

# Managing DID numbers

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AMT/PTD/PBX/0099/7/5/EN



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# CONTENTS

<b>1</b>	<b>ABOUT DID NUMBER MANAGEMENT .....</b>	<b>4</b>
1.1	PURPOSE OF THIS DOCUMENT .....	4
1.2	TERMINOLOGY .....	4
	1.2.1 TERMS AND ABBREVIATIONS.....	4
1.3	REFERENCE DOCUMENTS.....	5
1.4	REMINDER CONCERNING THE LAW ON INFORMATION TECHNOLOGY .....	5
<b>2</b>	<b>GENERAL INFORMATION .....</b>	<b>6</b>
2.1	REMINDER ABOUT OTHER MANAGEMENT MODES.....	6
2.2	DESCRIPTION OF THE FUNCTION AND PRINCIPLE .....	6
	2.2.1 WHEN TO USE THIS SERVICE? .....	7
2.3	GENERAL FUNCTION .....	7
2.4	CALL PROCESSING .....	10
	2.4.1 INCOMING CALLS .....	10
	2.4.2 PROCESSING OUTGOING CALLS.....	11
	2.4.3 DIRECT TRANSLATION (FORCED ON THE LOCAL AREA NETWORK).....	13
<b>3</b>	<b>USING DID NUMBER MANAGEMENT MODE IN DIRECTORY CHARACTERISTICS.....</b>	<b>15</b>
3.1	MAIN STEPS WITH A MIVOICE 5000 MANAGER .....	15
3.2	MAIN STEPS WITHOUT MIVOICE 5000 MANAGER .....	17
<b>4</b>	<b>CONFIGURING MIVOICE 5000 MANAGER WITHOUT COMMUNITY MODE.....</b>	<b>18</b>
4.1	CONFIGURING NUMBERING RANGES.....	19
4.2	MANAGING INSTALLATION NUMBERS .....	21
	4.2.1 MASSIVE MANAGEMENT .....	21
	4.2.2 INDIVIDUAL CREATION AND MODIFICATION .....	23
4.3	GENERATION.....	24
4.4	CONFIGURING THE DIRECTORY CONNECTION FOR SITES .....	24
4.5	MANAGING PLACE AND DID NUMBERS FOR SUBSCRIBERS.....	25
	4.5.1 MASSIVE CREATION .....	25
	4.5.2 MASSIVE DIRECTORY MODIFICATION .....	27
	4.5.3 INDIVIDUAL CREATION OR MODIFICATION .....	28
<b>5</b>	<b>CONFIGURING MIVOICE 5000 MANAGER WITH COMMUNITY MODE .....</b>	<b>29</b>
5.1	INTRODUCTION .....	29
5.2	ACTIVATING COMMUNITY MODE .....	32
5.3	MANAGING COMMUNITIES .....	33
	5.3.1 INDIVIDUAL MANAGEMENT .....	33
	5.3.2 MASSIVE COMMUNITY MANAGEMENT.....	35
5.4	MASSIVE MODIFICATION .....	36
5.5	DEFINING OPERATORS' PERIMETER FOR THE COMMUNITY RIGHT .....	37
5.6	ASSIGNING COMMUNITIES TO SITES.....	39
5.7	CONFIGURING NUMBERING RANGES.....	40
5.8	CONFIGURING INSTALLATION NUMBERS .....	42
	5.8.1 MASSIVE CREATION .....	42
	5.8.2 MASSIVE MODIFICATION.....	43
	5.8.3 MANAGING INSTALLATION NUMBERS INDIVIDUALLY.....	44
5.9	GENERATION.....	45
5.10	CONFIGURING THE DIRECTORY CONNECTION FOR SITES .....	45
5.11	MANAGING PLACE AND DID NUMBERS FOR SUBSCRIBERS.....	46

5.11.1	MASSIVE SUBSCRIBER CREATION .....	46
5.11.2	MASSIVE DIRECTORY MODIFICATION .....	48
5.11.3	CREATING SUBSCRIBERS INDIVIDUALLY .....	49
5.11.4	SEARCHING FOR SUBSCRIBERS .....	51
5.11.5	RELOCATING A SUBSCRIBER .....	51
<b>5.12</b>	<b>EXTERNAL DIRECTORY SYNCHRONISATION .....</b>	<b>52</b>
<b>5.13</b>	<b>ADDITIONAL OPERATIONS .....</b>	<b>52</b>
5.13.1	ADDING A NUMBERING RANGE TO AN EXISTING COMMUNITY .....	52
5.13.2	ADDITION OF A COMMUNITY REQUIRING THE DEFINITION OF A NEW NUMBERING RANGE .....	52
5.13.3	ADDING A SITE (MIVOICE 5000 CLUSTER SERVER, NODE, SITE) USING AN EXISTING COMMUNITY .....	52
5.13.4	ADDING A COMMUNITY USING SOME NUMBERING RANGES WITH AN "ALL COMMUNITIES" RANGE .....	52
<b>6</b>	<b>CONFIGURATION WITHOUT MIVOICE 5000 MANAGER .....</b>	<b>53</b>
6.1	ACTIVATING DID MANAGEMENT MODE BY SDN .....	53
6.2	MIGRATING SUBSCRIPTIONS TO DID NUMBER MANAGEMENT VIA SDN .....	54
6.2.1	PRINCIPLE .....	54
6.2.2	PROCEDURE .....	56
6.3	CONFIGURING LOCATIONS .....	57
6.3.1	CREATION .....	57
6.3.2	CHARACTERISTICS .....	57
6.4	CONFIGURING EXTERNAL NUMBER RANGES .....	58
6.4.1	NAMES .....	58
6.4.2	CHARACTERISTICS .....	58
6.4.3	DISPLAY .....	59
6.5	CONFIGURING THE DIRECTORY CONNECTION FOR SITES .....	59
6.6	SUBSCRIPTION MANAGEMENT .....	59
6.6.1	CREATION .....	59
6.6.2	SUBSCRIPTIONS CHARACTERISTICS (EXCLUDING HUNT GROUPS) .....	60
6.6.3	HUNT GROUP CHARACTERISTICS .....	60
6.7	FIRST INSTALLATION .....	61
6.8	MIGRATION FOLLOWING AN UPGRADE TO R7.2 .....	61
<b>7</b>	<b>IPBX CONFIGURATION (WITH OR WITHOUT MIVOICE 5000 MANAGER) .....</b>	<b>62</b>
7.1	ACTIVATING DID NUMBERING BY SDN .....	62
7.2	CONFIGURING LDAP DATABASE CONNECTIONS .....	64
7.3	CONFIGURING THE NUMBER TRANSLATION SERVICE .....	66
7.4	CONFIGURING THE NUMBER TRANSLATORS (IF NECESSARY) .....	67
7.4.1	CONFIGURING THE ETSI TRUNK GROUP T2 ON NOEUD1 .....	67
7.4.2	OUTGOING HANDLING OF AID TRANSMISSION ON NODE1 .....	68
7.5	CALL DISTRIBUTION MANAGEMENT .....	69
7.5.1	DECLARING ANSWERING SERVICE NUMBERS (DID) WITHOUT MIVOICE 5000 MANAGER .....	69
7.5.2	DECLARING ANSWERING SERVICE NUMBERS (DID) WITH MIVOICE 5000 MANAGER .....	70
7.6	REDUCED DIRECTORY DATABASE .....	71
<b>8</b>	<b>MIGRATION (WITH MIVOICE 5000 MANAGER) .....</b>	<b>72</b>
8.1	CHANGING FROM A MULTI-SITE IN NORMAL MODE TO AN SDN MODE WITH COMMUNITY .....	72
8.2	CHANGING FROM A MULTI-SITE IN SDN MODE WITHOUT COMMUNITY TO SDN MODE WITH COMMUNITY .....	72

8.3	CHANGING FROM A MULTI-SITE IN NORMAL MODE TO AN SDN MODE WITHOUT COMMUNITY .....	73
8.4	MIGRATING FROM A SITE OR MULTI-SITE WITHOUT MIVOICE MANAGER TO A CONFIGURATION WITH MIVOICE MANAGER.....	73
<b>9</b>	<b>SWITCHING FROM COMMUNITY MODE TO NO COMMUNITY MODE (WITH MIVOICE 5000 MANAGER) .....</b>	<b>74</b>
9.1	PRELIMINARY OPERATIONS REQUIRED ON AN ALREADY WORKING MULTI-SITE NETWORK.....	74
<b>10</b>	<b>APPENDICES.....</b>	<b>75</b>
10.1	E164 NUMBERING FORMAT.....	75
10.1.1	GENERAL INFORMATION .....	75
10.1.2	CONFIGURATION OF PREFIXES.....	75

# 1 ABOUT DID NUMBER MANAGEMENT

## 1.1 PURPOSE OF THIS DOCUMENT

This document describes how to implement the feature described in Paragraph 2.2.

## 1.2 TERMINOLOGY

### 1.2.1 TERMS AND ABBREVIATIONS

<b>Mitel 5000 Gateways</b>	This term refers to all the systems and AX gateways.
<b>MiVoice 5000 or MiVoice 5000 Server</b>	Telephone switching system hosted by a PC running with Linux Redhat (included EX)
<b>XS, XL, XD</b>	MiVoice 5000 physical gateways.
<b>XS</b>	This term includes XS, XS12 and XS6 systems
<b>MiVoice 5000 Manager</b>	Pool management centre
<b>Multi-directory subscriber:</b>	Subscriber for whom some additional numbers are defined. Each additional number is associated with a PSTN, TL plan, etc.).
<b>Web Admin</b>	Mitel 5000 Web Admin - User interface
<b>LDAP</b>	Light Directory Access Protocol
<b>IID</b>	Installation ID. General number used to reach subscribers who do not have any DID numbers (in general, a call distribution service)
<b>AID</b>	Additional installation ID. Direct number used to reach a subscriber from outside (public switched network via a trunk)
<b>Internal number</b>	Number assigned to a subscriber from an internal numbering plan and used for internal calls.
<b>Location</b>	This attribute is added to the LDAP directory in order to assign a (geographic) location to each MiVoice 5000 Manager internal number.
<b>DID</b>	Direct inward dialling, equivalent to AID.
<b>TTS</b>	Telephone translation server, used to assign an external number to a subscriber's internal number.

## 1.3 REFERENCE DOCUMENTS

The information in this manual refers to the following documents, available on Mitel.com:

- MiVoice 5000 Server and Mitel Gateways - Operating Manual,
- Multi-site Management,
- MiVoice 5000 Manager – Installation and Configuration,
- MiVoice 5000 Manager - User Guide.

## 1.4 REMINDER CONCERNING THE LAW ON INFORMATION TECHNOLOGY

**The user is reminded that the use of PBXs in the workplace must comply with the recommendations of the IT law in force.**

**The user's attention is also drawn to any clauses applicable in laws relating to the confidentiality of calls transmitted by means of telecommunications.**

## 2 GENERAL INFORMATION

### 2.1 REMINDER ABOUT OTHER MANAGEMENT MODES

At the moment, several modes are available for processing incoming and outgoing calls:

- Digit translation
- Using the multi-directory function for subscribers.

Up to 8 Dialing plans can be defined, and previous operations are performed with regard to the definition of the plan used.

At the moment capacity limitations concern:

- The size of incoming translation tables
- The size of TTS tables
- The number of multi-directory subscribers
- The number of IIDs.

### 2.2 DESCRIPTION OF THE FUNCTION AND PRINCIPLE

Managing DID numbers in the LDAP directory of MiVoice 5000 Manager or MiVoice 5000 Server (as of R7.2) allows the configuration of network accesses to be centralised, by lifting the limitations in the previous paragraph.



**Note:** The current IID and AID numbers may be kept and carried over to SDN mode in case of switchover to this new mode for already operational sites or multi-sites.

The principle is to perform number translations for incoming and outgoing calls, using a new number translation server.

**Calls coming in** through this server are routed to the internal number concerned.

**Calls going out** through this server are transmitted with an external number for the caller's DID number.

This translation server is activated by ticking the **Search via directory** box in Menu **Telephony service>Network and links>Network>Trunk groups>Characteristics**.

Subscribers' DID numbers will no longer be stored in the iPBX but in the LDAP directory via MiVoice 5000 Manager or MiVoice 5000 as of R7.2.

In this management mode, the association of the external number (called public number) and internal number with an additional location data is implemented in the LDAP database.

With this mode, it is no longer necessary to create multi-directory subscribers for DID number management. The multi-directory function is disabled.



**IMPORTANT NOTE:** Before R7.2, a MiVoice 5000 Manager was required to use this service. As of R7.2, the function is available on MiVoice 50000 for sites without a Manager.



**Note:** For TTS, if the service is enabled, the features **Functional forwarding 1 and 2** and **Privileged subscriber** are no longer available in Menu **Telephony service>Dialing plan>Call rerouting**.

## 2.2.1 WHEN TO USE THIS SERVICE?

- While resolving the incoming DID number, by reaching the internal subscriber when the relation between DID number and internal number is not explicit (case of configurations with more than 1500 internal number / DID number MCDU differences).
- While transmitting the caller ID (IID/AID) when the subscriber makes a network call without any explicit relation between the transmitted external number and an internal number (case of configurations with more than 1500 internal no./SDA no. MCDU differences).
- If it becomes necessary to use more than 16 IIDs for installation (multi-site)
- While assigning an internal subscriber one (or more) DID numbers associated with 8 plans proposed
- To offer the **Forced on NET** feature (for forcing an internal call when subscribers use another subscriber's DID number) without limitation due to the TTS
- To offer the **vital subscriber** function (in a multi-site configuration; this allows a subscriber to be reached via his/her DID number if the inter-site MOVACS link fails) without limitation due to the TTS (provided that the directory is accessible).

## 2.3 GENERAL FUNCTION

A specific processing operation is performed for each (incoming or outgoing) network call:

- **Incoming call processing** consists in making a correspondence between a call number from the trunk and the internal number to be reached.
- **Outgoing call processing** consists in sending as ID the DID number or installation number defined as additional location data (place field) in MiVoice 5000 Manager.

A number translation server is available on each iPBX (Mitel 5000 Gateways and MiVoice 5000 Server). Activation is not subject to any specific licence.

For a given iPBX, the server can be declared locally (recommended) or on another, remote iPBX.

So, for a multi-site, it is necessary to define for each iPBX, the iPBX to reach (local or remote iPBX) according to the defined priorities.

Up to 8 servers can be reached for a given iPBX.

Two LDAP directories can be reached for a given server (duplication). The first one may be internal to the iPBX, and the other one remote (or both of them can be remote).



**CAUTION:** For a multi-site configuration, all sites must be in the same mode with or without SDN.

## Examples according to configuration

### With a MiVoice 5000 Manager:

Standard LDAP directory location configuration:

- An LDAP database on MiVoice 5000 Manager,
- One replicated database on MiVoice 5000 Server.



**Note:** LDAP replication on Mitel 5000 Gateways depends on the size of the directory (number of records  $< \text{or} = 3000$ ) and is subject to a licence.

### Without MiVoice 5000 Manager:

Standard LDAP directory location configuration:

- Single site: LDAP and SDN database on the same site
- Multi-site: LDAP database on the site but SDN internally. The site may be MiVoice 5000 Server or Mitel 5000 Gateway.

## Reduced directory databases

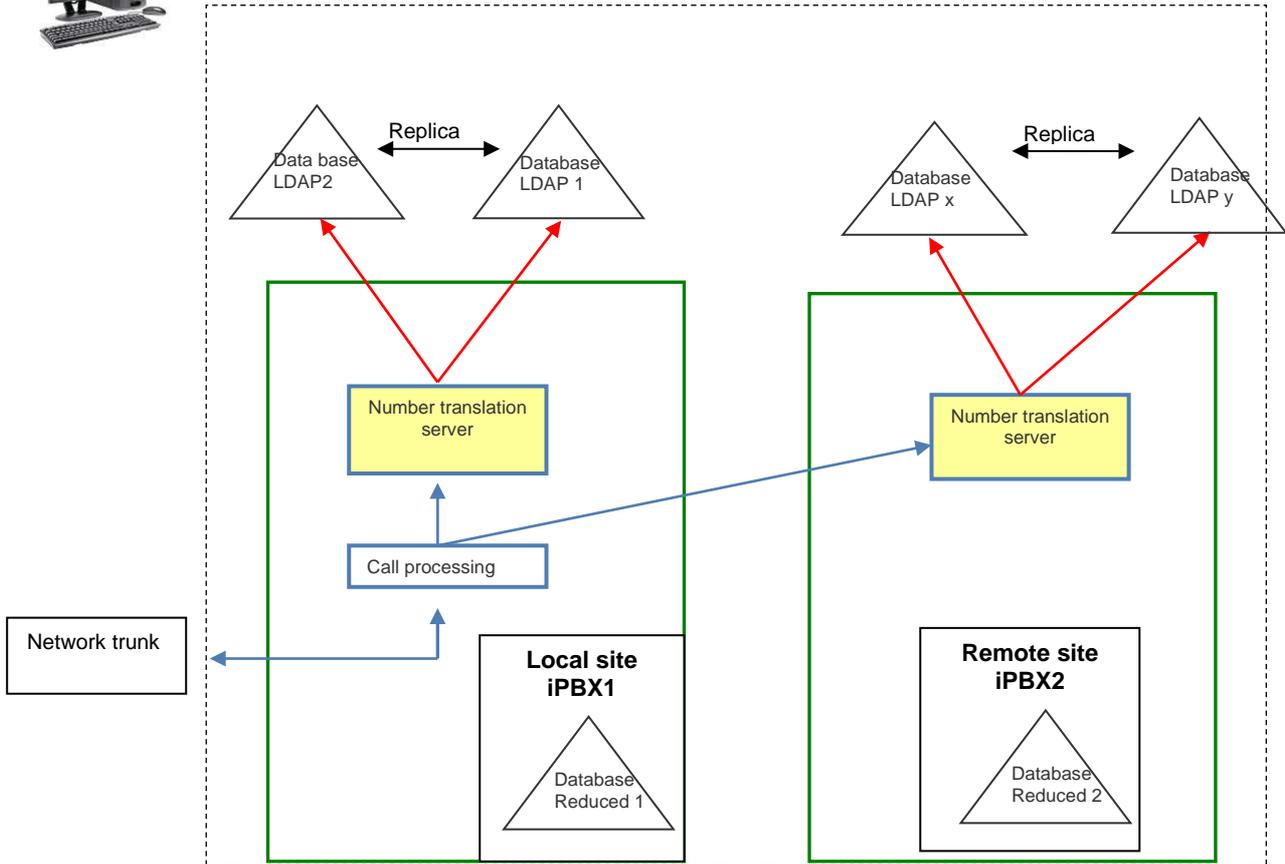
When the previous directory databases are no longer accessible, it is possible to have an internal directory database for each cluster node or for each Mitel 5000 Gateway in a multi-site configuration (called reduced database).

