Response: Use this message to verify that the correct directory and program are being used to start the accounting agent component.

BNT0116I   Starting the topology agent program '*programname*'.

Explanation: APPNMGMT or APPNMGPM is starting the topology agent program.

Message Variables:
programname
> The drive, path, and name of the topology agent program.

System Action: The topology agent program loads and starts. Message BNT0402I is logged in the message log to verify that initialization has started.

Response: Use this message to verify that the correct directory and program are being used to start the topology agent component.

BNT0117E   Unable to find the APPNMGPM program.

Explanation: An attempt to start the APPNMGPM program failed because its APPNMGPM.EXE executable module could not be found in the search path specified by the APPNMGMT environment variable or, if the APPNMGMT environment variable is not defined, in the search path specified by the PATH system environment variable.

System Action: The APPNMGPM program is not started.

Response: Check the APPNMGMT environment variable, if defined, to be sure the variable includes the directory where the APPNMGPM.EXE program is located. If the APPNMGMT environment variable is not defined, check the PATH system environment variable in the CONFIG.SYS file to be sure it includes the directory where this program is located.

BNT0118I   Stopping the accounting agent component.

Explanation: The APPNMGMT or APPNMGPM program is stopping the accounting agent component.

System Action: The accounting agent component stops.

BNT0119I   Stopping the topology agent component.

Explanation: The APPNMGMT or APPNMGPM program is stopping the topology agent component.

System Action: The topology agent component stops.

BNT0120E   Unable to purge the trace buffer; return code is *rc*.

Explanation: The trace purge operation failed because either a DosFreeSeg operation or a DosGetSeg operation failed.

Message Variables:
rc   The return code from the DosFreeSeg or DosGetSeg OS/2 control program function call.

System Action: The trace purge operation does not correctly purge the trace buffers. Storage allocated to the trace buffers might not be returned to OS/2.

Response: Find the return code value in Appendix B of the *OS/2 Control Program Programming Reference* in the *IBM Operating System/2 Technical Library* , 10G3356, to identify and fix the problem. If you do not have access to this publication, call IBM Service.

BNT0121I   The accounting work directory is '*dirname*'.

Explanation: During its initialization, the accounting agent indicates the accounting work directory it uses.

Message Variables:
dirname
            The name of the accounting work directory.

System Action: The accounting agent continues its initialization. Message BNT0202I is logged to verify that initialization has completed successfully.

BNT0122E   Unable to start the accounting agent component; return code is *rc*.

Explanation: The APPNMGMT or APPNMGPM program cannot start the accounting agent component.

Message Variables:
rc   The return code from the DosStartSession OS/2 control program function call.

System Action: The accounting agent component fails to start.

Response: Find the return code value in Appendix B of the *OS/2 Control Program Programming Reference* in the *IBM Operating System/2 Technical Library* , 10G3356, to identify and fix the problem. If you do not have access to this publication, call IBM Service. Start the accounting agent again. If you are unable to start the component, contact IBM Service.

BNT0123E   Unable to find the accounting agent program.

Explanation: An attempt to start the accounting agent component failed because the BNTACCT.EXE program could not be found in the search path specified by the APPNMGMT environment variable or, if the APPNMGMT environment variable is not defined, in the search path specified by the PATH system environment variable.

System Action: The accounting agent component is not started.

Response: Check the APPNMGMT environment variable, if defined, to be sure the variable includes the directory where the BNTACCT.EXE program is located. If the APPNMGMT environment variable is not defined, check the PATH system environment variable in the CONFIG.SYS file to be sure it includes the directory where this program is located. Correct the path and start the accounting agent.

BNT0124E   The accounting agent data files cannot be reset while the accounting agent component is active.

Explanation: An attempt was made to reset the accounting agent data files while the accounting agent

was still active. The reset operation is only valid when the accounting agent is inactive.

System Action: The command is ignored.

Response: Stop the accounting agent component and try the reset operation again.

BNT0125I   The accounting agent data files in directory '*dirname*' have been reset.

Explanation: The APPNMGMT or APPNMGPM program has reset the accounting agent data files in the directory. All data in the existing files has been deleted.

Message Variables:
dirname
        The name of the directory containing the accounting agent data files.

System Action: Accounting agent data files in the directory are reset.

BNT0126E   Unable to stop the CMIP services component.

Explanation: The APPNMGMT or APPNMGPM program cannot stop the CMIP services component.

System Action: The CMIP services component is not ended properly.

Response: Stop CMIP services again. If that fails, try closing the windows associated with the CMIP services component. The CMIP services programs are: BNTINFRA.EXE, BNTDISCR.EXE, and BNTRGSN.EXE. If the problem persists, contact IBM Service.

BNT0127I   The CMIP services component remains active until all components using it are stopped.

Explanation: The CMIP services component has not stopped automatically because the accounting agent or topology agent component is using it. When the last agent component is stopped, APPNMGPM or APPNMGMT attempts to stop CMIP services.

System Action: CMIP services remains active.

BNT0128E   The trace dump file already exists; use REPLACE option to overwrite it.

Explanation: The trace dump operation failed because the specified dump file already exists and the replace option was not specified.

System Action: The trace dump operation fails. No data is dumped to the file.

Response: Specify another trace dump file or use the replace option to overwrite the existing file.

BNT0129E   Unable to dump the trace buffer; return code is *rc*.

Explanation: An abnormal condition caused the trace dump operation to fail.

Message Variables:
rc   The return code issued by the APPNMGMT or APPNMGPM program. The return codes are:
        2 =   Dump file could not be opened
        3 =   Error writing data to the file
        5 =   Purge operation after the dump failed
        6 =   DosGetSeg operation failed

System Action: The trace dump operation fails. Some data might have been written to the file.

Response: Start the trace dump operation again. If the problem persists, contact your local support personnel.

BNT0130I   Stopping the CMIP services component.

Explanation: The CMIP services component is being stopped by the APPNMGMT or APPNMGPM program. Either CMIP services was stopped explicitly or an agent component was stopped and CMIP services had no more agent users.

System Action: The CMIP services component stops. Message BNT0009I is logged to verify that the component is stopping.

BNT0131I   The topology agent component is already active.

Explanation: An attempt was made to start the topology agent component when it was already active. Only one instance of the topology agent component can be active at one time.

System Action: The command is ignored.

BNT0132E   Unable to find the topology agent program.

Explanation: An attempt to start the topology agent component failed because the BNTTA.EXE program could not be found in the search path specified by the APPNMGMT environment variable or, if the APPNMGMT environment variable is not defined, in the search path specified by the PATH system environment variable.

System Action: The topology agent component is not started.

Response: Check the APPNMGMT environment variable, if defined, to be sure the variable includes the directory where the BNTTA.EXE program is located. If the APPNMGMT environment variable is not defined, check the PATH system environment variable in the CONFIG.SYS file to be sure it includes the directory

where this program is located. Correct the path and start the topology agent.

BNT0133E   Unable to start the topology agent component; return code is *rc***.**

Explanation: The APPNMGMT or APPNMGPM program cannot start the topology agent component.

Message Variables:
rc   The return code from the DosStartSession OS/2 control program function call.

System Action: The topology agent fails to start.

Response: Find the return code value in Appendix B of the *OS/2 Control Program Programming Reference* in the *IBM Operating System/2 Technical Library* , 10G3356, to identify and fix the problem. If you do not have access to this publication, call IBM Service. Start the topology agent again. If the component does not start, and you cannot determine the cause of the problem based on the return code value, contact IBM Service.

BNT0134I   The topology agent component is not active.

Explanation: The topology agent component is already inactive; stopping it is unnecessary.

System Action: The command is ignored.

BNT0135E   Unable to stop the topology agent component.

Explanation: The APPNMGMT or APPNMGPM program cannot stop the topology agent component, The topology agent component might already be inactive, but the APPNMGMT or APPNMGPM program did not detect it.

System Action: The stop operation fails.

BNT0136E   '*string***' is an unknown parameter for the APPNMGMT command.**

Explanation: The APPNMGMT program detected an unknown parameter. APPNMGMT expected a keyword, but the indicated text string was not a valid keyword or keyword abbreviation.

Message Variables:
string   The text string containing the unknown parameter.

System Action: The command is ignored.

Response: Issue the command again using the correct parameter. If you are not sure of the correct syntax for the command, see "Appendix A. APPNMGMT Command Syntax" on page 35.

BNT0137E   Syntax error at '*string***' on the APPNMGMT command.**

Explanation: The APPNMGMT program detected a syntax error at the indicated text string.

Message Variables:
string   The text string containing the syntax error.

System Action: The command is ignored.

Response: Issue the command again using the correct syntax. If you are not sure of the correct syntax for the command, see "Appendix A. APPNMGMT Command Syntax" on page 35.

BNT0138E   The MAXBUFRECS value is not between 100 and 65535; defaulting to 1000.

Explanation: While starting the accounting agent component, the APPNMGMT or APPNMGPM program encountered a value for the MAXBUFRECS parameter that was out of the acceptable range and has substituted the default value for the parameter.

System Action: The accounting agent is started with the default value of 1000 for the MAXBUFRECS parameter.

Response: If the default value is not correct, stop the accounting agent component and start it again with the desired value.

BNT0139I   The accounting agent component is already active.

Explanation: An attempt was made to start the accounting agent component when it was already active. Only one instance of the accounting agent component can be active at one time.

System Action: The command is ignored.

BNT0140E   Unable to find the CMIP services system registration program.

Explanation: An attempt to start the CMIP services component failed because the system registration program (BNTRGSN.EXE) could not be found in the search path specified by the APPNMGMT environment variable or, if the APPNMGMT environment variable is not defined, in the search path specified by the PATH system environment variable. The CMIP services component is unusable.

System Action: The CMIP services system registration program is not started.

Response: Check the APPNMGMT environment variable, if defined, to be sure the variable includes the directory where the BNTRGSN.EXE program is located. If the APPNMGMT environment variable is not defined, check the PATH system environment variable in the

CONFIG.SYS file to be sure it includes the directory where this program is located.

BNT0141E **Unable to find the CMIP services discriminator object program.**

Explanation: An attempt to start the CMIP services component failed because the discriminator object program (BNTDISCR.EXE) could not be found in the search path specified by the APPNMGMT environment variable or, if the APPNMGMT environment variable is not defined, in the search path specified by the PATH system environment variable. The CMIP services component is unusable.

