C-DOT IN

SSP ADMINISTRATION

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THIS C–DOT SYSTEM PRACTICE REFERS TO THE C–DOT INTELLIGENT NETWORK (ABBREVIATED AS C–DOT IN IN THE REST OF THIS PUBLICATION).

THE INFORMATION IN THIS SYSTEM PRACTICE IS FOR INFORMATION PURPOSES AND IS SUBJECT TO CHANGE WITHOUT NOTICE.

A COMMENT FORM HAS BEEN INCLUDED AT THE END OF THIS PUBLICATION FOR READER'S COMMENTS. IF THE FORM HAS BEEN USED, COMMENTS MAY BE ADDRESSED TO THE DIRECTOR (SYSTEMS), CENTRE FOR DEVELOPMENT OF TELEMATICS, 39, MAIN PUSA ROAD, NEW DELHI - 110 005

Table of Contents

Chapter 1.

Introduction

1.1. PURPOSE & SCOPE

This document describes the Intelligent Network (IN) related man machine commands available in C-DOT Service Switching Point (SSP). The command parameters and input and output formats for each command have been described in a structured manner for easy comprehension and reference. The sequence of commands is the same as they appear in the administration and maintenance command menus.

This document purports to be a reference on IN related MML commands. This can be used by operators and validation personnel alike.

Please note that C-DOT SCP administration interface has been described in a separate document titled – "C-DOT IN SCP Administration Interface."

1.2. ORGANISATION OF CONTENTS

The contents of this document are spread over five chapters and two annexures. Chapter 1 is introductory in nature.

Chapter 2 gives the complete list (directory) of C-DOT SSP administration commands.

Chapter 3 contains detailed description of command parameters. The reader will often come back to this chapter for reference in time of doubt. Although online help is available, a better description of the command parameters is available here.

Chapter 4 describes the format in which the MML commands are issued and their results displayed. Illustrations of the operator command input and output forms are also given.

Chapter 5 describes the input and output formats of IN related traffic reports.

Command sheet index is available in Annexure - I.

Guidelines for SSP data creation are given in Annexure - II and will be particularly useful for field units installing a SSP or retrofitting SSP capability in an existing switch.

Chapter 2.

Command Directory

2.1. INTRODUCTION

Commands are the tools which can be used to observe, record, manipulate and display exchange data. For the purpose of incorporating requirements specific to SSP implementation, administration and maintenance commands have been added to the existing MML command set of C-DOT DSS MAX. SSP administration commands are grouped under two classes in the CRP main menu.

Class 46 IN Update Commands

Class 47 IN Display Commands

2.2. COMMAND DIRECTORY

The command directory serves the function of a central reference point for all the commands. By looking at the various entries in the directory the operating personnel get on idea of the function performed by a command, its mnemonic and the position defined parameters required for its execution.

The directory is divided into two parts corresponding to the two IN command classes and is given in Table 2-1.

2.3. COMMAND FLOW

Irrespective of the command, all the commands when executed, follow a similar pattern of man-machine interaction. Command flow is the interaction between the operating personnel and the software, more specifically, the Command Recognition Process (CRP).

As an illustration, the command flow for Create IN Service (CRE-IN-SRV) command is given in the following paras.

1. At the CRP prompt (>), either give the command CRE-IN-SRV or the menu path for this command, i.e., 1 (Administration Main Menu), 46 (IN Update Commands), 4 (Create IN Service). The path will be specified by typing MENU 1 46 4.

Yet another method would be to traverse the menus and choose the appropriate option. In any case, let us assume that the command has been correctly issued.

2. 'Security Checks' are performed by CRP, i.e., whether the operator has the authority to issue this command. This authority is granted to an operator while adding a new operator via ADD-OPR command.

3. Parameter Entry Form is displayed if security check has been passed. The form contains :

   - The command mnemonic, command name and all the position-defined parameters required to execute the command.
   - Non-essential parameters, i.e., default value exists for them, are shown enclosed in square brackets while essential parameters are without brackets. For example, in this case, all the parameters except TGR-TYP, SRV-CAT and SCP-ID are optional parameter.

4. User enters parameter values as desired. Error messages will be displayed for illegal entries.

   Online 'Help' is available for each parameter and can be accessed by typing 'h' and 'CR' (Carriage Return) while the cursor is at the desired parameter.

   - Option to Repeat/Terminate/Execute (R/T/E) the command with the given input parameters.

5. User enters the "Execute" i.e. "E" option. The system will respond by displaying the message :

   Executing ....

   Now, the Command Execution Process (CEP) validates the parameters entered.

   If CEP detects any error, the command is rejected and an MMC error message is displayed by CRP. The error message contains error number, error statement, entity id and error dictionary reference. Let us assume that parameter validation was successful.

6. Since the command has been executed successfully, CRP will display output results in the form of "Output Forms" which may occupy one or more VDU screen and/or printer pages. The results will be sent to VDU, printer, or both VDU and printer depending upon the option already chosen by the operator via CHG-OUT-DEV command.

Table 2-1 : IN Administration Commands Directory

Class 46 : IN Administration Update Commands

S.No.	Command Mnemonic	Command Name	Position Defined Parameters
1.	CRE-TGR-TYP	Create a trigger type	TGR-TYP, DP, PRCD, [TGR-CRI], [STAT-COD]
2.	DEL-TGR-TYP	Delete a trigger type	TGR-TYP
3.	MOD-TGR-TYP	Modify the characteristics of a trigger type	TGR-TYP, STAT-COD
4.	CRE-IN-SRV	Create an IN service	SRV-KEY, SRV-NAME, DP-TYP, TGR-TYP, [MIN-DGT] [MAX-DGT], [DIGITS], [DL-PLAN], [CLS-SRV], [NAT-ADR], [CAUSE], SRV-CAT, [IN-TYP], SCP-ID, [FLT-TONE], [FLT-DIR]
5.	DEL-IN-SRV	Delete an IN service	SRV-KEY
6.	MOD-IN-SRV	Modify the characteristics of an IN service	SRV-KEY, [DP-TYP], [MIN-DGT], [MAX-DGT], [DIGITS], [DL-PLAN], [CLS-SRV], [NAT-ADR], [CAUSE], [SRV-CAT], [INT-TYP], [SCP-ID], [FLT-TONE], [FLT-DIR]
7.	MOD- INTONE-MAP	Modify IN tone mapping	TONE-MAP
8.	MOD-ESC-LIST	Add/Delete escape codes in/form escape code list.	OPR-TYP, ESC-COD
9.	CRE-IN-GRP	Create a VPN group	GROUP-ID, [MEMBER DIRNOs]
10.	DEL-IN-GRP	Displays a VPN group	GRP-ID
11.	GRNT-IN-SRV	Grants VPN service to a group	SRV-KEY, DIRNO, GRP-ID, [FLT-TONE], [FLT-DIRNO]
12.	ADD-SUB-TOGRP	Adds subscriber to VPN	GRP-ID, DIRNO
13.	REM-SUB-FRMGRP	Remove subscriber from group	GRP-ID, DIRNO
14.	WTD-IN-SRV	Withdraw IN service	SRD-KEY, DIRNO, GRP-ID

Table 2-1 (Contd.) : IN Administration Commands Directory

CLASS 47 : IN Display Commands

S.No.	Command Mnemonic	Command Name	Position Defined Parameters
1.	DISPL-TGR-TYP	Display the characteristics of trigger type	[TGR-TYP], [DP]
2.	DISPL-IN-SRV	Display the characteristics of an IN service	SRV-KEY
3	DISPL-INTONE-MAP	Display IN tone mapping	No parameter required
4.	DISPL-ESC-LIST	Display escape code list	No parameter required
5.	DISPL-IN-GRP	Display a VPN group	GRP-ID

Chapter 3.

Parameters Description

3.1. INTRODUCTION

On issuing a command with valid mnemonic and syntax, the system responds by displaying a parameter entry form in which the parameters required for execution of that command are to be specified by the operator. Parameters are variables which identify and contain a piece of necessary information to execute a command. Although online 'help' is available on the parameter entry form, it is very important for the operating personnel to understand the correct application of each parameter.

Some of the parameters are used in more than one command. In the parameter description to follow, such parameters are discussed only once alongwith necessary qualifying remarks. Parameter description for each parameter is covered under the following subheads:

MNEMONIC (Parameter Name):	:	Address code in the form of a pronounceable word (Name of the Parameter)
TYPE	:	ASCII, numeric or logical, i.e., type of data acceptable
POSSIBLE VALUES	:	A set of values and/or range acceptable.
DEFAULT VALUE	:	The value automatically assigned by the system if the operator does not assign any value, i.e., just presses the <Return> key.
REMARKS	:	Some more information regarding special attributes of the parameter and their usage.

3.2. PARAMETERS DESCRIPTION

On the proceeding pages, all the parameters used by IN related administration and maintenance commands are described in the format described above in section 3.1.

3.2.1. BM-NO (Base Module)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	BM-01 to BM -32
DEFAULT VALUE	:	Mandatory
REMARKS	:	Base Module number is indicated.

3.2.2. CAUSE (Cause)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	NONE, UNALLOC-NUM, NO-ROUT, TO-NET, NO-ROUT-TO-DESTN, NRML-CALL-CLR, USER-BUSY, NUM-CHNG, DESGN-OUT-OF-ORDER, NORMAL-UNSPEC, NO-CKT-AVAIL, SWITCH-CONG, RSRCE-NOT-AVAIL
DEFAULT VALUE	:	NONE
REMARKS	:	This indicates the cause of call failure.

3.2.3. CLS-SRV (Class of Service)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	ALL, LINE-CCB, LINE-PARTY, TRUNK-DEC, TRUNK-MF, TRUNK-SS7, PVTFAC-DEC, PVTFAC-MF, PVTFAC-SS7, ORD-CCB, CRDT-CCB, DSTD-CCB, LONG-LN, SHORT-LN.
DEFAULT VALUE	:	NONE
REMARKS	:	Class of service tells attribute of a line that require distinctive call treatment.

3.2.4. DIGITS (Digit String)

TYPE	:	Numeric
POSSIBLE VALUES	:	Maximum 16 digit number
DEFAULT VALUE	:	0
REMARKS	:	This is defined if trigger criteria is DGT-STR.

3.2.5. DL-PLAN (Dialling Plan)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	NONE, CDP, NDP
DEFAULT VALUE	:	NONE
REMARKS	:	Dialling plan to be used in trigger criteria. Default value is used if dialling plan is not valid for given trigger criteria.

3.2.6. DP (Detection Point)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	None, ORIG-AUTH, COLL-INFO, T-BUSY, T-NOANS, T-ANS, ANLY-INFO, RSF, O-CPBUSY, O-ABND, TRM-AUTH, O-NOANS, O-ANS, O-MIDCAL, O-DISC, T-MIDCAL, T-DISC, T-ABND, ALL.
DEFAULT VALUE	:	Mandatory
REMARKS	:	Identifies the detection point at which a service is to be activated.

3.2.7. DP-TYP (Detection Point Type)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	REQUEST, NOTIFICATION
DEFAULT VALUE	:	Mandatory
REMARKS	:	Identified the type of the detection point.