Reduced directory databases are not available for a Mivoice 5000 Server. The Replica function should be used.

See Section 7.6.



MiVoice 5000 Manager managing the multi-site configuration and



## 2.4 CALL PROCESSING

### 2.4.1 INCOMING CALLS

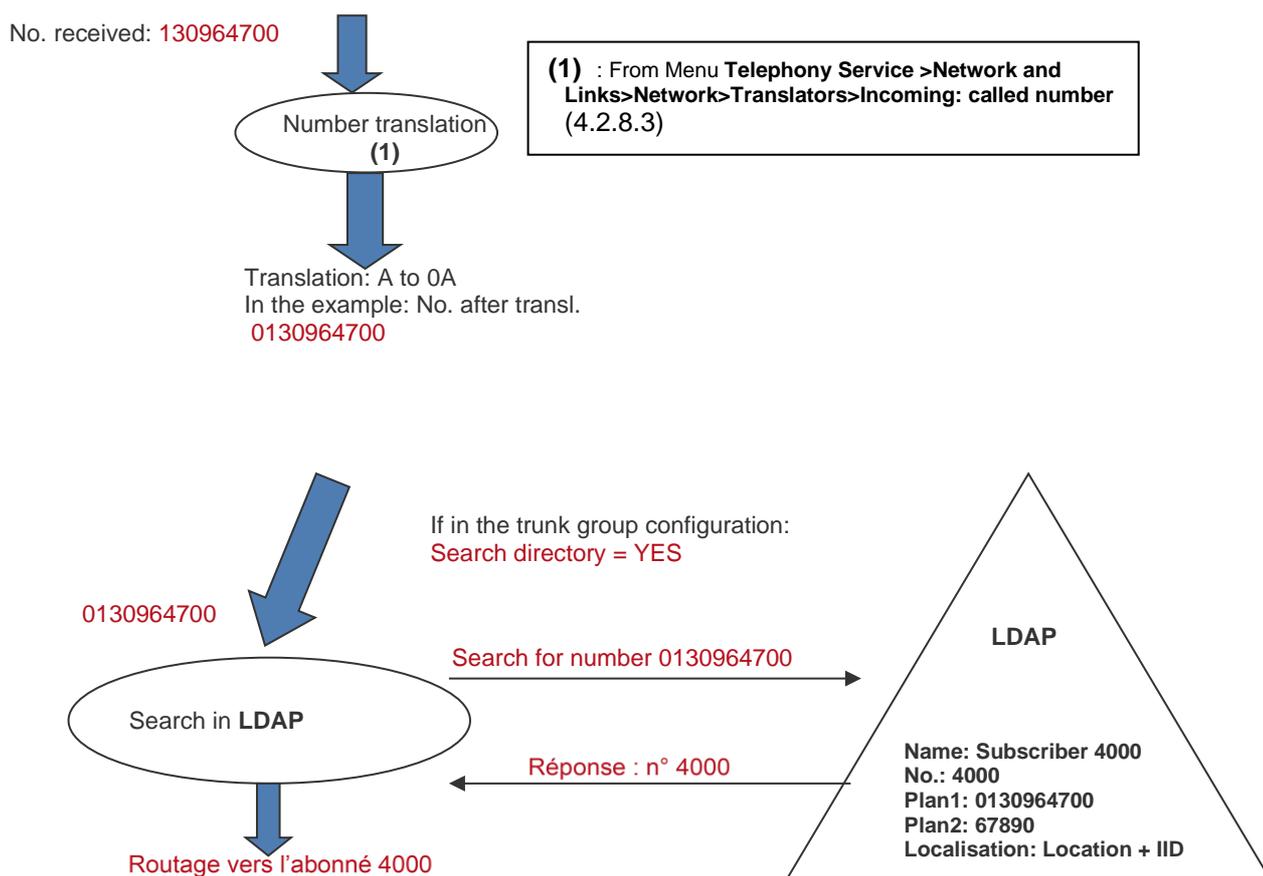
#### 2.4.1.1 Principle

##### For incoming calls (on the network)

The aim is to reach the subscription when a network call is received for a given plan and for a given iPBX.

#### 2.4.1.2 Processing an internal call meant for a DID terminal

This mechanism is based on the principle of multiple, successive translations for an incoming call.



- The relation between the external number 130964700 and internal subscriber 4000 has been made.



**Note:** On a SIP trunk, translation is not necessary when the format of the number received is identical to the one contained in the LDAP database.

### 2.4.1.3 *Special cases*

#### Receiving an unassigned DID call:

- If in the trunk configuration “Reject unassigned number = YES”:
  - The call is rejected.
- If in the trunk configuration “Reject unassigned number = NO”:
  - The call is rerouted to the attendant console declared in the trunk group..

#### Receiving a DID call with the LDAP server inaccessible

In this case, the call is rerouted to the attendant console associated with the trunk group.

## 2.4.2 PROCESSING OUTGOING CALLS

### 2.4.2.1 *Principle*

For outgoing calls (calls leaving the network)

The aim is to provide, for outgoing calls to an external network, the IID/AID numbers associated with the terminal from which the call has been made:

- The DID numbers in the caller’s external Dialing plan
- Or the IID associated with the subscription, if the DID number does not exist or must not be transmitted (feature class)
- Taking into account the possible presentation restriction.

There is no menu upgrade for outgoing IID/AID processing configuration.

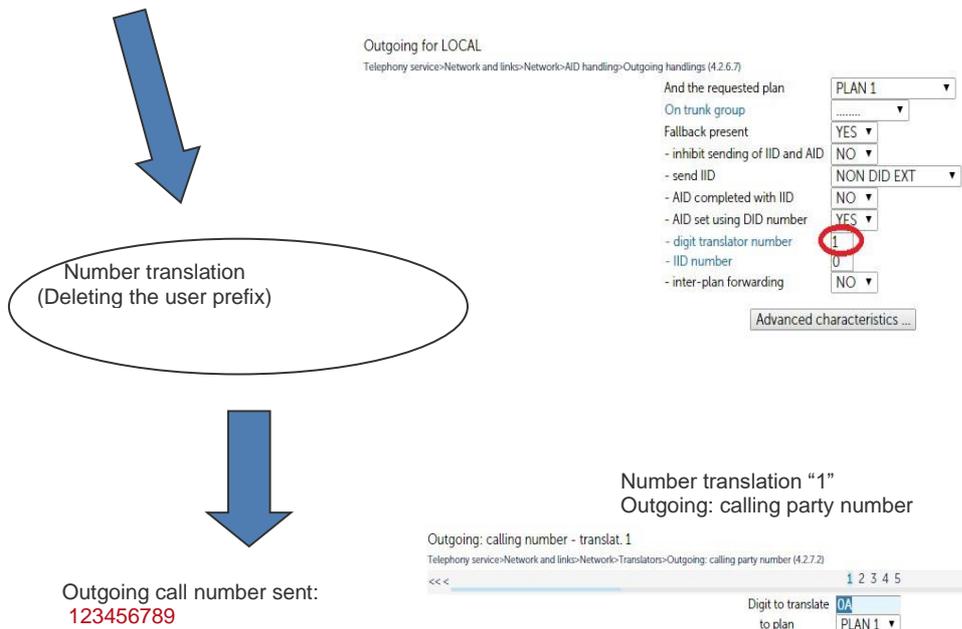
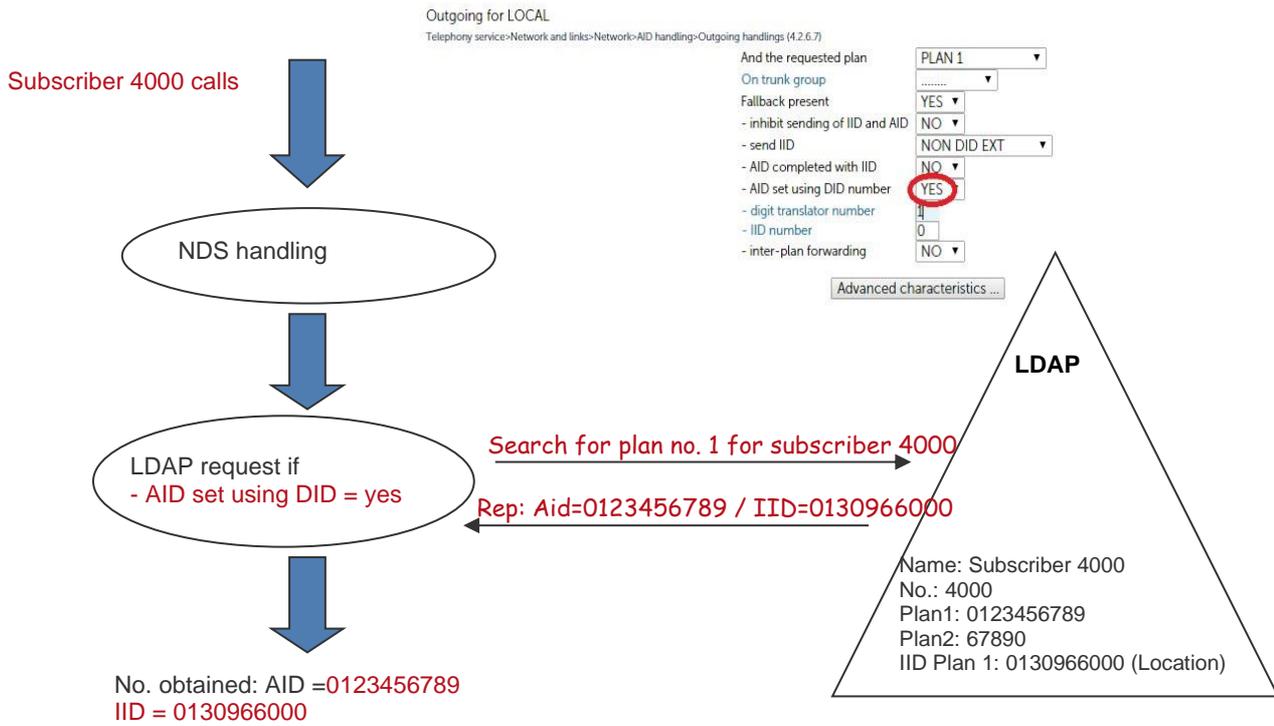
It is the parameter **AID SET USING DID NUMBER** \* which indicates whether or not the number search is made in the directory database.

\*: Menu **Telephony service>Network and links >Network>AID processing,>Outgoing handling.**



**Note: The parameter AID completed with IID must be set to No (default value).**

2.4.2.2 Outgoing call processing phases



 **Note:** On an SIP trunk, if the DID number is a 10-digit number, there is no translation.

### 2.4.2.3 Special cases

#### Outgoing call with a subscriber configured without DID number:

- ID sent = IID number associated with the subscriber's location.

#### Outgoing call with LDAP server inaccessible:

Outgoing ID = IID number configured in MiVoice 5000 (from the corresponding index number in Menu **Telephony service>Network and links>Network>IID handling>Outgoing handling**).

## 2.4.3 DIRECT TRANSLATION (FORCED ON THE LOCAL AREA NETWORK)

The aim is to force internal dialling when the number dialled by the caller (internal site or multi-site number) is a number on the installation (DID).

DID management by directory characteristics makes it possible, via new inputs in the LDP directory to make a correspondence between the dialled DID number and internal number so the call can be rerouted (internally).

Forcing is made on the iPBX by activating search by directory from Menu **Telephony service>Dialing plan>Call rerouting>Handling**.

Web Admin home  
Subscribers  
System  
Dialing plan  
Call rerouting  
Handling  
Network and links  
Reception  
Voice mail and tones  
Fast links

Handling call rerouting  
Telephony service>Dialing plan>Call rerouting>Handling (3.7.2)

For direction NATIONAL DIRECTLY ▼  
For direction INTER. NONE ▼  
For direction DOM NONE ▼  
For direction URGENGE NONE ▼  
For direction LIA 0 NONE ▼

Vital extensions:  
- call rerouting after translation

The search is then run in the LDAP directory which in turn indicates the internal number of the called subscriber.

Before that, the subscriber was declared by its internal number and DID numbers for each plan (see Section 4.3).

#### Result modes:

#### **DIRECT rerouting + Search via directory = YES**

- **When an external number is dialled:**
  - If a directory record is associated with the external number (plan function):  
**internal number is forced**
  - If there is no associated directory record:

**The search is made in the MiVoice 5000 TTS tables:**

- If translation is available: internal number is forced
- If translation is not available: external call is maintained

**DIRECT rerouting + Search via directory = NO**

- When an external number is dialled:

**The search is made in the MiVoice 5000 TTS tables:**

- If translation is available: internal number is forced
- If translation is not available: external call is maintained.

## 3 USING DID NUMBER MANAGEMENT MODE IN DIRECTORY CHARACTERISTICS

With MiVoice 5000 Manager, implementation may be with or without Community mode.

As of R7.2, the implementation can be done without MiVoice 5000 Manager, from the MiVoice 5000 WebAdmin.

### 3.1 MAIN STEPS WITH A MIVOICE 5000 MANAGER

The order of the configuration phases must be respected.

#### **Configuring MiVoice 5000 Manager**

**Without Community mode: (see Section 4):**

- Configure the multi-site-based telephony parameter range.
- Configure the DID number management type in directory characteristics.
- Select the DID plan number.
- Configure the prefixes for E164 dialling if this format must be taken into account (**E164 numbers** button). See also Section 10.1.
- Do not select Community mode.
- Configure the number blocks for multi-sites.
- Configure the installation numbers (places associated with a DID plan index).
- Generate the multi-site.
- Configure the directory connections on the multi-site sites.
- Update the numbers and places for already created subscribers (general-purpose subscribers, etc.).

### **In Community mode (see Section 5):**

- Configure the multi-site-based telephony parameter range.
- Configure the DID number management type in directory characteristics.
- Select the DID plan number.
- Check the **Extended Dialling Plan** box if dialling is > 6 digits.
- Configure the prefixes for E164 dialling if this format must be taken into account (**E164 numbers** button). See also Section 10.1.
- Activate Community mode
- Define communities.
- Assign Community right to operators.
- Assign Communities to sites.
- Configure numbering ranges.
- Configure installation numbers.
- Generate the multi-site.
- Configure the directory connections on the multi-site sites.
- Update the numbers and places for already created subscribers (general-purpose subscribers, etc.).

### **Configuring iPBXs** (the same in both modes). Refer to Section 7.

- Activate SDN mode.
- Configure the LDAP database connections.
- Configure the number translation service.
- Configure the number translators and attendant console (if necessary).

## 3.2 MAIN STEPS WITHOUT MIVOICE 5000 MANAGER

The order of the configuration phases must be respected.

**In manual or mass creation mode** (see Section 6.3):

- **Creating locations.** Locations are created in the Corporate branch of the LDAP database.
- **Creating external number ranges** to allow DID numbers to be assigned automatically when subscribers are created. DID numbers are entered in the Subscriber records in the LDAP database. See Section 6.4.
- **Configuring/managing subscribers** in this mode (see Section 6.6):
  - Assigning locations to subscribers during creation or modification. Locations are entered in the Subscriber records in the LDAP database.
- **Answering service** to define the call numbers of attendants and answering services in particular. (See Section 7.5).