System Action: The CMIP services discriminator object program is not started.

Response: Check the APPNMGMT environment variable, if defined, to be sure the variable includes the directory where the BNTDISCR.EXE program is located. If the APPNMGMT environment variable is not defined, check the PATH system environment variable in the CONFIG.SYS file to be sure it includes the directory where this program is located.

BNT0142I **The CMIP services component is not active.**

Explanation: The CMIP services component is already inactive; stopping it is unnecessary.

System Action: The command is ignored.

BNT0143I **Status of CMIP services component** **:** *status*

Explanation: This message shows the status of the CMIP services component in response to an APPNMGMT DISPLAY STATUS command.

Message Variables:
status The status of the CMIP services component. The status values are:

inactive
The component is not active. Start the component for it to become usable.

unusable
The component is not usable because it is initializing or one or more of its required programs is not active. Except during initialization, this is an abnormal situation that might require stopping and then restarting the CMIP services component.

active The component is ready for use.

Response: If the CMIP services component has a status of "inactive," start the component to make it usable. If the CMIP services component has a status of "unusable," wait until it has finished initializing.

Otherwise, stop and then restart the component to make it active.

BNT0144I **Status of topology agent component** **:** *status*

Explanation: This message shows the status of the topology agent component in response to an APPNMGMT DISPLAY STATUS command.

Message Variables:
status The status of the topology agent component. The status values are:

inactive
The component is not active. Start the component for it to become usable.

unusable
The component is initializing.

active The component is ready for use.

BNT0145I **Status of accounting agent component** **:** *status*

Explanation: This message shows the status of the accounting agent component in response to an APPNMGMT DISPLAY STATUS command.

Message Variables:
status The status of the accounting agent component. The status values are:

inactive
The component is not active. Start the component for it to become usable.

unusable
The component is initializing.

active The component is ready for use.

BNT0146I **Trace used** *%1* **of** *%2* **blocks and wrapped** *%3* **times.**

Explanation: This informational message is placed at the beginning of the trace dump file to indicate how many of the allocated trace blocks have been used, and the number of times the trace blocks were overwritten.

Message Variables:

%1 The number of allocated trace blocks that have been used.

%2 The number of trace blocks that are allocated.

%3 The number of times the allocated trace blocks have been overwritten.

System Action: The trace dump continues.

BNT0149E   The APPNMGMT command requires additional parameters.

Explanation: The APPNMGMT program could not complete the command because of missing parameters.

System Action: The command fails.

Response: Check and correct the syntax for the APPNMGMT command. If you are not sure of the correct syntax for the command, see "Appendix A. APPNMGMT Command Syntax" on page 35.

BNT0150I   Starting trace dump to file '*filename*'

Explanation: The trace buffer dump procedure has started.

Message Variables:
filename
>   The dump file name specified on the Trace Dump Buffer panel.

System Action: The trace dump continues.

BNT0151I   Trace dump has completed successfully.

Explanation: The trace buffer dump procedure has completed and the dump file can be opened.

System Action: The trace dump stops.

BNT0183E   Unable to start the APPNMGPM.EXE program.

Explanation: The APPNMGMT program cannot start the APPNMGPM program.

System Action: The APPNMGPM program fails to start.

Response: Ensure the APPNMGPM.EXE program exists and is in a directory specified by the PATH system environment variable.

BNT0184E   Unable to change to the accounting work directory '*dirname*'.

Explanation: The APPNMGMT or APPNMGPM program cannot change to the accounting work directory.

Message Variables:
dirname
>   The name of the accounting work directory.

System Action: The reset or start accounting agent operation fails.

Response: Correct the configuration to ensure the accounting work directory exists, or set the APPNACCT environment variable to a valid directory.

BNT0201I   The accounting agent component is initializing.

Explanation: The accounting agent component is beginning its initialization processing.

System Action: The accounting agent is initializing. Message BNT0202I is logged in the message log to verify that initialization has completed successfully.

BNT0202I   The accounting agent component successfully completed initialization.

Explanation: The accounting agent component has completed initialization processing, and it is ready to execute incoming requests.

System Action: The accounting agent component resumes collecting accounting data from Communications Manager/2 for existing AMCOs and accepts incoming requests from accounting managers.

BNT0203I   The accounting agent component is not active.

Explanation: The accounting agent component is already inactive; stopping it is unnecessary.

System Action: The command is ignored.

BNT0204E   The accounting agent component unexpectedly terminated because of a critical error.

Explanation: The accounting agent component stopped abnormally because it encountered an accounting data file error or an internal processing error.

System Action: The accounting agent component stops and accounting information is no longer collected. Residual accounting data files in the accounting work subdirectory might be left in an incomplete state and could cause a file clean-up error to occur the next time the accounting agent component is started. Detailed error information has been logged to the system error log.

Response: Extract the most recent system error log records where APPN-AA is the originator and use the information to identify and correct the problem. Start the accounting agent component again.

BNT0205E   The accounting agent component initialization failed.

Explanation: The accounting agent component cannot complete its initialization because of a processing error.

System Action: The accounting agent component stops. Detailed error information has been logged to the system error log.

Response: Extract the most recent system error log records where APPN-AA is the originator and use the

information to identify and correct the problem. Start the accounting agent component again.

BNT0206E Clean up of completed end point session data failed.

Explanation: The accounting agent initialization process encountered an error while cleaning up accounting data files in the accounting work subdirectory.

The probable causes of the error include:

- The accounting agent was terminated abnormally by the operator (for example, by a control-break), a system shutdown, a system failure, or an accounting program error.
- Multiple accounting agents are using the same accounting work directory on a LAN server. Each accounting agent requires a separate accounting work directory.
- Insufficient disk space for the accounting work directory.
- A data file in the accounting work directory was accidentally removed or modified by a user.

System Action: The accounting agent component stops. Detailed error information has been logged to the system error log.

Response: Depending on the cause of the error, do one or more of the following:

- Ensure the accounting work directories on a LAN server are not shared by agents.
- Ensure the accounting work directory has sufficient free disk space.
- Reset the accounting agent data files and start the accounting agent component.
- Extract the most recent system error log records where APPN-AA is the originator and use the information to identify and correct the problem. Start the accounting agent component again.

BNT0207E Clean up of completed conversation data failed.

Explanation: The accounting agent initialization process encountered an error while cleaning up accounting data files in the accounting work subdirectory.

The probable causes of the error include:

- The accounting agent was terminated abnormally by the operator (for example, by a control-break), a system shutdown, a system failure, or an accounting program error.
- Multiple accounting agents are using the same accounting work directory on a LAN server. Each accounting agent requires a separate accounting work directory.

- Insufficient disk space for the accounting work directory.
- A data file in the accounting work directory was accidentally removed or modified by a user.

System Action: The accounting agent component stops. Detailed error information has been logged to the system error log.

Response: Depending on the cause of the error, do one or more of the following:

- Ensure the accounting work directories on a LAN server are not shared by agents.
- Ensure the accounting work directory has sufficient free disk space.
- Reset the accounting agent data files and start the accounting agent component.
- Extract the most recent system error log records where APPN-AA is the originator and use the information to identify and correct the problem. Start the accounting agent component again.

BNT0208E Clean up of completed intermediate session data failed.

Explanation: The accounting agent initialization process encountered an error while cleaning up accounting data files in the accounting work subdirectory.

The probable causes of the error include:

- The accounting agent was terminated abnormally by the operator (for example, by a control-break), a system shutdown, a system failure, or an accounting program error.
- Multiple accounting agents are using the same accounting work directory on a LAN server. Each accounting agent requires a separate accounting work directory.
- Insufficient disk space for the accounting work directory.
- A data file in the accounting work directory was accidentally removed or modified by a user.

System Action: The accounting agent component stops. Detailed error information has been logged to the system error log.

Response: Depending on the cause of the error, do one or more of the following:

- Ensure the accounting work directories on a LAN server are not shared by agents.
- Ensure the accounting work directory has sufficient free disk space.
- Reset the accounting agent data files and start the accounting agent component.
- Extract the most recent system error log records where APPN-AA is the originator and use the information to identify and correct the problem. Start the accounting agent component again.

BNT0209E   **Clean up of active end point session data failed.**

Explanation: The accounting agent initialization process encountered an error while cleaning up accounting data files in the accounting work subdirectory.

The probable causes of the error include:

- The accounting agent was terminated abnormally by the operator (for example, by a control-break), a system shutdown, a system failure, or an accounting program error.
- Multiple accounting agents are using the same accounting work directory on a LAN server. Each accounting agent requires a separate accounting work directory.
- Insufficient disk space for the accounting work directory.
- A data file in the accounting work directory was accidentally removed or modified by a user.

System Action: The accounting agent component stops. Detailed error information has been logged to the system error log.

Response: Depending on the cause of the error, do one or more of the following:

- Ensure the accounting work directories on a LAN server are not shared by agents.
- Ensure the accounting work directory has sufficient free disk space.
- Reset the accounting agent data files and start the accounting agent component.
- Extract the most recent system error log records where APPN-AA is the originator and use the information to identify and correct the problem. Start the accounting agent component again.

BNT0210E   **Clean up of active conversation data failed.**

Explanation: The accounting agent initialization process encountered an error while cleaning up accounting data files in the accounting work subdirectory.

The probable causes of the error include:

- The accounting agent was terminated abnormally by the operator (for example, by a control-break), a system shutdown, a system failure, or an accounting program error.
- Multiple accounting agents are using the same accounting work directory on a LAN server. Each accounting agent requires a separate accounting work directory.
- Insufficient disk space for the accounting work directory.
- A data file in the accounting work directory was accidentally removed or modified by a user.

System Action: The accounting agent component stops. Detailed error information has been logged to the system error log.

Response: Depending on the cause of the error, do one or more of the following:

- Ensure the accounting work directories on a LAN server are not shared by agents.
- Ensure the accounting work directory has sufficient free disk space.
- Reset the accounting agent data files and start the accounting agent component.
- Extract the most recent system error log records where APPN-AA is the originator and use the information to identify and correct the problem. Start the accounting agent component again.

