CNS 7-A1

Software Release Bulletin

Communications: CNS

DPS7000/XTA NOVASCALE 7000

CNS 7-A1

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Preface

This Software Release Bulletin covers releases CNS7 A1U0 and A1U1 of the CNS7 (Communications Network Software) operating system.

This bulletin has been written for the engineers who are to install CNS7 A1U1 on the CNP7 fully integrated or extended front-end processor of the DPS7000 computer. It contains information on the following:

- Hardware and Software Considerations

- In and On Line Tests

- Limitations and Restrictions

- Installation and Update

- Generation and Startup

- Operator Visibility and Trouble shooting

Manual Directory

The following list gives the titles and order numbers of manuals related to CNS7. All the manuals listed below may be ordered from the following address:

Bull S.A., CEDOC
Atelier de reproduction
331, Avenue Patton BP 428
49005 ANGERS Cedex, FRANCE

For more information on available documentation refer to these manuals:

List of IBM abbreviations

The following is a list of abbreviations used in this manual which are registered trade marks of the International Business Machines Corperation:

2780	Information Display System
3270	Information Display System
BSC	Binary Synchronous Communication
CICS	Customer Information Control System
IBM	International Business Machines Corperation
IMS	Information Management System
NETVIEW	Network management services
PLU	Primary Logical Unit
PU_T5	Physical Unit Type 5
PU_T2	Physical Unit Type 2
SDLC	Synchronous Data Link Control
SLU	Secondary Logical Unit
SNA	System Network Architecture
TSO	Time Sharing Option

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1. System Description

CNS7 A1 is the second release of the Communications Network Software (CNS7) operating system for the Communications Network Processor 7 (CNP7). CNP7 is a generic name which is used to designate:

- CNP7-S for the single CNP7

- CNP7-E for the extended CNP7

- CNP7-T for the twin CNP7

This release runs in front of DPS7000 computer running under GCOS7 V3A7, V3B7 or V5.x operating system.

CNS7 A1 contains all the functions of release A0U4 of the Bull CNS7 operating system as well as supporting the following new functions:

CNS7 A1U0/A1U1

- Support of X.21

- Support of Starlan networks

- Support of OSF IBM

CNS7 A1U1 also supports

- NIP3 printer

- VIP P200E synchronous terminal which is a new Bull terminal

CNS7 A1U0/A1U1 does not support

- Teleload and Telesysgen

- DPS8 attachment

2. Hardware Description

2.1 GENERAL

The CNP7 (Communications Network Processor) is a front-end network processor that is fully integrated into the cabinet of the Bull DPS7000 family of computers.

2.2   CNP7 COMPONENTS

The CNP7 is composed of a base system and upto five options that are extensions to the base:

- DCP4101 - Base for the CNP7-S

- DCP4102 - Base for the CNP7-E

2.2.1   MI's for the DCP4101

The complete list of MI's is as follows:

DCP4101-006	(MFEP) Data Communication Processor, 6m cables
DCP4101-012	(MFEP) Data Communication Processor, 12m cables
DCC4111-006	(DCAF) Data Communication Controller, 6m cables
DCC4111-012	(DCAF) Data Communication Controller, 12m cables
DCC4112-006	(LNA2) ETHERNET Local Area Network controller, 6m cables
DCC4112-012	(LNA2) ETHERNET Local Area Network controller, 12m cables
DCC4114-006	(LNA2) STARLAN Local Area Network controller, 6m cables
DCC4114-012	(LNA2) STARLAN Local Area Network controller, 12m cables
DCC4115-006	(DCBE) Data Communication Controller, 6m cables
DCC4115-012	(DCBE) Data Communication Controller, 12m cables
DCC4116-006	(DCE) Data Communication Controller, 6m cables
DCC4116-012	(DCE) Data Communication Controller, 12m cables

The DCC4110-006 and DCC4110-012 are still supported by the software, but have been superseded by the DCC4112-006, DCC4112-012.

The DCC4113-006 and DCC4113-012 are still supported by the software, but have been superseded by the DCC4115-006 and DCC4115-012.

2.2.2 MI's for the DCP4102

The complete list of MIs is as follows:

DCP4102-006	(SAM) Data Communication Processor, 6m cables
DCP4102-012	(SAM) Data Communication Processor, 12m cables
DCC4121-006	(DCAF) Data Communication Controller, 6m cables
DCC4121-012	(DCAF) Data Communication Controller, 12m cables
DCC4122-006	(LNA2) ETHERNET Local Area Network controller, 6m cables
DCC4122-012	(LNA2) ETHERNET Local Area Network controller, 12m cables
DCC4124-006	(LNA2) STARLAN Local Area Network controller, 6m cables
DCC4124-012	(LNA2) STARLAN Local Area Network controller, 12m cables
DCC4125-006	(DCBE) Data Communication Controller, 6m cables
DCC4125-012	(DCBE) Data Communication Controller, 12m cables
DCC4126-006	(DCE) Data Communication Controller, 6m cables
DCC4126-012	(DCE) Data Communication Controller, 12m cables

NOTE: To simplify the text we will use the MI name without the cable length designation (-006/-012) and use DCC41xn to define both the DCP4101 and DCP4102 boards.

Example:

DCC41x2 will be used for DCC4112-006, DCC4112-012, DCC4122-006 and DCC4122-012.

2.3 BASIC CONFIGURATION

The basic configuration includes a DCC41x2 communication controller, (see below), which contains from 1 to 4 V.24/V.28 asynchronous, byte synchronous or bit synchronous lines with a maximum overall speed of 19.2 kbit/s. Note that the throughput of the controller depends on the protocols used. All protocols are available.

NOTE: If the basic controller is a DCC4110, HDLC/SDLC and byte synchronous lines can only be used if external equipment (terminals, modems etc.) provide their own timing. New models will have a DCC41x2 controller which has a clock and can connect to any HDLC/SDLC or byte synchronous equipment.

2.4   DCC4110 LOCAL NETWORK ADAPTOR (LNAF)

Includes a LAN controller for an Ethernet Local Area Network and from 1 to 4 multiprotocol lines (V.24/V.28) as in the basic configuration.

NOTES: 1.   The throughput on the LAN is limited by the maximum throughput of the CPU.

2.   The DCC4110 has no clock, therefore HDLC and byte synchronous lines can only be used if the external equipment provides its own timing.

2.5   DCC41X1 COMMUNICATION CONTROLLER (DCAF)

Includes up to 4 multiprotocol lines as follows:

- 1 V.35 line of up to 64 kbit/s, dedicated to HDLC/SDLC protocol, on port 0

- 1 V.24/V.28 line, giving improved controller throughput with HDLC protocol (up to 19.2 kbit/s) but can be used with asynchronous or byte synchronous protocol on port 1

- 2 asynchronous, byte synchronous or bit synchronous V.24/V.28 lines of up to 19.2 kbit/s overall on ports 2 and 3

Overall throughput of the controller with asynchronous and byte synchronous protocols on ports 1, 2 and 3 or with bit synchronous protocol on ports 2 and 3 is 19.2 kbit/s.

2.6   DCC41X2/DCC41X4 LOCAL NETWORK ADAPTOR (LNA2)

Includes a LAN controller for an Ethernet/Starlan Local Area Network and from 1 to 4 multiprotocol lines (V.24/V.28) as in the basic configuration.

NOTES: 1.   The throughput on the LAN is limited by the maximum throughput of the CPU.

2.   The DCC41x2 has a clock enabling it to connect to ant HDLC/SDLC or byte synchronous equipment.

2.7   DCC4113 COMMUNICATION CONTROLLER (DCBF)

NOTE: The software still supports the DCC4113 controller for migration, but it has been superseded by the DCC4115.

2.8   DCC41X5 COMMUNICATION CONTROLLER (DCBE)

From 1 to 4 multiprotocol V.11 lines. Note that X.21 is supported.

Each line is capable of running at up to 64 kbit/s with a maximum throughput for the controller of 256 kbit/s with HDLC/SDLC protocol.

Overall throughput of the controller, with asynchronous and byte synchronous protocols which are available on all ports, is 38.4 kbits.

2.9   DCC41X6 COMMUNICATION CONTROLLER (DCE)

From 1 to 4 multiprotocol V.24 lines.

Each line is capable of speeds up to 19.2 kbit/s with a maximum throughput for the controller of 76.8 kbit/s with the HDLC/SDLC protocol.

Overall throughput of the controller, with asynchronous and byte synchronous protocols which are available on all ports, is 38.4 kbit/s.

3. Software Considerations

3.1 SOFTWARE PRODUCTS

This Software Release Bulletin is directly concerned with the following software products:

```
CNS7             =        A1U0 and A1U1
GCOS7            =        V3A7, V3B7, V5.x
DNS              =        C1U5, C1U6, V4Ux
GCOS6 Mod 400    =        R3.1 and R4.1
HVS              =        2.0
```

3.2   SOFTWARE FUNCTIONS

All functions supported by CNS A0 are supported by CNS A1.

CNS A1U0 introduces the support of OSF/SNA 2.1, X.21 public networks and Starlan networks. It also supports LNA2 and DCBE boards

CNS A1U1 introduces the support of the NIP3 printer and synchonous VIP P200E terminals.

3.2.1   Main Functions

The CNP7/CNS7 System is part of a DSA network.

It enables the GCOS7 system to access the DSA network.

Administrative components exist to control the system.

Generation tools exist to adapt the CNS7 software to customer needs.

3.2.2   Primary Network

The primary network consists of connections between host systems and other nodes of a DSA network.

The link with the DPS7000 is through an ISL (Inter System Link). The ISL connection uses the same protocols as an E-LAN (Establishment Local Area Network).

The links to other remote ISO/DSA systems can be made through:

- HDLC/SDLC links (point to point or multipoint).
- X.25 private networks
- X.25 public networks
- X.21 public networks
- LAN (Ethernet or Starlan)

3.2.3   Secondary Network

The secondary network is the part of the system relative to the connection of terminals. One part of the software is concerned with the connection of the terminal itself (particularity of the link), and the other with the mapping to the DSA network.

The following terminal types are supported:

Asynchronous:

- Direct connection
- Leased line
- Switched line
- Through a PAD access point (X.25 direct or via a PAD/E-LAN switch).

Minitel (French Videotex Terminal)

- Leased line
- Switched line
- Through Transpac (Teletel)

VIP Synchronous

- Direct connection
- Leased line
- Switched line
- Terminal Controller through an X.25 connection

3270 BSC

- Direct connection
- Leased line
- Switched line

2780 Emulations (for MCS applications)

- Direct connection
- Leased line
- Switched line

NOTE: See the *CNS7 Terminal Management Reference Manual and CNS7 System Operations Manual* for more information.

3.2.4   OSF/SNA

The CNP7 is viewed as an SNA node. Two types of nodes are supported:

- PU_T2: A CNP7 connected over an SDLC line or connected through an X.25 public network (X.25 QLLC). The DPS7000 end user is an SLU.