**Migrating subscriptions** to DID number management mode via SDN (see Section 6.2)

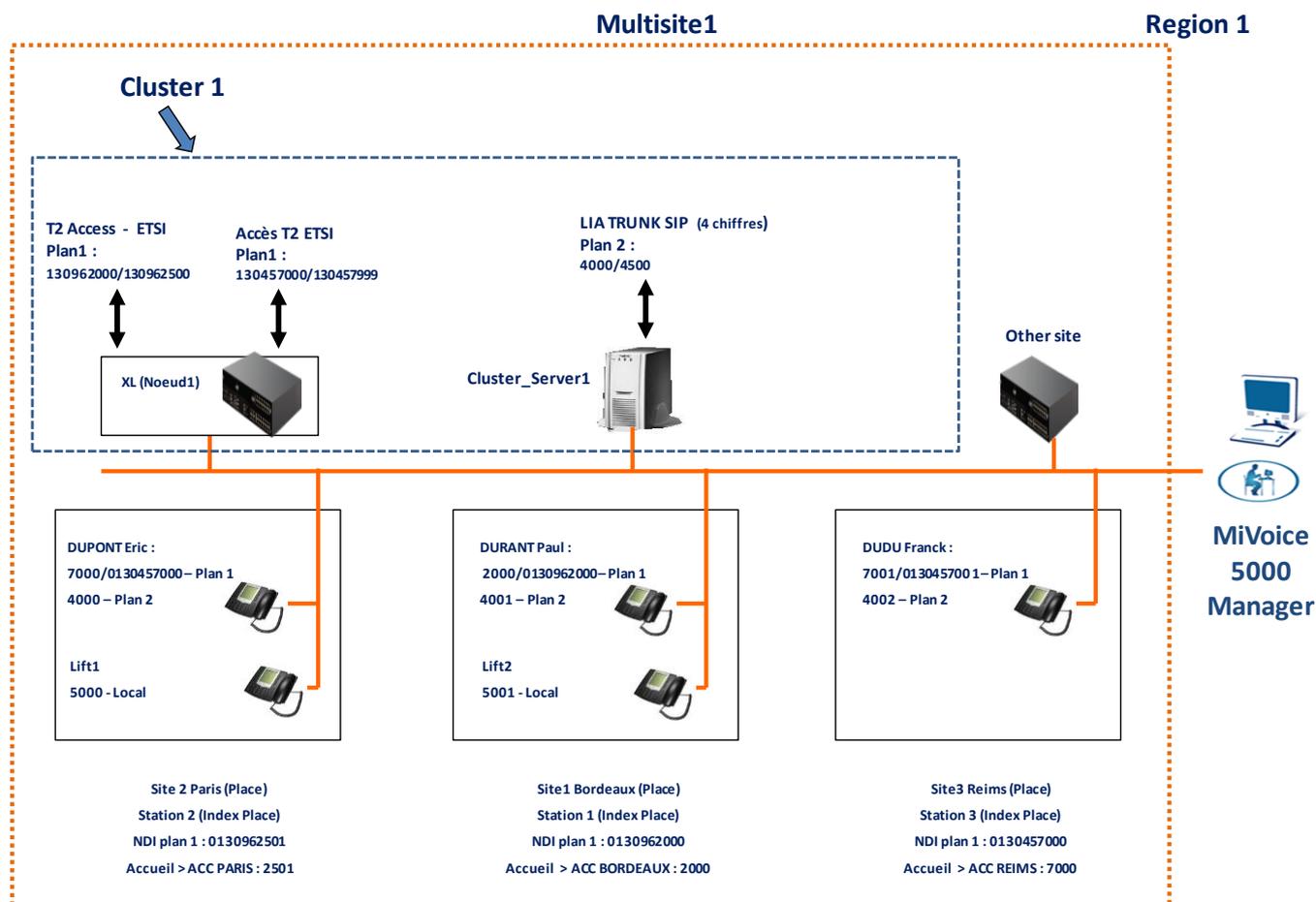
When DID number management via SDN is enabled, a subscriber migration procedure is proposed to update the LDAP database. Some steps will be taken automatically. Migration is available when upgrading to a software release with this mode.

**Configuring the iPBXs (see details in Section 7: common to all modes with or without Manager)**

- Configure the LDAP database connections.
- Configure the number translation service.
- Configure the number translators and attendant console (if necessary).

## 4 CONFIGURING MIVOICE 5000 MANAGER WITHOUT COMMUNITY MODE

The procedure is described from the example below:



Menu **Administration>Configuration, Range** tab

- Tick the **Based on multi-site** checkbox for the telephony parameter range.
- Click **Apply**.
- Select the multisite in Menu **Administration>Topology**.
- Click **Configuration**.

In the **Type of DID number management** area:

- Tick the **In directory characteristics** checkbox.
- Select the **DID plan number** (the main DID plan number is the one used by MiVoice 5000 Manager for the public number (see Section 4.3)).
- Check the **Extended dialling plan** box if dialling is > 6 digits.
- Configure the prefixes for E164 dialling if this format must be taken into account (**E164 numbers** button). Refer also to Section 10.1



**Note:** Do not tick the **Community mode** box.

- Click **Apply**.

The screenshot shows the 'Administration' interface for 'Network topology' under 'Multisite configuration'. The 'Name' field is 'Multisite1'. The 'Reference site' list contains 'ACS Cluster1' and 'AXD1'. There are buttons for 'Directory...', 'Voice mails...', 'TWP Servers', 'Identify the sites', 'Generate', and 'Community'. A section for 'To import a new site into the multisite' has a 'Site:' dropdown and an 'Import' button. The 'Sending Email to user' section has radio buttons for 'Activate' and 'De-activate' (selected). The 'WebRTC' section has a 'WebRTC Url' field. The 'Security' section has a 'Default user password' field and a checkbox for 'SIP password generation at the creation.'. The 'Management type of DID numbers' section has radio buttons for 'In the technical characteristics' and 'In the directory characteristics' (selected). The 'Number of DID plan' section has a 'Plan 1' dropdown and an 'E164 numbers' button. There are checkboxes for 'Community mode' and 'TMA in community mode'. The 'Encryption in the multisite' section has a checkbox for 'Encryption' and a 'Certificate import' field. At the bottom right are 'Back', 'Delete', and 'Apply' buttons.

## 4.1 CONFIGURING NUMBERING RANGES

### Menu **Telephony>Dialing plan>Numbering range**

The numbering ranges are configured through an import/export operation.

Import is always global.

To add a numbering range, the administrator exports the current configuration and adds the new ranges to the file before re-exporting it.

#### Description of the different fields:

- **Range name**,
- **Type**: 0:Internal, 1:PSTN, 3: Internal and PSTN: shows the type of range
- **internal num. start**: Shows the first number of the internal range
- **internal num. end**: Contains the last number of the internal range

The **DID Planx start** and **DID Planx end** columns contain the first and last DID numbers for the eight plans.

This number may be in E164 format if the prefixes have been set to the new multi-site topology.

- **Site**: name of the site on which the number range is declared.
- **Site**: name of the other sites on which this same number range is declared.

## MANAGING DID NUMBERS

Mitel - MiVoice 5000 Manager Client - Telephony

**Numbering plan**

Installation numbers

Region : "Region1" - Multisite : "Multisite" - Site : ""

Ind	L	Commun	Default	IID plan 1	IID pla	II	IID p	IID p	IID p	IID pl	Call dist						
Stat	Si	OUEST	<input checked="" type="checkbox"/>	0130962000							2000						
Stat	Si	OUEST	<input type="checkbox"/>	0130962700							2700						
Stat	Si	CENTRE	<input checked="" type="checkbox"/>	0130457000							7000						
Stat	Si	EST	<input checked="" type="checkbox"/>	0130972300							2300						

Buttons: Add, Modify, Delete, Import, Export

#Range name	Type : 0:Local,	Local num star	Local num end	DID Plan1 star	DID Plan 1 enc	DID Plan2 star	DID Plan 2 enc	Site name	Site name
PSTN Local1	3	7000	7999	130457000	130457999			Cluster1	
Local1	0	5000	5999					Cluster1	
PSTN Local3	3	2000	2500	130962000	130962500			Cluster1	
SIP trunk TL	1					4000	4500	Cluster1	

For the first configuration, click **Export** to retrieve the file frame and, thus, fill it in and then import it again.

For future management:

- Export the file.
- Update it.
- Import it again.

## 4.2 MANAGING INSTALLATION NUMBERS

Menu **Telephony>Dialing plan>Installation numbers.**

### 4.2.1 MASSIVE MANAGEMENT

The installation numbers are configured through an import/export operation.

For the first configuration, click **Export** to retrieve the file frame and, thus, fill it in and then import it.

The import/export file is used to fill in the different places (IID):

- **#index:** alphanumeric indexation value for the place label. This is the value taken into account in the directory characteristics "**placeindex**".
- **Place:** explicit description of the site (corresponding to a geographic location, for example)
- **PlanX IID: DID numbers of each place** on the plan in question (8 plans maximum)

This number may be in E164 format if the prefixes have been set to the new multi-site topology.

- **C. DIST. X. DID corporate numbers of each place** on the plan in question (8 plans maximum).

The index value is used to define a place name. This place name will be taken into account in the subscriber's directory record.

An index value corresponds solely to one and only one place.



**Note:** If the place name is modified, the index retains its initial value.

Ind	L	Commun	Default	IID plan 1	IID pla	IID p	Call dist											
Stat	SI	OUEST	<input checked="" type="checkbox"/>	0130962000								2000						
Stat	SI	OUEST	<input type="checkbox"/>	0130962700								2700						
Stat	SI	CENTRE	<input checked="" type="checkbox"/>	0130457000								7000						
Stat	SI	EST	<input checked="" type="checkbox"/>	0130972300								2300						

Search field on the different items of the column.

#Place file																			
#index	location	DID Plan1	DIC	CallDist. 1	Cal	Cal	Cal	Cal	Cal	CallDist. 7	CallDist. 8								
Station1	Site 1 Borde	130962000									2000								
Station2	Site 2 Paris	130962501									2501								
Station3	Site 3 Reims	130457000									7000								

For future management:

For future management:

- Export the file
- Update the file
- Import the file again.

## 4.2.2 INDIVIDUAL CREATION AND MODIFICATION

To add an installation number, click **Add** then enter the parameters for this number (Index, place, plan , IID, Call distribution number).



**Note:** Call distribution number= DID corporate number (declared in the 'iPBX).

To modify this installation number:

- Select the line concerned.
- Click **Modify** and enter the new parameters for this number (index, place, plan IID, call distribution number).

## 4.3 GENERATION

This phase is necessary for updating the MiVoice 5000 Manager database.

- Select the multisite in Menu **Administration>Topology**.
- Click **Configuration**.
- Click **Generation**.
- Click **OK**.
- Click **Next** or **Import** if the directory files must be imported again.
- Click **Read**.
- Click **Next**.
- Wait for the site to be generated.
- Click **Finish**.

## 4.4 CONFIGURING THE DIRECTORY CONNECTION FOR SITES

During a first installation, it is important to define the directory database(s) on each multi-site site:

Menu **Telephony service>Subscribers>Directory>Parameters>Connections - Configuration** tab.

The screenshot shows the Mitel Telephony service web interface. The breadcrumb path is **Telephony service>Subscribers>Directory>Settings>Connections (1.1.1.1)**. The 'Configuration' tab is selected, showing the 'Directory configuration base EXP' settings. The form includes the following fields:

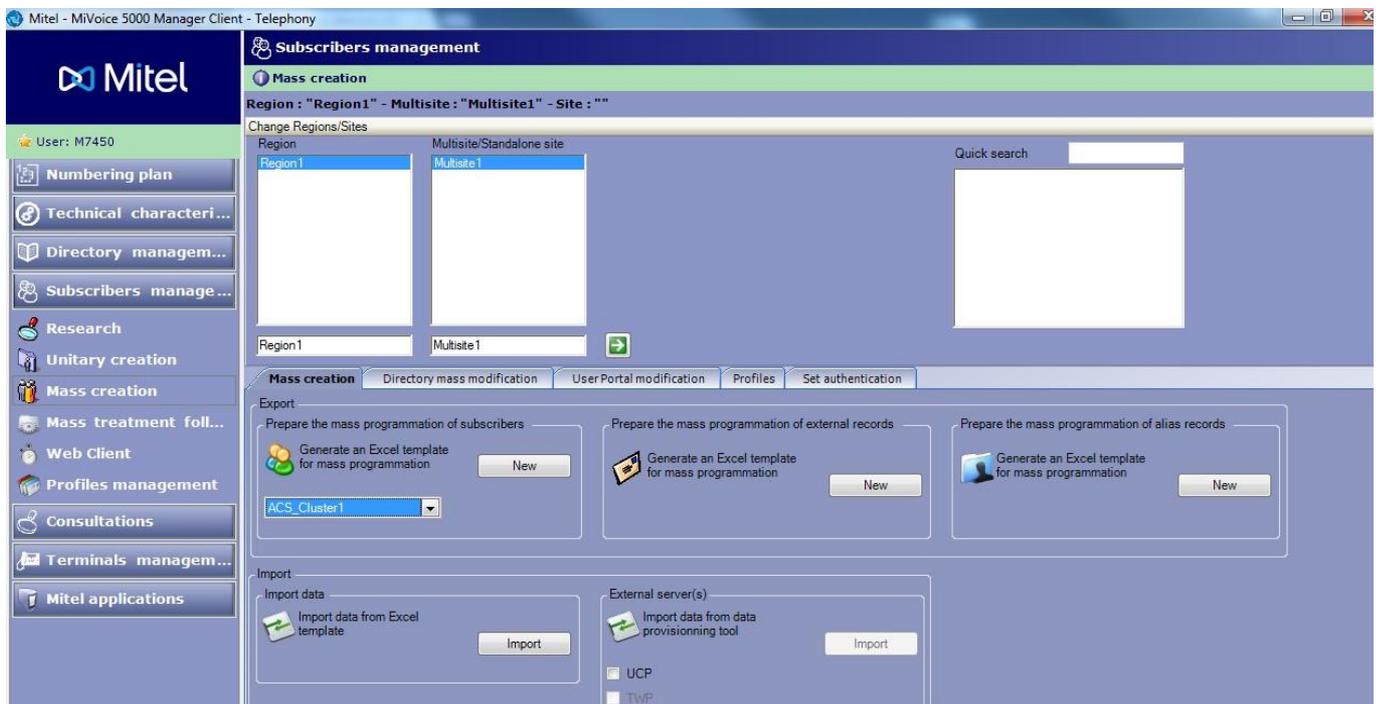
- Type of server: **EXTERN.** (dropdown)
- Name of server or IP address: **127.0.0.1** (text input)
- Port: **389** (text input)
- Base or URL: **ou=local,o=AASTRA,dc=DOMAIN,dc=com** (text input)
- Login: **cn=Manager,dc=DOMAIN,dc=com** (text input)
- Password: (text input)
- Max number of answers by request: **50** (text input)
- Regeneration of internal records:
- Reduced directory:

For more information, see Section 7.2.

## 4.5 MANAGING PLACE AND DID NUMBERS FOR SUBSCRIBERS

### 4.5.1 MASSIVE CREATION

For a new configuration, use the massive creation form, from **Telephony>Subscriber management>Massive creation – Massive creation** tab.



Massive creation is site-based and is performed through import/export.

- Select the site.
- Click **New** in the **Export** field to export the file to configure.
- Then fill in the different tabs.

In the **DIRECTORY** tab.

The **Place** column is used to assign a geographic location to each user.

The place combo box corresponds to the configuration made in the previous phases.

Name	Firstname	Phone number	Place	Hierarchy	Gender	Function	Address
Dupont	Eric	7000	Site 2 Paris	STE 0/SERV 0			
Durant	Paul	2000	Site 1 Bordeaux	STE 0/SERV 0			
Lift1		5000	Site 2 paris	STE 0/SERV 0			
Lift2		5001	Site 1 Bordeaux	STE 0/SERV 0			
Dudu	Franck	7001	Site 3 reims	STE 0/SERV 0			

In the **TECHNICAL** tab

Nom	Prénom	Numéro	Place	Plan 1	Plan 2	Plan 3	Plan 4	Plan 7	Plan 8	leur IMAP	GIC n°1	Facilité
Dupont	Eric	7000	Site 2 Paris	0130457000	4000						STE 0\SERV 0	
Durant	Paul	2000	Site 1 Bordeaux	0130962000	4001						STE 0\SERV 0	
Assenceur 1	0	5000	Site 2 Paris								STE 0\SERV 0	
Assenceur 2	0	5001	Site 1 Bordeaux								STE 0\SERV 0	
Dudu	Franck	7001	Site 3 Reims	0130457001	4002						STE 0\SERV 0	

- Click **Import** in the **Import** area to import the configured file again.

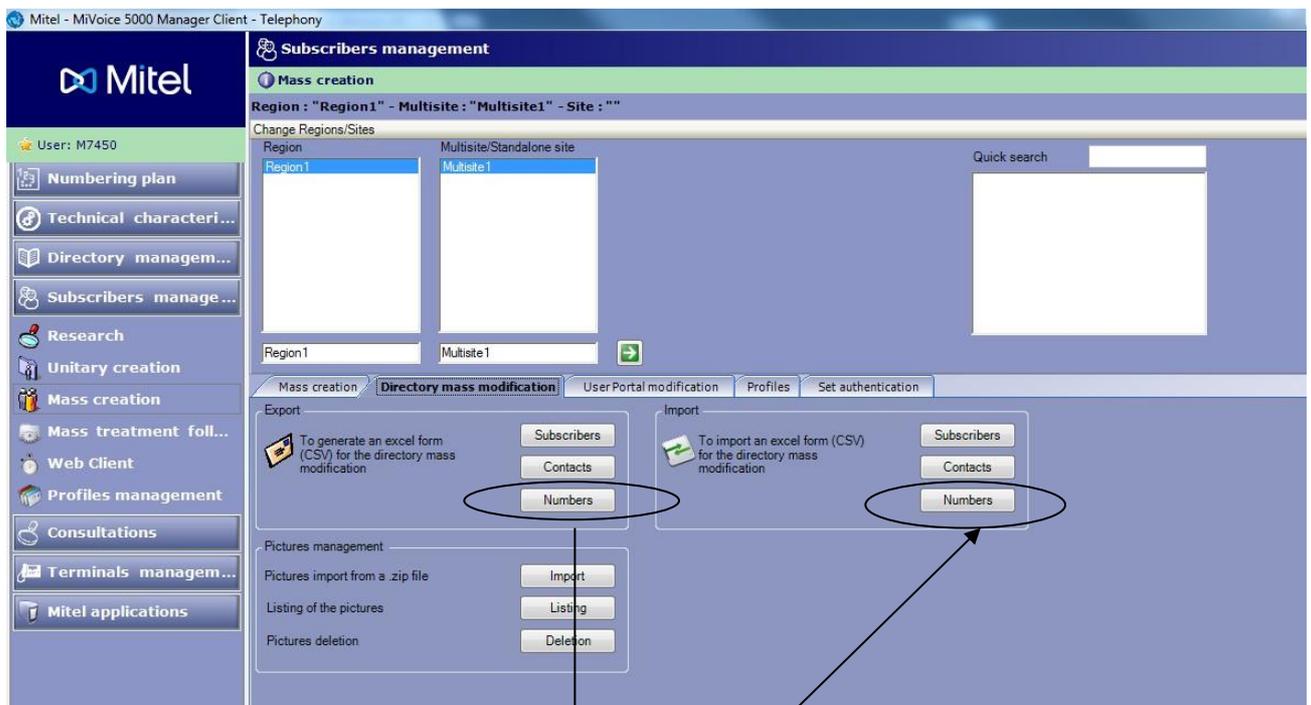
**Then configure the sites on the iPBX site as indicated in Chapter 6.**

### 4.5.2 MASSIVE DIRECTORY MODIFICATION

Massive directory configuration can be made from Menu **Telephony>Subscriber management >Massive creation – Massive directory modification tab.**

- Click **Numbers (Export area)** to export the directory.
- Make the modifications in this file.
- Then click **Numbers** in the **Import** area. The file is taken into account to update the directory characteristics in the LDAP database.