BNT0211E   **Clean up of active intermediate session data failed.**

Explanation: The accounting agent initialization process encountered an error while cleaning up accounting data files in the accounting work subdirectory.

The probable causes of the error include:

- The accounting agent was terminated abnormally by the operator (for example, by a control-break), a system shutdown, a system failure, or an accounting program error.
- Multiple accounting agents are using the same accounting work directory on a LAN server. Each accounting agent requires a separate accounting work directory.
- Insufficient disk space for the accounting work directory.
- A data file in the accounting work directory was accidentally removed or modified by a user.

System Action: The accounting agent component stops. Detailed error information has been logged to the system error log.

Response: Depending on the cause of the error, do one or more of the following:

- Ensure the accounting work directories on a LAN server are not shared by agents.
- Ensure the accounting work directory has sufficient free disk space.
- Reset the accounting agent data files and start the accounting agent component.
- Extract the most recent system error log records where APPN-AA is the originator and use the information to identify and correct the problem. Start the accounting agent component again.

BNT0402I The topology agent component is initializing.

Explanation: The topology agent component is beginning its initialization processing.

System Action: The topology agent is initializing. Message BNT0440I is logged in the message log to confirm when initialization has completed successfully.

BNT0409I The topology agent component is shutting down.

Explanation: This message is issued in response to the following:
- A request to stop the topology agent component.
- The topology agent is stopping abnormally.
- A required CMIP services program has shut down.

System Action: Message BNT0410I is logged to verify that shutdown completed normally.

BNT0410I The topology agent component successfully completed shutdown.

Explanation: The topology agent component has successfully shut down. Possible causes include:
- A request to stop the topology agent component.
- The topology agent is stopping abnormally.
- A required CMIP services program has shut down.

Response: If the shutdown was caused by a CMIP services program shutting down or other errors, refer to messages issued and the system error log.

BNT0440I The topology agent component successfully completed initialization.

Explanation: The topology agent component has completed initialization processing, and it is ready to execute incoming requests.

System Action: The topology agent component can begin sending topology data in response to requests from topology managers.

BNT0447E The topology agent component has stopped because of a processing error.

Explanation: The topology agent component stopped abnormally because it encountered an internal processing error or it failed to connect to the CMIP services component.

System Action: The topology agent component stops. Detailed error information has been logged to the system error log.

Response: See the system error log to diagnose and correct the problem. Start the topology agent component again.

BNT0448E The topology agent component is shutting down because Communications Manager/2 is not active.

Explanation: The topology agent component is shutting down because Communications Manager/2 is not active.

System Action: The topology agent component stops. There might be entries in the system error log describing the problem in Communication Manager/2.

Response: See the system error log to diagnose and correct the problem. Restart Communications Manager/2. Start the topology agent component again.

BNT0470W The topology agent component failed to connect to the CMIP services component and will retry.

Explanation: During initialization, the topology agent component failed to connect to the CMIP services component and tries again to establish the connection. The retry begins in 6 seconds and is repeated until the topology agent component successfully connects with the CMIP services component, or the topology agent receives a return code indicating that CMIP services is unusable.

The probable cause of the error is:
- The CMIP services component is not started.
- The CMIP services component has not completed its initialization.

System Action: The topology agent component begins retrying after the first 6-second interval.

Response: If this warning is because the CMIP services component has not completed its initialization, the topology agent retry attempts should succeed once the initialization has completed. No action is necessary in response to this message. If CMIP services remains unusable, the topology agent issues message BNT0447E.

Appendix C. System Error Log Entries

This appendix contains system error log entries created by Communications Manager/2, CMIP services, the APPN accounting agent, the APPN topology agent, and some utilities.

Note: Some error log entries include additional data that is not described in this book. Additional data that is not described in this book is intended for the use of IBM Service.

Major Code=22

The minor codes for this major code are described in the *IBM Communications Manager/2 Problem Determination Guide*.

Major Code=76

This major code is assigned to the APPNTAA CMIP services. An error log entry with this major code is identified by:

```
Originator:   APPN-OSI
```

.

76-00000000 through 76-00000225

Explanation: Minor codes in this range are described in "Appendix D. CMIP Services Error Codes" on page 79.

Response: Use the description of the CMIP services error code to determine the cause and any suggested responses.

76-00000226

Explanation: CMIP services received a valid OSI session protocol data unit (PDU) from a manager, but the message is out of sequence; that is, the manager should not have sent the message at the time. The OSI session is terminated, along with any CMIP transactions using that session.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

76-00000227

Explanation: CMIP services received an incorrect OSI session PDU from a manager. Either CMIP services did not recognize the type of message or a length field in the session header (of the session PDU) was incorrect. The OSI session is terminated, along with any CMIP transactions using that session.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

76-00000228

Explanation: CMIP services received an incorrect OSI session PDU from a manager. The OSI session PDU was missing a required field. Some examples for this minor code are:

- CMIP services received an OSI REFUSE session PDU that did not contain a Reason Code parameter.
- CMIP services received an OSI ABORT session PDU that did not contain a Transport Disconnect parameter.

The OSI session is terminated, along with any CMIP transactions using that session.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

76-00000229

Explanation: CMIP services received an incorrect OSI session PDU from a manager. The OSI session PDU was missing a required field. One example for this minor code is that CMIP services received an OSI DATA-TRANSFER session PDU that did not contain any user information. The OSI session is terminated, along with any CMIP transactions using that session.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

System Error Log Entries

76-0000022A

Explanation: An internal software problem was detected within the CMIP services component while processing an OSI message for a particular OSI session. The OSI session is terminated, along with any CMIP transactions using that session.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

76-0000022C

Explanation: CMIP services received an OSI session PDU from a manager, specifying a parameter or value that CMIP services does not support. Certain parameters and values must be disabled when the OSI session is established. Therefore, these parameters and values should not be set in any messages received by CMIP services. Some examples are:

- CMIP services received an OSI CONNECT session PDU with a Session User Requirements parameter containing no indication of the duplex functional unit; CMIP services supports only the duplex functional unit.
- CMIP services received an OSI ACCEPT session PDU indicating the half-duplex functional unit, but not the duplex functional unit.

This error is also logged if the presentation layer of CMIP services specifies an incorrect session parameter when it requests the session layer to establish an OSI session. This is an internal software error in the CMIP services component.

The OSI session is terminated, along with any CMIP transactions that are using that session.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

76-0000022D

Explanation: CMIP services received an OSI session PDU containing too much data. CMIP services cannot receive or send more than 10240 bytes of data in each OSI session PDU. This limit is set when the OSI session is established.

This error is also logged if the presentation layer of CMIP services attempts to send a message with too much data. This is an internal software error in the topology or accounting agent component that supplied the data.

The OSI session is terminated, along with any CMIP transactions using that session.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

76-0000022E

Explanation: CMIP services received an SNA condition report related to the underlying MS transaction or LU 6.2 session of an OSI session. The SNA condition report is a type of MDS-MU indicating the occurrence of an error. The SNA condition report is logged separately, in an associated log entry, as minor code 0000023E.

If the error occurs during the establishment of the OSI session, the OSI session is not established. If the error occurs after the OSI session is established, the OSI session is terminated, along with any CMIP transactions using that session.

Response: The SNA condition report contains SNA sense data that identifies the cause of the error. This log entry (minor code 0000022E) is created when the SNA sense data is other than one of the following:

Sense data
> **Description**

08120011
> The occurrence of this sense data is indicated by a log entry with minor code 0000022F.

08A80001
> The occurrence of this sense data is indicated by a log entry with minor code 00000231.

08A80003
> The occurrence of this sense data is indicated by a log entry with minor code 00000230.

08A8000A
> The occurrence of this sense data is indicated by a log entry with minor code 00000231.

08A8000B
> The occurrence of this sense data is indicated by a log entry with minor code 00000231.

08A8000F
> The occurrence of this sense data is indicated by a log entry with minor code 0000022F.

Use the associated log entry (minor code 0000023E) to obtain the SNA sense data. Use this sense data to determine the cause of the problem and to fix the problem. The SNA condition report contains information you can use to diagnose the problem. The SNA sense data and the format of the SNA condition report are documented in *SNA Formats*.

76-0000022F

Explanation: CMIP services received an SNA condition report related to the underlying MS transaction or LU 6.2 session of an OSI session. The SNA condition report is a type of MDS-MU indicating the occurrence of an error. The SNA condition report is logged separately,

in an associated log entry, as minor code 0000023E.

If the error occurs during an attempt to establish an OSI session, the OSI session is not established. If the error occurs after the OSI session is established, the OSI session is terminated, along with any CMIP transactions using that session.

Response: The SNA condition report contains SNA sense data that identifies the cause of the error. This log entry (minor code 0000022F) is created when the SNA sense data is one of the following:

Sense data
Description

08120011
The SNA component of a node along the path of the MS transaction between the agent and manager has insufficient storage at this time to process the MDS-MU.

08A8000F
The MDS communications element of the CMIP services component at the manager node is congested at this time and unable to receive the MDS-MU.

Use the associated log entry (minor code 0000023E) to obtain the SNA sense data. Use this sense data to determine the cause of the problem. The SNA condition report contains information you can use to diagnose the problem. The SNA sense data and the format of the SNA condition report are documented in *SNA Formats*.

The failure is usually a temporary condition. However, you can allocate more resources (or decrease the workload) for the SNA support at the congested node.

76-00000230

Explanation: CMIP services received an SNA condition report related to the underlying MS transaction of an OSI session. The SNA condition report is a type of MDS-MU indicating the occurrence of an error. The SNA condition report is logged separately, in an associated log entry, as minor code 0000023E.

This error occurs during an attempt to establish an OSI session. The OSI session is not established.

Response: The SNA condition report contains SNA sense data that identifies the cause of the error. This log entry (minor code 00000230) is created when the SNA sense data is the following:

Sense data
Description

08A80003
The MS transaction cannot be established because the destination MS application (CMIP services) cannot be found at the manager

node. Either the CMIP services component (an MS application) does not exist at the manager node or it is not active.

Usually, the failure occurs because CMIP services has been stopped at the manager node. Start CMIP services at the manager node.

76-00000231

Explanation: CMIP services received an SNA condition report related to the underlying MS transaction of an OSI session. The SNA condition report is a type of MDS-MU indicating the occurrence of an error. The SNA condition report is logged separately, in an associated log entry, as minor code 0000023E.