- PU_T5: A CNP7 connected over an SDLC line can be supported by one PU_T5 emulation. The DPS7000 end user is an SLU or PLU supporting multiple or parallel sessions.

SNA Routing:

- One PU_T5 emulation can support several transmission groups on SDLC links and DSA transport between two OSF gateways supporting SNA flow.

Terminals access:

- Forward Gateway: connection between the DSA 3270 terminal manager and the IBM applications (IMS/CICS/TSO/NETVIEW...). The session only supports the 3270 data stream presentation.

- Reverse Gateway: connection between 3270 terminals of the SNA network (SNA/BSC) and BULL application on the DPS7000 (IOF/TDS/...) (for PU_T5 only).

Two level TP:

- Connection to IBM applications, IMS using LUP session, CICS using LU0 FULL FUNCTION session. (TDS7 (XCP1) to IMS and CICS). DPS7000 TDS7 is always the requestor, the IBM TP the server.

File transfer:

- The UFTF (IBM) can exchange QSAM or VSAM files with UFT7 (DPS7000) using several sessions. UFTF can be either the requestor or the server and supports automatic recovery procedures, online operator interface and user exit routines (before and after file transfer).

The OSF/SNA V2.1 has been qualified for the following software product levels:

```
VTAM    V3.R2
NCP     V4.R3.1
NPSI    V2.R1
IMS     130
CICS    170
```

However, Bull supports OSF/SNA from these levels:

```
FOR PU T5:    VTAM    V3          FOR PU T2:    VTAM    V2
              NCP     V2                        NCP     V1.R3
              NPSI    V1.R2                     NPSI    V1.R2
              IMS     120                       IMS     120
              CICS    160                       CICS    170
```

3.2.5   Administration

The CNS7 software provides the ability to monitor and act on events concerning the system.

A network administrator (NAD) is an integral part of the CNS7 software and performs the following:

- Reports the events to a log file located on the DPS7000 or a remote DSA host

- Interfaces with the in/on line test programs

- Acts on the system when requested by a network operator

- Gives information on the system

A network operator interface (NOI) is provided to allow interactive terminals to control the NAD. A special software module exists on the DPS7000 (EDD) that allows a GCOS7 operator to be connected to the NOI without an additional terminal. Many operators can be connected simultaneously to the NOI.

Filters in the NOI and NAD functions limit the number of messages sent by the system, or reduce the set of commands available to the operator.

3.2.6   Generation

Each customer uses a particular network configuration.

For this reason, tools are provided to customize the network configurations.

Three steps are necessary:

- Build a configuration source file describing the hardware, lines, terminals, administration, network and applications.

- Build a software image corresponding to this configuration. This step is called Generation. To do this, normal operation of the network must be stopped.

- Load this image in CNP7.

The first step may be performed using the GCOS7 program called FPG7 (Front End Processor Generator on DPS7).

This program is run interactively. By responding to questions, the network administrator obtains a source file. If required, modifications can be made for special options by the use of a GCOS7 editor.

A minimum software image, called 'SYSGEN', is provided to get access to FPG7 the first time the system is run (See Section 8).

NOTE: This configuration source file is in the SYS.DSASLIB library and its name is A1U1CONFSYSG.

3.2.7   Change DCBF Board to DCBE Board

```
When a DCB board is replaced by a DCBE board, only the CT command
in the generation file is required to change. It is changed as
follows:

                CT <name> DCB...
                   becomes
                CT <name> DCBE...
```

3.2.8   Change LNAF Board to LNA2 Board

When an LNAF board is replaced by an LNA2 board, the generation file does not change.

3.2.9   CNX Parameter on TS LOC Command

The parameter -CNX of the TS LOC command specifies the maximum number of transport connections for the local DSA transport station. To compute the correct value, add the following:

- Every connection from/to GCOS7.

- Every connection from/to remote site via a DSA or DIWS Transport.

- Every terminal connected by a TGX or X25 cluster.

Example:

- An asynchronous, VIP, 3270 or PAD terminal connected to GCOS7 or to a remote site = 1 transport connection.

- A file transfer between GCOS7 and a remote site (1 between GCOS7 and CNP7, +1 between CNP7 and the remote site) = 2 transport connections.

- A remote terminal connected through the DSA network to GCOS7 (1 between the remote site and CNP7, + 1 between CNP7 and GCOS7) = 2 transport connections.

- A terminal connected to GCOS7 or a remote site through a TGX or X25 cluster (1 between the terminal and the terminal handler in CNP7, + 1 between the terminal handler and the application) = 2 transport connections.

- An OSF session connected to a DSA application = 1 transport connection.

3.3   NEW ENCODING OF SYSER

With CNS A1U0/A1U1, CNS7 introduces a new encoding of the SYSER, equivalent to **UBER** on CNS A0. This new encoding will help intervention and is as follows.

```
-UBxy for hardware and software defaults:
    Where:
         x = 0, 1, ... 7:      GCU access to memory
         x = 8, 9, ... F:      Compute x - 8 = DEA number which was
                                  for the Bus error
             UBx1: Hardware watchdog
             UBx3: Access to PROM
             UBx5: MMU error (addressing out of range)
             UBx7: Bus violation
             UBx9: DEA Bus error
             UBxB: Byte 0 parity error (on GCU)
             UBxD: Byte 1 parity error (on GCU)
             UBxF: Miscellaneous
```

The Syser **AWDG** occurs when there is a software loop.

The Syser **UKxx** occurs when there is a miscellaneous trap or interruption. **xx** is the trap or interruption number.

4. In/On Line Tests

4.1 THE TWO TYPES OF TEST

The CNS7 software contains In and On Line Tests.

- On-Line Tests, that do not inhibit operation of the network

- In-Line Tests, that require network resources to be locked for the exclusive use of the test

The tests are generally run by a network operator. However, they can also be run by the DPS7000 operator using the EDD module mentioned in Section 3.

4.2 FUNCTIONS

The tests can be carried out on the following:

- The lines, with three levels of loop-back.

- The connection to the Local Area Network (or the ISL).

- Connection and status to a system connected to the LAN (Ethernet or Starlan or ISL).

- Connections through an X.25 network

- Connections from the CNP7 to terminals

- Interactive echo from devices to the CNP7 executed by the terminal operator

- Connection between two DSA nodes with the BNSE Test

Refer to the *In/On Line Test Manual* for more information.

These tests enable any operator to detect a fault on the network.

4.3   THE BNSE TEST

When this is used between CNS7 and GCOS7, the following items must be checked:

- Maximum number of repeats is 32000.

- Never use the CL and UP commands.

NOTE: It is necessary to include MB $NSE and $NSF USER in the configuration file if BNSE is used. FPG7 generates this automatically.

5. System Restrictions

5.1   REMOTE PAD ACCESS

The access from a PAD terminal to a specified remote PAD Terminal Manager (via a switch) whose name is given in the user data field when the connection is made, does not work when the local subscription is protected by a password in the CNS7 configuration.

5.2   FUNCTIONS NOT YET IMPLEMENTED

The following functions may be documented, but they are not yet operational:

- High speed lines (speed > 64 kbps).

- OSF/SNA SSC (SNA Station Controller).

- Loading of remote systems.

- Loading the CNP7 by a link other than the ISL.

- Connection of terminals to a GCOS8 system.

- Modem TRADAN 1110 is not supported.

5.3   TERMINALS IN SDP MODE

CNS7 does not provide for the predefinition of asynchronous terminals in SDP (Standard Device Protocol) mode. Therefore, these terminal models must be predefined in the generation.

5.4   LNAF BOARD CONNECTIONS:

On LNAF Board, there are some restrictions concerning connectivity of lines:

- 108/1 is unavailable.

- DIRECT with HDLC is unavailable.

- DIRECT with synchronous terminals is available only if the terminals provide the clock.

    NOTE: The LNA2 board does not have these restrictions.

5.5   CNS A1 RESTRICTIONS:

- Connection from a VIP7801 terminal to its printer.

- It is impossible to use the ISO/DSA gateway if the remote node is configured as a SC EQU on a X25 Network. Use in this case a SC RMT.

- In a Device Pool of printers, if the first printer is unavailable, the application will retry until the connection is established with an available printer.

5.6   CNS A1 CONFIGURATION RECOMMENDATION:

- The CNS generation does not check if there are different types of NR mapped to an NU X.25. This must be done by the user, who must also check that NR SLAN and NR SX25 are not mapped to the same NU X.25.

- If you use minitel with MINITEL2 or MINITELX models to connect IOF, do not put the -RACK option in the DV command. If -RACK is used, the status is sent to IOF and IOF sends back the message: UNKNOWN COMMAND.

- "Null Profil" with PAD device is forbidden, NOX29 or NOX29S option in the DV command must be used.

- With 2780 configuration, the parameter -SPD is mandatory in the PL command.

5.7   FPG7 - V3.0

FPG7 V3.0 does not support OSF/SNA configuration.

6. System Limits

The CNP7 front-end processor, as in any system, has a limited capacity in terms of CPU performance and memory size. Also, communication controllers have limits in terms of CPU performance.

If one of these components attempts the maximum limit, effects may be visible. Therefore, it is necessary to monitor the use of the system to insure that these limits are not reached.

6.1   COMMUNICATIONS CONTROLLERS

Each controller can be configured in several different ways. In particular, the position of the HDLC lines and the overall maximum line speed for all or part of the controller should be carefully controlled.

The following tables illustrate these considerations:

Table 6-1. DCC4110controller configuration

DCC4110	Port 0 V24/28	Port 1 V24/28	Port 2 V24/28	Port 3 V24/28	LNAF
Any protocol	SO +	S1 +	S2 +	S3 =	Max 19.2

Table 6-2. DCC41X1 controller configuration

DCC41x1	Port 0 V35	Port 1 V24/28	Port 2 V24/28	Port 3 V24/28	DCAF
1 HDLC line	64	S1 +	S2 +	S3 =	Max 19.2
2+ HDLC lines	64	19.2	S2 +	S3 =	Max 19.2

Table 6-3. DCC41X2/DCC41X4 controller configuration

DCC41x2 /DCC41x4	Port 0 V24/28	Port 1 V24/28	Port 2 V24/28	Port 3 V24/28	LNA2
Any protocol	S0 +	S1 +	S2 +	S3 =	Max 19.2

Table 6-4. DCC41X5 controller configuration

DCC41x5	Port 0 V11	Port 1 V11	Port 2 V11	Port 3 V11	DCBE
0 HDLC lines	S0 +	S1 +	S2 +	S3 =	Max 38.4
1 HDLC line	64	S1 +	S2 +	S3 =	Max 38.4
2 HDLC lines	64	64	S2 +	S3 =	Max 38.4
3 HDLC lines	64	64	64	S3 =	Max 19.2
4 HDLC lines	64	64	64	64	

Table 6-5. DCC41X6 controller configuration

DCC41x6	Port 0 V24/28	Port 1 V24/28	Port 2 V24/28	Port 3 V24/28	DCE
0 HDLC lines	S0 +	S1 +	S2 +	S3 =	Max 38.4
1 HDLC line	19.2	S1 +	S2 +	S3 =	Max 38.4
2 HDLC lines	19.2	19.2	S2 +	S3 =	Max 38.4
3 HDLC lines	19.2	19.2	19.2	S3 =	Max 19.2
4 HDLC lines	19.2	19.2	19.2	19.2	

6.2   FILE TRANSFER ON THE LAN

When the traffic is heavy over a long period, adverse effects may become visible. This could happen with UFT over E-LAN.