In the example:



cleUid	phoneNum	placeIndex	didPlan1	didPla	private						
ABO 7995 00	5995										LV
DupontEric0	7000	Station2	0130457000	4000							LV
DurantPaul0	2000	Station1	0130962000	4001							LV
Assenceur 1	5000	Station2									LV
Assenceur 2	5001	Station1									LV
DuduFranck	7001	Station3	0130457001	4002							LV



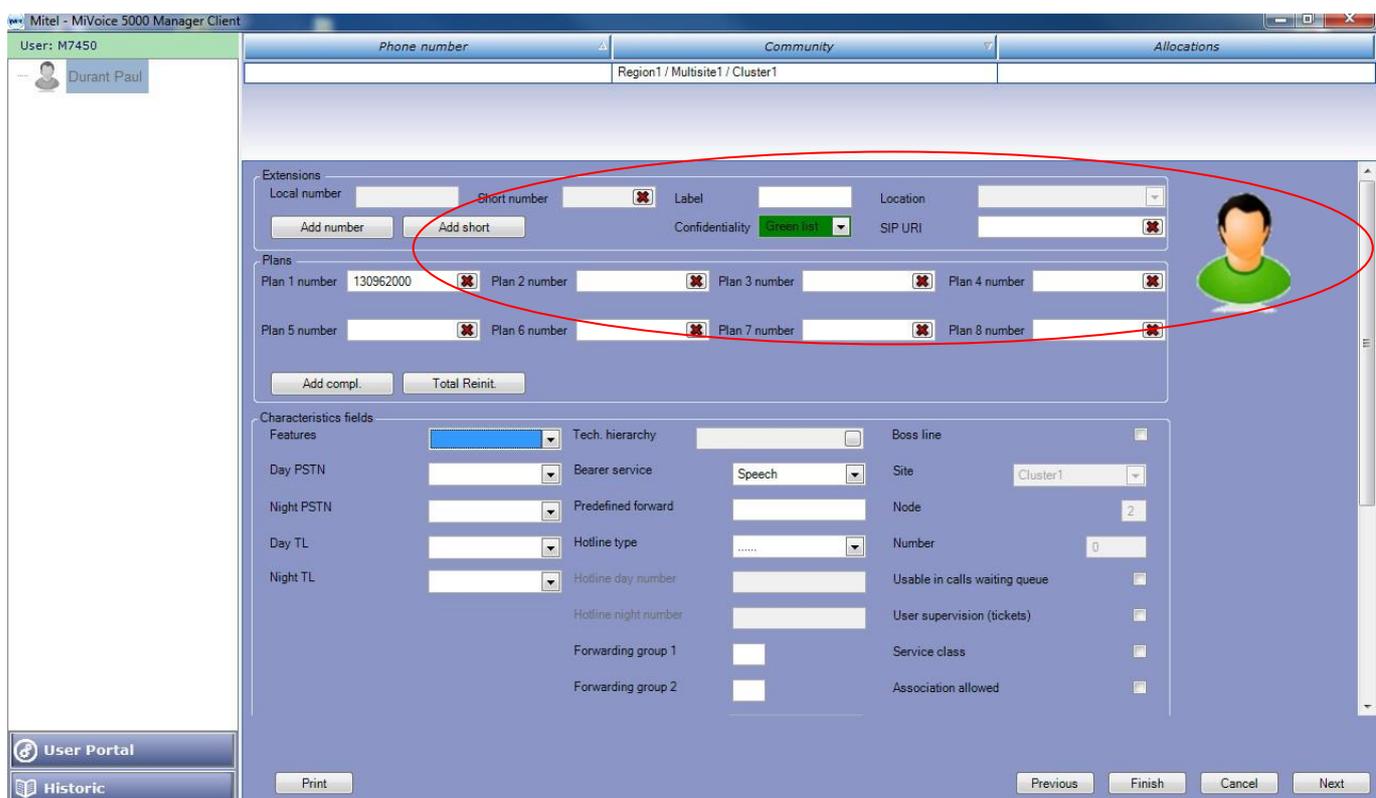
**Note:** Wait for the report in the Telephony End of Import log bar before management.

### 4.5.3 INDIVIDUAL CREATION OR MODIFICATION

For creations or modifications which do not require the use of massive creation files, place numbers and DID numbers are managed for subscribers from the technical record (menu **Telephony>Subscriber management**):

- Select the subscriber in question.
- Choose the place. The choice is made from a list, defined previously via the **place** field.
- Enter the DID numbers (or public number) for each plan in question.

This number may be in E164 format if the prefixes have been set to the new multi-site topology.



- Then validate the creation or modification of the subscription.

# 5 CONFIGURING MIVOICE 5000 MANAGER WITH COMMUNITY MODE

## 5.1 INTRODUCTION

Community mode is basically used to:

- Limit the perimeter of MiVoice 5000 Manager operators to a subgroup of subscribers defined on the same site.
- Facilitate the choice of subscriber number during creation, by filtering the corresponding number ranges.
- Facilitate the configuration of the backup site (dual homing).
- Facilitate the choice of hardware resources for analogue and digital subscribers.

Community mode is used to define a group of Communities in which one or more number ranges are defined.

Each community can, for instance, be linked with a geographic location.

The Community is assigned to systems (cluster server, node, remote site) which share the same numbering range.

Community mode is configured on a multi-site basis.

Community management is an option available only in the DID number configuration, in directory characteristics (**SDN mode**).

Community mode is available as of MiVoice 5000 Manager 3.1.

Community configuration is available for all iPBX releases.

### **Place and Community**

The parameter **Place** is used, in particular, to define the IID number.

A place may be defined in only one Community.

Several places may be defined in the same Community.

### **Rules for assigning Communities to sites**

Depending on the type of site, the rules concerning the assignment of Communities are:

- Several Communities may be assigned to the Cluster Server or to sites in the multi-site configuration.
- The Cluster Server also inherits the Communities assigned to Cluster Nodes.
- Only one community may be assigned to the nodes of a cluster server.

### **Community and external directory synchronisation**

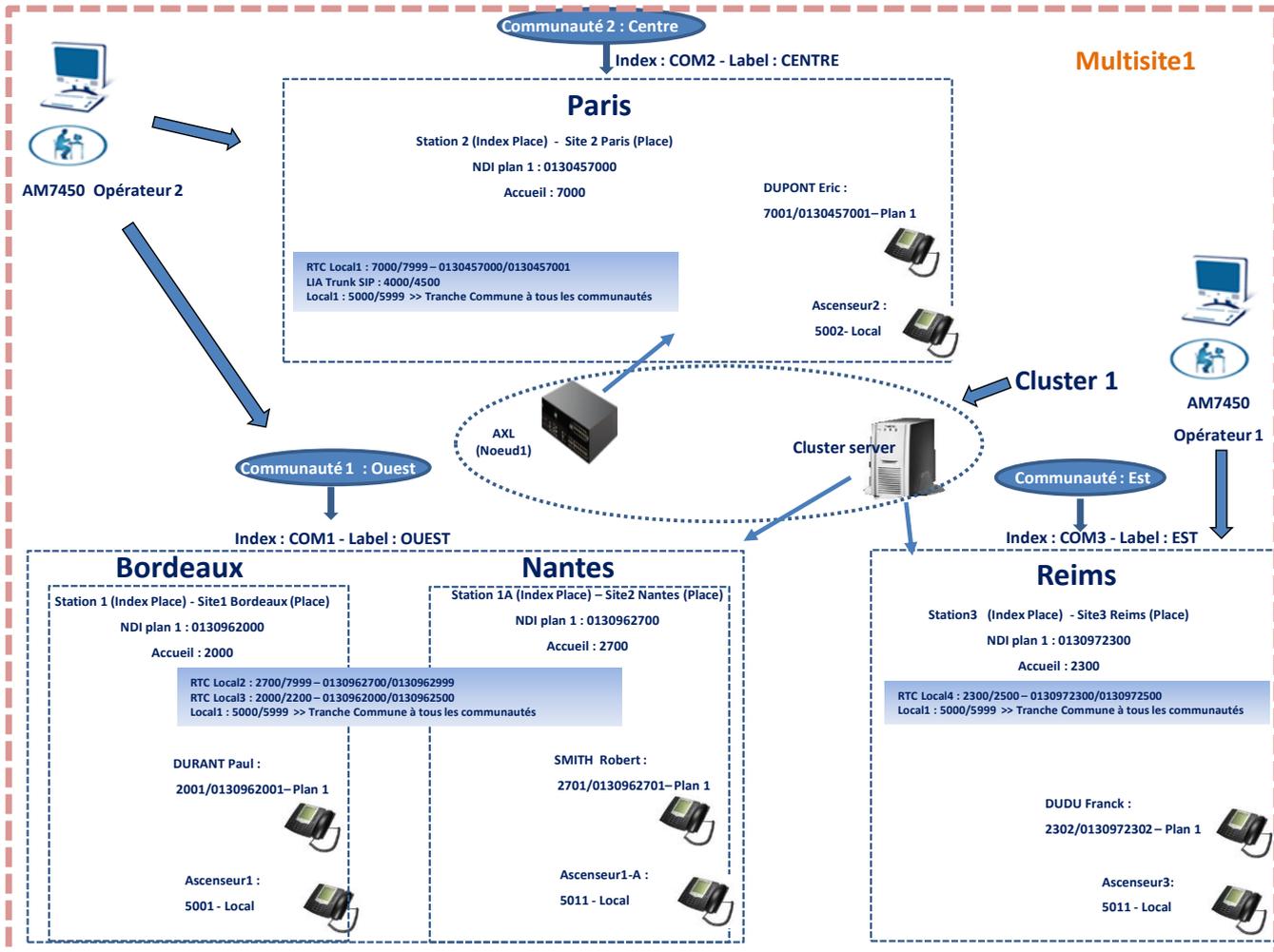
If synchronisation with an external directory must be implemented in profile mode, it is necessary to define a specific attribute in the configuration file of the required directory connector in order to characterise the Community.

This attribute is linked to the name of the community or to one of its aliases.

Several values in AD may correspond to the same Community. In this case, several aliases may be defined.

Example

Here is an example of how to implement this mode:



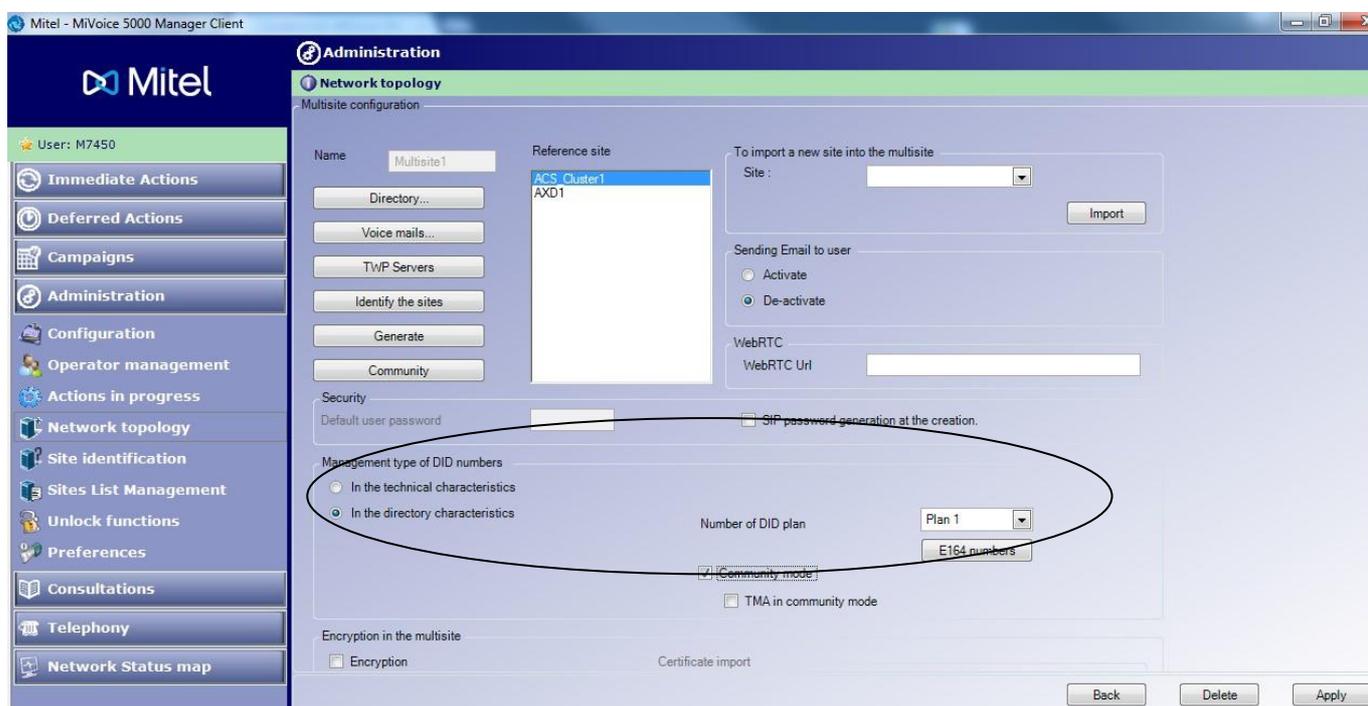
## 5.2 ACTIVATING COMMUNITY MODE

Menu **Administration>Configuration, Range** tab

- Tick the **Multi-site basis** checkbox.
- Click **Apply**.
- Select the multisite in Menu **Administration>Topology**.
- Click **Configuration**.

In the **Type of DID number management area**:

- Tick the **In directory characteristics** checkbox.
- Select the **DID plan number**.
- Configure the prefixes for E164 dialling if this format must be taken into account (**E164 numbers** button). Refer also to Section 10.1
- Tick the **Community mode** box to activate the mode in the multi-site configuration.



- Click **Apply**
- Click **Community**
- 
- to display the **Community** configuration screen.
- Refer to Section 0.

## 5.3 MANAGING COMMUNITIES

Communities are always defined from the multi-site, in Menu **Administration>Topology**.

A Community is defined by key and a label, and possibly one or more aliases.

Possible actions on Communities are:

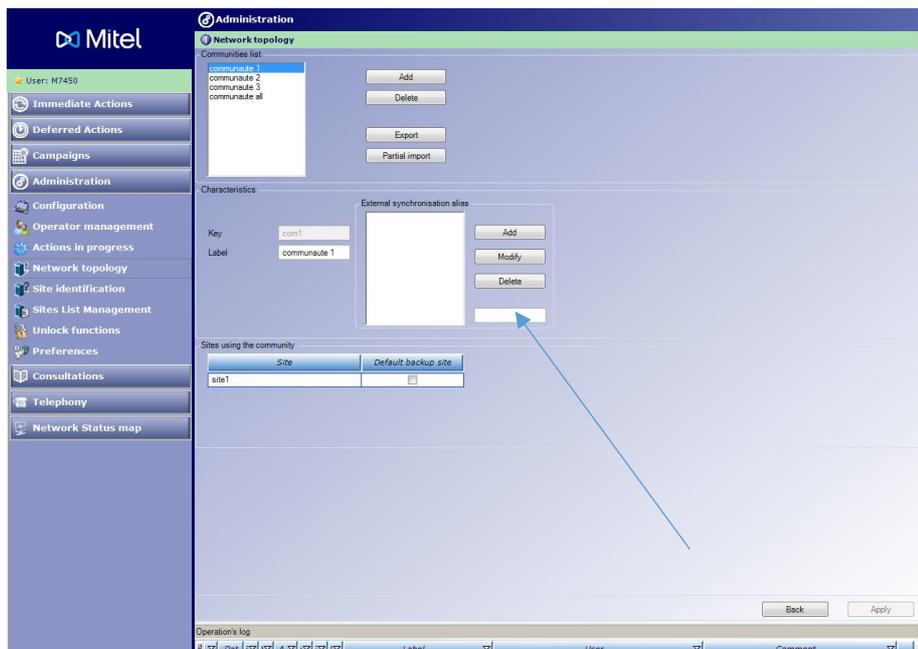
- Add Community.
- Modify Community (only for the label and alias).
- Delete Community.
- Export the parameters of configured Communities to a .csv file.
- Import a .csv file: this import only adds or modifies a Community. Deletions can only be made through an individual action in the MiVoice 5000 Manager Community management menu.

### 5.3.1 INDIVIDUAL MANAGEMENT

#### 5.3.1.1 Adding a Community

From the multi-site, in Menu **Administration>Topology**

- Select the multi-site.
- Click **Configuration**.
- Click **Community**.



Enter the Community parameters in the different fields below:

- **Key:** string of 20 alphanumeric characters without accent and ‘-’ (maximum). The key must be unique in the multi-site and non-modifiable.

- **Label:** string of 50 alphanumeric characters maximum, (with accent and ' ', '-', '\_', ' '). The label must be unique in the multi-site.
- **Alias (optional):** field used for synchronisation with a remote directory database. 20 values may be defined.