This error occurs during an attempt to establish an OSI session. The OSI session is not established.

Response: The SNA condition report contains SNA sense data that identifies the cause of the error. This log entry (minor code 00000231) is created when the SNA sense data is the following:

Sense code
Description

08A80001
The manager node cannot be located.

08A8000A
An SNA session activation failure occurred along the route between the agent and manager nodes.

08A8000B
An MDS transaction program failed, in a node along the route between the agent and manager nodes.

Use the associated log entry (minor code 0000023E) to obtain the SNA sense data. Use this sense data to determine the cause of the problem. The SNA condition report contains information you can use to diagnose the problem. The SNA sense data and the format of the SNA condition report are documented in *SNA Formats*.

You should take the following corrective action, depending on the error:

- The manager node cannot be found (080A0001). The probable cause is the SNA support (VTAM or NetView) at the manager node is not currently active. Activate the SNA support at the manager node.
- The manager node cannot be contacted (08A8000A). Determine whether a node or a link connection between nodes from the agent node to the manager node is not active, and activate it. If the node or link connection cannot be activated because of an error condition, determine the location and cause of the failure and take corrective action to fix the problem.
- An MDS transaction program failed (08A8000B). This error can be caused by a software problem with the

System Error Log Entries

failing MDS transaction program. Determine the location and cause of the failure, and take corrective action to fix the problem.

To help you diagnose and fix the problem, check the error logs at the nodes along the route between the agent and manager nodes for errors related to this problem.

76-00000232

Explanation: CMIP services received an OSI ACCEPT session PDU from a manager, with the OSI session-layer version set to one (1). CMIP services does not support version one. The OSI session is terminated.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

76-00000233

Explanation: The manager node unexpectedly terminated the OSI session.

Response: Determine why the manager node terminated the OSI session. Use the CMIPSRV TRACE command at the manager, specifying trace categories SESSION and CMOS, to trace the OSI session data received and sent by the manager node. Use the APPNMGMT TRACE command or APPN Management Control at the agent, specifying CMIP services trace categories SESSION and CMOS, to trace the OSI session data received and sent by the agent node. Also, check the manager node for any error messages or log entries related to this problem. Use this information to diagnose and correct the problem.

76-00000234

Explanation: CMIP services received an unsupported OSI session PDU from a manager. The session PDU indicated that the associated data is segmented (split into multiple PDUs). CMIP services does not support OSI data segmentation. This capability is disabled when the OSI session is established. Therefore, no messages received by the CMIP services should indicate that the associated data is segmented.

The OSI session is terminated, along with any CMIP transactions using that session.

Note: OSI data segmentation is not related to SNA segmentation. The SNA segmentation capabilities are established by the underlying SNA support to segment SNA request units, which is independent of the OSI session protocols.

Response: Record the information associated with this

error code, including any related log entries, and contact IBM Service.

76-00000236

Explanation: CMIP services could not allocate storage to process an OSI session PDU, or an internal software problem was detected within the CMIP services component while processing an OSI session PDU. The associated OSI session is terminated, along with any CMIP transactions using that session.

Response: To obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. Also, if you are using the APPN accounting agent, change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

If the problem persists after increasing your available storage, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

76-00000237

Explanation: During the initiation of an OSI session, CMIP services could not allocate storage to process an OSI session PDU, or an internal software problem was detected within the CMIP services component while processing an OSI session PDU. The OSI session is not established.

Response: To obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. Also, if you are using the APPN accounting agent, change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

If the problem persists after increasing your available storage, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

76-00000238

Explanation: CMIP services received an incorrectly formatted MDS-MU from a manager. Either CMIP services could not parse the MDS-MU, or the MDS-MU specified a general data stream (GDS) variable, subvector, or value that CMIP services does not support. The associated OSI session is terminated, along with any CMIP transactions using that session.

Response: The log entry contains sense data that identifies the problem, along with the MDS-MU. The format of the MDS-MU is documented in *SNA Formats*. Record the information associated with this error code, including any related log entries, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	4	The SNA sense data.
0004	k	The received MDS-MU.

76-00000239

Explanation: CMIP services was unable to allocate shared storage.

Response: To obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. If you are using the APPN accounting agent, change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

If the CMIP services component has shut down, restart it with the APPNMGMT command or APPN Management Control.

76-0000023A

Explanation: CMIP services encountered an error while trying to obtain the network-qualified CP name of the local node. Initialization of CMIP services fails.

Response: An associated log entry is created (major code 00000079, minor code 00000004) that identifies the error. The likely cause is that Communications Manager/2 or its SNA subsystem is not active. Start Communications Manager/2 or its SNA subsystem and restart CMIP services using APPNMGMT or APPN Management Control. Otherwise, if Communications Manager/2 and its SNA subsystem are active, Record the information associated with this error code, including any related log entries, and contact IBM Service.

76-0000023D

Explanation: CMIP services detected an error and is sending an SNA condition report (SNACR) to the manager node. The SNACR contains information that can be used to identify the problem, including the SNA sense data. The associated OSI session is terminated, along with any CMIP transactions using that session.

Response: This log entry is usually associated with other log entries and messages that further identify the error. Use the information in the SNACR, along with the SNA sense data, to diagnose and correct the problem. The format of the SNA condition report is documented in *SNA Formats*.

Additional Data:

Hex Offset	Decimal Length	Description
0000	4	The SNA sense data generated to identify the problem.
0004	k	MDS-MU containing the SNA condition report sent to the manager node.

76-0000023E

Explanation: CMIP services received an SNA condition report (SNACR). CMIP services in the manager node sends an SNACR when it detects an error. The MDS function of a node (including the manager or agent node) supporting the underlying MS transaction for an OSI session, sends an SNACR when it detects an MDS protocol error or when it encounters a network error that disrupts the MS transaction. The SNACR contains information that can be used to identify the problem, including the SNA sense data. The associated OSI session is terminated, along with any CMIP transactions using that session.

Response: Use the information in the SNACR, along with the SNA sense data, to diagnose and correct the problem. Other log entries and messages might also be created that identify the consequences of this error, with suggested resolutions. The format of the SNA condition report is documented in *SNA Formats*.

Additional Data:

Hex Offset	Decimal Length	Description
0000	4	The received SNA sense data.
0004	k	MDS-MU containing the received SNA condition report.

System Error Log Entries

00000240

Explanation: CMIP services encountered an error while trying to send an MDS-MU containing an OSI session PDU to a manager node. CMIP services issues the Communications Manager/2 SEND_MDS_MU verb to send MDS-MUs to the manager node. Another log entry is created that contains the error information that Communications Manager/2 returns on the verb (major code 00000079, minor code 00000004). The associated OSI session is terminated, along with any CMIP transactions using that session.

Response: Use the information in this log entry and all associated log entries and messages to identify and fix the problem.

Additional Data:

Hex Offset	Decimal Length	Description
0000	k	The MDS-MU that was being sent when the error occurred. The format of the MDS-MU is documented in *SNA Formats*

76-00000243

Explanation: CMIP services failed to complete initialization because Communications Manager/2 or its SNA subsystem is not active.

This error log entry is also logged if an internal software problem was detected within the CMIP services component while processing an OSI message for a particular OSI session. The OSI session is terminated, along with any CMIP transactions using that session.

Response: Start Communications Manager/2 or its SNA subsystem and restart CMIP services using APPNMGMT or APPN Management Control. Otherwise, if Communications Manager/2 and its SNA subsystem are active, Record the information associated with this error code, including any related log entries, and contact IBM Service.

76-00000244

Explanation: The limit on the number of OSI sessions that CMIP services supports has been exceeded.

Response: Stop and restart CMIP services.

76-00000258 through 76-000003E7

Explanation: Minor codes in this range are described in "Appendix D. CMIP Services Error Codes" on page 79.

Response: Use the description of the CMIP services error code to determine the cause and any suggested responses.

Major Code=77

This major code is assigned to the accounting agent. An error log entry with this major code is identified by:

```
Originator:   APPN-AA
```

.

77-00000200

Explanation: The accounting agent could not allocate enough storage to successfully complete a requested operation. The APPN accounting agent has shut down.

Response: To obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. Also, change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

Restart the APPN accounting agent.

77-00000201

Explanation: The APPN accounting agent could not allocate enough storage to allocate an internal control block. The APPN accounting agent has shut down.

Response: To obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, yreconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. Also, change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

Restart the APPN accounting agent.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	The size, in binary (byte reversed), of the control block

---

77-00000202

Explanation: The APPN accounting agent could not allocate enough storage to allocate an internal signal. The APPN accounting agent remains active; however, the current operation does not complete.

Response: To obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. Also, change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	The size, in binary (byte reversed), of the signal

77-00000203

Explanation: The APPN accounting agent could not allocate enough storage to allocate an accounting data record. The APPN accounting agent remains active. If accounting data is lost, an error is reported to the accounting manager.

Response: To obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. Also, change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	The size, in binary (byte reversed), of the data record

77-00000300

Explanation: The APPN accounting agent detected an error in an accounting data file. The APPN accounting agent has shut down.

Response: Reset the APPN accounting agent data files to remove the file in error, then restart the APPN accounting agent.

Additional Data:

Hex Offset	Decimal Length	Description
0000	12	The file name of the data file in error

77-00000301

Explanation: The APPN accounting agent received an OS/2 error return code on a file open. The APPN accounting agent has shut down.

Response: Reset the accounting agent data files to remove files in error and then restart the APPN accounting agent.

Additional Data:

Hex Offset	Decimal Length	Description
0000	12	The file name

77-00000302

Explanation: The APPN accounting agent received an OS/2 error return code on a file read command. The APPN accounting agent remains active, and reports the error to the accounting manager.

Response: The additional data provided is the OS/2 return code value. Find this return code value in Appendix B of the *OS/2 Control Program Programming Reference* in the *IBM Operating System/2 Technical Library*, 10G3356, to identify and fix the problem. If you do not have access to this publication, call IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	OS/2 return code (byte-reversed)
0002	12	The file name

77-00000303

Explanation: The APPN accounting agent received an OS/2 error return code on a file write command. The APPN accounting agent remains active unless the error

System Error Log Entries

occurred in a critical section. The error is reported to the accounting manager.