3.2.8. ESC-CODE (Escape Code)

TYPE	:	Numeric (Maximum 3 digit number)
POSSIBLE VALUES	:	Any number upto 3 digits
DEFAULT VALUE	:	Mandatory
REMARKS	:	Escape code to be added in the escape code list.

3.2.9. FLT-DIR (Fault Handling Directory Number)

TYPE	:	Numeric
POSSIBLE VALUES	:	A maximum of 16 digit number (Minimum 3 digit number)
DEFAULT VALUE	:	0
REMARKS	:	Directory number to which the call will be routed if fault is encountered. The directory number may also include STD/ISD codes.

3.2.10. FLT-TONE (Fault Handling Tone ID)

TYPE	:	Numeric
POSSIBLE VALUES	:	1 to 100
DEFAULT VALUE	:	100
REMARKS	:	It indicates the logical tone id to be fed if fault is encountered.

3.2.11. GRP-ID (Group ID)

TYPE	:	Numeric
POSSIBLE VALUES	:	Any Positive integer
DEFAULT VALUE	:	0
REMARKS	:	This indicates the group id created at SCP for group of subscribers.

3.2.12. INT-TYP (Interface Type)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	ALL, NON-ISDN-LINE, DEC-TRUNK, MF-TRUNK, CCS-TRNK, PRV-FAC-TRNK, PRI, BRI, BRI-PRFL
DEFAULT VALUE	:	ALL
REMARKS	:	Specifies the type of access on which this IN Service can be used, MF trunk or ISDN basic rate interface.

3.2.13. MAX-DGT (Maximum Number of Digits)

TYPE	:	Numeric
POSSIBLE VALUES	:	0 to 16
DEFAULT VALUE	:	0
REMARKS	:	Maximum number of digits which must be received if trigger criteria is DGT-STR or NO-OF-DGT. It will represent total number of digits including digit string (DGT-STR).

3.2.14. MIN-DGT (Minimum No. of Digits)

TYPE	:	Numeric
POSSIBLE VALUES	:	0 to 16
DEFAULT VALUE	:	0
REMARKS	:	Minimum no. of digits which must be received if trigger criteria is DGT-STR or NO-OF-DGT.

3.2.15. NAT-ADR (Nature of Address)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	NONE, SUBS, UNKNOWN, NAT, INT
DEFAULT VALUE	:	NONE
REMARKS	:	Nature of address indicates the called party type. In addition to the values mentioned above there are other values also which are either SPARE or RESERVED for national use.

3.2.16. PRCD (Precedence)

TYPE	:	Numeric
POSSIBLE VALUES	:	Any Positive integer
DEFAULT VALUE	:	Mandatory
REMARKS	:	Precedence of a trigger type at a detection point.

3.2.17. SCP-ID (Service Control Point ID)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	"NP-NAI-ADR-XTYP" where NP (Numbering plan) : ISDN, DATA, ISDN-MOBILE, TELEX. NAI (Nature of address indicator): SUBS, RESN, NSN, ADR (Address Digits) : 00000000000000000000 to 99999999999999999999
DEFAULT VALUE	:	Mandatory
REMARKS	:	This indicates the global title of service control point at which the service logic for a given trigger item lies.

3.2.18. SRV-CAT (Service Key)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	1. Office 2. Group 3. Subs
DEFAULT VALUE	:	Mandatory
REMARKS	:	It identifies the service category, i.e., office based, IN group based, or, subscriber specific.

3.2.19. SRV-KEY (Service Key)

TYPE	:	Numeric
POSSIBLE VALUES	:	Any positive integer value
DEFAULT VALUE	:	Mandatory
REMARKS	:	It uniquely identifies the service logic at the Service Control Point (SCP).

3.2.20. STAT-COD (Administrative State Code)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	ENABLE, DISABLE
DEFAULT VALUE	:	ENABLE
REMARKS	:	This field indicates the state code of the given trigger.

3.2.21. TGR-TYP (Trigger Type)

TYPE	:	Numeric
POSSIBLE VALUES	:	1 to 255
DEFAULT VALUE	:	Mandatory
REMARKS	:	Specifies the trigger type at a TDP (Trigger Detection Point) i.e. trigger is to be launched after analysing the received digits, or just after collecting digits etc.

3.2.22. TGR-CRI (Trigger Criteria Type)

TYPE	:	Alphanumeric
POSSIBLE VALUES	:	UNCOND, DGT-STR, NO-OF-DGT, CLS-OF-SRV, NAT-OF-ADR, CAUSE
DEFAULT VALUE	:	UNCOND
REMARKS	:	Criteria to be satisfied before a query can be launched to SCP.

3.2.23. TONE-MAP (Tone Map)

TYPE	:	Numeric string with 2 field separated by '-' (LT-AT) where LT-Logical Tone ID AT-Actual Tone ID
POSSIBLE VALUES	:	LT - 1 to 100 AT - 1 to 64
DEFAULT VALUE	:	Mandatory
REMARKS	:	It indicates the tone map to be added in the tone map list.

Chapter 4.

Operator Command Sheets

4.1. INTRODUCTION

Operator command sheets are given in order to help the operating personnel in familiarising themselves with the interactions that take place while issuing various IN administration commands. At best, they purport to be a WYSIWYG i.e. what you see is what you get, representation of these interactions. The operating personnel can get an idea about the functions that are performed by a IN administration command, the parameter that are required for its execution, the precautions to be observed and various probable error messages that he or she may encounter and what they mean. Although 'help' is available online, it will always be a help to pre-familiarise oneself before attempting any command.

Typically the course of interaction is as follows.

1. Operator issues command at the CRP prompt.

2. The system responds with a "parameter entry form" and prompts the operator to fill in the required values for respective parameters.

3. When all the valid parameter values are filled in, the system then asks the operator to choose whether he/she wants to :

   Repeat(R), Terminate(T) or Execute(E) the command with the given parameters.

   If the operator chooses to :

   Repeat(R) - If the command is executed successfully, the action returns to the "parameter entry form" and once again step 2 is gone through. But if the command is rejected, on pressing the 'CR' (Carriage Return) the system returns to the CRP prompt.

   Terminate(T) - The command is abandoned and system returns to the CRP prompt. It also displays the message "Command Terminated".

Execute(E)	-	The system displays a temporary message "Executing .....", indicating that it is processing the command. After execution, the system displays the message "Command Executed" and is ready for the issue of next command if the operator so desires. For the commands whose execution entails certain output information from the system, the result of execution is displayed in the form of "Output Forms" which may cover one or more screens. In case any execution error detected by the system, it will respond with an "Error Report". An error report contains the code of the error encountered and a short description of the error.

Some general comments about the process of execution of #7 administration/Maintenance commands

- Help is available on the parameter entry form for every parameter. Typing <h> and <CR> (Carriage Return) will display the 'help' available for that parameter. The parameter value can then be chosen by selecting the appropriate parameter mnemonic or simple keying in the serial number of the mnemonic in the online help.
- Non-essential i.e. optional parameters are enclosed in square brackets ([ ]) whereas essential i.e. mandatory parameters are not. The system will assume DEFAULT VALUE values of the non-essential parameters if no value is entered by the operator i.e. just <CR> is pressed.
- DEFAULT VALUES of the non-essential parameters are already displayed on the parameter entry form.
- An error message is displayed in case an illegal value is entered for any parameter. The operator may seek on-line help in such a situation.
- Output forms and parameter entry form for each command have a predefined structure.
- Modify and Display commands are not accepted by the system when the IOP is not in inservice level.

On the following pages, general information, parameter entry form and output forms for each IN command are given. The description of the parameters required for all the commands have already been given in Chapter 3.

4.2. IN ADMINISTRATION COMMANDS : UPDATE CLASS

4.2.1. Create a Trigger Type

IN ADMINISTRATION COMMAND : Create a Trigger Type		
MNEMONIC : CRE-TGR-TYP	CLASS : Update	MENU POSITION : 1 46 1
GENERAL INFORMATION		

FUNCTION	:	Creates a trigger type.
PARAMETERS REQUIRED	:	TGR-TYP, DP, PRCD, [TGR-CRI], [STAT-COD]
VALIDATION CHECKS/ REMARKS	:	1. Trigger type should not exist. 2. This command may modify the Precedence of TGR-TYP given by operator and that of existing trigger type at DP.

CRE-TGR-TYP : PARAMETER ENTRY FORM

CRE-TGR-TYP		CREATE A TRIGGER TYPE
TGR-TYP	:	7
DP	:	COLL-INFO
PRCD	:	1
[TGR-CRI]	:	UNCOND
[STAT-COD]	:	ENABLE

CRE -TGR-TYP : OUTPUT FORM

CREATE TRIGGER TYPE REPORT

TRIGGER TYPE	=	7
DETECTION	=	COLL-INFO
PRECEDENCE	=	1
TRIGGER CRITERIA	=	UNCOND
ADMINISTRATIVE STATE	=	ENABLE

4.2.2. Delete a Trigger Type

IN ADMINISTRATION COMMAND : Delete a trigger type		
MNEMONIC : DEL-TGR-TYP	CLASS : Update	MENU POSITION : 1 46 2
GENERAL INFORMATION		

FUNCTION	:	Deletes an existing trigger type.
PARAMETERS REQUIRED	:	TGR-TYP
VALIDATION CHECKS/ REMARKS	:	1. Trigger type should exist. 2. No service should exist with this TGR-TYP. 3. This command may modify the precedence of other trigger types on DP.

DEL-TGR-TYP: PARAMETER ENTRY FORM

DEL-TGR-TYP Delete a Trigger Type

TGR-TYP : 7

DEL-TGR-TYP : OUTPUT FORM

DELETE TRIGGER TYPE REPORT

TRIGGER TYPE = 7

4.2.3. Modify Characteristics of a Trigger Type

IN ADMINISTRATION COMMAND : Modify Characteristics of a Trigger Type		
MNEMONIC : MOD-TGR-TYP	CLASS : Update	MENU POSITION : 1 46 3
GENERAL INFORMATION		

FUNCTION	:	Modifies characteristics of an existing trigger type.
PARAMETERS REQUIRED	:	TGR-TYP STAT-COD
VALIDATION CHECKS/ REMARKS	:	1. TGR-TYP should exist. 2. This command will also update administrative state code of all IN services with the same TGR-TYP.

MOD-TGR-TYP: PARAMETER ENTRY FORM

MOD-TGR-TYP Modify Characteristics of a Trigger Type

TGR-TYP	:	7
STAT-COD	:	DISABLE

MOD-TGR-TYP: OUTPUT FORM

MODIFY TRIGGER TYPE

TRIGGER TYPE	=	7
ADMINISTRATIVE STATE CODE	=	DISABLE

4.2.4. Create an IN Service

IN ADMINISTRATION COMMAND : Create an IN Service		
MNEMONIC : CRE-IN-SRV	CLASS : Update	MENU POSITION : 1 46 4
GENERAL INFORMATION		

FUNCTION	:	For creating an IN service.
PARAMETERS REQUIRED	:	SRV-KEY, SRV-NAME, DP-TP, TGR-TYP, [MIN-DGT], [MAX-DGT], [CAUSE], SRV-CAT, [INT-TYP], SCP-ID, [FLT-TONE], [FLT-DIR].
VALIDATION CHECKS/ REMARKS	:	1. Service key should not exist. 2. All optional parameter which comprise the valid trigger criteria at the trigger type of SRV-KEY should be filled. 3. MAX-DGT Maximum digits expected. 4. If SRV-CAT is OFFICE then number of office based service on a DP should not exceed the system limit (8). 5. SCP-ID should be a valid global title. 6. Only one of FLT-TONE and FLT-DIR should be filled. 7. Mapping of FLT-TONE (if specified) should exist. 8. If FLT-TONE and FLT-DIR, both are default, 100 is stored for FLT-TONE by default.