For the alias:

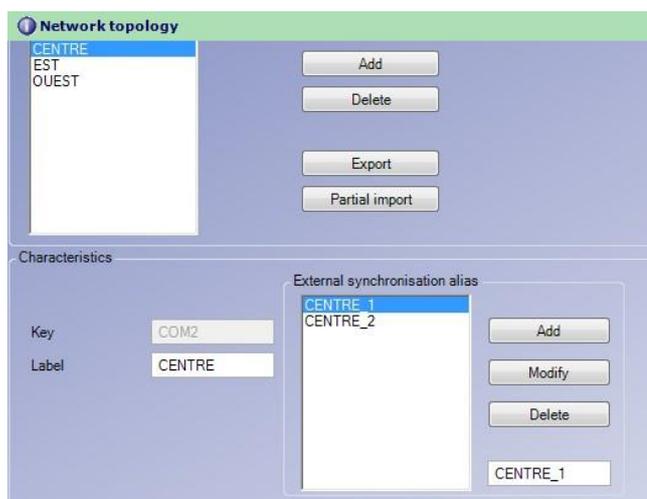
- Fill in Field 1 then click **Add**.
- If other Aliases must be defined, restart the operation.

After filling in the fields, click **Apply**.

Restart this phase for the other Communities.

Example:

In the reference example, 3 Communities have been created.



### 5.3.1.2 *Modifying a Community*

In the same menu as the previous one:

**Only the label and alias may be modified (the key cannot be modified):**

Select the Community concerned from the list.

- Modify the label.
- Click **Modify** then **Apply**.

For the alias, proceed in the same way by selecting the alias concerned.

### 5.3.1.3 *Deleting a Community*

In the same menu as the previous one:

Deletion can only be made on one Community at a time.

Deletion is not authorised if the Community is used in a subscription.

Select the Community to delete.

The ranges and places to be deleted are displayed.

- Click **Delete**.
- The **List of communities** screen is displayed, with the updated list.

After the deletion, the topology and operator rights are also updated.

## 5.3.2 MASSIVE COMMUNITY MANAGEMENT

### 5.3.2.1 Massive creation



**CAUTION:** When Communities are massively created for the first time, it is necessary to define the rights in this mode for the operators in the perimeter concerning them, including for the operator who carried out the import. See Section 5.5.

From the multi-site, in Menu **Administration>Topology**

- Select the multi-site.
- Click **Configuration**.
- Click **Community**.
- For the first configuration, click **Export** to retrieve the file frame and, thus, fill it in and then **partially import** it again.

#### Import/export file format

The import file is an .csv type file and contains the following fields:

**Key:** Community key

**Label:** Community label

Following **Alias** columns: Alias for external synchronisation (10 aliases maximum)

#Clé	Label	Alias1	Alias2...	
COM2	CENTRE	CENTRE_1	CENTRE_2	
COM3	EST	EST_1	EST_2	
COM1	OUEST	OUEST_1	OUEST_2	



**IMPORTANT NOTE:** After a massive Community creation or modification, it is necessary to restore the Client's session (login and logout).

## 5.4 MASSIVE MODIFICATION

Massive Community modification is used to:

- Add some Communities
- Modify the label of existing Communities
- Add some aliases
- Modify existing aliases.

Keys and Communities cannot be deleted through massive action.

From the multi-site, in Menu **Administration>Topology**

- Select the multi-site.
- Click **Configuration**.
- Click **Community**.
- Click **Export** to retrieve the file in progress.
- Enter and import this file again through **Partial import**.

## 5.5 DEFINING OPERATORS' PERIMETER FOR THE COMMUNITY RIGHT

Menu **Administration>Operators management– Community rights**.

The definition of rights is operator-based.

- Select the operator from the list.

The screenshot shows the 'Operator management' interface. At the top, there is a search bar and a table of operators. The table has columns for Name, First name, Login, Rights, Groups, and E-mail. One operator is listed: 'admin' with first name 'admin' and login 'M7450'. To the right of the table are buttons for Add, Delete, Print, Export, Import, Groups..., and Profiles... Below the table is the 'Identify Characteristics' section with input fields for Name, First name, Login, and E-mail. To the right is the 'Rights' section with three tabs: Geographical Rights, Hierarchical Rights, and Communities Rights. The 'Functional Rights' dropdown is set to 'Admin'. Below that is the 'Management by group' section with a 'Group choice' dropdown. At the bottom right, there are 'Cancel' and 'Apply' buttons.

In the reference example, Operator 2 manages communities COM1 (WEST) and COM2 (CENTRE).

- Click **Community rights**.

By default, during a first massive creation, the rights are not assigned, no matter the Community. No box is ticked.



## Remarks about ergonomics

If the topmost box on the general tree is ticked, the rights are assigned to all the communities for the operator concerned (in the example Region 1).

If the topmost box on the multi-site tree is ticked, the rights are assigned to all the communities of this multi-site for the operator concerned (in the example Multi-site 1).

If the operator in question only has rights on one or more communities, tick the corresponding boxes.

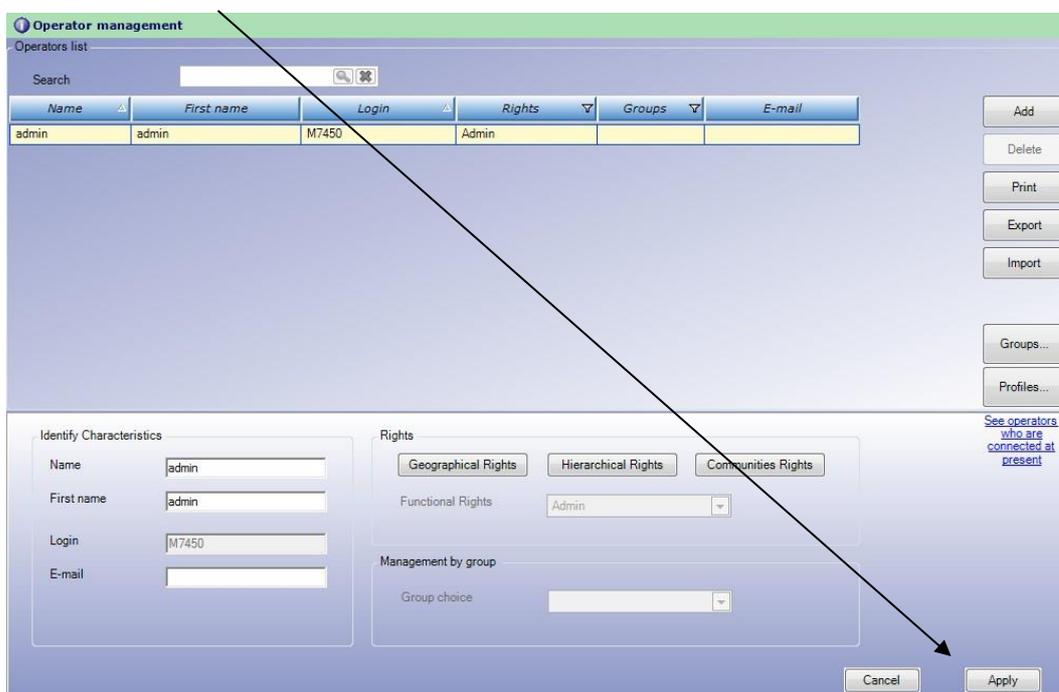
In the example below, the CENTRE and WEST boxes are ticked, assigning the rights to Operator 2.



- Click **Apply**.

Define the rights for the next operators in the same way.

Then click **Apply** on the operator management screen to validate the assigned rights.



- Then resume the procedure (assigning communities to sites).

## 5.6 ASSIGNING COMMUNITIES TO SITES

Once created, Communities must be assigned to the multi-site sites.

Only one default backup site can be defined per community.

Depending on the type:

### Cluster Server:

- Several Communities may be assigned to it.
- The Cluster Server also inherits the Communities assigned to the nodes of this same cluster.

**Node:** only one Community may be assigned to it.

**Multi-site site:** several Communities may be assigned to it.

### Procedure:

Menu **Administration>Topology**

- Select the site (cluster server, node or standalone site)
- Click **Configuration**.

In the **Miscellaneous parameters – Community area**:

- Select the Community concerned from the list.
- Click on **=>**.

The list on the right is filled in.

Define whether the current site is the default backup site for the community.

- Click **Modify**.

In the example, the “cluster” is assigned to “Community 3” and “Community all” while “noeudacs” is assigned to “Community 3”.



## 5.7 CONFIGURING NUMBERING RANGES

### Menu **Telephony > Dialing plan > Numbering range**

The numbering ranges are configured through an import/export operation.

The difference compared to the mode without Community:

- The sites are no longer to be entered in the .csv file (the association numbering range <=> site is made via the Communities associated with the site).
- Addition of the Community key
- Addition of the a default range for each Community to be defined by the administrator.

Import is always global.

To add a numbering range, the administrator exports the current configuration and adds the new ranges to the file before re-exporting it.

#### Description of the different fields:

**#Community key:** contains the Community key. If this column is empty, this means that the numbering range is available for all the Communities. This number numbering range must be internal.

**Default community (yes => 1/ no => 0):** a default range must be defined for each Community. This parameter is only used for external directory synchronisation in Quick create mode.

This configuration must be made for each range:

- 0 or empty: no default range
- 1: default range (the first range with "1" is the default range for each Community).

**Range name:** Range name

**Type: 0:Internal, 1:PSTN, 3:internal and PSTN:** shows the type of range:

- **internal num. start:** indicates the first number of the internal range (*only for range type 0 or 3*).
- **internal num. end:** contains the last number of the internal range (*only for range type 1 or 3*).

**The following columns** contain the first and last DID number for the eight plans.

This number may be in E164 format if the prefixes have been set to the new multi-site topology.

#Community key	default com	Range name	Type : 0:Local	Local num.st	Local num.er	DID Plan1 st	DID Plan 1 er	DID Plan2 st	DID Plan 2 er	DID Plan3 st	DID Plan 3 er	DID PI
	1	Local1	0	5000	5999							
COM1	0	PSTN Local3	3	2000	2200	130962000	130962200					
COM1	0	PSTN Local2	3	2700	2999	130962700	130962999					
COM2	0	PSTN Local1	3	7000	7999	130457000	130457999					
COM2	0	SIP trunk TL	1					4000	4500			
COM3	0	PSTN Local4	3	2300	2500	130972300	130972500					

In the example: The range **Internal1** (5000 to 5999) is valid for all the Communities and devices.

**Number blocks**

Region : "Region1" - Multisite : "Multisite" - Site : "Cluster"

Change Regions/Sites

Duration freezing of numbers  in Day(s) Configure

Community	Default	Site	Type	Local number	Plans	Name	External number
OUEST	<input checked="" type="checkbox"/>	Cluster	Local	5000 - 5999		Local1	
EST	<input checked="" type="checkbox"/>	Cluster	Local	5000 - 5999		Local1	
EST	<input type="checkbox"/>	Cluster	Local-DID	2300 - 2500	Plan 1	RTC Local4	0130972300-0130972
OUEST	<input type="checkbox"/>	Cluster	Local-DID	2000 - 2200	Plan 1	RTC Local3	0130962000-0130962
OUEST	<input type="checkbox"/>	Cluster	Local-DID	2700 - 2999	Plan 1	RTC Local2	0130962700-0130962
CENTRE	<input type="checkbox"/>	Noeud1	Local-DID	7000 - 7999	Plan 1	RTC Local1	0130457000-0130457
CENTRE	<input checked="" type="checkbox"/>	Noeud1	Local	5000 - 5999		Local1	
CENTRE	<input type="checkbox"/>	Noeud1	PSTN		Plan 2	LIA Trunk SIP	4000-4500



**Note:** The internal numbers configured with some external DID numbers must be unique in the numbering range configuration of a multi-site.

**Example:**

If the administrator declares range 2000 - 2500 as internal numbers, with 0130962000-0130962500 as DID numbers, numbers 2000-2099 cannot be declared in another range.

An internal numbering range without DID number may be associated with all the Communities or with only one Community (common range).

## 5.8 CONFIGURING INSTALLATION NUMBERS

Menu **Telephony>Dialing plan>Installation numbers**

### 5.8.1 MASSIVE CREATION

The installation numbers are configured through an import/export operation.

The difference compared to the SDN mode without Community:

- Addition of the Community key
- Addition of the notion of default place. This parameter is only used for external directory synchronisation and Quick create, but is mandatory.

The parameter **Place** is used, in particular, to define the IID number.

A place may be defined in only one Community.

Several places may be defined in the same Community.

Description of the different fields:

- **Community key:** contains the Community key.
- **Default place:** defines a default place for each Community. The configuration must be made for each place. A default place must be defined for each Community.
- **#index:** alphanumeric indexation value for the place label. This is the value taken into account in the directory characteristics "**placeindex**".
- **Place:** place label (corresponding to a geographic location, for example)
- **PlanX IID:** DID numbers of each place on the plan in question (8 plans maximum).

This number may be in E164 format if the prefixes have been set to the new multi-site topology.

- **C. DIST. X. DID corporate numbers of each place** on the plan in question (8 plans maximum).

An index value corresponds solely to one and only one place.

The index number is used to define a place name. This place name will be taken into account in the subscriber's directory record.



**Note:** If the place name is modified, the index retains its initial value.

#Place file																			
#Clé de la comm	faut (oui =>	index	place	NDI Plan1	NDI PI	NDI PI	NE	NE	NE	NE	NDI PI	Accueil 1	Accueil 2						
COM1	1	Station1	Site 1 Bordeaux	0130962000								2000							
COM1	0	Station1A	Site 2 Nantes	0130962700								2700							
COM2	1	Station2	Site 2 Paris	0130457000								7000							
COM3	1	Station3	Site 3 Reims	0130972300								2300							

Installation numbers																			
Region : "Region1" - Multisite : "Multisite" - Site : "Cluster"																			
Change Regions/Sites																			
Index	Location	Community	Default	IID plan 1	IID plan	I	IID pl	II	II	II	IID p	Call distributi	Call dis						
Station1	Site 1 Bor	OUEST	<input checked="" type="checkbox"/>	0130962000								2000							
Station1	Site 2 Nan	OUEST	<input type="checkbox"/>	0130962700								2700							
Station2	Site 2 Pari	CENTRE	<input checked="" type="checkbox"/>	0130457000								7000							
Station3	Site 3 Rei	EST	<input checked="" type="checkbox"/>	0130972300								2300							



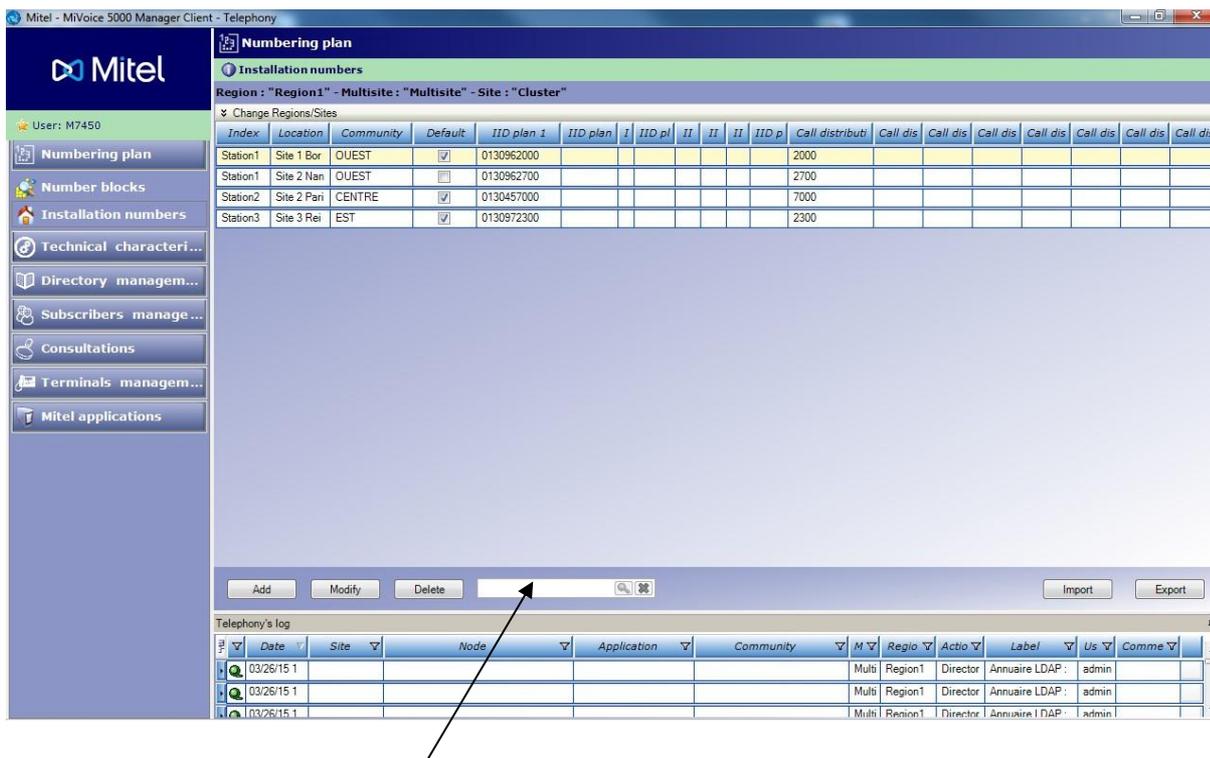
**Note:** The boxes ticked in the Default column correspond to the places defined by default for each Community.

5.8.2 MASSIVE MODIFICATION

The same procedure for massive creation, through Import/Export.

### 5.8.3 MANAGING INSTALLATION NUMBERS INDIVIDUALLY

Installation numbers can also be managed individually using the **Add**, **Modify**, and **Delete** buttons.



Search field on the different items of the column.

## 5.9 GENERATION

This phase is necessary for updating the MiVoice 5000 Manager database.