Response: The additional data provided is the OS/2 return code value. Find this return code value in Appendix B of the *OS/2 Control Program Programming Reference* in the *IBM Operating System/2 Technical Library* , 10G3356, to identify and fix the problem. If you do not have access to this publication, call IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	OS/2 return code (byte-reversed)
0002	12	The file name

77-00000304

Explanation: The APPN accounting agent received an OS/2 error return code on a file seek command. The APPN accounting agent remains active unless the error occurred in a critical section. The error is reported to the accounting manager.

Response: The additional data provided is the OS/2 return code value. Find this return code value in Appendix B of the *OS/2 Control Program Programming Reference* in the *IBM Operating System/2 Technical Library* , 10G3356, to identify and fix the problem. If you do not have access to this publication, call IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	OS/2 return code (byte-reversed)
0002	12	The file name

77-00000305

Explanation: The APPN accounting agent received an OS/2 error return code on a file close. The APPN accounting agent remains active unless the error occurred in a critical section. The error is reported to the accounting manager.

Response: If the APPN accounting agent has shut down, restart it. If initialization fails due to a clean-up failure, reset the APPN accounting agent data files to remove any files in error, and restart the APPN accounting agent.

Additional Data:

Hex Offset	Decimal Length	Description
0000	12	The file name

77-00000306

Explanation: The APPN accounting agent received an OS/2 error return code on a file remove command. The APPN accounting agent remains active unless the error occurred in a critical section. The error is reported to the accounting manager.

Response: The additional data provided is the OS/2 return code value. Find this return code value in Appendix B of the *OS/2 Control Program Programming Reference* in the *IBM Operating System/2 Technical Library* , 10G3356, to identify and fix the problem. If you do not have access to this publication, call IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	OS/2 return code (byte-reversed)
0002	12	The file name

77-00000307

Explanation: The APPN accounting agent was not able to start a previously created AMCO. The APPN accounting agent remains active; however, the AMCO is not started.

Response: Use the CMIS error definition to diagnose and correct the problem. The CMIS error definitions are described in *ISO/IEC 9596-1:1991, Information technology - Open Systems Interconnection - Common management information protocol - Part 1: Specification*

Stop the APPN accounting agent, reset the accounting agent data files to remove any files in error, and then restart the APPN accounting agent.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	CMIS error definition (byte-reversed)
0002	12	The AMCO file name

77-00000308

Explanation: The APPN accounting agent was not able to start an AMCO listed in the BNTACCT.INI file. The APPN accounting agent remains active; however, the specified AMCO is not started.

Response: Use the CMIS error definition along with the AMCO name to diagnose and correct the problem. The CMIS error definitions are described in *ISO/IEC 9596-1:1991, Information technology - Open Systems Interconnection - Common management information protocol - Part 1: Specification*.

The probable cause of this error is that the AMCO name is not valid, for example, CMIS error 6 (incorrect attribute value). If a CMIS error 6 was reported, correct the format of the AMCO name as shown in "Accounting Initialization File (BNTACCT.INI)" on page 12. Stop and restart the APPN accounting agent.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	CMIS error definition (byte-reversed)
0002	k	The name of the AMCO

77-00000309

Explanation: The APPN accounting agent could not stop a file management services (FMS) thread normally. The APPN accounting agent continues the termination process.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

77-00000400

Explanation: An unexpected error code was received from CMIP services. The APPN accounting agent remains active and the error is reported to the accounting manager.

Response: The additional data contains the CMIP services error code. Refer to the description of the error code in "Appendix D. CMIP Services Error Codes" on page 79, as it applies to the APPN accounting agent, to determine the cause and any suggested responses for the problem.

Note: The CMIP services error code in the additional data is in byte-reversed format. The two bytes must be swapped with each other in order to determine the value of the error code.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	CMIP services error code (byte-reversed).

77-00000401

Explanation: The APPN accounting agent has detected an internal software problem related to an AMCO. The APPN accounting agent remains active, but the AMCO thread terminates.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

77-00000402

Explanation: The APPN accounting agent has shut down abnormally due to an error condition, or the accounting foreground window was closed by the user.

Response: If the APPN accounting agent shuts down because of an error condition, this log entry is usually associated with other log entries.

77-00000404

Explanation: The APPN accounting agent has received an error return code from OS/2 while it was creating an AMCO. The APPN accounting agent remains active, an error is reported to the accounting manager, and the AMCO thread terminates.

Response: This log entry can be associated with other log entries and messages that further identify the error. Use those log entries to identify and fix the problem.

77-00000405

Explanation: The APPN accounting agent has received an error return code from either OS/2 or CMIP services while it was deleting an AMCO. The APPN accounting agent remains active, an error is reported to the accounting manager, and the AMCO thread terminates.

Response: This log entry can be associated with other log entries and messages that further identify the error. Use those log entries to identify and fix the problem.

77-00000500

Explanation: The APPN accounting agent encountered an error while receiving data from Communications Manager/2. The APPN accounting agent has shut down.

Response: Use the description of the error log entry for major code 76 and the minor code indicated by the CMIP services error code in the additional data to determine the cause and any suggested responses for the problem. Restart the APPN accounting agent.

Note: The CMIP services error code in the additional data is in byte-reversed format. The two bytes must be swapped with each other in order to determine the value of the error code.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	CMIP services error code (byte-reversed)

System Error Log Entries

77-00000501

Explanation: The APPN accounting agent received an MDS-MU from the Communications Manager/2, and the MDS-MU contains a GDS variable, subvector, or subfield that the APPN accounting agent does not recognize. The APPN accounting agent remains active.

Response: This problem indicates that there is a compatibility problem between the APPN accounting agent and Communications Manager/2. Record the information associated with this error code, including any related log entries, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	k	MDS-MU received from Communications Manager/2

77-00000503

Explanation: The APPN accounting agent encountered a parsing error in a CMIP message directed to an AMCO object instance. The APPN accounting agent remains active.

Response: This log entry is usually associated with other log entries and messages that further identify the error. Use those log entries to identify and fix the problem.

Additional Data:

Hex Offset	Decimal Length	Description
0000	k	CMIP message in error

77-00000504

Explanation: The APPN accounting agent received an error response from the CMIP services component, indicating that a previous CMIP services request the APPN accounting agent issued has failed. The APPN accounting agent remains active.

Response: This minor code indicates an internal software problem involving the APPN accounting agent and CMIP services. Record the information associated with this error code, including any related log entries, and contact IBM Service.

77-00000505

Explanation: The APPN accounting agent class handler was unexpectedly deregistered by CMIP services. This occurs if the CMIP services component is shut down while the accounting agent is still active. It can also occur for other reasons, such as if the CMIP

services registration program (BNTRGSN.EXE) terminates.

Response: If the CMIP services component was shut down by user request, no action is required. The APPN accounting agent automatically registers again with CMIP services once CMIP services is restarted. If CMIP services was not shut down by user request, this log entry is associated with other log entries and messages that further identify the error. Use those log entries to identify and fix the problem.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	Error code: **X'0100' =** CMIP services registration program (BNTRGSN.EXE) terminated **X'0200' =** CMIP services component was shut down

77-00000506

Explanation: The APPN accounting agent class handler thread has terminated. The APPN accounting agent remains active (collecting accounting data), but can no longer communicate with the accounting manager.

Response: Stop the APPN accounting agent when you no longer need to collect accounting data, and restart it when you have fixed the problem that caused the class handler to terminate. This log entry is associated with other log entries and messages that further identify the error. Use those log entries to identify and fix the problem.

77-00000508

Explanation: The APPN accounting agent received an error return code from the Communications Manager/2 when it attempted to send an MDS-MU containing an accounting data request to the Communications Manager/2. The agent uses the Communications Manager/2 SEND_MDS_MU verb to send the MDS-MU. The Communications Manager/2 returned the error return code on the verb. The APPN accounting agent has shut down. Refer to *IBM Communications Manager/2 System Management Programming Reference* for the description of the return codes for the SEND_MDS_MU verb.

Response: Use the information in this log entry and all associated log entries and messages to identify and fix the problem.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	The primary return code from the SEND_MDS_MU verb.

77-00000509

Explanation: The APPN accounting agent received a CMIP services error code when it attempted to send a CMIP message to the accounting manager. The APPN accounting agent remains active.

Response: The additional data contains the CMIP services error code. Refer to the description of the error code in "Appendix D. CMIP Services Error Codes" on page 79 to determine the cause and any suggested responses for the problem.

Note: The CMIP services error code in the additional data is in byte-reversed format. The two bytes must be swapped with each other in order to determine the value of the error code.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	CMIP services error code (byte-reversed)

77-00000510

Explanation: The APPN accounting agent received a CMIP services error code when it attempted to connect to, or register its class handler with, CMIP services. The APPN accounting agent remains active; however, it cannot communicate with the accounting manager.

Response: The additional data contains the CMIP services error code. Refer to the description of the error code in "Appendix D. CMIP Services Error Codes" on page 79 to determine the cause and any suggested responses for the problem. When you have fixed the problem, stop and restart the APPN accounting agent.

Note: The CMIP services error code in the additional data is in byte-reversed format. The two bytes must be swapped with each other to determine the value of the error code.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	CMIP services error code (byte-reversed)

77-00000512

Explanation: The APPN accounting agent received an unrecognized parameter on a CMIP message. The APPN accounting agent discards the message and continues normal processing.

Response: This minor code indicates an internal software problem involving the APPN accounting agent and CMIP services. Record the information associated with this error code, including any related log entries, and contact IBM Service.

77-00000513

Explanation: The APPN accounting agent encountered an OS/2 error when it attempted to start a thread for an AMCO. The APPN accounting agent reports the error to the accounting manager and remains active.

Response: This log entry is associated with other log entries and messages that further identify the error. Use those log entries to identify and fix the problem.

77-00000514

Explanation: The APPN accounting agent received a CMIP error message that is out of sequence; that is, the APPN accounting agent sent no CMIP request to which the error message applies. The APPN accounting agent discards the message and continues normal processing.

Response: This minor code indicates an internal software problem involving the APPN accounting agent and CMIP services. Record the information associated with this error code, including any related log entries, and contact IBM Service.