CRE-IN-SRV: PARAMETER ENTRY FORM

CRE-IN-SRV		Create an IN Service
SRV-KEY	:	22
SRV-NAME	:	Freephone
DP-TYP	:	REQUEST
TGR-TYP	:	6
[MIN-DGT}	:	10
[MAX-DGT]	:	10
[DIGITS]	:	1600
[DL-PLAN]	:	CDP
[CLS-SRV]	:	NONE
[NAT-ADR]	:	NONE
[CAUSE]	:	NONE
SRV-CAT	:	OFFICE
[INT-TYP]	:	ALL
SCP-ID	:	ISDN-SUBS-1111-TYPE1
[FLT-TONE]	:	100
[FLT-DIR]	:	NONE

CRE-IN-SRV : OUTPUT FORM

CREATE IN SERVICE REPORT

SERVICE KEY	=	22
SERVICE NAME	=	Freephone
DETECTION POINT TYPE	=	REQUEST
TRIGGER TYPE	=	6
MINIMUM NUM OF DIGITS	=	10
MAXIMUM NUM OF DIGITS	=	10
DIGIT STRING	=	1600
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	OFFICE
INTERFACE CATEGORY	=	ALL
SCP ID	=	ISDN-SUBS-1111-TYPE1
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0

4.2.5. Delete an IN Service

IN ADMINISTRATION COMMAND : Delete an IN Service		
MNEMONIC : DEL-IN-SRV	CLASS : Update	MENU POSITION : 1 46 5
GENERAL INFORMATION		

FUNCTION	:	For deleting an existing IN service.
PARAMETERS REQUIRED	:	SRV-KEY
VALIDATION CHECKS/ REMARKS	:	1. Service key (SRV-KEY) should exist. 2. SRV-KEY should not have been assigned to any subscriber or group.

DEL-IN-SRV: PARAMETER ENTRY FORM

DEL-IN-SRV Delete an IN Service

SRV-KEY : 22

DEL-IN-SRV : OUTPUT FORM

DELETE IN SERVICE REPORT

SERVICE-KEY = 22

SERVICE NAME = Freephone

4.2.6. Modify the Characteristic of an IN Service

IN ADMINISTRATION COMMAND : Modify an IN Service		
MNEMONIC : MOD-IN-SRV	CLASS : Update	MENU POSITION : 1 46 6
GENERAL INFORMATION		

FUNCTION	:	To modify the characteristic of a defined IN Service.
PARAMETERS REQUIRED	:	SRV-KEY, [DP-TYP], [MIN-DGT], [MAX-DGT], [DIGITS], [DL-PLAN], [CLS-SRV], [NAT-ADR], [CAUSE], [SRV-CAT], [INT-TYP], [SCP-ID], [FLT-TONE], [FLT-DIR].
VALIDATION CHECKS/ REMARKS	:	1. SRV-KEY should exit. 2. If SRV-KEY is not assigned to any subscriber/ group DP-TYP and SRV-CAT parameters can be modified. 3. All optional parameters indicated above should be filled for valid trigger criteria at the trigger type of SRV-KEY. All parameters not required will be ignored. 4. MAX-DGT should be more than MIN-DGT 5. SCP-ID should be a valid global title. 6. Either of the two FLT-TONE, FLT-DIR should be filled. 7. Mapping of FLT-TONE (if specified) should exist.

MOD-IN-SRV: PARAMETER ENTRY FORM

MOD-IN-SRV	Modify an IN Service	
SRV-KEY	:	22
[DP-TYP]	:	NOTIFY
[MIN-DGT]	:	10
[MAX-DGT]	:	10
[DIGITS]	:	1600
[DL-PLAN]	:	CDP
[CLS-SRV]	:	NONE
[NAT-ADR]	:	NONE
[CAUSE]	:	NONE
[SRV-CAT]	:	OFFICE
[INT-TYP]	:	ALL
[SCP-ID]	:	ISDN-SUBS-1111-TYPE1
[FLT-TONE]	:	100
[FLT-DIR]	:	0

MOD-IN-SRV: OUTPUT FORM

MODIFY IN SERVICE REPORT

SERVICE KEY	=	22
DETECTION POINT TYPE	=	NOTIFY (modified value)
MINIMUM NUMBER OF DIGITS	=	10
MAXIMUM NUM OF DIGITS	=	10
DIGIT STRING	=	1600
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	OFFICE
INTERFACE TYPE	=	ALL
SCP ID	=	ISDN-SUBS-1111-TYPE1
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0

4.2.7. Modify IN Tone Mapping

IN ADMINISTRATION COMMAND : Modify IN Tone Mapping			
MNEMONIC :	MOD-INTONE-MAP	CLASS Update	MENU POSITION : 1 46 7
GENERAL INFORMATION			

FUNCTION	:	To modify an existent IN Tone Mapping.
PARAMETERS REQUIRED	:	TONE-MAP
VALIDATION CHECKS/ REMARKS	:	Only one mapping should be specified for one logical tone.

MOD-INTONE-MAP: PARAMETER ENTRY FORM

MOD-INTONE-MAP		Modify IN Tone Mapping
TONE-MAP	:	98-15

MOD-INTONE-MAP : OUTPUT FORM

MODIFY TONE MAP REPORT

LOGICAL TONE ID	ACTUAL TONE ID
98	15

4.2.8. Add/Delete Escape Codes To/From Escape Code List

IN ADMINISTRATION COMMAND : Add/Delete Escape Codes To/From Escape Code List		
MNEMONIC : MOD-ESC-LIST	CLASS : Update	MENU POSITION : 1 46 8
GENERAL INFORMATION		

FUNCTION : Addition/Deletion of escape codes in the escape code list is done through this command.

PARAMETERS REQUIRED : OPR-TYP
ESC-COD

VALIDATION CHECK/ REMARKS :

1. If OPR-TYP is ADD then the escape code should not exist earlier.
2. If OPR-TYP is DEL then escape code should exist.
3. The maximum number of escape codes in escape code list is 100.
4. While adding escape codes (more then one) in escape code list than no escape code should be subset/superset of rest of the escape codes in the list.

MOD-ESC-LIST : PARAMETER ENTRY FORM

MOD-ESC-LIST		Modify Escape Code List
OPR-TYP	:	ADD
ESC-CODE	:	170

MOD-ESC-LIST : OUTPUT FORM

MODIFY ESCAPE CODE LIST REPORT

OPERATOR TYPE	=	ADD
ESCAPE CODE	=	170

4.2.9. Create IN Group

IN ADMINISTRATION COMMAND : Create IN Group		
MNEMONIC : CRE-IN-GRP	CLASS : Update	MENU POSITION : 1 46 9
GENERAL INFORMATION		

FUNCTION	:	Creation of a VPN on net subscriber group.
PARAMETERS	:	GRP-ID, MEMBER DIRNO, [FLT-DIRNO], [FLT-TONE]

CRE-IN-GRP: PARAMETER ENTRY FORM

CRE-IN-GRP		Create IN Group
GRP-ID	=	222
MEMBER DIRNO(s)	=	57363042
[FLT-DIRNO]	=	100
[FLT-TONE]	=	NONE

CRE-IN-GRP : OUTPUT FORM

CREATE IN GROUP REPORT

GROUP ID	=	222
TOTAL MEMBER DIRNOs	=	1
MEMBER DIRNO	=	5763042
FLT-DIRNO	=	100
FLT-TONE	=	NONE

4.2.10. Delete IN Group

IN ADMINISTRATION COMMAND : Delete IN Group		
MNEMONIC : DEL-IN-GRP	CLASS : Update	MENU POSITION : 1 46 10
GENERAL INFORMATION		

FUNCTION : Deletion of VPN group

PARAMETERS : GRP-ID

DEL-IN-GRP: PARAMETER ENTRY FORM

DEL-IN-GRP		Delete IN Group
GRP-ID	=	222

DEL-IN-GRP : OUTPUT FORM

DELETE IN GROUP REPORT

GROUP ID	=	222
MEMBER DIRNO	=	5763042

4.2.11. Grant IN Service

IN ADMINISTRATION COMMAND : Grant IN Service		
MNEMONIC : GRNT-IN-SRV	CLASS : Update	MENU POSITION : 1 46 11
GENERAL INFORMATION		

FUNCTION	:	Grants IN service to a VPN group
PARAMETERS	:	GRP-ID, SRV-KEY, [DIRNO], [FLT-DIRNO], [FLT-TONE]

GRNT-IN-SRV: PARAMETER ENTRY FORM

GRANT-IN-SRV		Grant IN Service
SRV-KEY	:	222
[DIRNO]	:	NONE
[GRP-ID]	:	222
[FLT-DIRNO]	:	100
[FLT-TONE]	:	NONE

GRNT-IN-SRV : OUTPUT FORM

GRANT IN SERVICE REPORT

SRV-KEY	=	1610
GROUP ID	=	222
FLT HANDLING TONE ID	=	100
FAULT HANDLING FLT-DIRNO	=	NONE

4.2.12. Withdraw IN Service

IN ADMINISTRATION COMMAND : Withdraw IN Service		
MNEMONIC : WTD-IN-SRV	CLASS : Update	MENU POSITION : 1 46 12
GENERAL INFORMATION		

FUNCTION : Withdraws VPN service from a group.

PARAMETERS : GRP-ID

WTD-IN-SRV: PARAMETER ENTRY FORM

WTD-IN-SRV		Withdraw IN Service
GRP-ID	:	222

WTD-IN-SRV : OUTPUT FORM

WITHDRAW IN SERVICE REPORT

GROUP ID	=	222
MEMBER DIRNO	=	5763042

4.2.13. Add/Remove Subscriber From/To Group

IN ADMINISTRATION COMMAND : Add/Remove subscriber from/to Group			
MNEMONIC :	ADD-SUB-TOGRP/ REM-SUB-FRMGRP	CLASS : Update	MENU POSITION : 1 46 13/14
GENERAL INFORMATION			

FUNCTION : These command add or remove subscribers to & from an existing VPN group.

PARAMETERS : GRP-ID, DIRNO

ADD/REM-SUB-TO/FROM GRP: PARAMETER ENTRY FORM

ADD/REM-SUB-TO/FRM GRP		Add/Remove subscriber to from group
GRP-ID	=	222
DIRNO(s)	=	57363042

ADD/REM-SUB-TO/FRM GRP: OUTPUT FORM

ADD/REMOVE SUBSCRIBER TO/FROM GROUP REPORT

GRP ID	=	222
MEMBER DIRNO	=	5763042
ADDED/REMOVED		

4.3. IN ADMINISTRATION COMMANDS : DISPLAY CLASS

4.3.1. Display a Trigger Type

IN ADMINISTRATION COMMAND : Display a Trigger Type		
MNEMONIC : DISPL-TGR-TYP	CLASS : Display :	MENU POSITION : 1 47 1
GENERAL INFORMATION		

FUNCTION	:	To display a existent trigger type.
PARAMETERS REQUIRED	:	[TGR-TYP], [DP].
VALIDATION CHECKS/ REMARKS	:	1. Only one of DP and TGR-TYP should be specified. 2. DP if specified should exist. 3. TGR-TYP specified should exist.