- Select the multisite in Menu **Administration>Topology**.
- Click **Configuration**.
- Click **Generation**.
- Click **OK**.
- Click **Next** or **Import** if the directory files must be imported again.
- Click **Read**.
- Click **Next**.
- Wait for the sites to be generated.
- Click **Finish**.

## 5.10 CONFIGURING THE DIRECTORY CONNECTION FOR SITES

During a first installation, it is important to define the directory database(s) on each multi-site site:

Menu **Telephony service>Subscribers>Directory>Parameters>Connections - Configuration** tab.

The screenshot displays the 'Configuration' tab of the 'Directory connections settings' page. The breadcrumb trail is 'Telephony service>Subscribers>Directory>Settings>Connections (1.1.1)'. The page title is 'Directory configuration base EXP'. The form contains the following fields and options:

- Type of server:** A dropdown menu set to 'EXTERN'.
- Name of server or IP address:** A text input field containing '127.0.0.1'.
- Port:** A text input field containing '389'.
- Base or URL:** A text input field containing 'ou=local,o=AASTRA,dc=DOMAIN,dc=com'.
- Login:** A text input field containing 'cn=Manager,dc=DOMAIN,dc=com'.
- Password:** An empty text input field.
- Max number of answers by request:** A text input field containing '50'.
- Regeneration of internal records:** An unchecked checkbox.
- Reduced directory:** An unchecked checkbox.

For more information, see Section 7.2.

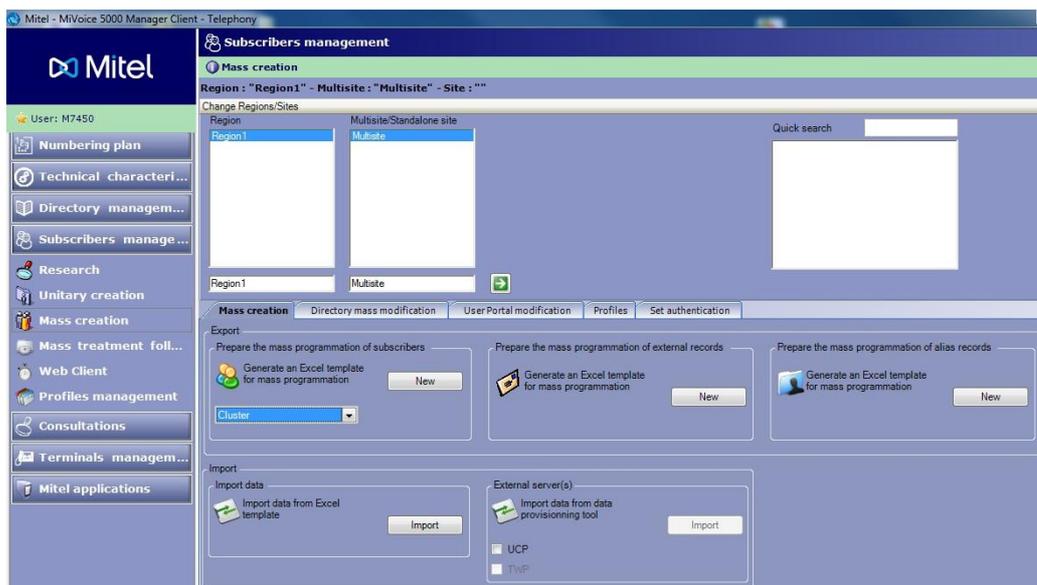
## 5.11 MANAGING PLACE AND DID NUMBERS FOR SUBSCRIBERS

The Community is linked to a Place. It is while configuring the Place in the subscription that the Community is initialised in the subscription.

For subscriptions created already (before configuring Community mode), it is necessary to implement an update, by importing/exporting the numbers, in order to configure each subscription in Community mode.

### 5.11.1 MASSIVE SUBSCRIBER CREATION

For a new configuration, use the massive creation form, from Menu **Telephony>Subscriber management>Massive creation – Massive creation** tab.



Massive creation is site-based and is performed through import/export.

- Select the site.
- Click **New** to export the file to be configured.
- Then fill in the different tabs.

In the **DIRECTORY** tab.

The **Place** column is used to assign a geographic location to each user.

The Community/place combo box corresponds to the configuration made in the previous phases.

Name	Firstname	Phone number	Place	Hierarchy	Gender	Function	Address	Email
Dupont	Eric	7001	(CENTRE) Site 2 Paris	STE 0/SERV 0				
Lift2		5002	(CENTRE) Site 2 Paris	STE 0/SERV 0				
Durant	Paul	2001	(WEST) Site 1 Bordeaux	STE 0/SERV 0				
Smith	Robert	2701	(WEST) Site 2 Nantes	STE 0/SERV 0				
Lift1		5001	(WEST) Site 1 Bordeaux	STE 0/SERV 0				
Lift1-A		5011	(WEST) Site 2 Nantes	STE 0/SERV 0				
Lift3		5003	(EAST) Site 3 Reims	STE 0/SERV 0				
Dudu	Franck	2302	(EAST) Site 3 Reims	STE 0/SERV 0				

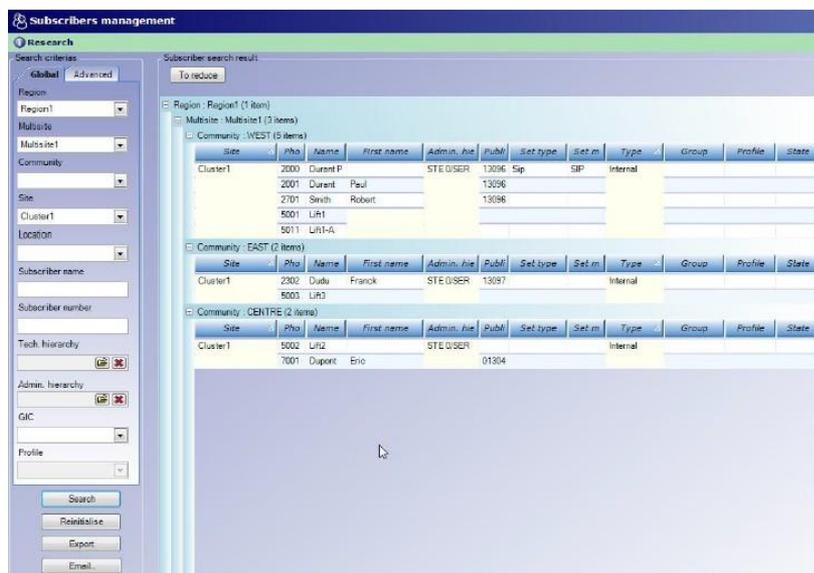
In the **TECHNIQUE** tab

Name	Firstname	Phone number	Place	Plan 1	Plan 2	Plan	Company / Depart						
Dupont	Eric	7001	(CENTRE) Site 2 Paris	0130457000	4000								STE 0/SERV
Lift2		5002	(CENTRE) Site 2 Paris										STE 0/SERV
Durant	Paul	2001	(WEST) Site 1 Bordeaux										STE 0/SERV
Smith	Robert	2701	(WEST) Site 2 Nantes										STE 0/SERV
Lift1		5001	(WEST) Site 1 Bordeaux										STE 0/SERV
Lift1-A		5011	(WEST) Site 2 Nantes										STE 0/SERV
Lift3		5003	(EAST) Site 3 Reims										STE 0/SERV
Dudu	Franck	2302	(EAST) Site 3 Reims										STE 0/SERV

- Click **Import** in the **Import** area to import the configured file again.



- Click **Next** to start the massive action.
- Click **Program**.
- Selective listing may be made in the **Subscriber management** menu:



Then configure the sites on the iPBX site as indicated in Chapter 6.

### 5.11.2 MASSIVE DIRECTORY MODIFICATION

Massive directory configuration can be made from Menu **Telephony>Subscriber management >Massive creation – Massive directory modification tab**.

- Click **Numbers (Export area)** to export the directory.
- Make the modifications in this file.
- Then click **Numbers** in the **Import** area. The file is taken into account to update the directory characteristics in the LDAP database.



**Note:** Wait for the report in the Telephony End of Import log bar before management.

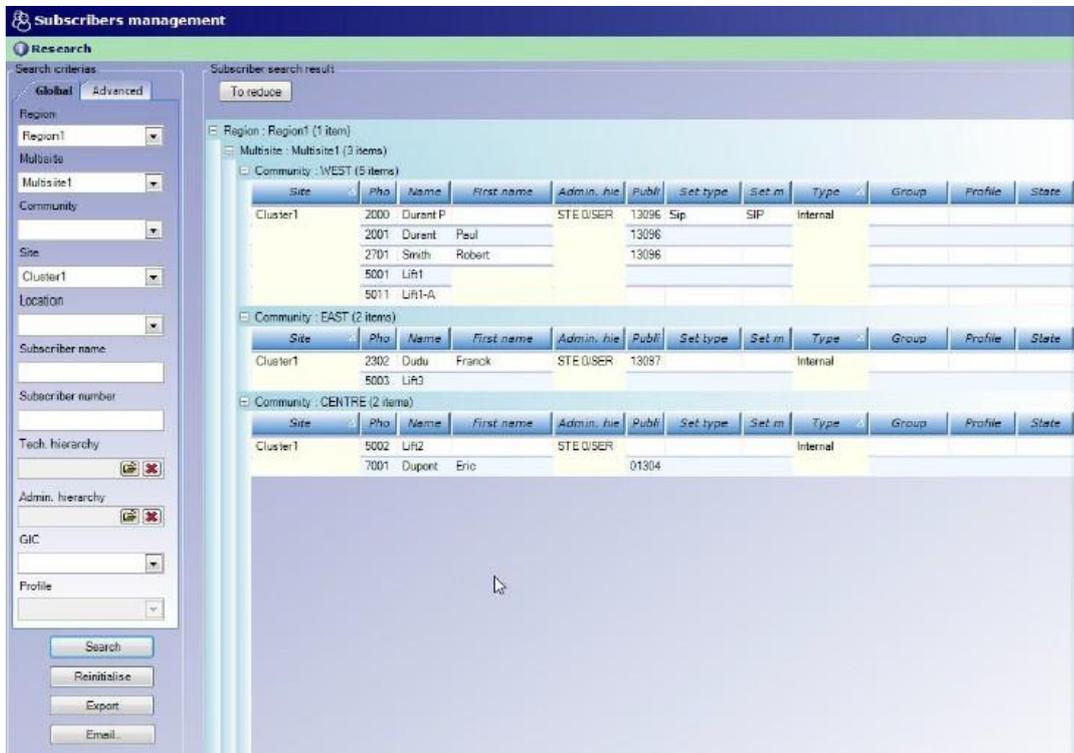
### 5.11.3 CREATING SUBSCRIBERS INDIVIDUALLY

Menu **Telephony>Subscriber management>Individual creation**

The list of Communities is proposed when a subscriber is being created and depends on operator rights.

Depending on the Community chosen, the corresponding rights are displayed.

Example: creating Subscriber Abo2007 in the Centre Community (Com1)



- Click **Next**.

The form contains the following fields:

- Type: [Dropdown menu]
- Name: [Text input: Raymond]
- First name: [Text input: Claude]
- Restricted name: [Text input: Raymond]
- Restricted firstname: [Text input: Claude]
- User login: [Text input]
- E-mail: [Text input]
- Function: [Dropdown menu]
- Hierarchy: [Text input: STE 0/SERV 0]
- Assistant: [Text input]
- Address: [Text input]

- Click **Next**.

- Select the **Place** from the proposed list, limited to the **Centre Community** (in the example **Site 2 Paris**).
- Click **Add Number**.

Community	Default	Site	Type	Local number	Plans	Name	External numb
CENTRE	<input checked="" type="checkbox"/>	Cluster	Local	5000 - 5999		Local1	
CENTRE	<input type="checkbox"/>	Cluster	Local-DID	7000 - 7999	Plan 1	RTC Local1	0130457000-013

- Then choose any of the available numbers for the range in question, the number to be assigned.

Communauté	Défaut	Site	Type de plan	Numérotation locale	Plans	Nom	Numérotation
CENTRE	<input checked="" type="checkbox"/>	Cluster	local	5000 - 5999		Local1	
CENTRE	<input type="checkbox"/>	Cluster	local-RTC	7000 - 7999	Plan 1	RTC Local1	0130457000-013

Numéros  
7000

00	01	02	03	04	05	06	07	08	09
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99

Numéro abonné

Numéro local: 7000

Numéro SDA 1: 0130457000

Numéro SDA 2:

Numéro SDA 3:

Numéro SDA 4:

Numéro SDA 5:

Numéro SDA 6:

Numéro SDA 7:

Numéro SDA 8:

7099

Annuler OK

- Click **OK**.

Extensions

Local number: 7000 Short number:  Confidentiality: Green list SIP URI:

Plans

Plan 1 number: 0130457000 Plan 2 number:  Plan 3 number:  Plan 4 number:

Plan 5 number:  Plan 6 number:  Plan 7 number:  Plan 8 number:

Add compl. Total Reinit.

- The DID number of Plan 1 is entered.

This number may be in E164 format if the prefixes have been set to the new multi-site topology.

- Then program the directory and technical records.

#### 5.11.4 SEARCHING FOR SUBSCRIBERS

Menu **Telephony>Subscriber management>Search**

A subscriber search can be made with the Community and Place search criteria.

#### 5.11.5 RELOCATING A SUBSCRIBER

Menu **Telephony>Subscriber management>Search**

To change a subscriber's Community (need to change the number, place, etc.), you must first carry out a relocation operation.

## 5.12 EXTERNAL DIRECTORY SYNCHRONISATION

In Community mode, for profile-based subscription management, it is necessary while creating subscriptions through directory synchronisation to specify the following in the remote directory database:

- A Community
- A profile.



**IMPORTANT NOTE:** This applies only when the profiles are used for AD synchronisation. Profile mode is not mandatory; in this case, no need to manage the Community in the synchronisation (mode in which only one directory record is created). The default hierarchy of AD synchronisation not managed by the MiVoice 5000 Manager causes the SDN service to stop.

For more information, see the document AMT/PTD/NMA/0061 - MiVoice 5000 Manager - Directory configuration.

## 5.13 ADDITIONAL OPERATIONS

### 5.13.1 ADDING A NUMBERING RANGE TO AN EXISTING COMMUNITY

In this case, it is necessary to re-import the numbering range file.

### 5.13.2 ADDITION OF A COMMUNITY REQUIRING THE DEFINITION OF A NEW NUMBERING RANGE

In this case, it is necessary to re-import the numbering range file.

### 5.13.3 ADDING A SITE (MIVOICE 5000 CLUSTER SERVER, NODE, SITE) USING AN EXISTING COMMUNITY

In this case, it is not necessary to re-import the numbering range file.

### 5.13.4 ADDING A COMMUNITY USING SOME NUMBERING RANGES WITH AN "ALL COMMUNITIES" RANGE

In this case, it is not necessary to re-import the numbering range file.

## 6 CONFIGURATION WITHOUT MIVOICE 5000 MANAGER



**CAUTION:** For a multi-site configuration, all sites must be in the same mode with or without SDN.

### 6.1 ACTIVATING DID MANAGEMENT MODE BY SDN

Menu **Telephony service>Subscribers>Rights>General parameters, System tab.**

Subscribers miscellaneous settings  
Telephony service>Subscribers>Rights>General settings (1.4.1)

**Subscriber System Rights Application Network Security**

Com abbreviated dialing  
- number of numbers: 1000  
- numerous prefixes:

Subscriber forwarded to exterior  
- Charging: CALLING  
- send ident.: CALLING NUMBER

Feature class management: NO  
TL class management: NO  
Partition class management:

DID numbering by SDN:   
- Plan used by DID public numbers: PLAN 1  
- Installation number: 0130964286  
Subscriptions migration:

N° without external prefix for SIP set:   
Routing of EXT calls: LOCALISATION SITE  
Check password when opening TAPI session:

Power saving function:

Dual homing settings  
- daily realignment (hh:mm): 01:37  
- immediate realignment of:

The management of DID numbers via SDN can be activated via the line **DID Numbering by SDN**.

When the box is checked, the pbxPerso\corporate branch is automatically created in the LDAP directory (if it does not exist).

Ticking this box displays the following lines (if the subscriptions have not yet been migrated and if the Pbx is not a cluster node):

- **Plan used for public DID numbers:** Option for selecting one of the internal plans (1-8) open in the PBx configuration.

This plan allows the correct DID number (didPlan1-8) to be copied from the **Number** record to indicate which DID number is public in the **Number** record ( **didNumber** attribute) and in the **People** record (**didNumbersattribute**).

- **Installation number:** If an IID number is associated with the previously selected plan, it is displayed in E.164 format. This value will be used to fill in the characteristics of the place created during the migration of subscriptions.

Management can be carried out in several ways:

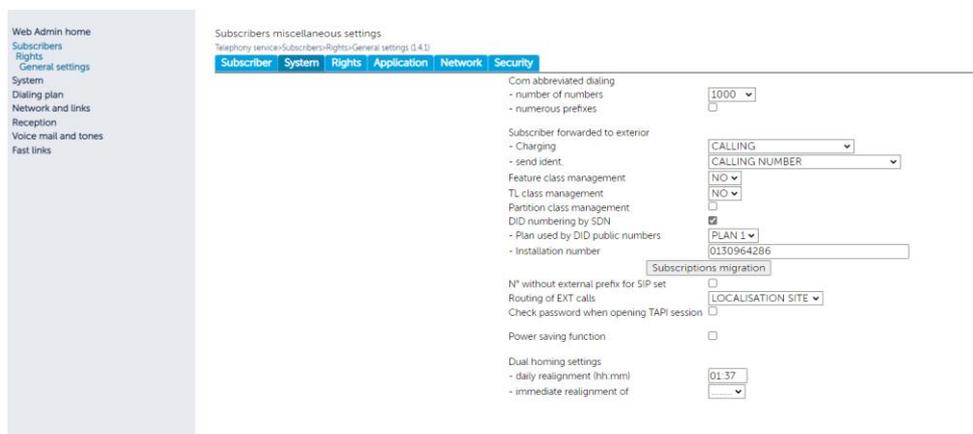
- By migrating the subscriptions (automatically),
- Manually,
- Through massive action.