77-00000515

Explanation: The APPN accounting agent received a type of CMIP message that it does not support. The APPN accounting agent discards the CMIP message and continues normal processing.

Response: This minor code indicates an internal software problem involving the APPN accounting agent and CMIP services. Record the information associated with this error code, including any related log entries, and contact IBM Service.

77-00000516

Explanation: The APPN accounting agent received an MDS-MU from an origin other than the local Communications Manager/2 SNA subsystem, such as a user-written MS application. An SNACR was returned to the sender to close out the MS transaction, and the APPN accounting agent continues normal processing.

Response: User MS applications should not be sending MDS-MUs to the APPN accounting agent.

System Error Log Entries

Attempt to identify what user MS application attempted to send the MDS-MU to the APPN accounting agent, and modify the MS application so it does not. Activate the accounting SNACP trace to capture the MDS-MU from the unknown origin the next time it is sent.

77-00000517

Explanation: The APPN accounting agent received an SNA condition report from Communications Manager/2. The APPN accounting agent has shut down.

Response: The SNA condition report contains the SNA sense data that identifies the condition that caused the error. Related errors may be logged by the Communications Manager/2 that further identify the problem. Use the SNA sense data and related error log entries to diagnose and correct the problem. Once you have fixed the problem, restart the accounting agent.

Additional Data:

Hex Offset	Decimal Length	Description
0000	k	MDS-MU containing the SNA condition report

77-00000518

Explanation: The APPN accounting agent attempted to send a CMIP request to a manager and received a CMIP services error code in response. The APPN accounting agent remains active.

Response: The additional data contains the CMIP services error code. Refer to the description of the error code in "Appendix D. CMIP Services Error Codes" on page 79 to determine the cause and any suggested responses for the problem. Once you have fixed the problem, stop and restart the APPN accounting agent.

Note: The CMIP services error code in the additional data is in byte-reversed format. The two bytes must be swapped with each other in order to determine the value of the error code.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	CMIP services error code (byte-reversed)

77-00000600

Explanation: The APPN accounting agent received an incorrectly formatted MDS-MU from the Communications Manager/2. The APPN accounting agent could not parse the contents of the application data in the MDS-MU. The APPN accounting agent discards the MDS-MU and continues normal processing.

Response: This problem indicates that there is a compatibility problem between the APPN accounting agent and Communications Manager/2. The additional data logged contains the MDS-MU that the accounting agent could not parse. Record the information associated with this error code, including any related log entries, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	k	MDS-MU received from Communications Manager/2

77-00000601

Explanation: The APPN accounting agent received an MDS-MU from the Communications Manager/2 containing unknown data in the application data of the MDS-MU. The APPN accounting agent logs an entry to the system error log, converts the application data in the MDS-MU to a *possible data loss* record and continues normal processing.

Response: This problem indicates that there is a compatibility problem between the APPN accounting agent and Communications Manager/2. The additional data logged contains the MDS-MU containing the application data GDS variable with the unknown data. Record the information associated with this error code, including any related log entries, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	k	MDS-MU received from Communications Manager/2

77-01000000

Explanation: The APPN accounting agent received an OS/2 error return code on an OS/2 control program function call. The APPN accounting agent remains active unless the error occurred in a critical section. The error is reported to the accounting manager.

Response: The additional data provided is the OS/2 return code value. Find this return code value in Appendix B of the *OS/2 Control Program Programming Reference* in the *IBM Operating System/2 Technical Library*, 10G3356, to identify and fix the problem. If you do not have access to this publication, call IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	OS/2 return code (byte-reversed)

77-01000001

Explanation: The APPN accounting agent encountered an internal message out of sequence. This minor code indicates that an internal software problem exists in the APPN accounting agent or CMIP services component. The APPN accounting agent has shut down.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	50	Internal message header

77-01000002

Explanation: The APPN accounting agent encountered an unknown internal message. This minor code indicates that an internal software problem exists in the APPN accounting agent component. The APPN accounting agent terminates the OS/2 thread that received the unknown message, but the APPN accounting agent component continues normal processing.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	50	Internal message header

Major Code=78

This major code is assigned to the APPNTAA APPN topology agent. An error log entry with this major code is identified by `Originator:   APPN-TA`.

78-00000000

Explanation: The APPN topology agent was unable to obtain storage.

Response: To obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. If you are also using the APPN accounting agent, change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

If the APPN topology agent has shut down, restart it with the APPNMGMT command or APPN Management Control.

78-00000002

Explanation: An internal software problem exists within the APPN topology agent component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

78-00000003

Explanation: A function the APPN topology agent uses failed. The APPN topology agent has shut down.

Response: Refer to any related error log entries to diagnose and correct the problem. If you cannot correct the problem, or no related error log entries exist, record the information associated with this log entry, and contact IBM Service.

78-000000C8 through 78-00000225

Explanation: The minor codes in this range are described in "Appendix D. CMIP Services Error Codes" on page 79.

Response: Use the description of the CMIP services error code, as it applies to the APPN topology agent, to determine the cause and any suggested responses.

78-00000258 through 78-000003E7

Explanation: The minor codes in this range are described in "Appendix D. CMIP Services Error Codes" on page 79.

Response: Use the description of the CMIP services error code as it applies to the APPN topology agent, to determine the cause and any suggested responses.

System Error Log Entries

78-00002000

Explanation: The APPN topology agent received a message from CMIP services, and the APPN topology agent does not support the type of message indicated in the message header. The additional data area of this log entry contains the message.

Response: If you suspect the APPNTAA sent an erroneous CMIP message, record the information associated with this log entry, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0	k	The unrecognized message that the APPN topology agent received from CMIP services

78-00002568

Explanation: The APPN topology agent received an incorrectly formatted MDS-MU from Communications Manager/2. Either the APPN topology agent could not parse the MDS-MU, or the MDS-MU specified GDS variable, subvector, or value that the APPN topology agent does not support.

Response: This problem indicates that there is a compatibility problem between the APPN topology agent and Communications Manager/2. The additional data area of this log entry contains the sense data the APPN topology agent created to identify the problem, and the MDS-MU. Record the information associated with this error code, including any related log entries, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	4	The SNA sense data
0004	k	The MDS-MU received from Communications Manager/2

78-00002573

Explanation: The APPN topology agent encountered an error while processing an MDS-MU it received from the Communications Manager/2. The APPN topology agent sent the Communications Manager/2 an SNA condition report (SNACR) to close out the MS transaction. The APPN topology agent has shut down.

Response: The additional data contains the SNA sense data the APPN topology agent created to identify the problem, and the MDS-MU containing the SNACR it sent to the Communications Manager/2. The format of the SNACR is documented in *SNA Formats*. Use the

additional data for this log entry, together with other related log entries, to diagnose and correct the problem. If you cannot correct the problem, record the information associated with this log entry, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	4	The SNA sense data generated to identify the problem
0004	k	MDS-MU containing the SNACR sent to Communications Manager/2

78-00002574

Explanation: The APPN topology agent received an SNA condition report (SNACR) from Communications Manager/2. Communications Manager/2 sends an SNACR when it detects an error. The SNACR contains information that can be used to identify the problem, including SNA sense data.

Response: The additional data contains the SNA sense data and the MDS-MU containing the SNACR the APPN topology agent received. The format of the SNACR is documented in *SNA Formats*. Use the additional data for this log entry, together with other related log entries, to diagnose and correct the problem. If you cannot correct the problem, record the information associated with this log entry, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	4	The received SNA sense data
0004	k	MDS-MU containing the received SNA condition report

78-00002576

Explanation: The APPN topology agent encountered an error while trying to send an MDS-MU to the Communications Manager/2. Another log entry is created that contains the error information received when the problem occurred (major code 00000079, minor code 00000004). The APPN topology agent has shut down.

Response: The additional data contains the MDS-MU the APPN topology agent attempted to send. The format of the MDS-MU is documented in *SNA Formats*. Use the additional data for this log entry, together with other related log entries, to diagnose and correct the problem. If you cannot correct the problem, record the information associated with this log entry, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	k	The MDS-MU that was being sent when the error occurred.

Major Code=79

This major code is assigned to the APPNTAA utilities. An error log entry with this major code is identified by `Originator:` *?????*. Where *?????* can be `APPN-OSI`, `APPN-TA`, or `APPN-AA`. The originator identifies the APPNTAA component that was executing when a utility function logged an error.

79-00000000

Explanation: The program could not allocate enough storage to successfully complete a function. The program stops processing the current request, and possibly ends.

Response: To obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. If you are using the APPN accounting agent, change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

79-00000001

Explanation: An error occurred using the 'C' library functions.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

79-00000003

Explanation: An internal software problem exists in one of the components of APPNTAA.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

79-00000004

Explanation: An APPC verb issued by an APPNTAA program failed.

Response: The likely cause is that Communications Manager/2 is not active. If Communications Manager/2 is active, the additional data logged with this system log entry is of interest to IBM Service. Record the information associated with this error code, including any related log entries, and contact IBM Service.

Additional Data:

Hex Offset	Decimal Length	Description
0000	2	The APPC verb operations code (documented by Communications Manager/2)
0002	2	The primary return code returned by Communications Manager/2 in response to the verb
0004	4	The secondary return code returned by Communications Manager/2 in response to the verb

Tracing Data Sent by Manager Nodes

If you suspect the APPNTAA manager node sent the agent node an incorrect request, capture the data exchanged between the manager node and the agent node, and give this data to IBM Service for analysis.

Use the VTAM data trace on the manager to trace the LU 6.2 session between the agent node and the manager node. To trace the data received by CMIP services, start a CMIP services trace for SESSION and CMOS events using APPN Management Control. You can also use the Communications Manager/2 trace facilities to trace the LU 6.2 session.

System Error Log Entries

After capturing the data, gather related log entries in the system error log and messages in the message log. Record associated information at the local node (for example, log entries and messages) along with associated trace information, and contact IBM Service.

Appendix D. CMIP Services Error Codes

This appendix contains CMIP services error codes. These error codes can appear as the minor codes in log entries created by CMIP services and the APPN topology agent, and as additional data in log entries for the APPN accounting agent. In addition, some of these error codes can appear in trace records.

00000004

Explanation: This return code corresponds to logged message BNT0004.

Response: Type HELP BNT0004 to view extended help for this code.