For this reason, it is recommended that file transfers over the Local Area Network be done only when the network can be exclusively reserved for this purpose. If not, there is a risk that system administration (NOI), as well as secondary network response time, may be affected.

6.3   CONFIGURATION

The following configurations are supported by CNS7 A1U1:

- 80 sessions with asynchronous, VIP, 3270, 2780, X.25, E-LAN, ISO access to DSA applications.

- 100 sessions with only VIP and asynchronous or Minitel terminals (connected directly or through X.25).

- 90 sessions if 2780 or 3270 terminals are used in addition to VIP, asynchronous or Minitel terminals.

- 50 sessions when OSF/SNA is configured.

6.4   CPU PERFORMANCE

The following tables show the CPU performance for each type of connection:

Table 6-6. CPU Performance

TYPE OF LINK	MAXIMUM THROUGHPUT
VIP terminals	10 trans/sec
VIP terminals through X.25	5 trans/sec
Asynchronous terminals	8 trans/sec
PAD/minitel terminals on X.25	3 trans/sec
PAD/minitel terminals on LAN	4 trans/sec
3270 terminals	4 trans/sec
2780 terminals	13 messages/sec
E-LAN	10 trans/sec
Transport on X.25 public lines	5 trans/sec
ISO/DSA on E-LAN	7 trans/sec
ISO/DSA on X.25 public lines	4 trans/sec
X.25 packed switching OSF/SNA-	27 trans/sec
Forward gateway	3.5 trans/sec
Reverse gateway	5.5 trans/sec

Table 6-7. CPU Performance for UFT on E-LAN

TYPE OF LINK	MAXIMUM THROUGHPUT
UFT throughpt on E-LAN	40 TPDU/sec

7. Installation and Update

7.1   DIUF

The DIUF (DSA Installation and Update Facility) deals with the installation and updating procedures of the DSA system file domain required to support the new GCOS7-V3A7/V3B7/V5.x telecom feature included in CNS7. Refer to the *GCOS7-V3A7 System Installation Configuration and Updating Guide - SICUG* or the *GCOS7-V3B7/V5 System Installation Configuration and Updating Guide - SICUG*.

7.2   DSA LIBRARIES

SYS.DSABLIB:	contains the CNS7 Bound Units
SYS.DSASLIB:	contains CLC, PATCH0 (empty), PATCH1, PATCH2, CHXMOD, DLCMSF, DLCMSG, DLCKW, and members for DIUF.
SYS.DSALMLIB:	contains the load modules for DIUF (H_DIUF_GCL and H_DIUF_MNPTF).
SYS.DSADUMP:	contains the dump memory images
SYS.DSACONF:	<u>user library</u> containing the source member of the CNS7 generation and source file for the Network Generation.
SYS.DSACORE:	<u>user library</u> containing the IMA (memory image) to load CNS7 after generation, and NG generation members: NETGEN_TRMN NETGEN_CTMN

NOTE: When you create personalized message files , it is recommanded that these are put in the SYS.DSACONF library. This will avoid their deletion is any software updates are installed.

7.3   INITIAL INSTALLATION

The first installation is made using the R-set disk. To connect IOF under the SYSADMIN user and project, proceed as follows:

1)   Mount the media containing the CNS7 release to be installed.

2)   Enter this command:

```
S:DIUF SET=R FUNCTION=INSTAL;
```

The following screen appears:

```
TSVOL=md:dvc (ex: CNA1U1:MT/T9)

TS=

DSAVOL=
```

NOTE: TS and DSAVOL are significant for an installation disk only.

These libraries are then created:

```
SYS.DSABLIB, SYS.DSASLIB, SYS.DSALMLIB, SYS.DSACMD
```

3)   Next, install the GSF domain and run VALIDR (GIUF), load GCOS from the new R-Set, prepare the work disk(s) and the P-Set TAILOR parameters.

4)   This command can then be entered:

```
S:GIUF FUNCTION=BUILDP;
```

These libraries are created:

```
SYS.DSACONF, SYS.DSACORE, SYS.DSADUMP
```

(Optionally, the SYS.DSALOG1 file can be created by the DSALOG command.)

5)   Reload the system from P-set

6)   Generate CNS7

For further information, refer to the appropriate SICUG manual.

7.4   INSTALLATION OF RELEASE

7.4.1   DIUF

The DSA system file domain is installed as follows:

1)   Mount the media containing the CNS7 version to be installed.

2)   Enter this DIUF command:

```
     S:DIUF FUNCTION=INSTAL SET=<SET running>;
```

TSVOL = md:dvc (ex: CNA1U1: MT/T9);

This command is the same as the command for the initial installation and the new version erases only the same identification (A1U1).

or:

```
     S:DIUF FUNCTION = UPDATE SET = <SET running>;
```

TSVOL = md:dvc;

3)   Generate CNS7 with the installed version.

NOTE: DIUF FUNCTION = UPDATE TSREF = <Version> is reserved to install a new update of the version (eg: A0U4 on A0U3, and not A1U0 on A0U4). This function requires a good knowledge of how the site and system history.

7.4.2   Migration

Step 1:   Install the new version with DIUF .

Step 2:   Make the generation of the new release without changing anything in the old one: (e.g. A0U4)

STSVR FECM CNP7 ACTION = SYSGEN VERSION = A1U1

Step 3:   When the generation is done, try the new release. To load it, use the following command:

STSVR FECM CNP7 ACTION = LOAD VERSION = A1U1

The default version is still A0U4.

Step 4:   When the new version is correctly installed, change the version number in the SCENARIO file.

Change node statement from A0U4 to A1U1, as in this example:

```
            NODE CNP7 RELOAD -VERSION A0U4
```
to:
```
            NODE CNP7 RELOAD -VERSION A1U1
```

NOTE: CNP7, in the commands, is the site name of the CNP7 .

When everything is working correctly, you may cancel the old update (A0U4) to save disk space, as explained below.

7.5   CANCEL UPDATE

This command is used to remove an old TS release from the system when the current TS is operational:

```
S:DIUF FUNCTION=DELETE_TS SET=<SET running>;
```

The following screen appears:

```
TS=VERSION (ex: A0U4)
```

7.6 PATCHER

This DIUF command is used to work with patches:

```
S:DIUF FUNCTION=PATCH SET=<SET running>
```

The following screen appears:

```
TS=VERSION (ex: A1U1)
```

```
PAT_PATFILE = name of the patch file (ex:
TSU.INFO.SER..A1U1Dxxxxx).
```

NOTE: The patches are transferred into SYS.DSASLIB (PATCH1 and PATCH2). The CLC (Cumulative List of Corrections) member is automatically updated. To apply these corrections to the CNS7 images, it may be necessary to make a new generation.

```
Syntax of the first statement of a Patch
    0  0  0   1  1    2  2    3  3  3            8
    1  3  6   1  5    2  6    2  6  9            0
    *  xi ccuu KPN kkkkkk SER sssss REV vv cc....... c
       :: :         :         :         :    :.. Comment
       :: :         :         :         :
       :: :         :         :         :...... Patch revision number
       :: :         :         :
       :: :         :         :............... SER number (5 char.)
       :: :         :
       :: :         :.......................... Known Problem number (6 char.)
       :: :
       :: :................................... Version and Update name
       ::
       ::................................... Patch File impacted
       :                                         -1 for patch 1
       :                                         -2 for patch 2
       :
       :................................... Request type
                                                 -P for patch
                                                 -D for delete
                                                 -R for recover
```

Syntax of a Patch to include

```
    * P2 A1U1 KPN ...... SER ..... REV ..
    ... (lines of code making up the patch)
    * EOC
```

Syntax of a Patch to cancel

Create a file with a statement.

```
    * D2 A1U1 KPN ...... SER ..... REV ..
```