DISPL-TGR-TYP : PARAMETER ENTRY FORM

DISPL-TGR-TYP Display Characteristics of a Trigger Type

[TGR-TYPE] : 6

[DP] : NONE

DISPL-TGR-TYP : OUTPUT FORM

i) If input parameter TGR-TYP was specified:

```
DISPLAY TRIGGER TYPE REPORT

TRIGGER TYPE                    =    6
DETECTION POINT                 =    ANLY-INFO
PRECEDENCE                      =    1
TRIGGER CRITERIA                =    DSTR
ADMINISTRATIVE STATE CODE       =    ENABLE
```

ii) If input parameter DP was specified:

```
DISPLAY TRIGGER TYPE REPORT

DETECTION POINT                 =    6
DETECTION POINT                 =    ANLY-INFO
PRECEDENCE                      =    1
TRIGGER CRITERIA                =    DSTR
ADMINISTRATIVE STATE CODE       =    ENABLE
```

4.3.2. Display the Characteristics of an IN Service

IN ADMINISTRATION COMMAND : Display the Characteristics of an IN Service		
MNEMONIC : DISPL-IN-SRV	CLASS : Display	MENU POSITION : 1 47 2
GENERAL INFORMATION		

FUNCTION	:	To display the characteristics of an IN Service.
PARAMETERS REQUIRED	:	SRV-KEY
VALIDATION CHECKS/ REMARKS	:	1. SRV-KEY should exist.

DISPL-IN-SRV : PARAMETER ENTRY FORM

DISPL-IN-SRV Display Characteristics of an IN Service

SRV-KEY : 22

DISPL-IN-SRV : OUTPUT FORM

DISPLAY IN SERVICE REPORT

SERVICE KEY	=	22
SERVICE NAME	=	Freephone
DETECTION POINT	=	ANLY-INFO
DETECTION POINT TYPE	=	REQUEST
TRIGGER TYPE	=	6
TRIGGER CRITERIA	=	DSTR
MINIMUM NUM OF DIGITS	=	10
MAXIMUM NUM OF DIGITS	=	10
DIGIT STRING	=	1600
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	OFFICE
INTERFACE TYPE	=	ALL
SCP-ID	=	ISDN-SUBS-1111-TYPE 1
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0
ADMINISTRATIVE STATE CODE	=	ENABLE
NO. OF USERS	=	0

4.3.3. Display IN Tone Mapping

IN ADMINISTRATION COMMAND : Display IN Tone Mapping		
MNEMONIC : DISPL-INTONE-MAP	CLASS : Display	MENU POSITION : 1 47 3
GENERAL INFORMATION		

FUNCTION	:	The command indicate the logical id of the tone to be fed in different fault conditions.
PARAMETERS REQUIRED	:	NONE
VALIDATION CHECKS/ REMARKS	:	This mapping specifies which announcement is to be played when received a announcement ID from SCP. The first field indicates the expected announcement number gives the actual announcement number in the system. List of announcement ID and their corresponding announcement is given Annex – III.

DISPL-INTONE-MAP : PARAMETER ENTRY FORM

DISPL-INTONE-MAP	Display IN Tone Mapping

DISPL-INTONE-MAP : OUTPUT FORM

DISPLAY TONE MAP REPORT

LOGICAL TONE ID	ACTUAL TONE ID
88	9
98	15
100	33

4.3.4. Display Escape Code List

IN ADMINISTRATION COMMAND : Display Escape Code List		
MNEMONIC : DISPL-ESC-LIST	CLASS : Display	MENU POSITION : 1 47 4
GENERAL INFORMATION		

FUNCTION	:	Command indicates the list of escape codes defined.
PARAMETERS REQUIRED	:	NONE
VALIDATION CHECKS/ REMARKS	:	NONE

DISPL-ESC-LIST : PARAMETER ENTRY FORM

DISPL-ESC-LIST	Display Escape Code List

DISPL-ESC-LIST : OUTPUT FORM

DISPLAY ESCAPE CODE LIST REPORT

ESCAPE CODE = 160

4.3.5. Display IN Group

IN ADMINISTRATION COMMAND : Display IN Group		
MNEMONIC : DISPL-IN-GRP	CLASS : Update	MENU POSITION : 1 47 7
GENERAL INFORMATION		

FUNCTION : Display the information about an IN group

PARAMETERS REQUIRED : GRP-ID

DISPL-IN-GRP: PARAMETER ENTRY FORM

DISPL-IN-GRP		Display IN Group
GRP-ID	=	222

DISPL-IN-GRP : OUTPUT FORM

DISPLAY IN GROUP REPORT

GRP ID	=	222
TOTAL MEMBER DIRNOs	=	2
MEMBER DIRNO	=	5763042, 5763042
FAULT HANDLING DIRNO	=	NONE
FAULT-HANDLING TONE ID	=	100

Chapter 5.

Traffic Administration Commands

5.1. INTRODUCTION

Traffic commands are the tools which can be used to observe, record, manipulate and display traffic data. Under administration commands, traffic commands are grouped under two classes :

1. Traffic Administration Commands Update (Class 9)
2. Traffic Administration Commands Display (Class 10)

Update class of commands, as the name suggests, are used to modify or update traffic data and retrieval procedures. Type of observation, periodicity of observation, output options, etc. are some of the parameters which may be manipulated under this class of traffic commands. Within the update class, there are two kinds of commands. One is used for controlling the sampling attributes whereas the other one is used to start/stop a traffic report.

Display class of commands is used to display traffic information about exchange entities like:

- Current traffic information on specific subscriber lines, trunks and trunk groups.
- Call Detail Records (CDRs) of specific type and period for a specific subscriber who is under observation. The subscriber can be put under observation for originating calls and terminating calls.

CDR is not made for malicious calls. Instead, on completion of such calls, a report is immediately displayed on the OOD terminal, printed on the printer, if attached, and dumped on the disk for further processing.

The following types of periodic traffic reports are prepared in the system with the specified periodicity as and when they are enabled. The periodicity can be specified in multiples of 15 minutes.

- **Line Reports** on
    - ♦ originating - terminating calls
    - ♦ incoming - outgoing calls

- **Trunk Reports** on
  - incoming trunk groups
  - outgoing trunk groups
- **Switching Network Report**
- **Service Circuits Report**
- **Processor Report**
- **Exchange Performance Report**
- **Special Facilities Report**
- **Daily Reports** on
- **Hunt Group Report on Originating Calls**
- **Hunt Group Report on Terminating Calls**
- **Route Code Report**
- **Digital Trunk Report (on digital trunks connecting Remote Switch Unit to the exchange)**
- **IN Service Report**

5.2. COMMAND DIRECTORY FOR IN REPORTS

5.2.1. CLASS 10 TRAFFIC ADMINISTRATION COMMANDS - DISPLAY CLASS

S.No.	Command Mnemonic	Command Name	Position Defined Parameters
1.	DISPL-TRF-OBS	DISPLAY TRAFFIC OBSERVATION	OBS-TYP
2.	DISPL-SUB-TRFINF	DISPLAY SUBSCRIBER TRAFFIC INFORMATION	[DMP-OPT], [DIRNO], [TEN]
3.	DISPL-TRK-TRFINF	DISPLAY TRUNK TRAFFIC INFORMATION	[DMP- OPT], [TGP-NO], [TEN]
4.	DISPL-CDR	DISPLAY CALL DETAIL RECORD	DIRNO, [CDR-TYP], [FRM- DATE], [TO-DATE], [FRM-TIME], [TO-TIME]
5.	DISPL-TRF-RPT	DISPLAY TRAFFIC REPORT	RPT-ID, [FRM-DATE], [TO-DATE], [FRM-TIME], [TO-TIME], [MOD-NO]

Traffic Administration Commands-Display Class

5.2.2. CLASS 9 TRAFFIC ADMINISTRATION COMMANDS - UPDATE CLASS

S.No.	Command Mnemonic	Command Name	Position Defined Parameters
1.	START-TRF-RPT	START TRAFFIC REPORT/S	RPT-TYP
2.	STOP-TRF-RPT	STOP TRAFFIC REPORT/S	RPT-TYP
3.*	MOD-SMPLNG-FREQ	MODIFY SAMPLING FREQUENCY	RPT-TYP, INF-SMP, SMP-FRQ
4.	MOD-RPT-PERDTY	MODIFY REPORT PERIODICITY	RPT-TYP, TIM-UNT, RPT-PRD
5.	MOD-OUT-OPT	MODIFY OUTPUT OPTIONS FOR TRAFFIC REPORT	RPT-TYP, [OPTION]
6.	MOD-TGP-OBS	MODIFY TGP OBSERVATION	[ADD-TGP], [DEL-TGP], [DEL-ALL], TGP-OBS, [OBS-PRD], [STP-DTE], [STP-TME]
7.	MOD-SUB-OBS	MODIFY SUBSCRIBER OBSERVATION	[ADD-DIR], [DEL- DIR], [ADD-TEN], [DEL-TEN], [DEL-ALL], SUB-OBS, [OBS-PRD],[STP-DTE], [STP-TME]
8.	MOD-TRK-OBS	MODIFY TRUNK OBSERVATION	[ADD-TRK], [DEL-TRK], [DEL-ALL], TRK-OBS, [OBS-PRD], [STP-DTE], [STP-TME]
9.	MOD-HGP-OBS	MODIFY HUNT GROUP OBSERVATION	[ADD-HGP], [DEL-HGP], [DEL-ALL], , [OBS-PRD],[STP-DTE], [STP-TME]
10.	MOD-ROUT-OBS	MODIFY ROUTE OBSERVATION	[ADD-ROU], [DEL-ROU], [DEL-ALL], [OBS-PRD]/[STP-DTE], [STP-TME]
11.	MOD-INSRV-OBS	MODIFY IN SERVICE OBSERVATION	[ADD-SRV], [DEL-SRV], [DEL-ALL], [OBS-PRD], [STP-DTE], [STP-TME]

5.3. COMMAND SHEETS FOR EXISTING COMMANDS MODIFIED FOR IN

5.3.1. Start Traffic Reports

IN ADMINISTRATION COMMAND : Start Traffic Reports		
MNEMONIC : START-TRF-RPT	CLASS : Update	MENU POSITION : 1 9 1
GENERAL INFORMATION		

FUNCTION	:	To activate one or more traffic reports.
PARAMETERS REQUIRED	:	RPT-TYP
REMARKS	:	The traffic reports enabled by this command will occur after every integral time multiple of the set periodicity.