## 6.2 MIGRATING SUBSCRIPTIONS TO DID NUMBER MANAGEMENT VIA SDN

### 6.2.1 PRINCIPLE

To facilitate the procedure when there is no MiVoice 5000 Manager in the configuration, Web Admin features a **Subscription migration** button from Menu **Telephony Service>Subscribers>Rights>General parameters, Systemtab**, used to automatically:

- Create a default location,
- Update the parameters,
- Delete the additional numbers,



Migration remains optional and it is possible to set up subscriptions manually or through bulk import.

If a migration is started on a configuration that has already been completed, there will be no change to subscriptions that already have a place in the LDAP directory.

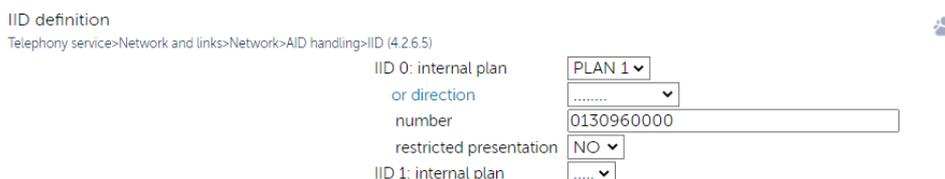
#### Details of the actions taken

##### Creating locations

To create a default location, Web Admin uses the two parameters:

- Value of the public DID number plan
- Value of the installation number (IID)

The IID parameter is added to the menu in order to associate it with the default location. This parameter is initialised from the parameter currently available in the plan configuration:



Generally, this value is not filled in and must be in E.164 format.

During the migration, in the LDAP directory, a place is created in the **pbxPerso/corporate** branch and this place is assigned to all PBX subscriptions:

**Place\_<No site>\_001**, <No Site> is the number of the site that created the place (3 digits).

### Case of multisite

In a multi-site configuration, if several sites have the same installation number (IID) with the same internal plan, only one place is created.

It is the place of the first site that has migrated, and the subscriptions of the other sites will be assigned from this place.

### Updating the subscriptions

This action allows the configuration of DID numbers in the plan opened and configured in the subscriptions.

The Migration process updates all subscriptions to configure the following parameters in the directory record of each subscription (all types of subscriptions including groupings):

- placeIndex: **place\_<site number>\_XXX**
- didNumberplan<n>: **<previously configured value>**

The previous configuration is taken into account if it exists:

	A	B	C
1	Reference	4109-L	1
2	AnnuAbo	4109-20626-0-0-0	3000
3	EtatAbo	4110-20630-0-0-0	EN SERVICE
4	UnlockAbo	4110-29265-0-0-0	
5	TypeAbonne	4110-28786-0-0-0	LOCAL
6	AnnuAbo	4110-20631-0-0-0	3000
7	ClearTProg	4110-20629-0-0-0	
8	AnnuSDA1	4110-20632-0-0-0	3000
9	AnnuSDAext1	4110-28911-0-0-0	+33123453000
10	AnnuSDA2	4110-28912-0-0-0	



Par son numéro d'annuaire 3000

Terminaux	Touches	Renvois	Domotiques	Répertoire	Multi-li
Etat abonné		EN SERVICE			
Type de l'abonné		LOCAL			
Numéro d'annuaire		3000			
N° annuaire SDA PLAN 1		3000			
N° public PLAN 1		+33123453000			
Nom de l'abonné		ABO 3000			
Boîte vocale intégrée (BVI)		<input checked="" type="checkbox"/>			
...		...			

didNumberPlan<n>: **AnnSDAext<n>** or if it is empty: **AnnuSDA<n>**

Several values can be configured in the same directory record, as a value is added for each additional number for open plans.

### Additional numbers

The migration procedure removes all additional numbers.

## 6.2.2 PROCEDURE

Menu **Telephony service>Subscribers>Rights>General parameters, System** tab.

After checking the **DID Numbering by SDN** box and filling in the **Plan used for public DID numbers** and **Installation number** fields:

- Click the **Subscription migration** button: Proposed if the previous 2 fields are filled in (i.e. installation number not empty).
- Confirm the action to take by clicking **Confirm migration**;

Subscriber migration starts.

At the end of the migration, if no errors were detected, a successful-completion message is displayed.

A call distribution number is not configured during the migration process and must be configured manually. See the relevant section.

In the migration procedure, ranges are not created automatically even if they had been previously defined. See the relevant section.

### **Other remarks:**

If the migration is interrupted (by restarting the PBX for example, or disconnecting the directory), the migration of the remaining subscriptions will be proposed after the PBX is restarted or after restoring the connection to the directory.

Subscription migration is not proposed in the following cases:

- iPBX restart after an upgrade,
- Restore,
- Rollback,
- The DID mode via SDN is already active with places in the directory.
- On a TOTAL startup with **DID Numbering by SDN** active, with subscriptions created by default, in DID configuration by SDN
- The migration status is stored locally to allow the administrator to restart the procedure in the event of an error. When the procedure is started from another site, the same place can be used if the administrator enters the configuration of an existing place (Default plan and IID).

## 6.3 CONFIGURING LOCATIONS

### 6.3.1 CREATION

Menu **Telephony service>Dialing plan>External number configuration>Locations management>Place names.**

This menu is used to create the places names (20 UTF8 characters max.) in the **pbxPerso\corporate** branch of the LDAP directory.

Up to 256 places can be created. Place names must be unique. The ranking is displayed in ascending alphabetical order.

The creation of places in the LDAP database then allows them to be assigned to subscribers when they are created or modified.

The places assigned to subscribers are entered in the Subscriber records in the LDAP database.

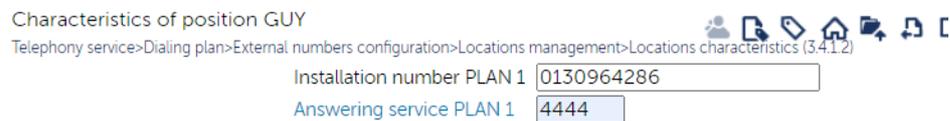
For each place in the list, a **Place** link takes you directly to the **Location Characteristics** menu.

It is not possible to delete a Location if it is still assigned to at least one subscription.

Massive creation can be carried out by importing a CSV file.

### 6.3.2 CHARACTERISTICS

Menu **Telephony service>Dialing plan>External number configuration>Locations management>Locations characteristics.**



This selection menu allows you to choose the Location (from the list of names declared in the directory) and to enter its characteristics.

For each internal plan opened in the configuration, the following fields are displayed:

**PLAN n installation number** (max 20 characters): This number is an External Line number or an TL number. An External Line number can be entered in national or E.164 format.

**PLAN n response service:** An installation number must have been previously entered for PLAN n. Therefore, deleting a PLAN n installation number will delete the PLAN n answering service. Each **answering service** line has an access link to the characteristics of that service.

Several occurrences of the same installation number may exist in the same Location or in other Locations.

An answering service is linked to an installation number.

Massive creation can be carried out by importing a CSV file.

#### Rules:

- When an installation number NI is entered (in an empty field) for a PLAN n and an occurrence of NI already exists with an associated response service SR, the response service associated with the NI entered for PLAN n takes the value of the SR.
- When an answering service is entered (in an empty field) for an installation number NI, all occurrences in all Locations of that NI are updated with the answering service entered.
- When an answering service is deleted for an installation number NI, all occurrences in all Locations of this NI are updated (deletion of answering service).
- For an installation number NI1 associated with an answering service SR1, if that answering service is modified by SR2 and SR2 is associated with installation number NI2 occurrences:
  - The associated answering service of all occurrences in all NI2 Locations are deleted.

- The answering service of all occurrences in all NI1 Locations are replaced by SR2.
- When an installation number is changed (new NI) and is associated with an answering service SR, all occurrences in all Locations of installation numbers previously associated with the answering service SR have their answering service deleted and the answering service SR is assigned to all occurrences in all NI Locations.

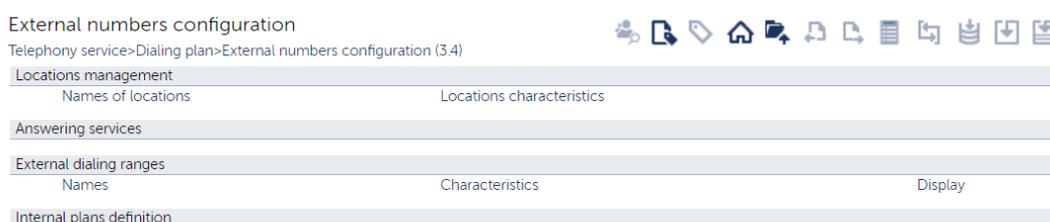
## 6.4 CONFIGURING EXTERNAL NUMBER RANGES

Menu **Telephony service>Dialing plan>External number configuration>External number ranges**.

Configuring external number ranges allows DID numbers to be assigned automatically when subscribers are created.

This action allows the configuration of DID numbers in the plan opened and configured in the subscriptions.

DID numbers are entered in the Subscriber records in the LDAP database.



### 6.4.1 NAMES

Menu **Telephony service>Dialing plan>External number configuration>External number ranges>Names**.

This menu is used to create up to 250 external number ranges for DID number management via SDN.

For each of the 250 lines, a link allows you to go directly to the characteristics of the range or to the menu for viewing all the ranges.

Massive creation can be carried out by importing a CSV file.

### 6.4.2 CHARACTERISTICS

Menu **Telephony service>Dialing plan>External number configuration>External number ranges>Characteristics**.

This menu is used to enter the characteristics of the selected range:

**For the local tranche:** The 2 fields (**-start** and **-end**) are used to enter the limits of the range of the internal number ranges concerned by this range.

**Notes:**

If the **- start** field of this section is empty, the following lines are not displayed.

The **- number of items** field (not modifiable) counts the number of internal numbers between **- start** and **- end inclusive** (= end - start + 1).

Then for each internal plan opened in the iPBX configuration, a **PLAN n public range** section is displayed.

In the PLAN n public range sections, the size of the **- start** and **- end** fields is 20 characters max. The numbering type entered is External or TL line. The External Line numbers can be entered in national or E.164 format.



**Note:** A check is made to ensure that there is no overlap between PLAN n public range among all external number ranges (for DID number uniqueness).

Massive creation can be carried out by importing a CSV file.

### 6.4.3 DISPLAY

Menu **Telephony service>Dialing plan>External number configuration>External number ranges>Display**.

This menu is used to list all the external number ranges declared for DID number management via SDN.

## 6.5 CONFIGURING THE DIRECTORY CONNECTION FOR SITES

During a first installation, it is important to define the directory database(s) on each multi-site site:

Menu **Telephony service>Subscribers>Directory>Setting>Connections - Configuration** tab.

Directory connections settings 🔍 🏠 📄 📄 📄 📄 📄 📄 📄 📄

Telephony service>Subscribers>Directory>Settings>Connections (1111)

**Configuration** Name resolution Dialing service

Directory configuration base EXP

Type of server	EXTERN. ▾
Name of server or IP address :	127.0.0.1
TLS	<input type="checkbox"/>
Port	389
Base or URL :	ou=local,o=AASTRA,dc=DOMAIN,dc=com
Login	cn=Manager,dc=DOMAIN,dc=com
Password	
Max number of answers by request	1000
Regeneration of internal records	<input type="checkbox"/>

## 6.6 SUBSCRIPTION MANAGEMENT

### 6.6.1 CREATION

Menu **Telephony service>Subscribers>Subscriptions>Create**.

In DID management mode in SDN, the **Location** option shows the names of the Locations defined in the directory.

The choice of a Location is mandatory for creating subscriptions (all types).

When a subscription is created, this field is associated with the corresponding subscription number record.

In case of DID number management without MiVoice 5000 Manager (except for ATDCs (main number) and general-purpose subscription), if the subscription number to be created is found in one of the defined external ranges (refer to Section 6.1), the characteristics of this range are used to fill in the DID PLAN 1-8 numbers of the subscription (directory attributes: didPlan1-8).

The didPlan n of the number record (if not empty), where n corresponds to the **-Plan used for the public DID numbers** selected in Menu **Subscribers miscellaneous parameters** is copied into the **didNumber** attribute of the **Number** record and into the **didNumbers** attribute of the **People** record if the subscription is not on the Red List.

## 6.6.2 SUBSCRIPTIONS CHARACTERISTICS (EXCLUDING HUNT GROUPS)

Menu **Telephony service>Subscribers>Subscriptions>Characteristics**.

This menu gives access to the characteristics of non-hunt group type subscriptions.

In DID management mode in SDN, the **Location** option, specific to this mode, shows the names of the Locations defined in the directory.

Subscription 2000  
Telephony service>Subscribers>Subscriptions>Characteristics (1.2.3)

By directory number 2000

Characteristics Directory Terminals Keys Forwards Home automation Phone book Multi-lines F

Subscr. status IN SERVICE  
Subscriber type INTERNAL  
Directory number 2000  
Location PLACE\_001\_001  
DID number PLAN 1  
Extension name ABO 2000  
Integrated voice box (IVB)  
Terminal authentication   
- value hOve4SF1IBL2WUFU3

This field consists of the list of names of Locations defined in the directory. The value displayed concerns the value of the **placeIndex** attribute of the subscription number record. This field is modifiable.

When a space is assigned (or the assignment is changed), the old additional DID numbers are deleted.

This makes it possible to avoid migration when configuring DID numbers manually or through CSV import (see Section 6.1).

**DID Plan n No. lines** (20 characters max.): Display of the values corresponding to the internal plans opened in the iPbx configuration (External Line format in national or E.164 format, or TL numbering).

The value displayed concerns the value of the **didPlan n** attribute of the subscription number record. These fields are pre-filled if the subscription was found in an SDN external number range when it was created.

These fields can be modified by the user.

If the DID number corresponding to the **- Plan used for public DID numbers** (Menu **Telephony Service>Subscribers>Rights>General parameters System** tab) is modified the **didNumber** attributes of the number record and **didNumbers** of the people record (if the subscription is not on the Red List) are updated.

### Multi-line subscribers

When a secondary line is created, the Location assigned to this line is that of the main line, which can be changed in the **Characteristics** tab.

If the number of the secondary line is found in the SDN external ranges, the DID numbers are automatically configured for this line as described when creating a subscription

## 6.6.3 HUNT GROUP CHARACTERISTICS

Menu **Telephony service>Subscribers>hunt groups and companies>hunt groups>Characteristics**.

This menu gives access to Hunt group, Super hunt group, and VM hunt group characteristics.

The operation is identical to that of subscriptions. See Section 0.

## 6.7 FIRST INSTALLATION

For first installation, the feature is deactivated by default (box not ticked).

Then follow the procedures described above.

## 6.8 MIGRATION FOLLOWING AN UPGRADE TO R7.2

After an upgrade to R7.2, with DID Numbering via SDN, and if DID number management via SDN is enabled, the subscriber migration procedure is proposed to update the LDAP database. See Section 6.2.

Subscription migration is not offered if the Pbx restarts after an upgrade, restore or rollback, or if DID by SDN is already active and Locations are present in the directory.

## 7 IPBX CONFIGURATION (WITH OR WITHOUT MIVOICE 5000 MANAGER)

### 7.1 ACTIVATING DID NUMBERING BY SDN

To activate this mode, tick **DID numbering by SDN**, in Menu **Subscribers>Rights>General settings, System** tab.



**CAUTION:** For a multi-site configuration, all sites must be in the same mode with or without SDN.



**Note:** For a Cluster configuration, this mode should only be activated on the Cluster Server. The nodes are automatically configured.

The screenshot shows the 'Subscribers miscellaneous settings' page in the Web Admin interface. The 'System' tab is selected, and the 'Application' sub-tab is active. The 'DID numbering by SDN' checkbox is checked, and the 'Plan used by DID public numbers' is set to 'PLAN 1'. Other settings include 'number of numbers' (1000), 'Subscriber forwarded to exterior' (CALLING), 'Charging' (CALLING NUMBER), 'Feature class management' (NO), 'TL class management' (NO), 'Partition class management' (unchecked), 'N° without external prefix for SIP set' (unchecked), 'Routing of EXT calls' (LOCALISATION SITE), 'Check password when opening TAPI session' (unchecked), 'Power saving function' (unchecked), and 'Dual homing settings' (daily realignment (hh:mm) 01:37, immediate realignment of .....).

#### Automatic modification of the search via Directory on all the trunk groups

The configuration of the previous parameter validates by default the search via directory on all the trunk groups declared in Menu **Telephony service>Network and links >Network>Trunk groups>Characteristics**.

**Search via directory:** YES

If this box is ticked, the DID numbers are saved in the LDAP database of MiVoice 5000 Manager and managed by the dedicated external number server.

Some menus are then implemented for this context.



**Note:** If the box is not ticked, the DID numbers are saved on the iPBX table and managed either through simple translation, or via multi-directories.

When the box is ticked, all the trunk groups naturally process the new incoming calls without modifying their characteristics.