00000005

Explanation: This return code corresponds to logged message BNT0005.

Response: Type HELP BNT0005 to view extended help for this code.

00000006

Explanation: This return code corresponds to logged message BNT0006.

Response: Type HELP BNT0006 to view extended help for this code.

00000007

Explanation: This return code corresponds to logged message BNT0007.

Response: Type HELP BNT0007 to view extended help for this code.

00000008

Explanation: This return code corresponds to logged message BNT0008.

Response: Type HELP BNT0008 to view extended help for this code.

0000000C

Explanation: This return code corresponds to logged message BNT0012.

Response: Type HELP BNT0012 to view extended help for this code.

0000000D

Explanation: This return code corresponds to logged message BNT0013.

Response: Type HELP BNT0013 to view extended help for this code.

0000000E

Explanation: This return code corresponds to logged message BNT0014.

Response: Type HELP BNT0014 to view extended help for this code.

00000010

Explanation: This return code corresponds to logged message BNT0016.

Response: Type HELP BNT0016 to view extended help for this code.

00000013

Explanation: This return code corresponds to logged message BNT0019.

Response: Type HELP BNT0019 to view extended help for this code.

00000014

Explanation: This return code corresponds to logged message BNT0020.

Response: Type HELP BNT0020 to view extended help for this code.

0000001A

Explanation: This return code corresponds to logged message BNT0026.

Response: Type HELP BNT0026 to view extended help for this code.

000000CA

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

000000CC

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

CMIP Services Error Codes

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

000000CF

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

000000D0

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

000000D1

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

000000D2

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

000000D3

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

000000D4

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

000000D6

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

000000D7

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

000000D8

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

0000012C

Explanation: One or more *.DAT or *.TAB files are damaged.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

0000012D

Explanation: One or more *.DAT or *.TAB files are damaged.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

0000012E

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

0000012F

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this

error code, including related log entries, and contact IBM Service.

00000130

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

00000131

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

00000132

Explanation: One or more *.DAT or *.TAB files are damaged.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

00000133

Explanation: One or more of the *.DAT or *.TAB files are damaged, or CMIP services received incorrect data from the manager node.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, the manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

00000134

Explanation: One or more of the *.DAT or *.TAB files are damaged, or CMIP services received incorrect data from the manager node.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, the manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more

information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

00000135

Explanation: One or more of the *.DAT or *.TAB files are damaged, or CMIP services received incorrect data from the manager node. One or more of the *.DAT or *.TAB files are damaged, or CMIP services received incorrect data from the manager node.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, the manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

00000136

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

00000137

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

00000138

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

00000139

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including related log entries, and contact IBM Service.

CMIP Services Error Codes

0000013A

Explanation: CMIP services detected one of the following errors:

- One or more of the *.DAT or *.TAB files is damaged.
- CMIP services received incorrect data from the manager node.
- An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response:

If the problem persists, the manager node might be sending incorrect data or an internal software problem might exist. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

0000013B

Explanation: One or more of the *.DAT or *.TAB files is damaged, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000013C

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component. An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000013D

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000013E

Explanation: CMIP services could not allocate enough storage to successfully complete a function.

Response: In order to obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, you might need to reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. Also, if you are using the APPN accounting agent, you might need to change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

0000013F

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000140

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000141

Explanation: One or more of the *.DAT or *.TAB files are damaged, or an internal software problem exists within the CMIP services component.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000142

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000143

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000145

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000146

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000147

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000148

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000149

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: The manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

If the problem persists, an internal software problem

might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000014A

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000014B

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000014C

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000014D

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: The manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000014E

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: The manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by

CMIP Services Error Codes

Manager Nodes" on page 77.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000014F

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: The manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000150

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: The manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000151

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: The manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000152

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000153

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000154

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: The manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000155

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: The manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000156

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this

error code, including any related log entries, and contact IBM Service.

00000157

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000158

Explanation: One or more of the *.DAT or *.TAB files are damaged, or an internal software problem exists within the CMIP services component.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000159

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000015A

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000015B

Explanation: One or more *.DAT or *.TAB files are damaged.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

0000015C

Explanation: One or more *.DAT or *.TAB files are damaged.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

0000015D

Explanation: One or more *.DAT or *.TAB files are damaged.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

00000162

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000164

Explanation: One or more of the *.DAT or *.TAB files are damaged, or CMIP services received incorrect data from the manager node.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, the manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

00000165

Explanation: One or more of the *.DAT or *.TAB files are damaged, or CMIP services received incorrect data from the manager node.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, the manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

CMIP Services Error Codes

00000166

Explanation: CMIP services received incorrect data from the manager node.

Response: Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

00000167

Explanation: CMIP services received incorrect data from the manager node.

Response: Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

00000168

Explanation: CMIP services could not allocate enough storage to successfully complete a function, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: In order to obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, you might need to reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. Also, if you are using the APPN accounting agent, you might need to change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

If the problem persists after increasing your available storage, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000169

Explanation: One or more of the *.DAT or *.TAB files are damaged, or CMIP services received incorrect data from the manager node.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, the manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

0000016A

Explanation: One or more of the *.DAT or *.TAB files are damaged, or CMIP services received incorrect data from the manager node.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, the manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

0000016B

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000177

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000178

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000179

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000017A

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this

error code, including any related log entries, and contact
IBM Service.

0000017B

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

0000017C

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

0000017D

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

0000017E

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

0000017F

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

00000180

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

00000181

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

00000182

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

00000183

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

00000184

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

00000185

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

00000186

Explanation: An internal software problem exists in
the topology or accounting agent's use of the CMIP
services component.

Response: Record the information associated with this
error code, including any related log entries, and contact
IBM Service.

CMIP Services Error Codes

00000187

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000188

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000189

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000190

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000191

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000192

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000193

Explanation: CMIP services detected one of the following errors:

- One or more of the *.DAT or *.TAB files is damaged.
- CMIP services received incorrect data from the manager node.
- An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, the manager node might be sending incorrect data or an internal software problem might exist. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

00000194

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000195

Explanation: CMIP services received a request that specified an incorrect name of a managed object. The request can come from either an agent component attempting to register a managed object, or from a manager. The most likely cause is that the registration program (BNTRGSN.EXE) of the CMIP services component is not active. The status indicated for the CMIP services component should be *unusable*.

Response: Restart the CMIP services component using APPN Management Control. Ensure that the status of CMIP services is updated to *active*. If this error code appears in the system error log while the status of the CMIP services component is *active*, contact IBM Service.

00000196

Explanation: CMIP services received a request from a manager to create a managed object that already exists. For example, this can occur when:

1. A manager creates an accounting management control object (AMCO).
2. The manager is then stopped and restarted (deleting its knowledge of the AMCO).
3. The manager then attempts to create the AMCO.

CMIP services sends an error response back to the manager. Upon receipt of the error response, if the manager regards this condition as an error, it issues an error message to the NetView operator or authorized receiver, and logs error information in the NetView log. In the example above, the accounting manager regards this condition as normal and does not issue an error message nor log error information.

Response: If the manager issues an error message and logs error information, the user of the manager is responsible for determining the corrective action to take.

00000197

Explanation: CMIP services received a request from a manager directed to a managed object that does not exist. For example, this can occur when:

1. A manager creates an accounting management control object (AMCO).
2. The accounting agent component is then stopped (deleting the AMCO).
3. The manager then attempts to retrieve data from the AMCO.

CMIP services sends an error response back to the manager. Upon receipt of the error response, the manager issues an error message to the NetView operator or authorized receiver, and logs error information in the NetView log.

Response: The user of the manager is responsible for determining whether this condition is an error and, if so, the corrective action to take.

00000198

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: The manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000199

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: The manager node might be sending incorrect data. Capture the error by tracing the session

data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000019A

Explanation: One or more *.DAT or *.TAB files are damaged.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

0000019B

Explanation: CMIP services received a request from a manager to delete a managed object that does not exist. For example, this can occur when:

1. A manager creates an accounting management control object (AMCO).
2. The accounting agent component is then stopped (deleting the AMCO).
3. The manager then attempts to delete the AMCO.

CMIP services sends an error response back to the manager. Upon receipt of the error response, the manager issues an error message to the NetView operator or authorized receiver, and logs error information in the NetView log.

Response: The user of the manager is responsible for determining whether this condition is an error and, if so, the corrective action to take.

0000019C

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000019D

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

CMIP Services Error Codes

0000019E

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000019F

Explanation: CMIP services received a scoped request for objects that do not exist. The manager that sent the request determines whether this condition is normal or an error.

Response: The user of the manager is responsible for determining whether this condition is an error and, if so, the corrective action to take.

000001A0

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: The manager node might be sending incorrect data. Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

000001A1

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000001A2

Explanation: CMIP services received a request to create a managed object but no agent is registered to handle requests for that class of object. For example, this can occur when:

1. The accounting agent component is stopped.
2. The manager then attempts to create an accounting management control object (AMCO).

CMIP services sends an error response back to the manager. Upon receipt of the error response, the

manager issues an error message to the NetView operator or authorized receiver, and logs error information in the NetView log.

Response: The user of the manager is responsible for determining whether this condition is an error and, if so, the corrective action to take.

000001A3

Explanation: CMIP services received an event notification from an agent component, such as the accounting agent, but the discriminator object program (BNTDISCR.EXE) of the CMIP services component is not active. The discriminator object program is required in order to process the event notification. The status indicated for the CMIP services component should be *unusable*.

Response: Restart the CMIP services component using APPN Management Control. Ensure that the status of CMIP services is updated to *active*. If this error code appears in the system error log while the status of the CMIP services component is *active*, contact IBM Service.

000001F4

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000001F5

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000001F6

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000001F7

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this

error code, including any related log entries, and contact IBM Service.

000001F8

Explanation: The APPN accounting agent or APPN topology agent tried to send a CMIP linked reply, but the CMIP transaction identified in the linked reply no longer exists. The CMIP transaction was probably terminated because the corresponding manager abnormally ended without ending the CMIP transaction. CMIP services discards the CMIP linked reply.

Response: No action is required at the agent node. The termination of the CMIP transaction causes an error to be logged at the manager node, as well, and the corrective action is the responsibility of the user at the manager node.

000001F9

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000001FA

Explanation: CMIP services received incorrect data from the manager node.