START-TRF-RPT : PARAMETER ENTRY FORM

START-TRF-RPT Start Traffic Report

RPT-TYP : INSRV

START-TRF-RPT : OUTPUT FORM

START A SPECIFIED TYPE OF TRAFFIC REPORT

REPORT TYPE	UNIT	PERIODICITY
INSRV	MIN	15

5.3.2. Stop Traffic Reports

IN ADMINISTRATION COMMAND : Stop Traffic Reports		
MNEMONIC : STOP-TRF-RPT	CLASS : Update	MENU POSITION : 1 9 2
GENERAL INFORMATION		

FUNCTION	:	To stop i.e. deactivate one or more traffic reports.
PARAMETERS REQUIRED	:	RPT-TYP
REMARKS	:	On execution of this command traffic reports that were active and are now being disabled, will occur for the last time for the period since they occurred last until the time of deactivation.

STOP-TRF-RPT : PARAMETER ENTRY FORM

STOP-TRF-RPT Stop Traffic Report

RPT-TYP : INSRV

STOP-TRF-RPT : OUTPUT FORM

STOP A SPECIFIED TYPE OF TRAFFIC REPORT

REPORT TYPE	UNIT	PERIODICITY
INSRV	MIN	15

5.3.3. Modify Report Periodicity

IN ADMINISTRATION COMMAND : Modify Report Periodicity		
MNEMONIC : MOD-RPT-PERDTY	CLASS : Update	MENU POSITION : 1 9 4
GENERAL INFORMATION		

FUNCTION	:	To modify the periodicity of a specified report.
PARAMETERS REQUIRED	:	RPT-TYP, TIM-UNIT, RPT-PRD
REMARKS	:	Through this command when report periodicity is changed then the very last report will be generated for the period from the last integral time - lapse to the time of execution of this command.

MOD-RPT-PERDTY : PARAMETER ENTRY FORM

MOD-RPT-PERDTY Modify Report Periodicity

RPT-TYP	:	INSRV
TIM-UNT	:	MIN
RPT-PRD	:	30

MOD-RPT-PERDTY : OUTPUT FORM

MODIFY PERIODICITY OF A TRAFFIC REPORT

REPORT TYPE	UNIT	OLD	NEW
INSRV	MIN	15	30

5.3.4. Display Traffic Observation

IN ADMINISTRATION COMMAND : Display Traffic Observation		
MNEMONIC : DISPL-TRF-OBS	CLASS : Display	MENU POSITION : 1 10 1
GENERAL INFORMATION		

FUNCTION : To display the exchange entities currently under observation.

PARAMETERS REQUIRED : OBS-TYP

DISPL-TRF-OBS : PARAMETER ENTRY FORM

DISPL-TRF-OBS Display Traffic Observation

OBS-TYP : INSRV

DISPL-TRF-OBS : OUTPUT FORM

DISPLAY TRAFFIC OBSERVATION REPORT

OBS-TYP	=	INSRV
SERVICE KEY	=	22
STOP DATE	=	0-0-0
STOP TIME	=	0:0

5.3.5. Display Subscriber Traffic Information (NOT OFFERED)

IN ADMINISTRATION COMMAND : Display Subscriber Traffic Information		
MNEMONIC : DISPL-SUB-TRFINF	CLASS : Display	MENU POSITION : 1 10 2
GENERAL INFORMATION		

FUNCTION : To display the current traffic information on the specified subscriber.

PARAMETERS REQUIRED : [DMP-OPT], [DIRNO], [TEN]

REMARKS : On giving this command traffic information on the desired subscriber from 00:00 time to current time is displayed and dumped onto the disc if dump option is 'yes'. After command execution all the counters of the traffic information will get reseted to zero.

DISPL-SUB-TRFINF : PARAMETER ENTRY FORM

DISPL-SUB-TRFINF Display Subscriber Traffic Information

[DMP-OPT]	:	NO
[DIRNO]	:	5485074
[TEN]	:	NONE

DISPL-SUB-TRFINF: OUTPUT FORM

REPORT ON ORIGINATING & TERMINATING CALLS ON A PORT

DIRECTORY NUMBER

TERMINAL EQUIPMENT

REPORT ON ORIGINATING CALLS ATTEMPTS

- Total originating call attempts
- Total successful calls
- Total local call attempts
- Total outgoing call attempts
- Total IN call attempts
- Total successful IN calls

CALL RELEASE DUE TO

- No digits dialled
- Wrong prefix
- Partial dialling (one digit)
- Partial dialling (more than one digit)
- Abandonment after dialling complete
- No answer
- Called subscriber CP busy
- Called subscriber ADMN busy
- Called subscriber MNTNC busy
- Number unobtainable
- Called subscriber under LLO
- Called subscriber being access barred

DISPL-SUB-TRFINF: OUTPUT FORM (Contd.)

CALL FAILED DUE TO

- Congestion in switch
- Faulty signalling
- Non availability of service circuits
- Non availability of trunk circuit
- System overload
- Any other reason

REPORT ON TERMINATING CALLS

- Total attempts
- Total successful terminating calls

CALL RELEASED DUE TO

- Subscriber being busy/LLO
- Subscriber being admn/Maint. Busy
- No answer/Abandoned after dialling complete

5.3.6. Display Trunk Traffic Information (To be checked later)

IN ADMINISTRATION COMMAND : Display Trunk Traffic Information			
MNEMONIC :	DISPL-TRK-TRFINF	CLASS : Display	MENU POSITION : 1 10 3
GENERAL INFORMATION			

FUNCTION	:	To display traffic information on the trunks in a specified trunk group.
PARAMETERS REQUIRED	:	[DMP-OPT], [TGP-NUM], [TEN]
REMARKS	:	On execution of command traffic information on trunks from 00:00 hrs. to current time is displayed & will get dumped onto disc, if [DMP-OPT] is given as 'YES'. Also after execution of this command the counter values are reseted to zero after displaying the current traffic information.

DISPL-TRK-TRFINF : PARAMETER ENTRY FORM

DISPL-TRK-TRFINF Display Trunk Traffic Information

[DMP-OPT]	:	NO
[TGP-NUM]	:	25
[TEN]	:	NONE

DISPL-TRK-TRFINF: OUTPUT FORM

REPORT ON INCOMING & OUTGOING CALLS ON A PORT

TRUNK GROUP NUMBER

TERMINAL EQUIPMENT NUMBER

REPORT ON INCOMING CALLS

- Total incoming call requests
- Total successful calls
- Total incoming call attempts
- Total transit call attempts
- Total IN call requests
- Total successful IN calls

CALL RELEASE DUE TO

- No digits dialled
- Partial dialling (one digit)
- Partial dialling (more than one digit)
- Called subscriber CP busy
- Called subscriber ADMN busy
- IDT
- Abandonment after dialling complete
- Wrong prefix
- Called subscriber under LLO
- Number unobtainable

DISPL-TRK-TRFINF: OUTPUT FORM (Contd.)

CALL FAILED DUE TO

- Non availability of service circuits
- Congestion in switch
- Any other reason

CALLS RELEASED DUE TO

- Congestion at remote end
- Faulty signalling

5.3.7. Display Traffic Report

IN ADMINISTRATION COMMAND : Display Traffic Report		
MNEMONIC : DISPL-TRF-RPT	CLASS : Display	MENU POSITION : 1 10 5
GENERAL INFORMATION		

FUNCTION	:	Displays the specified IN traffic report
PARAMETERS REQUIRED	:	RPT-ID, [FRM-DATE], [TO DATE], [FRM-TIME], [TO-TIME], [MOD-NO].
REMARKS	:	To get IN related reports, [RPT-ID] parameter can have values : INSRV INACCS INCALL INPERF

DISPL-TRF-RPT : PARAMETER ENTRY FORM

DISPL-TRF-RPT		Display Traffic Report
RPT-ID	:	INSRV & INACCS & INPERF **
[FRM-DATE]	:	20-5-1997
[T0-DATE]	:	20-5-1997
[FRM-TIME]	:	10:00
[TO-TIME]	:	24:0
[MOD-NO]	:	AM*

* For SBM exchange give MOD-NO = BM-01.

** This report is not available in release 1_5_1_2.

DISPL-TRF-RPT: OUTPUT FORM

IN SERVICE REPORT

DATE : 12-AUG-1998-17:45:00 OBS-DUR 15 Minutes

SERVICE KEY	=	1610
TOTAL SERVICE INVOCATIONS	=	250
SUCCESSFUL SERVICE INVOCATIONS	=	250
SERVICE BARRED DUE TO SERVICE FILTERING	=	0

DISPL-TRF-RPT : OUTPUT FORM (Contd.)

IN PERFORMANCE REPORT (Not available at present)

DATE : PERIOD :

PROCESSOR : AM/BM

No. of IN call attempts

IN traffic intensity

Grade of Service

Average holding time for IN successful calls

Average holding time from service control point

Max. dial tone delay

Average call setup time

Average exchange call release delay

DISPL-TRF-RPT : OUTPUT FORM (Contd.)

IN SERVICE REPORT ACCESS CODE WISE	
Access Code	1605
Service Key	1605
No. of successful calls (answered)	6
No. of calls failed due to	6
– Busy	0
– No answer	0
– Congestion	0
– Unallocated Destination	0
– Overload of SCP	0
– Any other reasons	0
Traffic Intensity (erlangs)	1

Note : Such reports are displayed for all the IN services put under observation.

5.4. COMMAND SHEETS FOR NEW IN COMMANDS

5.4.1. Modify IN Service Observation

IN ADMINISTRATION COMMAND : Modify IN Service Observation			
MNEMONIC :	MOD-INSRV-OBS	CLASS : Update	MENU POSITION : 1 9 12
GENERAL INFORMATION			

FUNCTION : To add/delete or modify the parameters of an IN Service under observation.

PARAMETERS REQUIRED : [ADD-SRV], [DEL-SRV], [DEL-ALL], [OBS-PRD], [STP-DTE], [STP-DTE], [STP-TME].

REMARKS : This command is used for putting/removing an IN service in/from observation. Also, the observation period for an existing observation can be modified.

MOD-INSRV-OBS : PARAMETER ENTRY FORM

MOD-INSRV-OBS		Modify IN Service Observation
[ADD-SRV]	:	22
[DEL-SRV]	:	0
[DEL-ALL]	:	NO
[OBS-PRD]	:	0 : 0 : 0 : 0
[STP-DTE]	:	24-11-1997
[STP-TME]	:	11 : 10

MOD-INSRV-OBS : OUTPUT FORM

MODIFY IN SERVICE REPORT OBSERVATION

Service added to the list	22
Service deleted from list	0
Old stop date	0 : 0 : 0
Old stop time	0 : 0
New stop date	25-11-97
New stop time	11 : 10

Annexure - I

Command Sheets Index

Annexure - II

Guidelines for IN Data Creation

1. Introduction

In the Intelligent Network (IN) data needs to be created for its constituent nodes viz. Service Switching Point (SSP) and Service Control Point (SCP). Specifically, the data concerns the following over and above the data that might already exist for voice network and CCS7 signalling network (MTP & ISUP):

- IN Services
- CCS7 Signalling Network (SCCP & TCAP)
- IN Service Customers

The following sections describe the data plan and detailed procedures for creating site specific data and verifying the created data.