Web Admin home  
Subscribers  
System  
Dialing plan  
Network and links  
Network  
Trunk groups  
Characteristics  
Characteristics of trunk group ...  
FX.SIP VOICE IP BOTHWAY ...  
Reception  
Voice mail and tones  
Fast links

FX.SIP VOICE IP BOTHWAY (advanced mode)  
Telephony service>Network and links>Network>Trunk groups>Characteristics (4.2.1.2)  
rondes manager>recherche arborescence

- support P-Early-Media   
Re-invite without SDP allowed   
Reject T.38 415 Unsupported Media Type ▾  
REFER sending   
Support of video   
Support of T.38   
Support of other medias (IM, etc...)   
SRTP support SRTP preferred ▾  
Bearer type incoming CCBT+CCBNT ▾  
Calls from RESEAU ▾  
Priority calls if transit   
Search DID numbers   
- incoming digit translator number   
- search via directory   
- reject of numbers not assigned   
Pre-answering message, caller charged   
- if called party free or busy 1   
- if called party busy 2   
- if number not assigned   
Transf. acc. to called party comp-dept   
Transfer to OP GP1 ▾

MVS000-R72 RC /B603 FRA  
Site: 001-SITE LOC  
16/11/21 15:55:47  
\* DIRECTORY: TIS CONFIG. LOAD  
16/11/21 15:55:47  
\* DIRECTORY: RE STOP

## 7.2 CONFIGURING LDAP DATABASE CONNECTIONS

The **Numbering service** tab is used to configure the access parameters for two number translation databases (priority 0 and 1 directory databases).

Web Admin home  
Subscribers  
Directory  
Settings  
Connections  
System  
Dialing plan  
Network and links  
Reception  
Voice mail and tones  
Fast links

XS - R6.1.RC / E301.FRA

MITEL | Telephony service Guyancourt

Directory connections settings  
Telephony service>Subscribers>Directory>Settings>Connections (1.1.1.1)

Configuration Name resolution Dialing service

Service in use   
- for abbreviated - forbidden numbers  
- for DID numbers

Broadcast: INTERNAL

Search base directory priority 0  
- type of server: FALLBACK BASE EXP

Search base directory priority 1  
- type of server: LDAP  
- name of server or IP address: 127.0.0.1  
- port: 389  
- base or URL: ou=local,o=AASTRA,dc=DOMAIN,dc=com  
- login: cn=Manager,dc=DOMAIN,dc=com  
- password:

The advantage of defining two connections on two databases is that when one of the two databases is inaccessible, all requests are redirected to the one that is operational.

It is highly advisable to fill in the parameters for the two databases.

### Example of two-connection configuration:

An LDAP database on MiVoice 5000 Manager with a directory replica on MiVoice 5000 Server.

From Menu **Telephony service>Subscribers>Directory>Parameters>Connections** and the **Numbering service** tab,

- Tick the **Service operational** box.

The directory database will then be searched for **DID, abbreviated and barred numbers**.



**Note:** If the box is not ticked, the other menu lines do not appear.

**BROADCASTING:** INTERNAL or MULTISITE

If the value is set to **INTERNAL**, the service can only be used internally.

The value **MULTISITE** allows SDN service availability to be transmitted to the Multi-site sites.

**TYPE OF SERVER:** LDAP or FALLBACK BASE EXP

Directory requests are made through two connectors for two LDAP databases.

These areas are used to first define the directory connection to be made during DID number search.

**TYPE OF SERVER:** DATABASE FALLBACK EXP: In this case, the search is made in the directory defined in the **Configuration** tab.

**Server type: LDAP:**

In this case, the search is made on an external LDAP server.

The following fields are used to identify this server:

**SERVER NAME OR IP ADDRESS:**

Field with 80 characters maximum (the same restrictions as for the password field).

Server IP address (Default value: 127.0.0.1)

**PORT:**

Communication port number, value between 1 and 65534 (basically 389).

Default value: None

**DATABASE OR URL:**

120-character field. All the alphanumeric characters are authorised (upper case and lower case). Punctuated characters and most of the characters obtained with the key combination 'Alt Gr' are not authorised ~{ } [ ] \ ^ @ ` ¢ | just like the characters ² & £ \$ µ § ? ! " .

Default value: ou=internal,o=MITEL,dc=DOMAIN,dc=com

**LOGIN:**

Field with 24 characters maximum (the same restrictions as for the password).

Default value: cn=Manager,dc=DOMAIN,dc=com

**PASSWORD:** line with 24 characters maximum

All the alphanumeric characters are authorised (upper case and lower case). Punctuated characters and most of the characters obtained with the key combination 'Alt Gr' are not authorised, such as ~{ } [ ] \ ^ @ ` ¢ | just like the characters ² & £ \$ µ § ? ! " .

During the input, the password is clearly displayed. Once the password is validated, the characters are replaced by '\*\*\*\*\*'. It then becomes impossible to display the password clearly.

Default value: NO



**Note:** To optimise the directory requests, the SDN service uses a 10-minutes cache: a Location or subscription modification (DID number or Location number) can only be active after 10 minutes.

## 7.3 CONFIGURING THE NUMBER TRANSLATION SERVICE

The purpose of this phase is to define the location of the different number translation servers on the multi-site networks.



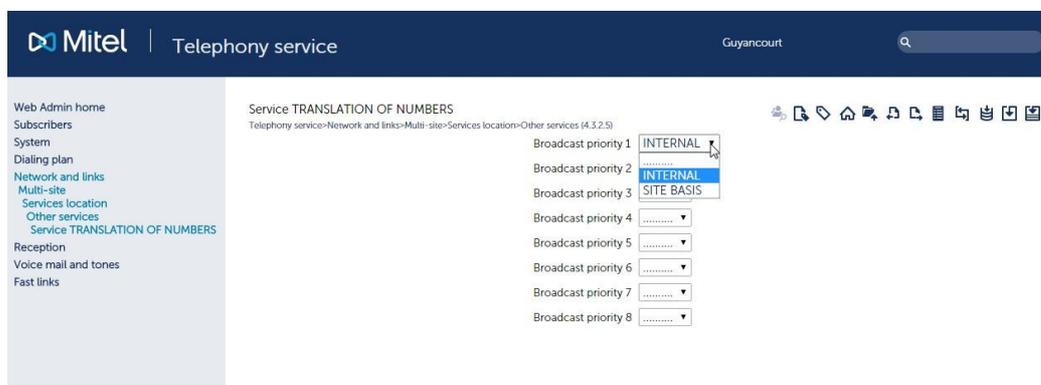
**Note:** The configuration shown is the default configuration and is recommended by MITEL.

8 servers may be accessible (if server transmission has been set to Multi-site).

When any of the servers is inaccessible, the directory request is sent to the next one on the list containing the order of priority.

From Menu **Telephony service>Network and links>Multi-sites>Service location>Other services**.

- In the field **By name**, select from the list the line **NUMBER TRANSLATION**.



- Then select the broadcast type priority 1 (**LOCAL SITE** or **SITE BASIS**).

For the **SITE BASIS** option, select the rerouting site in the multi-site configuration (with regard to its priority).

- Then, if necessary, select other broadcast types "priority x", used for rerouting if the previous server is inaccessible.



**Note:** "Numbering service" must be active, and "broadcast" set to Multi-site mode, in the selected sites. See Section 7.2.

## 7.4 CONFIGURING THE NUMBER TRANSLATORS (IF NECESSARY)

### 7.4.1 CONFIGURING THE ETSI TRUNK GROUP T2 ON NOEUD1



**Note:** A transformer is only necessary if the format of the number received on the network interface is not identical to the format of the external numbers in the LDAP database.

**Mitel | Telephony service** Guyancourt

**FT0-ETSI ISDN:T0 BOTHWAY**  
 Telephony service>Network and links>Network>Trunk groups>Characteristics (4.2.1.2)  
Source: CCBT+CCBNT

- overlap dialing
- on busy / immediate forward
- forward on no answer
- automatic callback
- local generation of network tones

Used by dynamic link

Bearer type incoming: **CCBT+CCBNT** ▼

Calls from: **RESEAU** ▼

Priority calls if transit

Search DID numbers

- incoming digit translator number
- search via directory
- reject of numbers not assigned

Pre-answering message, caller charged

- if called party free or busy 1
- if called party busy 2
- if number not assigned

Transf. acc. to called party comp-dept

Transfer to: **OP GP1** ▼

On hold broadcasting

Overflow broadcasting

Trunk group id (tel. record): **0**

XS -R6.1 RC/E301 FRA  
Site: 088-SITE LOC  
30/03/15 14:45:17  
\* DIRECTORY: TIS IN SERVICE SITE 88  
30/03/15 14:45:01  
\* DIRECTORY: TIS CONFIG. LOAD

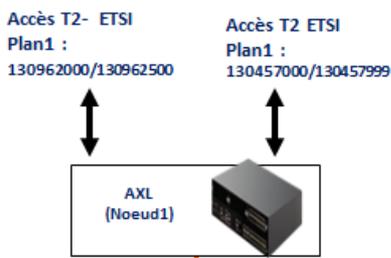
Incoming translation to comply with Plan 1 in the LDAP database (adding 0 for 10-digit translation).

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**Incoming: called number - transl. 1**  
 Telephony service>Network and links>Network>Translators>Incoming: called party number (4.2.7.3)

Digit to translate	A
Resulting digits	0A
Digit to translate	

7.4.2 OUTGOING HANDLING OF AID TRANSMISSION ON NODE1



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- Web Admin home
- Subscribers
- System
- Dialing plan
- Network and links
  - Network
  - AID handling
  - Outgoing handlings
  - Outgoing for LOCAL
- Reception
- Voice mail and tones
- Fast links

Outgoing for LOCAL 🔍

Telephony service>Network and links>Network>AID handling>Outgoing handlings (4.2.6.7)

And the requested plan	PLAN 1 ▾
On trunk group	..... ▾
Fallback present	YES ▾
- inhibit sending of IID and AID	NO ▾
- send IID	NON DID EXT ▾
- AID completed with IID	NO ▾
- AID set using DID number	YES ▾
- digit translator number	11
- IID number	
- inter-plan forwarding	NO ▾

[Advanced characteristics ...](#)

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- Web Admin home
- Subscribers
- System
- Dialing plan
- Network and links
  - Network
  - Translators
  - Outgoing: calling party number
  - Outgoing: calling number - translat. 1
- Reception
- Voice mail and tones
- Fast links

Outgoing: calling number - translat. 1 🔍

Telephony service>Network and links>Network>Translators>Outgoing: calling party number (4.2.7.2)

<< < 1 2 3 4 5 >>

Digit to translate	0A
to plan	PLAN 1 ▾
or to direction	..... ▾
and digits	A
Digit to translate	

Outgoing translation to comply with Plan 1 on the operator side (ETSI: 9 digits)

## 7.5 CALL DISTRIBUTION MANAGEMENT

### 7.5.1 DECLARING ANSWERING SERVICE NUMBERS (DID) WITHOUT MIVOICE 5000 MANAGER

- Select the Location in Menu **Telephony service>Dialing plan>External number configuration>Location management> Location characteristics.**



- Assign an answering service number to the IID in the plan concerned:



Then configure the answering service in Menu **Telephony service>Dialing plan>External number configuration>Answering service.**

Can also be viewed in Menu **Telephony service>Call distribution>Answering services.**

Answering services  
Telephony service>Dialing plan>External numbers configuration>Answering services (3.4.2)

	Number	Company	Dept	Handled by
1	6000	STE 0	SERV 0	ACC.0
2	7777	STE 0	SERV 0	ACC.0
3				
4				
5				
6				

## 7.5.2 DECLARING ANSWERING SERVICE NUMBERS (DID) WITH MIVOICE 5000 MANAGER

Example:

Site 2 Paris (Place)  
 Station 2 (Index Place)  
 NDI plan 1 : 0130962501  
 Accueil > ACC PARIS : 2501

Site1 Bordeaux (Place)  
 Station 1 (Index Place)  
 NDI plan 1 : 0130962000  
 Accueil > ACC BORDEAUX : 2000

Site3 Reims (Place)  
 Station 3 (Index Place)  
 NDI plan 1 : 0130457000  
 Accueil > ACC REIMS : 7000

**Reminder: For a cluster:**

- The ATDCs are declared in the Cluster server.
- The answering service numbers are declared at the location of the clusters (in the nodes or Cluster Server).

**Call distribution management (C.dist.ACC.PARIS)**

Call dist.	Value
0	ACC.PARIS
1	ACC BORDEAUX
2	ACC REIMS
3	
4	

**DID corporate numbers**

Number	Company	Dept	Handled by
1	2000	*****	ACC BORDEAUX
2	7000	*****	ACC.PARIS
3	2300	*****	ACC REIMS
4			
5			
6			
7			
8			
9			
10			

In MiVoice 5000 Manager, these numbers correspond to the numbers entered in the **Call distribution** fields of SDN installation numbers.

**Installation numbers**

Index	Location	Community	Default	IID plan 1	IID plan 2	IID pl II	II	II	II	IID p	Call distribut	Call dis					
Station1	Site 1 Bor	OUEST	<input checked="" type="checkbox"/>	0130962000							2000						
Station1	Site 2 Nan	OUEST	<input type="checkbox"/>	0130962700							2700						
Station2	Site 2 Pari	CENTRE	<input checked="" type="checkbox"/>	0130457000							7000						
Station3	Site 3 Rei	EST	<input checked="" type="checkbox"/>	0130972300							2300						

## 7.6 REDUCED DIRECTORY DATABASE

It is possible to configure in Web Admin an internal directory database for each iPBX (called reduced directory). This database is used by the SDN service, especially when the main directory databases are no longer available.

This option is available for all Mitel 5000 Gateways type sites and all the nodes of a cluster.

This database is synchronised with the main database and contains the directory data corresponding to the site subscribers (local subscribers or backup subscribers).

In Community mode (see Chapter 5) the database contains the directory data of all the Community subscribers (limited to 3000 records on Mitel 5000 Gateways).

It is activated from Menu **Telephony service>Subscribers>Directory>Parameters>Connections** – Configuration tab.



**Note:** When the reduced directory database is active, it is only accessible in read only mode; the directory records cannot be modified.

### Realignment

Reduced database realignment is managed with the backup subscriber realignment of the Dual Homing function. In this case, the realignment time programming function is accessible from Menu **Telephony service>>Subscribers>Rights>General parameters** – **System** tab.

For immediate realignment, tick the **immediate realignment** box.

## 8 MIGRATION (WITH MIVOICE 5000 MANAGER)



**CAUTION:** For a multi-site configuration, all sites must be in the same mode with or without SDN.

### 8.1 CHANGING FROM A MULTI-SITE IN NORMAL MODE TO AN SDN MODE WITH COMMUNITY

To change from a normal multi-site mode to an SDN mode with Community:

- Activate SDN mode + Community in the multi-site.
- Define the Communities using the individual configuration, or by importing .csv files.
- Modify the topology in order to configure the Community in the sites (including the cluster server) and nodes.
- Import the numbering ranges.
- Import the configuration of Locations.
- Import the subscriber configuration: massive modification of subscribers in order to add the Location and fill in the plans in the chosen format (example: Plan 1 = 10 digits). the Community is then defined and assigned in the subscription.

### 8.2 CHANGING FROM A MULTI-SITE IN SDN MODE WITHOUT COMMUNITY TO SDN MODE WITH COMMUNITY

For this, proceed as follows:

- Activate the Community in the multi-site (SDN configuration).
- Define the Communities using the individual configuration, or by importing .csv files.
- Modify the topology in order to configure the Community in the different sites and nodes.
- Import the numbering ranges.
- Export the Locations, adding the default Community and Location.
- Import the Locations: the Community is then defined and assigned in the subscription.

## 8.3 CHANGING FROM A MULTI-SITE IN NORMAL MODE TO AN SDN MODE WITHOUT COMMUNITY

To change from normal multi-site mode to SDN mode without Community:

- Activate SDN mode.
- Import the numbering ranges.
- Import the configuration of Locations.
- Import the subscriber configuration: massive modification of subscribers in order to add the Location and fill in the plans in the chosen format (example: Plan 1 = 10 digits).



**CAUTION:** If there are subscriber profiles, it is necessary for each of them to assign a default Location.

## 8.4 MIGRATING FROM A SITE OR MULTI-SITE WITHOUT MIVOICE MANAGER TO A CONFIGURATION WITH MIVOICE MANAGER

The procedure is the same as described for adding a site in a Multi-site configuration with MiVoice 5000 Manager.

Refer to the MiVoice 5000 Manager User Guide on the Mitel.com Doccenter site.

## 9 SWITCHING FROM COMMUNITY MODE TO NO COMMUNITY MODE (WITH MIVOICE 5000 MANAGER)

- Select the multi-site.
- Click **Configuration**.
- Untick the **Community mode box**.
- Click **Apply**.

The following actions are taken during a return to no-Community mode:

- Deletion of locations
- Deletion of locations in the subscriptions
- Deletion of locations in the places
- Deletion of locations in the numbering ranges
- Deletion of locations in operator rights
- Deletion of the location column in the operation log
- Topology update
- Deletion of places
- Deletion of numbering ranges
- Deletion of places in the subscriptions

### 9.1 PRELIMINARY OPERATIONS REQUIRED ON AN ALREADY WORKING MULTI-SITE NETWORK

Before ticking the box **DID numbers managed by MiVoice 5000 Manager**, in Menu **Subscribers>Rights>General parameters, System tab**

For all the sites, disable the multi-directory function (for all subscribers).

# 10 APPENDICES

## 10.1 E164 NUMBERING FORMAT

### 10.1.1 GENERAL INFORMATION

The E164 format is a general national and international dialling format.

The syntax is as follows:

**+ <country code> <space><national number>**

or

**+ <country code><national number>**

Example:

+33 130964500

or

+33130964500

### 10.1.2 CONFIGURATION OF PREFIXES

The configuration is multi-site based and must be made when DID numbers are managed in the directory characteristics.

The purpose of this configuration is for all the numbers published in the directory to be in E164 format.

The prefixes allow numbers to be translated from national format to E164 format and vice versa.

Example:

1309645000 (national format) to +33 130964200 (E164 format).

Field Name	Value
Préfixe de Sortie	0
Préfixe International	00
Préfixe National	0
Code Pays	33
Préfixe Régional	
Préfixe Local	7
Longueur du Plan de Numération Interne	4