Syntax of a Patch to recover

Recover a patch which has been deleted since the installation of the TS.

```
                * R2 A1U0 KPN ...... SER ..... REV ..
```

```
DIUF FUNCTION = INSTAL EXAMPLE
--------------------------------------------------------------------------
S: DIUF FUNCTION=INSTAL;
DIUF_INSTAL
DNS-CNS Installation
CNA1U0 : MT/T9

Installation Volume

TS must only be specified when TSVOL is a disk
TS Technical Status to be installed.

When first installation DSAVOL must be specified giving the volume
which DSA domain files should be allocated
DSAVOL DSA Domain Files Volume
--------------------------------------------------------------------------
CNA1U0:MT:/T9-->16.59 X1766 IN INSTAL SYSADMIN P SPR=5 MAIN
-->16.59 X1766 STARTED INSTAL SYSADMIN
-->FROM SYSADMIN     X1766 :
-->FROM SYSADMIN     X1766 : DNS/CNS TECHNICAL STATUS INSTALLATION:
-->FROM SYSADMIN     X1766 : FOR TS  ON RUN-SET
-->FROM SYSADMIN     X1766 : INSTALLATION TYPE IS INSTAL
-->FROM SYSADMIN     X1766 :
-->FROM SYSADMIN     X1766 :
-->FROM SYSADMIN     X1766 : DIUF FACTORY VERSION 041 ALREADY INSTALLED,
-->FROM SYSADMIN     X1766 :    DOES NOT NEED RE-INSTALLATION
S:
-->FROM SYSADMIN     X1766 :
-->FROM SYSADMIN     X1766 : LOADING OF A1U0 MEMBERS IN DSA DOMAIN FILES
-->FROM SYSADMIN     X1766 :
-->FROM SYSADMIN     X1766 :
-->FROM SYSADMIN     X1766 : SUCCESSFULL INSTALLATION OF DNS/CNS TECHNICAL STATUS  ON RUN-SET
-->FROM SYSADMIN     X1766 : JOB INSTAL_DSA SUCCESSFULLY COMPLETED
-->FROM SYSADMIN     X1766 :
-->17.04 X1766.49 COMPLETED INSTAL SYSADMIN P

DIUF FUNCTION = PATCH EXAMPLE
--------------------------------------------------------------------------
S: ENTER_DIUF FUNCTION=PATCH;
>>>17:07 DIUF  22.00
DIUF >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
DIUF
DIUF    THE TARGET-SET : P2-SET    (P2DISK:MS/D500)
DIUF    CONTAINS THE FOLLOWING TECHNICAL STATUSES:
DIUF
DIUF         A0U4
DIUF         A1U0
DIUF
DIUF    CHOOSE THE ONE TO BE MODIFIED,
DIUF    TRANSMIT AND ANSWER NEXT PAGE.
DIUF
DIUF <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

   Name of the Technical Status to be modified  :  A1U0

--------------------------------------------------------------------------
   PAT_PATFILE

   Identification of the file or subfile containing the modifications to be
   applied on the specified TS.
```

```
Identification of the file or subfile to be used as report file  :  SYS.DSACONF..PATCHUSER

------------------------------------------------------------------------------
DIUF >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
DIUF
DIUF    DNS/CNS TECHNICAL STATUS MODIFICATION :
DIUF
DIUF    MODIFICATIONS WILL BE APPLIED ON THE : P2-SET    (P2DISK:MS/D500)
DIUF    THE TECHNICAL STATUS : A1U0 WILL BE MODIFIED
DIUF
DIUF    INPUT MODIFICATIONS WILL BE TAKEN FROM :
DIUF            SYS.DSACONF..PATCHUSER
DIUF
DIUF    VERIFY ALL THE ABOVE PARAMETERS,
DIUF    TRANSMIT AND ANSWER NEXT PAGE.
DIUF
DIUF <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

If you agree with just listed parameters, confirm them with "Y",
If you do not agree, you can either Retry and enter new parameters with "R",
or cancel and Quit with "Q"
CONFIRM Confirm (Y), Retry (R), or Quit (Q)  :  Y

------------------------------------------------------------------------------
<<<17:08
-->17.08 X1768 IN PATCH SYSADMIN P SPR=5 MAIN
-->17.08 X1768 STARTED PATCH SYSADMIN P
-->FROM SYSADMIN    X1768 :     SET= P2;
-->FROM SYSADMIN    X1768 :   SETMD= P2DISK;
-->FROM SYSADMIN    X1768 :  SETDVC= MS/D500;
-->FROM SYSADMIN    X1768 :      TS= A1U0;
-->FROM SYSADMIN    X1768 : PATFILE= SYS.DSACONF SUBFILE=PATCHUSER;
-->FROM SYSADMIN    X1768 : PRTFILE= SYS.OUT ;
-->FROM SYSADMIN    X1768 :
-->FROM SYSADMIN    X1768 : SUCCESSFULL PATCHES FILES MODIFICATIONS
-->FROM SYSADMIN    X1768 : OF TS A1U0 ON P2-SET
-->FROM SYSADMIN    X1768 :
-->17.09 X1768.2 COMPLETED PATCH SYSADMIN P

DIUF FUNCTION = LIST EXAMPLE
------------------------------------------------------------------------------
S: DIUF FUNCTION=LIST;
>>>16:50 DIUF  22.00
DIUF >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
DIUF
DIUF    THE TARGET-SET : P2-SET    (P2DISK:MS/D500)
DIUF    CONTAINS THE FOLLOWING TECHNICAL STATUSES:
DIUF
DIUF        A0U3
DIUF        A0U4
DIUF        A1U0
DIUF
DIUF    THE DIUF FACTORY INSTALLED ON THE TARGET_SET
DIUF    IS AT THE VERSION NUMBER : 041
DIUF
DIUF <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
<<<16:50

DIUF FUNCTION = DELETE_TS EXAMPLE
------------------------------------------------------------------------------
S: ENTER_DIUF FUNCTION=DELETE_TS;
>>>16:55 DIUF  22.00
DIUF >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
DIUF
DIUF    THE TARGET-SET : P2-SET    (P2DISK:MS/D500)
DIUF    CONTAINS THE FOLLOWING TECHNICAL STATUSES:
DIUF
DIUF        A0U3
DIUF        A0U4
DIUF        A1U0
DIUF
DIUF    CHOOSE THE ONE TO BE DELETED,
DIUF    TRANSMIT AND ANSWER NEXT PAGE.
DIUF
DIUF <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<


   Name of the Technical Status to be deleted  :  A0U3
```

```
--------------------------------------------------------------------------
DIUF >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
DIUF
DIUF    DNS/CNS TECHNICAL STATUS DELETION :
DIUF
DIUF    DELETION WILL APPLY ON THE : P2-SET    (P2DISK:MS/D500)
DIUF    THE TECHNICAL STATUS : A0U3 WILL BE DELETED
DIUF
DIUF    VERIFY ALL THE ABOVE PARAMETERS,
DIUF    TRANSMIT AND ANSWER NEXT PAGE.
DIUF
DIUF <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<


If you agree with just listed parameters, confirm them with "Y",
If you do not agree, you can either Retry and enter new parameters with "R",
or cancel and Quit with "Q"
CONFIRM   Confirm (Y), Retry (R), or Quit (Q)  :  Y



-->16.56 X1765 IN DELETE_T SYSADMIN P SPR=5 MAIN
-->16.56 X1765 STARTED DELETE_T SYSADMIN P
-->FROM SYSADMIN      X1765 :
-->FROM SYSADMIN      X1765 : DELETION OF DNS OR CNS TECHNICAL STATUS A0U3 ON P2-SET
-->FROM SYSADMIN      X1765 :
-->FROM SYSADMIN      X1765 :
-->FROM SYSADMIN      X1765 : SUCCESSFUL DELETION OF TECHNICAL STATUS A0U3 ON THE P2-SET
-->FROM SYSADMIN      X1765 : JOB DELETE_TS_DSA SUCCESSFULLY COMPLETED
-->FROM SYSADMIN      X1765 :
-->16.57 X1765.4 COMPLETED DELETE_T SYSADMIN P
```

8. Generation and Startup

8.1 DOCUMENTATION

The information required for generation and startup is contained in the following documentation:

GCOS7 OVERVIEW AND GENERATION.. *47 A2 30UC*

GCOS7 NETWORK OPERATION.. *47 A2 31UC*

CNS7 SYSTEM GENERATION *39 A2 40DM*

PU_T5 GENERATION GUIDE.. *39 A2 95DM*

PU_T2 GENERATION GUIDE.. *39 A2 96DM*

SIMPLE GENERATION GUIDE USING FPG7 .... *39 A2 46DM*

8.2   PREPARING THE GENERATION

8.2.1   The FPG7 Command

Entering the command, FPG7, in the IOF (Interactive Operator Facility) domain causes you to leave the IOF domain and enter the FPG7 domain. In the FPG7 domain, the following six commands are available:

1)   CREATE_CONFIGURATION,

2)   MODIFY_CONFIGURATION,

3)   CREATE_NETGEN

4)   EDIT,

5)   FSE,

6)   QUIT.

Use these commands to create/maintain CNP7 configuration file(s).

FPG7 is a tool which provides:

- Creation of CNS7 configuration ready to be generated,

- Modification of the configuration built by FPG7.

FPG7 requires the knowledge of current documentation on:

- Network Schema with DSA addresses and names

- Hardware installation on the CNP7 (LINES, ADDRESSES, SPEEDS...)

- Software marketing identifiers of the site

- X.25 Public Data Network Subscription Sheet

It is interactive (built with chained menus and helps)

FPG7 is a command accessible under IOF

It may only be used on page mode terminals.

8.2.2   Using FPG7 for a First Installation of CNS7

The procedures for using FPG7 are as follows:

1)   TNS is started with this command:

```
STSVR TNS
```

2)   Load the IMA 'SYSGEN' with this command:

```
STSVR FECM CNP7 ACTION=INSTALL (This is the scenario name for
the install action.)
```

3)   Connect a PAGEMODE DEVICE to CNP7 on a plug that is compatible with the IMA 'SYSGEN' (See controller configurations, below.).

4)   Press the <CR> key and the following screen appears:

```
$$4200 MODEL:<model>
$$ 000 ***CNS *RLS:A1U1 *PTS0001/PTL:0010 *SYS/BP6A
*GEN:1989/10/22 17:50/13***
```

5)   Connect to the IOF:

```
$$4700 CORRESPONDENT:IOF
$$4800 PARAMETERS: (Type a space followed by <CR>)
```

6)   Enter FPG7 under IOF:

```
S: FPG7
```

The models in the IMA 'SYSGEN' are as follows:

Synchronous:

```
DKU7211, DKU7005, DKU7007, DKU7105,
VIP7001, VIP7804, 3277-2E, 3278-2E, 3286-2E.
```

Asynchronous:

```
DKU7102, TTU8126, VIP7801, TXT7801, PC7800.
```

Configuration of the Controllers

The configuration of the 'SYSGEN' IMA controllers, wherever they are located, is as follows:

LNA Board

Line 1:   VIP without cluster, with modem
                                 Device Address: 0
                                 Default Model: VIP7001

Line 2:   VIP with cluster, with modem
                                 Cluster Address: 0
                                 Device Address: 1
                                 Default Model: VIP7001

Line 3:   3270 with modem
                                 Cluster Address: 0
                                 Device Address: 0
                                 Default Model: 3277-2E

Line 4:   Asynchronous Device, VIP7801, Speed: 2400/4800/9600 bps

DCE Board or DCA Board or DCBE Board

Line 2:   VIP without cluster, without modem
                                 Device Address: 0
                                 Default Model: VIP7001

Line 3:   VIP with cluster, without modem
                                 Cluster Address: 0
                                 Device Address: 1
                                 Default Model: VIP7001

Line 4:   Asynchronous Device, VIP7801, SPEED: 2400/4800/9600 bps

8.3   SCENARIOS

CNP7 is handled at GCOS7 level by scenarios.
This is a new feature of the V3A7/V3B7/V5.x release that offers increased flexibility.

The principle is as follows:

A scenario file, whose standard name is STD_SCEN, member of the SYS.DSACONF library, contains for each node (Datanet or CNP7) a set of scenarios. A scenario is composed of administrative commands of which there are three types:

DUMP: for the transfer of the CNS7 memory image into a host file (in general after a SYSER).

LOAD: for the transfer of these memory images from a host file to the CNP7/Datanet:
                        SYSGEN: Initial IMA
                        TOL: Off Line Tests IMA
                        "User": An IMA generated by the user

GO: for starting the load action defined in the scenario. This command is mandatory after the LOAD command.

8.3.1   Scenario Geography

The geography of a scenario file is:

```
NODE node1 [scenario name] [-VERSION software release]
*
SCEN scen11
DUMP
*
SCEN scen12
LOAD
GO
.
.
.
.
*
NODE node2
*
SCEN scen21
.
.
.
SCEN scen22


.
.
.
```

See Appendix B for default scenario examples.

8.3.2   Starting a Scenario

There are 2 ways to start a scenario:

- Manually, by the command STSVR from the DPS7000 console or a MAIN operator console:

      STSVR FECM node2 [[ACTION =] scen22]

  The system looks for the node-name, then it retrieves the scenario for this node and executes it.

- Automatically, at the request of CNP7, when TNS is operating (power-on or SYSER). In this case, the default scenario for the calling-node is selected.

8.4   GENERATION

8.4.1   Relationship between Network Generation of GCOS7 and IMA 'SYSGEN'

- The site names,DSA addresses and LAN addresses must be the same in the host and CNP7 configurations. Moreover, the LAN address in the LNA controller must match the software addresses.