2. Data Plan

The data plan for IN services comprises the following main components:

2.1 Subscriber/User and Customer Data at the SSP/LE

IN service users are the subscribers who actually use IN services by dialling appropriate digits. These can be of the following types and terminated on the SSP directly or on local exchanges (LE) which are connected to the SSP:

- Ordinary
- Ordinary Coin Box (ORD-CCB)
- STD Public Call Office (CCB-STD)
- ISDN (speech calls only)
- Access Network terminated

IN service customers subscribe to IN services like Freephone, VPN, Premium Rate etc on behalf of the service users. These are assigned easy-to-remember logical numbers for each service to which they have subscribed. The service users call these numbers for using the services. As part of the number translation function, a routable number is returned to the access point, i.e., the SSP, by the SCP according to time of day, origination area, etc. in response to the logical number received.

However, for administration purposes each IN customer has a unique “IN Number”. This number is used for service subscription, access control and billing purposes.

The routable numbers of the IN customer can be of the following types:

- Ordinary
- ISDN (speech calls only)
- Access Network terminated

Additionally, the calling and called numbers may have been granted PSTN features such as:

- Malicious Call Identification (Called Sub.)
- Call Forwarding Conditional/Unconditional (Called Sub.)
- Call Waiting (Called Sub.)
- Conferencing (Calling Sub.)
- Hotline (Calling Sub.)
- Call Queuing (Called Sub.)

Guideline I: The service users and customers data should then be so chosen as to take care of all possible calling-called combinations. This includes VPN on-net locations. Also, interaction with PSTN features should also be verified.

2.2 Customer Data at Service Control Point

As mentioned above, each IN customer is identified by a unique IN Number for administrative purposes. In addition, for each service, the customer is assigned a logical number which he advertises. The calls made to these numbers are routed to actual directory numbers depending upon the features subscribed to by the customer.

To take care of various situations, the following may be taken care of while creating data at the SCP:

a) Same routable number for different services

b) Call may be routed to an announcement

c) One or more features may be activated for each service:
   - Time Dependent Routing (TDR)
   - Origin Dependent Routing (ODR)
   - Originating Call Screening (OCS)
   - Call Forwarding (CFB, CFU, CFNR)

Guideline II: The service and customers data should then be so chosen as to take care of all possible service and service feature combinations. Also the service should be given to all possible type of access and termination's.

2.3 Voice Network Data at SSP

IN calls are routed to the SSP from all the exchanges in the local network. Also, IN calls may need routing outside the local area to the national region. Hence following type of connectivity data is required at the SSP:

a) Connectivity to all the local exchanges or a tandem exchange via CCS7 and/or MOD-R2 trunks.

b) Routes towards SSP for all IN service access codes from the local exchanges.

c) Routes towards local exchanges from the SSP.

d) CCS7 and/or MOD-R2 trunks connectivity between SSP and TAX.

e) Voice Routes from SSP to TAX.

The ISUP charging method is to kept as CRG/CHB for all the CCS7 trunks. CAMA feature at the incoming junctions (CCS7 as well as Mod-R2) may also be given.

Guideline III: Ensure that all types of junction interfaces between the LEs and the SSP are available.

2.4 CCS7 Connectivity between SSP & SCP

SSP is connected to the SCP via CCS7 signalling links for TCAP message communication. Signalling network data is to be created both at SSP & SCP for this purpose. The data is required for the following signalling network entities:

a) Signalling point codes

b) Signalling linksets

c) Signalling links

d) Signalling routesets for SP & STP working

e) Global Titles & Sub System Numbers

3. Data Creation Procedures

3.1 On-net VPN Subscribers Data Creation at SSP

Subscriber data is first created in C-DOT exchange by CRE-SUB command. Then the VPN group is created by using the command CRE-IN-GRP. Specify the Group-ID and its constituent Directory Numbers. Finally, after IN services have been created, grant VPN service to this group by using the command GRNT-IN-SRV.

3.2 Voice Network Data Creation at SSP

Trunk groups need to be created between the SSP and the local exchanges connected to it and between SSP and the higher exchange such as a TAX. Routes are required between the SSP and the higher exchange.

3.3 Signalling Network & Voice Network Data Creation at the LEs & SSP

3.3.1 MTP and ISUP data

CCS7 Message Transfer Part (MTP) and ISDN User Part (ISUP) data is to be created after the rel. 1_5_1_2 retrofit has been successfully done, CCS7 Signalling Unit (CSU) equipped and brought in service.

Following commands should be executed in the given order.

1. CRE-SPC (Create Signalling Point Code)

[SIG-NW]	=	NAT (National)
SPC-LST	=	<List of self signalling point codes of type 'national'>

2. CRE-CGS (Create Circuit Group Set)

CGS-NUM	=	<CGS number> (Circuit Group Set no.)
CGS-NAME	=	< CGS name> (Circuit Group Set name)
SELF-PC	=	<Self Point Code> (Should be one of the values given in CRE-SPC command above)
DEST-PC	=	<Point Code of the destination> (i.e. the higher TAX)
[SIG-NW]	=	NAT
[USR-PART]	=	ISUP (ISDN User part)

3. CRE-TGP (Create Trunk Group)

TGP-NUM	=	<Trunk group number>
TGP-NAME	=	<Trunk group name>
TGP-STA	=	BW (trunk group status = Bothway)
LIN-SIG	=	DIG-CCS (line signalling = Digital Common Channel Signalling)
REG-SIG	=	CCITT-R7 (register signalling = CCITT signalling system no. 7)
[CGS-NUM]	=	<CGS number>
[CGS-NAME]	=	<CGS name>
[RNK-DGT]	=	<rank of digit >

TGP-TYPE = ORD (trunk group type = ordinary)

SIG-INF = ISUP-CRG-CHB (ISUP charging method is Charge Band - CRG/CHB)

[DGT-SZFD] = <minimum digit seize forward >

AC-STA = 2WP (answering circuit status = two wire protocol)

[#7 TEN] = <#7 terminal equipment numbers>

Rest of the parameters are given default values.

4. CRE-LSB (Create Link Set Bundle)

LSB-NUM = <Link Set Bundle number>

[CGS-NUM] = <CGS number>

[CGS-NAME] = <CGS name>

[STP-USER = NONE

[DEST-PCS] = NONE

LM-MTHD = BASIC (Link Management method = Basic) For a LSB, once LM method is defined then all link sets will have the same method).

MX-MSGSZ = DATA272 (maximum message, i.e., MSU size is 272 octets)

5. CRE-LS (Create Link Set)

LS-NUM = <Link set number>

LSB-NUM = <LSB number in which this LS will exist>

[MNAC-LN] = 2 (minimum active links threshold for alarm)

[MXAV-LN] = 2 (maximum available links threshold for alarm)

[MNAV-LN] = 2 (minimum available links threshold for alarm)

depends upon the avialability of links between two nodes.

PC-LST = <destination point codes>

EC-OPTN = BASIC (error correction option = Basic)

[MXMS-RB] = 127 (maximum no. of MSUs in retransmission buffer)

[MX-OCTET-RTB] 4095 (maximum no. of octets in retransmission buffer)

LOG-LNK = 0&1&2…etc. (logical link nos. in the linkset)

[DAT-LNK] = <data link Ids> (corresponding to the logical links specified above)

6. CRE-SRS (Create Signalling Route Set)

SRS-NUM = <signalling route set number>

DPC = <point code of higher TAX>

[SIG-NW] = NW-NAT

PR1-RT-TBL = <high priority route table>

[PR2-RT-TBL] = <low priority route code>

7. CRE-ROUT (Create Route for voice traffic)

ROUT-CODE = < route code number >

DIG-LEN = < digit length allowed on the route>

ROUT-FLAG = < route flag > number to

CRG-RTN = < charge rate be applied >

TGP-CHC = < trunk groups to the route >

TGP-ROD = < rank of digit assigned of the trunk group>

After each command, display commands should be used to confirm the data created.

3.4 Signalling Network Data Creation for SSP-SCP Connectivity

At SSP

This data involves creation of SCCP specific data i.e. Global Title and Subsystem specific data. Depending on the type of connectivity towards SCP from SSP the data creation method charge which is specified in the following sections:

Data between SSP and SCP when SSP is connected directly to SCP

1. Create CCS7 network data up to link set by following the procedure given above
2. Create **Signalling Route Set (CRE-SRS)**. In the Sub System Number (SSN) list give "SCMG & INAP". Rest of the parameters are to be filled in the same way as described in the document - "C-DOT SS7 Installation, Data Creation & Maintenance Procedures."
3. Create a **Self Global Title (GT)** by giving **CRE-GT** command with the following parameters :

   GT = Type1-ISDN-SUBS-<Self Point Code>

   PC = <Self Point Code>

SSN = INAP

Rest of the parameters are to be given default values.

Note : <Self Point Code> means the actual value of the SPC of the node, etc.

4. Create a **Remote GT** towards SCP by using **CRE-GT** command with the following parameters :

   GT = Type1-ISDN-SUBS-<Point Code of SCP>

   PC = <Point Code of SCP>

   SSN = INAP

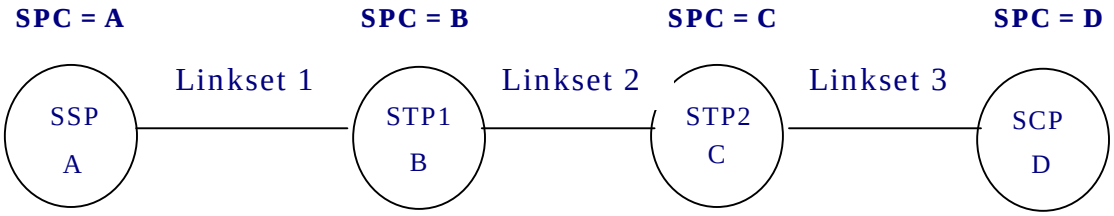
   RTIND = DPCSSN

   Rest of the parameters are to be given default values.

This completes SS7 network data creation for MTP & SCCP layers. The signalling network data created in the above steps is depicted in the diagram on the next page.

Fig. D.1

NETWORK DATA DIAGRAM



DATA at SSP	DATA at STP-1	DATA at SPT-2	DATA at SCP
Self GT GT = Type 1-ISDN-SUBS-<self Point Code of SSP> PC = <Self Point Code> SSN = INAP Remote GT GT = Type1-ISDN-SUBS-'D' PC = Point Code of SCP SSN = INAP RTINGIND.DPCSSN SRS = 1 DPC = B SRS = 2 DPC = D SSN = SCMG & INAP (both SRS1 & SRS2 will be link set 1) TGP = A Circuits of TGPA other than the data linbk will be used for voice communication.	SRS = 3 DPC = C SRS = 4 DPC = D SSN = SCMG & INAP (both SRS3 & srs4 will use link set 1) TGP B SRS = 7 DPC = A SSN = SCMG & INAP SRS = 8 DPC = A (both SRS 7 & SRS8 will use link set 1)	SRS = 5 DPC = B SRS = 6 DPC = A SSN = SGMG & INAP (both SRS5 & SRS6 will use link set 2) SRS = 9 DPC = SD SSN = SCMG & INAP (SRS9 will use link set 3)	SRS = 10 DPC = A SSN = SCMG & INAP (SRS 10 will use link set 3) In Remote GT give point code of SSP SSN = INAP

3.5 Data creation between SCP and SSP when STPs are involved

Data between SSP and STP : (Assuming all the nodes are C-DOT exchanges)

1. Create SS7 network data up to link set by following the procedure given in the document - "C-DOT SS7 User Manual".

2. The PC served parameter in the *CRE-LS* will contain the DPC's of STP and SCP.

3. Create **Signalling Route Set (CRE-SRS)**. There will be two signalling route sets. One route set will go towards the STP and the other route set will have its DPC as that of SCP and both will have high priority linkset as that between SSP and STP1. In the SRS having DPC as that of SCP, Sub System Number (SSN) list will have "SCMG & INAP". Rest of the parameters are to be filled in the same way as described in the document - "C-DOT SS7 User Manual".