Response: Capture the error by tracing the session data (at NetView or the agent node). For more information about tracing, see "Tracing Data Sent by Manager Nodes" on page 77.

00000258

Explanation: An internal software problem exists within the CMIP services component, or the OSI session to the manager has ended. If the OSI session has ended, the accounting manager or topology manager retries the CMIP transactions that were terminated.

Response: If the problem persists, record the information associated with this log entry, and contact IBM Service.

00000259

Explanation: BNTDISCR.EXE was started improperly.

Response: Start CMIP services using APPNMGMT or APPN Management Control.

0000025A

Explanation: One or more *.DAT or *.TAB files are damaged.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

0000025B

Explanation: One or more *.DAT or *.TAB files are damaged.

Response: Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

0000025C

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000025D

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000025E

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000025F

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

CMIP Services Error Codes

00000260

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000261

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000262

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000263

Explanation: The CMIP services program, BNTRGSN.EXE, unexpectedly ended.

Response: Restart CMIP services using APPNMGMT or APPN Management Control. Restart the APPN topology agent and APPN accounting agent if they were running.

00000264

Explanation: The CMIP services program BNTDISCR.EXE ended because BNTINFRA.EXE ended.

Response: Look in the error log to determine why BNTINFRA.EXE ended, and take the corrective action indicated by related error log entries. Restart CMIP services using APPNMGMT or APPN Management Control. Restart the APPN topology agent and APPN accounting agent if they were running.

000002BC

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000002BD

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000002BE

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000002BF

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000002C0

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000002EE

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000002EF

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000002F0

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this

error code, including any related log entries, and contact IBM Service.

000002F1

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000002F2

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000002F3

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000002F4

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000002F5

Explanation: CMIP services could not obtain the network-qualified CP name of the local agent node. Initialization of CMIP services fails.

Response: Related system error log entries might have been created with more information to diagnose and fix the problem. Also, make sure Communications Manager/2 and its SNA subsystem are active before restarting CMIP services.

00000323

Explanation: CMIP services received a CMIP message (a linked reply or a response) from the APPN accounting agent or APPN topology agent, but the OSI association identified in the CMIP message no longer exists. The OSI association was probably terminated because of a network error (such as an SNA session outage) before the CMIP message was sent. CMIP services discards the CMIP message.

Response: No action is required at the agent node.

The termination of the OSI association causes an error to be logged at the manager node, as well, and the corrective action is the responsibility of the accounting manager, topology manager, or the user at the manager node.

00000324

Explanation: CMIP services received incorrect data from the manager node, or an internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000325

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000326

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000327

Explanation: One or more of the *.DAT or *.TAB files are damaged, or an internal software problem exists within the CMIP services component.

Response: If there are related log entries (or CMIP services messages) containing other CMIP services error codes, use those error codes to diagnose the problem.

Otherwise, use this error code to diagnose the problem. Install the APPNTAM agent files again. See README file for instructions. Restart CMIP services using APPNMGMT or APPN Management Control.

If the problem persists, an internal software problem might exist. Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000328

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this

CMIP Services Error Codes

error code, including any related log entries, and contact IBM Service.

00000329

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000032A

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000032C

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000032E

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000032F

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000331

Explanation: A recoverable error occurred trying to create a new OSI association.

Response: Related log entries are created identifying the cause of the problem. Use the information in these log entries to diagnose and fix the problem.

00000332

Explanation: An unexpected error occurred while trying to send a message. The related OSI association is ended.

Response: Related log entries are created identifying the cause of the problem. Use the information in these log entries to diagnose and fix the problem.

00000333

Explanation: CMIP services rejected an OSI association initiated by the manager node. The capabilities specified in the request are not supported.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000334

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000335

Explanation: CMIP services could not obtain the network-qualified CP name of the local agent node. Initialization of CMIP services fails.

Response: Related log entries might have been created with more information about the error. Use this information to diagnose and fix the problem. Also, make sure that Communications Manager/2 and its SNA subsystem are active before restarting CMIP services.

00000336

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000337

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000338

Explanation: The maximum number of OSI associations allowed by CMIP services has been exceeded.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000339

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000033A

Explanation: The maximum number of local OSI associations allowed by CMIP services has been exceeded.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000035D

Explanation: CMIP services received incorrect data from the manager node. The OSI capabilities specified by the message are not supported by CMIP services. Specifically, the presentation mode is not valid.

Response: Record any associated information (such as log entries and messages) along with any associated trace information, and contact IBM Service.

0000035E

Explanation: CMIP services received incorrect data from the manager node. The OSI capabilities specified by the message are not supported by CMIP services. Specifically, the presentation protocol is not valid.

Response: Record any associated information (such as log entries and messages) along with any associated trace information, and contact IBM Service.

00000360

Explanation: CMIP services received incorrect data from the manager node. The OSI capabilities specified by the message are not supported by CMIP services. Specifically, the CMIP protocol version is not valid.

Response: Record any associated information (such as log entries and messages) along with any associated trace information, and contact IBM Service.

00000361

Explanation: CMIP services received incorrect data from the manager node. The OSI capabilities specified by the message are not supported by CMIP services. Specifically, the application context is not valid.

Response: Record any associated information (such as log entries and messages) along with any associated trace information, and contact IBM Service.

00000362

Explanation: CMIP services received incorrect data from the manager node. The OSI capabilities specified by the message are not supported by CMIP services. Specifically, the application context is missing.

Response: Record any associated information (such as log entries and messages) along with any associated trace information, and contact IBM Service.

00000363

Explanation: CMIP services received incorrect data from the manager node. The OSI capabilities specified by the message are not supported by CMIP services. Specifically, some of the context information is missing.

Response: Record any associated information (such as log entries and messages) along with any associated trace information, and contact IBM Service.

00000364

Explanation: CMIP services received incorrect data from the manager node. The OSI capabilities specified by the message are not supported by CMIP services. Specifically, the proposed presentation contexts are not valid.

Response: Record any associated information (such as log entries and messages) along with any associated trace information, and contact IBM Service.

00000365

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000366

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this

CMIP Services Error Codes

error code, including any related log entries, and contact IBM Service.

00000386

Explanation: The APPN accounting agent or APPN topology agent received a non-CMIP message from CMIP services. This is a normal condition that both the APPN accounting agent and APPN topology agent should handle.

Response: This error code should only appear in trace records.

If it appears in log entries or error messages, an internal software problem exists within the APPN accounting agent or APPN topology agent component. Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000038F

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000393

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000394

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000395

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000396

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000397

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000398

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

00000399

Explanation: The APPN accounting agent or APPN topology agent requested data from CMIP services and none is available. This is a normal condition that both the APPN accounting agent and APPN topology agent should handle.

Response: This error code should only appear in trace records.

If it appears in log entries or error messages, an internal software problem exists within the APPN accounting agent or APPN topology agent component. Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000039B

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000039D

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this

error code, including any related log entries, and contact IBM Service.

0000039E

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

0000039F

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003A0

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003A1

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003A2

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003A3

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003A4

Explanation: The maximum number of outstanding CMIP requests has been exceeded. The APPN accounting agent or APPN topology agent tried to start more CMIP requests than it is allowed.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003A6

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003A7

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003A9

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003AB

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003AC

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

CMIP Services Error Codes

000003B0

Explanation: CMIP services is not active. The APPN accounting agent and APPN topology agent should handle this error code by retrying during initialization and ending if CMIP services ends while they are active.

Response: Start CMIP services using APPNMGMT or APPN Management Control. This error code can occur while CMIP services is initializing, in which case no user action is required.

000003B1

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003B2

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003B8

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003B9

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003BA

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003BB

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003BC

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003BD

Explanation: An internal software problem exists in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003BE

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003BF

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003C1

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003C2

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003C3

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003C4

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003C5

Explanation: An internal software problem exists within the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003CC

Explanation: No shared storage is available.

Response: In order to obtain additional memory, close unnecessary applications and remove unneeded files on the disk drive that contains the OS/2 swap file (SWAPPER.DAT). If the storage problem persists, you might need to reconfigure your system and use a disk drive that has more available storage space for the swap file; use the OS/2 SWAPPATH command to define the drive and path for the swap file. Also, if you are using the APPN accounting agent, you might need to change the accounting agent work directory to a different drive; use the APPNACCT environment variable to specify the drive and path for the accounting agent work directory.

Restart the program that logged the error.

000003CD

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

Note: This error can also occur if CMIP services, the APPN accounting agent, or the APPN topology agent ends abnormally. If this happens, restart the component that ended.

000003CE

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003CF

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003D0

Explanation: CMIP services, the APPN accounting agent, or the APPN topology agent tried to receive a message from another APPNTAA program and no data is available. This is a normal condition that all APPNTAA programs should handle.

Response: This error code should only appear in trace records.

If it appears in log entries or error messages, an internal software problem exists in CMIP services, the APPN accounting agent, or the APPN topology agent. Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003D1

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this

CMIP Services Error Codes

error code, including any related log entries, and contact IBM Service.

Note: This error can also occur if CMIP services, the APPN accounting agent, or the APPN topology agent ends abnormally. If this happens, restart the component that ended.

000003D2

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

Note: This error can also occur if CMIP services, the APPN accounting agent, or the APPN topology agent tries to send a message to another APPNTAA program that is not active, initializing, or was active and ended abnormally. If this happens, restart all components that should be active.

000003D3

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003D4

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003D5

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003D6

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003D7

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003D8

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003D9

Explanation: An internal software problem exists within the CMIP services component or in the topology or accounting agent's use of the CMIP services component.

Response: Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003DA

Explanation: CMIP services, the APPN accounting agent, or the APPN topology agent tried to receive a message from another APPNTAA program and no data is available. This is a normal condition that all APPNTAA programs should handle.

Response: This error code should only appear in trace records.

If it appears in log entries or error messages, an internal software problem exists in CMIP services, the APPN accounting agent, or the APPN topology agent. Record the information associated with this error code, including any related log entries, and contact IBM Service.

000003E0

Explanation: The maximum number of messages in all OS/2 queues has been reached.

Response: Stop CMIP services and restart.

CMIP Services Error Codes

Index

A

B

IBM ®

Printed in the United States of America
on recycled paper containing 10%
recovered post-consumer fiber.