For this purpose two possibilities are offered:

8.4.1.1   Standard Default Values

IMA 'SYSGEN' contains default values.

On the host side, a corresponding Network Generation (NG) is delivered, named TCOM_NG_CNP7 in the SYS.HSLLIB library. There is also a scenario file named STD_SCEN, available at installation. These files must be moved to the SYS.DSACONF library at GCOS7 installation using the TCOM_DSA JCL in the SYS.HSLLIB. Therefore, before the first use of CNP7, the DPS7000 operator has only to validate the Network Generation by means of the NG command. Refer to the *GCOS7 - V3A7/V3B7 Network Operations Manual*.

The LNA in CNP7 is configured with the default address 0800385F0200.

The DPS7000 default address is 0800385F0100

8.4.1.2   Modify the Default Values

To modify the ISL address on the CNP7, see your Bull representative (Field Engineer).

To modify the ISL address, the DSA name or the DSA address in the DPS7000, modify the Network Generation source file.

To modify the ISL address, DSA name or DSA address of the CNP7, you must also change the scenario for loading the 'SYSGEN' IMA.

These last two modifications are accomplished using two parameters of the GO command; -REMOTE for the DPS7000, and -SITE for the CNP7. These parameters are reserved specifically for this purpose.

Scenario File for SYSGEN:

```
*
SCEN SYSGEN
LOAD BLIBSYSGEN
GO -P2 SLIBPATCH2 -NL -SITE CNP7 02:00 &
-REMOTE DPS7 01:00 0800385F0100 &
-SYSGEN CONF=CONFBC93HC,HIST=CONFBC93HH
*
```

REMOTE defines the parameters for the DPS7000:

```
        DSA Name (4 char)
        DSA Address
        ISL Address
```

SITE defines the parameters for the CNP7:

```
         DSA Name (4 char.)
         DSA Address
```

NOTE: Changing the DSA name of either the DSP7000 or the CNP7 makes certain information on the 'SYSGEN' IMA no longer adapted to the network. Therefore, it becomes necessary to use the complete syntax for connection to DSA applications.

Network Generation on the DPS7000

```
C: PR TCOM_NG_CNP7;

    10 NETWORK DPS7;
    20 COMM      '**********************************************';
    30 COMM      '**     L O C A L   S Y S T E M      **';
    40 COMM      '**********************************************';
    50 LSYSTEM   DPS7 LSC=DPS7 PROFILE='DPS7/GCOS-7/V3';
    60 LSC       DPS7 SCID=01:00;
    70 LCT       EA01;
    80 LPL       PLINK_01 LCT=EA01 IADDR=08-00-38-5F-01-00 CB=CBL_01;
    90 SERVER    TNS;
   100
   110 COMM      '**********************************************';
   120 COMM      '**   C N P 7   R E M O T E   S Y S T E M  **';
   130 COMM      '**********************************************';
   140 RSYSTEM   CNP7 PROFILE='CNP7/CNS7/A1' RCT=RCT_CNP7;
   150 RSC       CNP7 RTS=TS_CNP7 SVR=TNS SCID=02:00;
   160 RTS       TS_CNP7 NETROUTE=NR_CNP7;
   170 NR        NR_CNP7 COMPATH=CP_CNP7 XPRTC=PTPT7 RPL=RPL_CNP7;
   180 CP        CP_CNP7 LPL=PLINK_01;
   190 XPRTC     PTPT7;
   200 RPL       RPL_CNP7 IADDR='08-00-38-5F-02-00' RCT=RCT_CNP7 CABLE=CBL_01;
   210 RCT       RCT_CNP7 TYPE=ISLFEP;
```

8.4.2   Performing the Generation

8.4.2.1   Execution of IMA 'SYSGEN'

In all cases:

- Generation by a DPS7000/GCOS7 operator using a scenario,

- Generation through the EDD utility from the DPS7000 main console,

- Generation from a terminal connected to the NOI or to the 'SYSGEN' mailbox of the CNP7,

The IMA 'SYSGEN' must have been previously loaded.

A successful load of IMA 'SYSGEN' of CNP7, equipped with additional DCA, DCE and LNA controllers, gives the following messages on the DPS7000 console:

```
STVR FECM CNP7 ACTION = SYSGEN VERSION = A1U0
    CA20 ADM_CNP7 LAUNCHED BY OPERATOR COMMAND
   10.22 X3712 STARTED FECM OPERATOR S
    CA21 ADM_CNP7 STARTED
    FE01 CNP7 A1PAT3   STARTED FROM SCENARIO STD_SCEN VERSION A1U0
    FE04 CNP7
    FE04 CNP7  ***CNS *RLS:A1U0    *PTS:0010/PTL:0010 *SYS:SYSGEN  *GEN:1989/04/
06 14:13:49***
    FE04 CNP7
   10.25 X3714 STARTED IOF MFEP49 Q
    FE04 CNP7
    FE04 CNP7 Initial patches are installed on DEA 1 : 0 error(s) !
    FE04 CNP7
    FE04 CNP7 Loading of DEA 1 , LNA  , is completed !
    FE04 CNP7
    FE04 CNP7 Initial patches are installed on DEA 2 : 0 error(s) !
    FE04 CNP7
    FE04 CNP7 Loading of DEA 2 , DCA  , is completed !
    FE04 CNP7
    FE04 CNP7 Initial patches are installed on DEA 3 : 0 error(s) !
    FE04 CNP7
    FE04 CNP7 Loading of DEA 3 , DCE  , is completed !
    FE04 CNP7
    FE04 CNP7 *** LOAD TIME 1989/11/28   10:23:34 ***
    FE02 CNP7 SYSGEN   COMPLETED
    CA21 ADM_CNP7 COMPLETED
    ALL OUTPUTS RELEASED
   10.25 X3712.1 COMPLETED FECM OPERATOR S
```

IMA 'SYSGEN' is now operating.

8.4.2.2   Starting the Generation

Automatic Generation:

If the -SYSGEN parameter is present in the GO command of the scenario used to load IMA 'SYSGEN', the generation starts automatically. The following messages appear on the GCOS console.

```
    CA20 ASF_CNP7 LAUNCHED FOR ASF SERVICE
   10.25 X3715 STARTED FECM OPERATOR S
    CA21 ASF_CNP7 STARTED
```

```
    FE01 CNP7 ASF      STARTED
    FE04 CNP7 ******** READING CONFIGURATION FILE
    FE04 CNP7 ******** SELECTION OF THE USEFUL SUBSET OF YTABLE
    FE04 CNP7 ******** LOCAL DIALOG TREATMENT
    FE04 CNP7 ******** IMA BUILDING PHASE
    FE04 CNP7 ******** END OF THE OBJECT TABLE GENERATION
    FE04 CNP7 ******** SYSGEN ERROR NUMBER :   0000
    FE04 CNP7 ******** START LINKER
    FE04 CNP7 ******** START LINKER PHASE 1
    FE04 CNP7 ******** START LINKER PHASE 2
    FE04 CNP7 ******** START TO LINK CPU: RLN1
    FE04 CNP7 ******** START TO LINK CPU: CT02
    FE04 CNP7 ******** START TO LINK CPU: CT03
    FE04 CNP7 ******** START TO LINK CPU: BEA3
    FE04 CNP7 ******** LINK TERMINATED OF COREBEA3TEMP --- LINKER ERROR NUMBER :
 0000
    FE04 CNP7 ******** START PATCH1
    FE04 CNP7 ******** END OF GENERATION
    FE04 CNP7 ******** SYSGEN ERROR NUMBER :   0000
    FE04 CNP7 ******** LINKER ERROR NUMBER :   0000
    FE04 CNP7 ******** DEBUG  ERROR NUMBER :   0000
    FE04 CNP7 ******** TOTAL  ERROR NUMBER :   0000
  11.19 X3416 OUTPUT COMPLETED FECM     OPERATOR
   FE02 CNP7 ASF      COMPLETED
   ALL OUTPUTS RELEASED
  11.20 X3715.1 COMPLETED FECM OPERATOR S
```

Also, verify that the proper termination of the generation is correctly recorded in the History File, as defined by the HIST parameter given at generation startup.

Generation may not start. In this case there is no message on the console after loading the 'SYSGEN' IMA. The main reasons are:

• Syntax error in the scenario, check the "-SYSGEN", " -SITE", "-REMOTE" parameters.

• Network Generation and CNP7 configuration do not match (site names and addresses).

• TMP TEMP statement must be declared in the configuration file.

• The LNA address in the NVM (Non Volatile Memory) is destroyed. This occurs after unplugging the LNA. The Bull Field Engineer must then reload the LNA address.

Manual Generation

Another possibility is offered by connection to the mailbox 'SYSGEN', from a terminal of the CNP7.

The main steps are displayed on the terminal (See Section 9, para 9.4.). Moreover, each error is indicated by the error code and the related object. As the configuration file is checked at the beginning of the run, generation may be stopped by the sysgen ABORT command, the configuration file corrected and the generation resumed after a minimum loss of time.

Another method, connection to the NOI, gives a lot of additional messages (LOG messages). These include errors during data transfer on the LAN over the administrative sessions that convey data between the 'SYSGEN' mailbox and the GCOS7 ASF.

If there is no available terminal in the secondary network, the connection to the NOI can be established using the pass-through function on the DPS7000 console (EDD command). Appendix C contains an example.

The password to access the NOI is the DSA name of the CNP7 for a terminal and the DSA name of the DPS7 for EDD. When CNS7 is delivered, these passwords are "CNP7" for the former and "DPS7" for the latter.