4. Create a **Self Global Title (GT)** by giving **CRE-GT** command with the following parameters :

   GT = Type1-ISDN-SUBS-<Self Point Code used as GT address>

   PC = <Self Point Code>

   SSN = INAP

   Rest of the parameters are to be given default values.

   Note : <Self Point Code> means the actual value of the SPC of the node, etc.

5. Create a **Remote GT** towards SCP by using **CRE-GT** command with the following parameters :

   GT = Type1-ISDN-SUBS-<Point Code of SCP used as GT address >

   PC = <Point Code of SCP>

   SSN = INAP

   RTINGIND DPCSSN

   Rest of the parameters are to be given default values.

   This finishes SS7 network data creation for MTP & SCCP layers at SSP.

Data between STPs :

1. Create SS7 network data up to link set by following the procedure given in the document - "C-DOT SS7 Installation, Data Creation & Maintenance Procedures."

2. The PC served parameter in the *CRE-LS* of first STP from the SSP will contain the DPC's of second STP and SCP. Similarly PC served parameter in the *CRE-LS* second STP will contain PC of SSP in linkset towards STP1.

3. Create **Signalling Route Set (CRE-SRS)**. There will be two signalling route sets towards STP 2 direction at first STP. One route set will go towards the second STP and the other route set will have its DPC as that of SCP and both will have high priority linkset as that between STP1 and STP 2. In the SRS having DPC as that of SCP, Sub System Number (SSN) list will have "SCMG & INAP". Rest of the parameters are to be filled in the same way as described in the document - "C-DOT SS7 Users Manual"

4. Similarly in the STP1 direction there will be two SRS at STP 2. One route set will have the first STP's DPC and the other route set will have its DPC as that of SSP and both will have high priority linkset as that between STP1 and STP 2. In the SRS having DPC as that of SSP, Sub System Number (SSN) list will have "SCMG & INAP". Rest of the parameters are to be filled in the same way as described in the document - "C-DOT SS7 Users Manual".

This finishes SS7 network data creation for MTP & SCCP layers at the STP.

Data between STP and SCP :

1. Create SS7 network data up to link set by following the procedure given in the document - "C-DOT SS7 Users Manual".

2. Create **Signalling Route Set (CRE-SRS).** The SRS having DPC as that of SCP, Sub System Number (SSN) list will have "SCMG & INAP". Rest of the parameters are to be filled in the same way as described in the document - "C-DOT SS7 Installation, Data Creation & Maintenance Procedures."

3. IF SCP is sending GT in the calling party number then Create a **Remote GT** towards SSP by using **CRE-GT** command with the following parameters (if SCP is doing the routing towards SSP on DPCSSN then the remote GT need not be created) :

   GT = Type1-ISDN-SUBS-<Point Code of SSP used as GT address>

   PC = <Point Code of SSP>

   SSN = INAP

   RTINGIND DPCSSN

   Rest of the parameters are to be given default values.

This finishes SS7 network data creation for MTP & SCCP layers at the SSP. The data created is depicted in diagram below.

4. Connectivity to other exchange via other signalling systems

For connectivity to other exchange in the network on other signalling like MOD-R2 a Trunk Group of that signalling needs to be created towards the required destination. Trunk Group is created by following command as described. (It is assumed that the hardware for the particular type of trunk is already equipped in the switch)

CRE-TGP (Create Trunk Group)

TGP-NUM	=	<Trunk Group number>
TGP-NAME	=	CAL-TAX ((Trunk group name)
TGP-STA	=	OG (for outgoing trunk circuits)
		IC (for incoming trunk circuits)
LIN-SIG	=	DR2-CAS3(for digital trunks)
		LOOP-DSCT (for analog trunks)/E-M (4 wire)
REG-SIG	=	MOD-R2
[CGS-NUM]	=	None
[CGS-NAME]	=	None
[RNK-DGT]	=	<rank of digit>
TGP-TYPE	=	ORD (trunk group type = ordinary)
SIG-INF	=	None
[DGT-SZFD]	=	<minimum digit seize forward >
AC-STA	=	2WP
[TEN]	=	< Terminal Equipment Numbers>

Rest of the parameters are given default values.

After creating trunk groups, routes are created by using the CRE-ROUT command described in section 1.2.4.1.

5. IN Service Data Creation

1. As the first step, triggers have to be created for IN calls. IN triggers are created by using the **CRE-TGR-TYPE** command. Create two triggers - one for Detection Point (DP) **Analyse-info** and another for **Coll-info.**

2. Now, modify the IN tone map by using the, **MOD-INTONE-MAP** command in order to map the IN services related tones.

3. Finally, create IN services by using the **CRE-IN-SRV** command.

The parameters for the commands CRE-TGR-TYPE, MOD-INTONE-MAP and CRE-IN-SRV one given below in the form of outputs of their corresponding display commands.

1. **DISPL-TGR-TYP : TGR-TYP = 1, DP=none ;**

DISPLAY TRIGGER TYPE REPORT

TRIGGER TYPE	=	1
DETECTION POINT	=	ANLY-INFO
PRECEDENCE	=	1
TRIGGER CRITERIA	=	DSTR
ADMINISTRATIVE STATE CODE	=	ENABLE

2. **DISPL-TGR-TYP : TGR-TYP = 2, DP=NONE ;**

DISPLAY TRIGGER TYPE REPORT

TRIGGER TYPE	=	2
DETECTION POINT	=	COLL-INFO
PRECEDENCE	=	1
TRIGGER CRITERIA	=	NDGT
ADMINISTRATIVE STATE CODE	=	ENABLE

3. **DISPL-INTONE-MAP**

DISPLAY IN TONE MAP REPORT

LOGICAL TONE ID – ACTUAL TONE ID*

1-2	21-101	31-111	42-122
2-2	22-102	32-112	43-123
3-2	23-103	33-113	44-124
4-2	24-104	34-114	45-125
5-2	25-105	35-115	46-126
6-2	26-106	36-116	47-127
7-2	27-107	37-117	48-128
8-2	28-108	38-118	
12-12	29-109	39-119	
1W-35	30-110	40-120	
70-150		41-121	

- These mappings are given for illustration only. The actual tone mapping must be verified according to the ANNC card being used.

4. DISPLAY-IN-SRV : SRV-KEY = 1600XX (FREEPHONE)

DISPLAY IN SERVICE REPORT

SERVICE KEY	=	1600XX
SERVICE NAME	=	FPH
DETECTION POINT	=	ANLY-INFO (i.e., trigger type = 1)
DETECTION POINT TYPE	=	REQUEST
TRIGGER TYPE	=	1
TRIGGER CRITERIA	=	DSTR
MINIMUM NUMBER OF DIGITS	=	10
MAXIMUM NUMBER OF DIGITS	=	10
DIGIT STRING	=	1600XX
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	OFFICE
INTERFACE TYPE	=	ALL
SCP ID	=	ISDN-SUBS-3000*-TYPE I
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0
ADMINISTRATVIE STATE CODE	=	ENABLE
NO. OF USERS	=	0

**Here, 3000 is used as an example of the GT address. Give appropriate value previously specified in CRE-GT.*

XX is taken as 33 for DOT network and 11 for MTNL network.

5. DISPLAY-IN-SRV : SRV-KEY = 1601XX (VIRTUAL PRIVATE NETWORK: OFFNET)

DISPLAY IN SERVICE REPORT

SERVICE KEY	=	1601XX
SERVICE NAME	=	VPNOFF
DETECTION POINT	=	ANLY-INFO (i.e., trigger type = 1)
DETECTION POINT TYPE	=	REQUEST
TRIGGER TYPE	=	1
TRIGGER CRITERIA	=	DSTR
MINIMUM NUMBER OF DIGITS	=	6
MAXIMUM NUMBER OF DIGITS	=	6
DIGIT STRING	=	1601XX
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	OFFICE
INTERFACE TYPE	=	ALL
SCP ID	=	ISDN-SUBS-3000*-TYPE I
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0
ADMINISTRATVIE STATE CODE	=	ENABLE
NO. OF USERS	=	0

**Here, 3000 is used as an example of the GT address. Give appropriate value previously specified in CRE-GT.*

After creating a VPN service, a VPN group has to be created at SSP for On-net subscribers. This group will have a group ID and some subscribers attached to this group. For creating a VPN group the command “CRE-IN-GRP” is to be used. Here the group ID and associate directory numbers have to be specified. After creating a VPN group, it has to be granted IN service. This is done by the command “GRNT-IN-SRV”.

6. DISPLAY-IN-SRV : SRV-KEY = 1602XX (VIRTUAL CARD CALLING)

DISPLAY IN SERVICE REPORT

SERVICE KEY	=	1602XX
SERVICE NAME	=	VCC
DETECTION POINT	=	ANLY-INFO (i.e., trigger type = 1)
DETECTION POINT TYPE	=	REQUEST
TRIGGER TYPE	=	1
TRIGGER CRITERIA	=	DSTR
MINIMUM NUMBER OF DIGITS	=	6
MAXIMUM NUMBER OF DIGITS	=	6
DIGIT STRING	=	1602XX
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	OFFICE
INTERFACE TYPE	=	ALL
SCP ID	=	ISDN-SUBS-3000*-TYPE I
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0
ADMINISTRATVIE STATE CODE	=	ENABLE
NO. OF USERS	=	0

**Here, 3000 is used as an example of the GT address. Give appropriate value previously specified in CRE-GT.*

7. DISPLAY-IN-SRV : SRV-KEY = 1603XX (TELEVOTING)

DISPLAY IN SERVICE REPORT

SERVICE KEY	=	1603XX
SERVICE NAME	=	VOT
DETECTION POINT	=	ANLY-INFO (i.e., trigger type = 1)
DETECTION POINT TYPE	=	REQUEST
TRIGGER TYPE	=	1
TRIGGER CRITERIA	=	DSTR
MINIMUM NUMBER OF DIGITS	=	10
MAXIMUM NUMBER OF DIGITS	=	10
DIGIT STRING	=	1603XX
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	OFFICE
INTERFACE TYPE	=	ALL
SCP ID	=	ISDN-SUBS-3000*-TYPE I
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0
ADMINISTRATVIE STATE CODE	=	ENABLE
NO. OF USERS	=	0

**Here, 3000 is used as an example of the GT address. Give appropriate value previously specified in CRE-GT.*

8. DISPLAY-IN-SRV : SRV-KEY = 1604XX (ACCOUNT CARD CALLING)

DISPLAY IN SERVICE REPORT

SERVICE KEY	=	1604XX
SERVICE NAME	=	ACC
DETECTION POINT	=	ANLY-INFO (i.e., trigger type = 1)
DETECTION POINT TYPE	=	REQUEST
TRIGGER TYPE	=	1
TRIGGER CRITERIA	=	DSTR
MINIMUM NUMBER OF DIGITS	=	6
MAXIMUM NUMBER OF DIGITS	=	6
DIGIT STRING	=	1604XX
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	OFFICE
INTERFACE TYPE	=	ALL
SCP ID	=	ISDN-SUBS-3000*-TYPE I
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0
ADMINISTRATVIE STATE CODE	=	ENABLE
NO. OF USERS	=	0