8.4.3   Result of a Generation

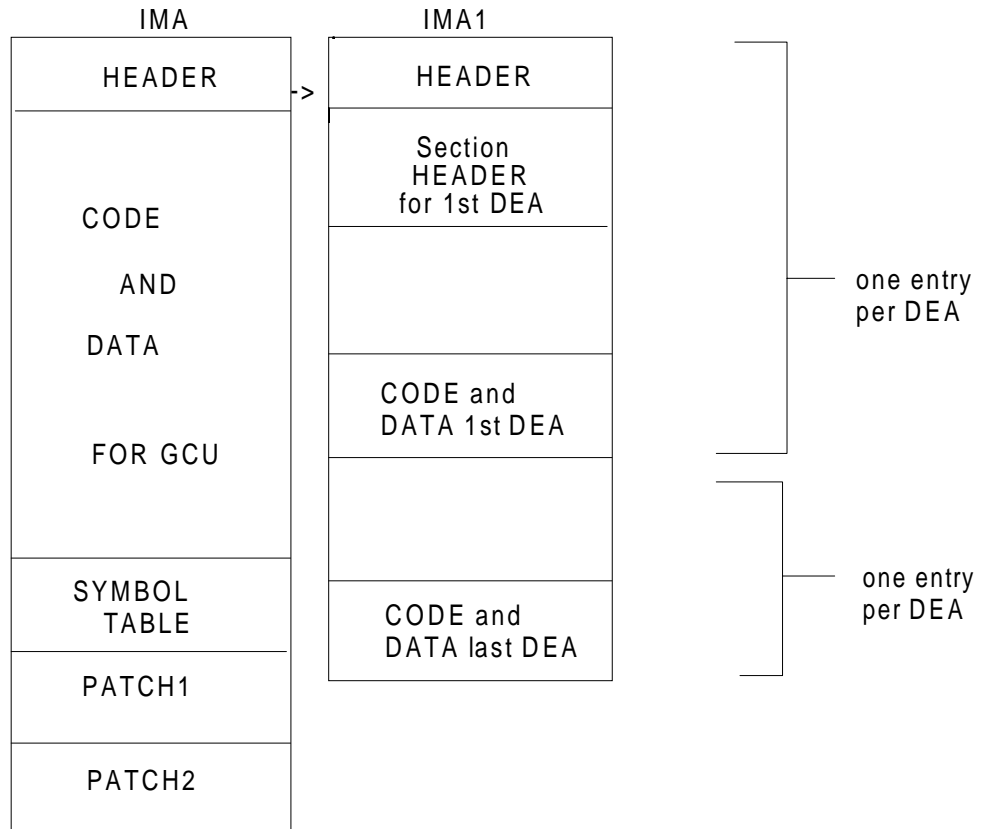The generation is automatically followed by the linker that provides two files in the SYS.DSACORE library:

- IMA file for GCU

- IMA1 file for DEA's, pointed by IMA header.

Example:

If END -SAVE COREMYIMA is in the configuration file, the subfiles generated in the SYS.DSACORE library are A1U1MYIMA and A1U1MYIMA1. The current version is added as a prefix to the member names, for multiversion management.

The patches referred by the PATCH1 and PATCH2 directives in the configuration file are:

- Checked

- Copied at the end of GCU IMA

```
         IMA                  IMA1
   ┌──────────────┐      ┌──────────────┐           ┌
   │   HEADER     │ ->   │   HEADER     │           │
   ├──────────────┤      ├──────────────┤           │
   │              │      │   Section    │           │
   │              │      │   HEADER     │           │
   │   CODE       │      │   for 1st DEA│           │
   │              │      ├──────────────┤        ── │  one entry
   │   AND        │      │              │           │  per DEA
   │              │      │              │           │
   │   DATA       │      ├──────────────┤           │
   │              │      │  CODE and    │           │
   │   FOR GCU    │      │  DATA 1st DEA │          ┘
   │              │      ├──────────────┤          ┐
   │              │      │              │           │
   ├──────────────┤      │              │           │
   │   SYMBOL     │      ├──────────────┤        ── │  one entry
   │   TABLE      │      │  CODE and    │           │  per DEA
   ├──────────────┤      │  DATA last DEA│          │
   │   PATCH1     │      └──────────────┘          ┘
   ├──────────────┤
   │   PATCH2     │
   └──────────────┘
```

8.4.4   ABORT of a SYSGEN

Some aborts of the SYSGEN, principally LINKER ABORT, are introduced by the fact that there is not enough space in SYS.DSACORE, SYS.DSACONF or temporary library.

To discover these cases, check the SYSOUT of FECM which has aborted.

8.4.5   Verification

- Using the SYSGEN scenario, verify the start of FECM. If it does not start, there may be an error in the scenario SYSGEN.

- Verify no fatal errors in SYSGEN by referencing the history file.

- Verify IMA and IMA1 have been created in SYS.DSACORE library.

- Execute a LOAD scenario.

8.5 STARTUP

8.5.1 Starting the User IMA

At the end of the generation, it is necessary to load the User IMA. To do this, the operator enters the following GCOS7 command:

```
STSVR FECM <RSYS name> [ACTION=<scenario name for the load
action>] [VERSION = <version name>]
```

8.5.2 Patching

8.5.2.1 General

Patches are applied at two different steps of the load:

- PATCH1 is always applied during generation.

- PATCH2, if defined in the configuration file and is applied during the generation. It must not be applied again during the load.

  In this case the GO command has the following syntax:
  ```
        SCEN LOAD
        LOAD COREMYIMA
        GO -NP -NL
  ```

- If Patch2 is not defined in the configuration file it must be applied during the load.

  In this case the GO command has the following syntax:
  ```
        SCEN LOAD
        LOAD COREMYIMA
        GO -P2 SLIBPATCH2 -NL
  ```

Example:

At generation

```
     PATCH1 SLIBPATCH1 SLIBPATCH2
```

or:

```
     PATCH1 SLIBPATCH1

     PATCH2 SLIBPATCH2
```

must be present in the configuration file.

NOTE: FPG7 generates both PATCH1 and PATCH2 directives.

8.5.2.2   LOAD Additional Patch files

Additional patch files can be applied to the memory image with the GO command:.

```
        GO -P2 <user 1>[<user 2>...] ...
```

This command would apply the files user 1, user 2 ...

If there are no additional patches, the syntax is as follows:

```
        GO -NP ...
```

When a patch is applied during loading, the actual loading takes longer than if the same patch were applied at generation.

The name of the user files are prefixed by the library name, for example: "CONFPATUSER". In this case, the prefix would be for a file named "A1U0PATUSER" in the SYS.DSACONF.

NOTE: The -NL parameter is recommended in the GO comman, otherwise all the error or control messages, like UNKNOWN SYMBOL, are entered in the History File.

8.5.3   Functions of the 'SYSGEN' Mailbox

The definition of the 'SYSGEN' mailbox in a user IMA allows two functions to be performed. The user connects to this mailbox as for a generation.

1.   Copy an IMA: Because a generation gives two IMA files, IMA pointing IMA1, the standard GCOS functions COP or RENAME cannot work. They must be replaced by the RENAME function of the 'SYSGEN' mailbox.

2.   Application of new patches (function OLD): This function replaces **all the old status patches of an IMA by the new status patches**. Note that a new IMA (2 files) is created and the command must contain all the necessary patch file names, even those already applied on the original IMA.

Example:

```
OLD=COREOIMA,NEW=CORENIMA,P1=SLIBPATCH1:SLIBPATCH2,HIST=CONFH
```

The list of patches may contain two or more files, the separator being a colon (:).

This function is useful in the usual situation where patches are added to PATCH2 by DIUF. It is better to use this function once and load with -NP.

9. Operator Visibility and Intervention

9.1 SYSTEM IDENTIFICATION

To identify the system a banner is displayed:

- On terminals, at login time.

- On the DPS7000 console when loading the image.

The banner contains the release identification, level of software corrections (technical state), generation name (time and date):

```
$$ 0000 ***CNS *RLS:A1U1 *PTS:0001/PTL:0010 *SYS:<Sysgen> *GEN:1989/11/22:15/03/20 ***
                 |        |     |       |        |               |
             Release  Patch1 level |    'SYSGEN'         Date and Time
                          Patch2 level Identification  of Generation
                                         (in CNS directive
                                         of configuration file)
```

9.2 AUTOMATIC START OF A SCENARIO

After each TNS (Telecommunications Network System) startup or a CNS7 Syser, the implicit scenario is automatically restarted in the next configuration. The name of this scenario must be specified in the node statement.

GCOS7 and CNS7 must be in auto mode.

This does not inhibit the restart of any other scenario by the STSVR operator mode.

To prevent automatic reload, or to control the loading of a particular CNP7 when many CNP7s are on the same ISL, this command must be entered:

```
MDNET RCT <RCT name> RMLOAD=0
```

Do not forget to put the DUMP statement first in the scenario that is automatically used in the case of an abort.

9.3   SYSER MESSAGES

In the case of a CNS7 abort, the Syser code appears at the next start of the FECM (console and JOR).

Therefore, the Syser concerns the previous CNS7 session.

See *Network System Messages And Return Codes*

9.4   GENERATION MESSAGES

When the CNS7 generation is started from the DPS7000 console, no messages concerning this generation procedure appear. To get around this difficulty, you can connect to the NOI.

The generation history appears in the SYS.DSACONF library member defined in the HIST parameter given at the start of the generation.

GENERATION MESSAGES

```
READING CONFIGURATION FILE
SELECTION OF THE USEFUL SUBSET OF YTABLE
MAPPING RESOLUTION
DIALOG LOCAL TREATMENT
IMA BUILDING PHASE
END OF THE OBJECT TABLE GENERATION
SYSGEN ERROR NUMBER XXXX
START LINKER
START LINKER PHASE 1
START LINKER PHASE 2
START TO LINK CPU: YYY
......................

START TO LINK CPU: YYY
LINK TERMINATED OF ZZZ LINKER ERROR NUMBER XXX
START PATCH1
END OF GENERATION
SYSGEN ERROR NUMBER XXXX
LINKER ERROR NUMBER XXXX
DEBUG ERROR NUMBER XXXX
TOTAL ERROR NUMBER XXXX
```

9.5   STOPPING A CNS7 GENERATION

The generation can be stopped using the NOI with the following command:

```
TX AF SYSG -MSG ABORT
```

Or on a terminal directly connected to the 'SYSGEN' mailbox by the command:

```
ABORT
```

Or with the GCOS command:

```
S:TTSVR FECM  NAME=ASF_<RSYS name>  OPTION=ABORT
```

9.6   ADMINISTRATION

EDD (Enter DSA Dialog) may be used to connect to the CNS7 NOI or interactive DEBUG by the GCOS7 operator, as follows:

```
S:EDD START
    STARTED FOR ENTER DSA DIALOG
S:EDD RSYS=CNP7 APPL=$NOI SETDFLT PASSWORD=DPS7  CONNECT;
    CONNECTION IS ESTABLISHED
```

Where:

```
RSYS = CNP7 (This is the DSA name of the CNP7 in the IMA
'SYSGEN'.)
```

```
PASSWORD = DPS7 (This is the name given as the password in FPG7
and in the 'SYSGEN' IMA.)
```

NOTE: To connect to an NOI defined in a customer IMA, RSYS (remote system) is the DSA name of the CNP7 and PSSW is the password, defined in this customer IMA.

With EDD, send the NOI operator commands:

Example:

```
S:EDD 'DA DV';
```

For the NOI commands, refer to the *CNS7 System Operation manual*

To terminate EDD:

```
S:EDD TT
```

NOTE: When there is more than one CNP7 with more than one EDD connected, you have to specify the RSYS name:
S: EDD 'DA DV' CNP1
S: EDD 'DA DV' CNP2

Operator Visibility and Intervention

Connection to an NOI using EDD

```
S: EDD ST;
   18.21 X437  IN ADM_EDD OPERATOR P SPR=5 MAIN
   18.21 X437  STARTED ADM_EDD OPERATOR P
    JB08 X437.1 STEP H_FECM DPR=6 J=4
    FE41 FECM STARTED FOR ENTER_DSA_DIALOG
S: EDD RSYS=BL04 APPL=$NOI SETDFLT PSSW=BL03;
    FE45 BL04 $NOI    CONNECTION IS ESTABLISHED
   18.23 BL04 $NOI
          CNS BL04 :18:23:36 OP    TC   281 TS:BL04    TS:TS00    .. IN    4..
        CLS4    3  1019.   94 BL03            BL04
   18.23 BL04 $NOI
          CNS BL04 :18:23:36 OF    LC   280 MB:BL04$NAD      MB:BL03$LOGFILE ..
        IN      7...    0    0  REASON=00/04
S: EDD 'DA PL';
   18.26 BL04 $NOI
          CNS BL04 :18:26:09 N
        PL   NAME     STAT TYPE MAP1      MAP2
             C3L2     ENBL ASY  LL:LL32   CT:CT03
             C2L2     ENBL ASY  LL:LL22   CT:CT02
             C1L0     ENBL ASY  LL:LL10   CT:CT01
             C3L3     ENBL SYN  LL:LL33   CT:CT03
   18.26 BL04 $NOI
          CNS BL04 :18:26:09 N
        PL   NAME     STAT TYPE MAP1      MAP2
             C3L1     ENBL SYN  LL:LL31   CT:CT03
             C3L0     LOCK SYN   :        CT:CT03
             C1L2     LOCK SYN   :        CT:CT01
             C1L1     USED SYN  LL:LL11   CT:CT01
             BL05     SPAR HDLC LL:BL05   CT:CT02
   18.26 BL04 $NOI
          CNS BL04 :18:26:09 N
        PL   NAME     STAT TYPE MAP1      MAP2
             IL34     ENBL CSM1 NR:IL34   CB:CB01
             IL2C     ENBL CSM1 NR:IL2C   CB:CB01
             PL00     ENBL CSM1 NR:NR00   CB:CB01
             RLN1     USED CSMA CB:CB01   CT:RLN1
   18.26 BL04 $NOI
          CNS BL04 :18:26:09 E
        PL   NAME     STAT TYPE MAP1      MAP2
             CB01     ENBL TEST  :        LL:CB01
   18.26 BL04 $NOI
          CNS BL04 :18:26:34 HR    PC   288 PL:C1L1      :         ...   10
             10.    0         0....    0    0...
S: EDD 'GA PL IL34'
   18.28 BL04 $NOI
          CNS BL04 :18:28:17
        PL   NAME     STAT TYPE MAP1      MAP2       ETAD
             IL34     ENBL CSM1 NR:IL34   CB:CB01      080038503C34
S: EDD DIS
   18.29 BL04 $NOI
          CNS BL04 :18:29:42 OP    TC   300 TS:BL04    TS:TS00    .. IN    8..
        CLS4    3  1019.   88 BL03            BL04
   18.29 BL04 $NOI
          CNS BL04 :18:29:42 OF    LC   299 MB:BL04$NAD      MB:BL03$LOGFILE ..
        IN     13...    0    0  REASON=00/04
   18.29 BL04 $NOI
          CNS BL04 :18:29:42 HR    LC   299 MB:$NAD    MB:BL03$LOGFILE   ...
             13..        0.    0    0    0    0    0         0.    0
          0    0    0    1    0    0...
   18.29 BL04 $NOI
          CNS BL04 :18:29:42 HR    TC   300  :         TS:TS00    ....      1
             1       0         0.        0..        1       1
             0.......        0..
   18.29 BL04 $NOI
          CNS BL04 :18:29:42 CL    TC   300 TS:BL04    TS:TS00    .. IN    8..
        CLS4    3  1019  REASON=18/00    88
    FE47 BL04 $NOI    IS DISCONNECTED
S: EDD TT
    FE42 FECM COMPLETED FOR ENTER_DSA_DIALOG
    OU10 RO   3 OUTPUTS RELEASED
   18.30 X437.1 COMPLETED ADM_EDD OPERATOR P
$$ 4200 MODEL:
$$ 4200 MODEL:  PC7800
$$ 0000 ***CNS *RLS:A1U0   *PTS:0001/PTL:0010 *SYS:BL04   *GEN:1989/06/14 11:06:50***

$$ 1000 YOUR ID IS  AL10 SC:  BL04  MODEL:PC7800   MB: AL10
```

```
$$ 5800 LOGIN SUCCESSFUL

$$ 4700 CORRESPONDENT:NOI
$$ 1600 PASSWORD: ********
$$ 0100 YOU ARE CONNECTED TO $NOI        BL04 SESSION: 320


$*$A1
??da mb
   CNS BL04 :18:38:10 N
MB   NAME      STAT TYPE MAP1       MAP2
     $SYSGEN   ENBL USER   :        SC:BL04
     $ECHO     ENBL USER   :        SC:BL04
     $NSF      ENBL USER   :        SC:BL04
     $NSE      ENBL USER   :        SC:BL04
     EDIT      ENBL USER   :        SC:BL04
     $DEBUG    LOCK USER   :        SC:BL04
     $SES_MB   ENBL USER   :        SC:BL04

   CNS BL04 :18:38:10 N
MB   NAME      STAT TYPE MAP1       MAP2
     $NOIAEP   ENBL ADM    :        SC:BL04
     $NOI      ENBL ADM    :        SC:BL04
     $NAD      ENBL ADM    :        SC:BL04
     AL32      ENBL STAT SN:AL32     SC:BL04
     AL10      ENBL STAT SN:AL10     SC:BL04
     PVE3      ENBL STAT SN:PVE3     SC:BL04

   CNS BL04 :18:38:10 E
MB   NAME      STAT TYPE MAP1       MAP2
     PVE2      ENBL STAT SN:PVE2     SC:BL04
     PVE1      ENBL STAT SN:PVE1     SC:BL04
     D331      ENBL STAT SN:D331     SC:BL04
     D111      ENBL STAT SN:D111     SC:BL04
     ML22      ENBL STAT SN:ML22     SC:BL04

$*$a1
   CNS BL04 :18:39:46 OP     PC   345 PL:C1L1    ... IN... REASON=15/00
   CNS BL04 :18:40:04   DV  NAME=AL10     STAT=USED TYPE=ASY
 MAP1=LL:LL10     MAP2=LD:AL10     MAP3= :          MAP4=MD:DKU7001
 LWC =YS   LINE=    0 PAGE=    0 NBSS=    2 IMLI=YS   LNOV=YS    SHR =SHR
 SPD =    0 BUF =    0 TODI=  300 AMDM=ACPT LCON=NO   PRMD=YS    LO  =NO
$*$dis
$$ 0200 YOU ARE DISCONNECTED: 0301

$*$lo
$$ 5500 YOU ARE LOGGED OUT

$$ 0900 BYE
```

10. What to Do in Case of Trouble

10.1   STARTING TNS SERVER

If the controller is "down" after TNS has been started, the state of the LCT must be modified by the MDNET command so that the LCT becomes ENABLED.
If the response is negative, check the state of the CNP7 or the ETHERNET address in the scenario file and the GCOS7 CNS7 configuration file.

Example:

```
S: STSVR TNS;
    CA20 TNS LAUNCHED BY OPERATOR COMMAND
   18.01 X429  STARTED TNS OPERATOR S
   JB08 X429.1 STEP H_TNS DPR=0 J=6
   CA21 TNS STARTED
   TP02 SERVER TNS : LCT             EA01      DOWN
S: MDNET LCT EA01 ENBL
   TP02 SERVER TNS : LCT             EA01      ENABLED
   TP98  MDNET COMMAND COMPLETED
   TP02 SERVER TNS : LPL             PL503C03 ENABLED
S: STSVR FECM BL04 RELOAD
   CA20 ADM_BL04 LAUNCHED BY OPERATOR COMMAND
   18.05 X430  STARTED FECM OPERATOR S
   JB08 X430.1 STEP H_FECM DPR=0 J=4
   CA21 ADM_BL04 STARTED
   FE01 BL04 RELOAD   STARTED FROM SCENARIO STD_SCEN VERSION A1U0
```

If TNS is started but the CNP7 cannot be loaded, it is helpful to know if the remote physical link (RPL) is enabled.

Example:

```
S: DNET RPL RPL_04 LONG;
    TP98  DNET COMMAND COMPLETED
    TP54 STATUS REQUEST SENT RPL: RPL_04
    TP54 STATUS RESPONSE RECEIVED RPL: RPL_04
                        SYSTEM ID = 3
                        SYSTEM IN OPERATIONAL STATE
                        NO CNP DIALOG IN PROGRESS
                        N0 LOCAL LOADING IN PROGRESS
                        NO CNP DIALOG OVER THE LAN IN PROGRESS
                        SYSTEM DEPENDENT STATUS =   000
                        NB OF SUCCESSFULLY TRANSMITTED FRAMES = 992
                        NB OF CORRECTLY RECEIVED FRAMES = 2216
                        NB OF DETECTED COLLISIONS = 2
                        NB OF FRAMES RECEIVED WITH INCORRECT FCS = 0
                        NB OF FRAMES RECEIVED WITH ALIGNMENT ERROR = 0
    TP53 CONFIG RESPONSE FROM RPL: RPL_04
015C0000000300020F0000020F0000090F0000090F000000000000008702030000000000000000FFFF000
00001020101000000000000201F1FEFF0
000000201010000000000201010000000000FFFF00000000FFFF00000000FFFF000081183725C41D50
```

10.2   **MEMORY MANAGEMENT**

10.2.1   Memory Dump

The SYS.DSADUMP library contains the dump files. There are two members for CNP7. The member names are the RSYS name of the CNP7 plus the suffix 1 or 2. The over write these files alternately.

A CNP7 memory dump is taken when requested by the operator or automatically by the TNS server (See scenarios in Appendix B.).

10.2.2   DUMP Command

If a problem occurs on the CNP7, the GCOS main operator can take a dump. This stops the CNP7.

```
S:STSVR FECM CNP7 DUMP
                 |     |
                 |     >--> Scenario name for the dump action
                 |
                 >-------> Remote system name
```

Example:

```
S: STSVR FECM BL04 DUMP
   CA20 ADM_BL04 LAUNCHED BY OPERATOR COMMAND
   18.15 X435  STARTED FECM OPERATOR S
   JB08 X435.1 STEP H_FECM DPR=0 J=4
   CA21 ADM_BL04 STARTED
   FE01 BL04 DUMP     STARTED FROM SCENARIO STD_SCEN VERSION A1U0
   FE17 BL04 DUMP     BEGINS IN SUBFILE: BL041
   FE18 BL04 DUMP     AVAILABLE IN SUBFILE: BL041
   FE04 BL04
   FE04 BL04  ***CNS *RLS:A1U0    *PTS:0001/PTL:0010 *SYS:BL04    *GEN:1989/11/26 11:06:50***
   FE04 BL04
   FE04 BL04
   FE04 BL04 Initial patches are installed on DEA 1 : 0 error(s) !
   FE04 BL04
   FE04 BL04 Loading of DEA 1 , RLN1 , is completed !
   FE04 BL04
   FE04 BL04 Initial patches are installed on DEA 2 : 0 error(s) !
   FE04 BL04
   FE04 BL04 Loading of DEA 2 , CT02 , is completed !
   FE04 BL04
   FE04 BL04 Initial patches are installed on DEA 3 : 0 error(s) !
   FE04 BL04
   FE04 BL04 Loading of DEA 3 , CT03 , is completed !
   FE04 BL04
   FE04 BL04 *** LOAD TIME 1989/11/26   18:18:29 ***
   FE02 BL04 DUMP     COMPLETED
   CA21 ADM_BL04 COMPLETED
   18.18 X435.1 COMPLETED FECM OPERATOR S
   18.19 X435  OUTPUT COMPLETED FECM     OPERATOR
```

10.2.3 CNSDNSDP Memory Save and Restore Tool

CNSDNSDP is a tool to save or restore a CNS7 memory dump file.