**Here, 3000 is used as an example of the GT address. Give appropriate value previously specified in CRE-GT.*

9. DISPLAY-IN-SRV : SRV-KEY = 1607XX (UNIVERSAL ACCESS NUMBER : TYPE 1)

DISPLAY IN SERVICE REPORT

SERVICE KEY	=	1607XX
SERVICE NAME	=	UANSUBTERM
DETECTION POINT	=	ANLY-INFO (i.e., trigger type = 1)
DETECTION POINT TYPE	=	REQUEST
TRIGGER TYPE	=	1
TRIGGER CRITERIA	=	DSTR
MINIMUM NUMBER OF DIGITS	=	10
MAXIMUM NUMBER OF DIGITS	=	10
DIGIT STRING	=	1607XX
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	OFFICE
INTERFACE TYPE	=	ALL
SCP ID	=	ISDN-SUBS-3000*-TYPE I
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0
ADMINISTRATVIE STATE CODE	=	ENABLE
NO. OF USERS	=	0

**Here, 3000 is used as an example of the GT address. Give appropriate value previously specified in CRE-GT.*

10. DISPLAY-IN-SRV : SRV-KEY = 1608XX (UNIVERSAL ACCESS NUMBER: TYPE 2)

DISPLAY IN SERVICE REPORT

SERVICE KEY	=	1608XX
SERVICE NAME	=	UANCALLORI
DETECTION POINT	=	ANLY-INFO (i.e., trigger type = 1)
DETECTION POINT TYPE	=	REQUEST
TRIGGER TYPE	=	1
TRIGGER CRITERIA	=	DSTR
MINIMUM NUMBER OF DIGITS	=	10
MAXIMUM NUMBER OF DIGITS	=	10
DIGIT STRING	=	1608XX
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	OFFICE
INTERFACE TYPE	=	ALL
SCP ID	=	ISDN-SUBS-3000*-TYPE I
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0
ADMINISTRATVIE STATE CODE	=	ENABLE
NO. OF USERS	=	0

**Here, 3000 is used as an example of the GT address. Give appropriate value previously specified in CRE-GT.*

11. DISPLAY-IN-SRV : SRV-KEY = 1605XX (PREMIUM RATE)

DISPLAY IN SERVICE REPORT

SERVICE KEY	=	1605XX
SERVICE NAME	=	PRM
DETECTION POINT	=	ANLY-INFO (i.e., trigger type = 1)
DETECTION POINT TYPE	=	REQUEST
TRIGGER TYPE	=	1
TRIGGER CRITERIA	=	DSTR
MINIMUM NUMBER OF DIGITS	=	10
MAXIMUM NUMBER OF DIGITS	=	10
DIGIT STRING	=	1605XX
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	OFFICE
INTERFACE TYPE	=	ALL
SCP ID	=	ISDN-SUBS-3000*-TYPE I
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0
ADMINISTRATVIE STATE CODE	=	ENABLE
NO. OF USERS	=	0

**Here, 3000 is used as an example of the GT address. Give appropriate value previously specified in CRE-GT.*

IN service data for VPN on net is to be added.

12. DISPLAY-IN-SRV : SRV-KEY = 161033 (RIPN ON NET)

DISPLAY IN SERVICE REPORT

SERVICE KEY	=	161033
SERVICE NAME	=	VPN-ON
DETECTION POINT	=	COLL-INFO
DETECTION POINT TYPE	=	REQUEST
TRIGGER TYPE	=	2
TRIGGER CRITERIA	=	NO. OF. DGT
MINIMUM NUMBER OF DIGITS	=	6
MAXIMUM NUMBER OF DIGITS	=	6
DIGIT STRING	=	161033
DIALLING PLAN	=	CDP
CLASS OF SERVICE	=	NONE
NATURE OF ADDRESS	=	NONE
CAUSE	=	NONE
SERVICE CATEGORY	=	GROUP
INTERFACE TYPE	=	ALL
SCP ID	=	ISDN-SUBS-3000-TYPE I
FAULT HANDLING TONE ID	=	100
FAULT HANDLING DIRNO	=	0
ADMINISTRATVIE STATE CODE	=	ENABLE
NO. OF USERS	=	0

6. IN Customer Data Creation at the SCP

IN service management is done at SCP by the Graphical user interface provided at SCP or SMP. The Man Machine interface is called “SAI” (Subscriber administration Interface). After invoking this graphical user interface following is the sequence of operation to be performed to deploy and provision IN services.

The first step in IN service data creation is to first deploy IN service in the SCP. This is done by the menu “Service Subscription”. Here the service logic's which are to be deployed in the area are chosen.

After the services are deployed the area code list of the local area are to be filled in the “Area Code” list in the system parameters.

After the area codes have been defined the IN service can be given to individual subscribers. Services are given to each subscriber at the “Service Provisioning” menu in the GUI. For each service first a IN number is to be defined which will be a reference number. After that an IN “Charge Number” has to be defined. This is the number against which all the billing records will be formed for all the services subscribed under the particular IN number. After that list of all the possible terminating directory numbers on which the IN calls to the IN numbers may land are defined in the “Default Treatment Directory Number” submenu.

After the above steps are over the service provisioning can be done by selecting individual service and defining the service related parameters. The details of service provisioning are described in the document “Subscriber Administration Interface”.

7. Data Verification

All the created data at various stage of data creation needs to be verified. The data verification can be classified in following category :

SS7 data verification : The voice and MTP data can be verified by making an ISUP call between the nodes where this data is created. Calls should be made from both ends and for all the calls charging should be verified.

Connectivity with other LE with SSP : For all the voice trunk with other exchanges call should be originated from SSP towards Local exchanges and vice-versa. For all these calls the billing and charging of calling subscribers should be checked.

Connectivity between SSP and SCP : after the signalling connectivity has been established (and link sets activated) between SSP and SCP it should be checked if the destinations(SCP) is accessible to SSP i.e. subsystems INAP and SCMG in the displ-net-sts command at SSP shows the status as “Accessible” for SCP point code. Similarly at SCP also the subsystems SCMG and INAP of SSP should be marked

"Available". If they are as stated above then deactivate and activate the links between

- SSP and STP (if STP present)
- STP and STP (if such a network topology exists)
- STP and SCP
- SCP and SSP.

In all cases the status of the subsystems should return to the "Available or accessible" status as mentioned above.

After the above test has passed successfully make an IN calls from SSP and see if it is successful. This will ensure that the INAP messages are able to travel from SSP to SCP and vice-versa.

As a last step in data verification run a successful call of each service. This will finish data verification.

Annexure - III

List Of Announcements Used

The following is the list of announcements used during various IN service calls. The PSTN announcements are additional and are not listed here.

1. *This service is currently not available. Please try after some time.*

   Announcement ID = 101

   Scenario: SCP unavailable or Service currently not active

   Default : DPT

2. *The dialled authorization Code is invalid.*

   Announcement ID = 102

   Scenario : Invalid authorization code.

   Default : DNUT

3. *The dialled authentication Code is invalid*

   Announcement ID = 103

   Scenario : Invalid password/authentication code.

   Default : DNUT

4. *This number does not exist. Please check the dialled digits.*

   Announcement ID = 104

   Scenario : IN Service Subscriber does not exist/Invalid account card no.

   Default : DNUT

5. You are not priviliged to make this call. (105)

   Scenario : User not authorized to make the call.

   Default : DAFT

6. *Your Authorization Code has been accepted.*

   Announcement ID = 106.

   Scenario : Successful Authorization code modification.

   Default : DPIT

7. *Your Authentication Code has been accepted.*

   Announcement ID = 107

   Scenario : Successful password modification.

   Default : DPIT

8. *Please dial your Authorization code.*

   Announcement ID = 108

   Scenario : Freephone/VPN (Offnet calls/Onnet to Offnet/Virtual onnet to offnet calls)

   Default : DTDT

9. *Please dial your Authentication code.*

   Announcement ID = 109

   Scenario : Freephone/VPN/(Offnet calls/Onnet to Offnet/Virtual onnet to offnet calls)

   Default : DTDT

10. *Please dial your card number.*

    Announcement ID = 110

    Scenario : Account/Credit card calling

    Default : DTDT

11. *Please dial the destination number.*

    Announcement ID = 111

    Scenario : VPN/ACC calls, after authorization/authentication checks.

    Default : DTDT

12. *Please dial your group id.*

    Announcement ID = 112

Scenario : VPN offnet call.

Default : DTDT

13. *Please dial your PNP number.*

    Announcement ID = 113

    Scenario : VPN offnet call with passwords for individual members.

    Default : DTDT

14. *Please dial your UPT number.*

    Announcement ID = 114

    Scenario : UPT service.

    Default : DTDT

15. *Your current card limit is XYZ units.*

    Announcement ID = 115

    Scenario : E.g. Account card calling/Credit card calling

    Default : DSIT

16. *You have exhausted your card limit.*

    Announcement ID = 116

    Scenario : e.g. Account card calling, the card limit is exhausted

    Default : DAFT

17. Your call shall be charged at X (Price:RRRRRR.PP) for Z(duration: HH:MM) (117)

    Default : DSIT

18. *Please enter your old Authorization Code.*

    Announcement ID = 118

    Default : DTDT

19. Please enter your new Authorization Code. It should be a 4 digit number. (119)

    Default : DTDT

20. *Please reenter your new Authorization Code.*

    Announcement ID = 120

    Default : DTDT

21. *Please enter your old Authentication Code.*

    Announcement ID = 121

    Default : DTDT

22. *Please enter your new Authentication Code. It should be a 4 digit number.*

    Announcement ID = 122

    Default : DTDT

23. *Please reenter your new Authentication Code.*

    Announcement ID = 123

    Default : DTDT

24. *Press 1 to proceed with the call. Press 2 for connecting to subscriber.*

    Announcement ID = 124

    Default : DTDT

25. *Please enter your choice.*

    Announcement ID = 125

    Scenario : Universal access number

    Default : DTDT

26. *Your will be partially charged for the call.*

    Announcement ID = 126

    Scenario : UPT service.

    Default : DSIT

27. *Your choice has been registered.*

    Announcement ID = 127

    Scenario : Televoting service

    Default : DSIT

28. *Invalid option.*

    Announcement ID = 128

    Scenario : Televoting, invalid option dialled by service user.

    Default : DSIT

29. *And Then*

Announcement ID = 129

Scenario : For list of announcements

Default : DSIT

For all other annce DPT

Note :

The value within brackets indicate the announcement ID used in the system. The announcement number which is coming from SCP is to be mapped to these numbers in MOD-INTONE-MAP.

System Practices

COMMENTS

The following comments pertain to:

Document Name

CSP Section ☐☐☐ - ☐☐☐ - ☐☐☐☐

Issue/Draft ☐☐ , ☐☐☐ - ☐☐☐☐

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COMMENTS :

(Use a separate sheet if required)

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