Start CNSDNSDP with the commands:

```
S:EJ CNSDNSDP;
```

The options available for this command are as follows:

TAPE	Save of a dump on the tape.
REST	Restore of the dump on the disk.
DUMP_MEMBER_NAME_?	Member name (to refer to command STSVR for DUMP)
GCOS_CONFIG_MEMBER_ NAME?	Member name of source NG.
CNSDNS_CONFIG_ MEMBER_NAME?	Member name of source generation CNP7.
SAVE_TAPE_MEDIA_ NAME?	Media name of Save Tape.
WORK_FILE_DISK_DVC	DVC of disk supporting the work file.
WORK_FILE_DISK_MEDIA_ NAME	Media name of disk supporting the work file.

10.3   DSALOG FILE

The SYS.DSALOG files are allocated by GIUF function=BUILDP. It is allowed to have from 1 to 9 SYS.DSALOG files.

When a logfile is full, the system automatically selects the next file in the set which is:

- either the next "ordered" file, that is, +1,

- or file 1, if the file that is full is the "highest" in the set.

```
NA11  Journal SYS.DSALOG1 is Full
NA10  JOURNAL STARTED ON SYS.DSALOG2.
```

When a new logfile is selected, it is not erased but overwritten sequentially starting from the first record.

The logfiles are activated by the command:

```
S:STSVR DSAC;
```

To edit the logfile (see the *GCOS7 V3A7/V3B7 DSAC User's Guide*).:

```
S:EJ DSALG VALUES=DSALOGi;
```

(i = number of DSALOG)

10.4   STAR DOSSIER

When submitting a STAR the following should be included:

- On the tape (you can use CNSDNSDP jcl):

    - the dump file,

    - the history file of the generation that is running.

- The DSALOG file printout, if possible or the NOI messages listing.

- The DPS7000 operator console printout.

A. Reset Of The CNP7

CNP7 RESET

The CNP7-E has an initialize push button on its front panel, the CNP7-S does not and therefore it may be neccessary to reset it with a hardware operation using the reset command of TALIM as follows:

```
1st step: Connect to SERVICE
S :##AC
+++++++++++++++++++++SERVICE

2nd step: Manual Mode
SP :MDOM MANU
M SP0302          MODE = MANU LOG LOGM CONS NDEBUG NTRACE

3rd step: Run TALIM
SP : EJR TALIM

M SP0101  J = 4  03.23.89/08.43  TALIM INITIATED
*M TAL101        TALIM_204 : 02 IS READY

4th step: Check system configuration
TAL : DE

M TAL229         INSTALLATION BP69-2    890315
M TAL227         CABINET : CE  PS = 00 DP00  PX00(00) PX01(00) MI01
M TAL227                       PS = 01 MU00  UC01(02) FP00 (CNP7 Name for the Talim
                                                             processor)
M TAL227         CABINET : G1  PS = 08 MC01(00)
M TAL227         CABINET : G5  PS = 09 MC20(04)

5th step: Reset CNP7
TAL : RESET FP00

M TAL369     THE COMMAND WILL CAUSE PERTURBATIONS WITHIN THE INSTALLATION
                           DO YOU AUTHORIZE IT? (Y/N)

6th step: Authorization
TAL  :Y

7th step: Leave Talim
TAL :/

+++SYSTEM REQUEST

*M TAL105        TALIM_204:02 IS STOPPED
 M SP0104 J = 4  03.23.89/08.45 TALIM TERMINATED
 M SP0100        03.23.89/08.45 NO JOB RUNNING IN SERVICE PROCESSOR

8th step: Back to automatique mode

SP : MDOM AUTO

M SP0302          MODE = AUTO LOG LOGM CONS NDEBUG NTRACE
+++++++++++++++++++++SYSTEM
```

Start server and load of CNP7 automatically.

```
CA20   ADM_BP6A LAUNCHED BY SERVER : TNS
08.44  X270 STARTED FECM OPERATOR S
CA21   ADM_BP6A STARTED
FE01   BP6A RELOAD  STARTED FROM SCENARIO STD_SCEN VERSION A1U1
FE04   BP6A
FE04   BP6A  ***CNS *RLS : A1U1  *PTS : 0001/PTL : 0020 *SYS : SYSGEN  *GEN : 1989/11/04 12 :
13 : 36***
FE04   BP6A
FE04   BP6A
FE04   BP6A Initial patches are installed on DEA 1 : 0 error (s) !
FE04   BP6A
FE04   BP6A Loading of DEA 1, LNA, is completed !
FE04   BP6A
FE04   BP6A Initial patches are installed on DEA 2 : 0 error (s) !
FE04   BP6A
FE04   BP6A Loading of DEA 2, LNA, is completed !
FE04   BP6A
FE04   BP6A Initial patches are installed on DEA 3 : 0 error (s) !
FE04   BP6A
FE04   BP6A Loading of DEA 3, DCA, is completed !
FE04   BP6A
FE04   BP6A Initial patches are installed on DEA 4 : 0 error (s) !
FE04   BP6A
FE04   BP6A Loading of DEA 4, DCE, is completed !
FE04   BP6A
FE04   BP6A ***LOAD TIME 1989/11/04  08:46:08 ***
FE02   BP6A RELOAD  COMPLETED
CA21   ADM_BP6A COMPLETED
OU10   C0  1 OUTPUTS CANCELLED
08.48 X270.1 COMPLETED FECM OPERATOR S
```

B. Examples of Scenarios

```
** STANDARD SCENARIO FOR MICROFRONTAL CNP7
*
NODE CNP7 RELOAD -VERSION A1U1
SCEN RELOAD
DUMP
LOAD CORECNP7I
GO -NOPAT2 -NL
*
SCEN DUMP
DUMP
*
SCEN LOAD
LOAD CORECNP7I
GO -NOPAT2 -NL
*
SCEN INSTALL
LOAD BLIBSYSGEN
GO -P2 SLIBPATCH2 -NL -SITE CNP1 02:00 0800385F0200 &
              -REMOTE DPS7 01:00 0800385F0100

*
SCEN SYSGEN
LOAD BLIBSYSGEN
GO -P2 SLIBPATCH2 -NL -SITE CNP1 O2:00 0800385F0200 &
              -REMOTE DPS7 01:00 0800385F0100 &
              -SYSGEN CONF=CONFCNP7C,HIST=CONFCNP7H
*
SCEN TOL
DUMP
LOAD BLIBTOL
GO -PAT2 SLIBPATCH2 -NL

*
```

C. Examples of SYSGEN Through the NOI

```
S: EDD START;
   JB08 X432.1 STEP H_RUN DPR=1 J=8
   18.11 X433  IN ADM_EDD OPERATOR P SPR=5 MAIN
   18.11 X433  STARTED ADM_EDD OPERATOR P
S: EDD RSYS=BL04 APPL=$NOI SETDFLT PSSW=BL03;
   JB08 X433.1 STEP H_FECM DPR=6 J=10
   FE41 FECM STARTED FOR ENTER_DSA_DIALOG
   FE45 BL04 $NOI     CONNECTION IS ESTABLISHED
S: EDD 'TX AF SYSG -MSG "CONF=CONFBL04C,HIST=CONFBL04H"';
   CA20 ASF_BL04 LAUNCHED FOR ASF SERVICE
   18.12 X434  STARTED FECM OPERATOR S
   18.12 BL04 $NOI
          CNS BL04 :18:05:17
       AF      1       2
          SYSG
   18.12 BL04 $NOI
          CNS BL04 :18:05:17 OP    TC   910 TS:CNP7    TS:DPS7   .. IN   2..
       CLS4     3  1019.   99 BL03           BL04
   JB08 X434.1 STEP H_FECM DPR=0 J=11
   CA21 ASF_BL04 STARTED
   FE01 BL04 ASF      STARTED
   18.12 BL04 $NOI
          CNS BL04 :18:05:26 OP    LC   909 MB:BL04$SES_MB    MB:BL03$NASF      ..
       IN        2... 1056  1056  REASON=01/00
   18.12 BL04 $NOI
          CNS BL04 :18:05:27 OP    TC   912 TS:CNP7    TS:DPS7   .. IN   3..
       CLS4     3  1019.   98 BL03           BL04
   18.12 BL04 $NOI
          CNS BL04 :18:05:27 OP    LC   911 MB:BL04$SES_MB    MB:BL03$NASF      ..
       IN        3... 1056  1056  REASON=01/00
   18.12 BL04 $NOI
          CNS BL04 :18:05:27 TX    AF SYSGEN   READING CONFIGURATION FILE
   18.12 BL04 $NOI
          CNS BL04 :18:05:28 OP    TC   914 TS:CNP7    TS:DPS7   .. IN   4..
       CLS4     3  1019.   97 BL03           BL04
   18.12 BL04 $NOI
          CNS BL04 :18:05:29 OP    LC   913 MB:BL04$SES_MB    MB:BL03$NASF      ..
       IN        4... 1056  1056  REASON=01/00
   18.12 BL04 $NOI
          CNS BL04 :18:05:30 OP    TC   916 TS:CNP7    TS:DPS7   .. IN   5..
       CLS4     3  1019.   96 BL03           BL04
```

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.-.-1 Software Release Bulletin CNS 7 A1.-.-2 Software Release Bulletin.-.-3 F Angers, Bull S.A, 1989.-.-4 1 Vol, page numbering by section [88]p.-.-5 Ref.39 A2 93DM Rev03.-.-6 Loose leaf.

.-.-7 This bulletin introduces the releases A1U0 AND A1U1 of the Communications Network Software (CNS). It includes procedures for the implementation and administration of the new functions within these releases.

This document is an advanced specification to be used by engineers in order to install the new release.

.-.-8 DNS V4-E / DIRECTIVE / OBJECT / PARAMETER / SYNTAX / NGL / REFERENCE / NODE GENERATION / DSA / SYSTEM GENERATION / SUPPLEMENT / DATANET / CPNET / CONFIG / BUILDING / NETWORK / MAPPING / PRIMARY NETWORK / SECONDARY NETWORK / GENERATION / CONFIGURATION / SOFTWARE /

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