



Global Title Provisioning

Document Release History

Publication Date	Comments
March 12, 2007	Initial release of the document.

Feature History

Release	Modification
9.7(3)	The Global Title Provisioning feature was introduced on the Cisco MGC software.

This document describes the Global Title Provisioning feature on the Cisco PGW 2200.

This feature is described in the following sections:

- [Feature Overview, page 1](#)
- [Supported Platforms, page 2](#)
- [Supported Standards, MIBs, and RFCs, page 2](#)
- [Prerequisites for Using This Feature, page 3](#)
- [Provisioning Procedures, page 3](#)
- [Dial Plan Procedures, page 12](#)
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- [Obtaining Documentation, Obtaining Support, and Security Guidelines, page 22](#)
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Feature Overview

This feature provides support on the Cisco PGW 2200 to provision the Signaling System 7 (SS7) global title used for Intelligent Network (IN) operations. With this feature, the PGW 2200 can be provisioned to use an SS7 point code or to use an SS7 global title. Additionally, you can set the point code and subsystem number (SSN) if the point code method is used, or set the global title to use the calling number, called number, or a fixed value if the global title method is used.

This feature provides the following capabilities:

- Provisioning the SS7 global title used for IN operations.

- Using an SS7 point code or an SS7 global title.
- Setting different IN service key, SSN, plus DPC routing method or global title routing for different services.

Benefits

This feature provides the following benefits:

The DPC and SSN or GT Can Trigger IN Services

You can choose to use either an SS7 DPC and SSN or global title to trigger IN services, depending on which works best in your network configuration.

Have Different Point Codes or Global Titles for Different Services

You can set different global title routing, different IN service key, or different SSN plus DPC routing for different services. For example a Local Number Portability (LNP) service can use a Service Control Point (SCP) that is different from the one used by a calling name service uses.

Related Features and Technologies

The following features and technologies are related to this feature:

- Simple INAP Provisioning Requirements
- Support for the Finnish INAP Feature (for the Cisco PGW 2200)
- INAP Generic Number

Related Documents

This document contains information that is related to this feature. The documents that contain additional information related to the Cisco Media Gateway Controller (MGC) are at the following url:

http://www.cisco.com/en/US/products/hw/vcallcon/ps2027/tsd_products_support_series_home.html

Supported Platforms

The hardware platforms supported for the Cisco MGC software are described in the *Cisco Media Gateway Controller Hardware Installation Guide Software Release 9*.

Supported Standards, MIBs, and RFCs

Standards

No new or modified standards are supported by this feature.

MIBs

No new or modified MIBs are supported by this feature.

For more information on the MIBs used in the Cisco MGC software, refer to the *Cisco Media Gateway Controller Release 9 Management Information Base Guide*.

RFCs

No new or modified RFCs are supported by this feature.

Prerequisites for Using This Feature

The Cisco PGW 2200 must be running Cisco MGC software Release 9.7(3). Prerequisites for this release can be found in the *Release Notes for the Cisco Media Gateway Controller Software Release 9.7(3)* at:

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/relnote/rn973.htm>.

Provisioning Procedures

You must modify the provisioning data of your system to enable this feature. Before you begin provisioning this feature, we recommend that you plan your provisioning changes as described in the “[Planning for Provisioning](#)” section on page 13.



Tip

You can find information on starting and ending provisioning sessions and retrieving provisioning data in the “[Provisioning Basics](#)” section on page 13.

The following sections describe the provisioning tasks related to this feature:

- [Provisioning The Global Title Provisioning Feature](#), page 3
- [Provisioning Examples](#), page 11

Provisioning The Global Title Provisioning Feature

Provision the IN_SERVICE_KEY result type of the Cisco MGC 2200 to support multiple IN service keys.

This section covers the following provisioning topics:

- [Provisioning Global Title](#), page 3
- [Modifying Global Title Digits](#), page 6
- [Deleting Global Title](#), page 8

Provisioning Global Title

This section contains the procedures that you must perform to add global title for A-numbers, B-numbers, and for fixed numbers to your Cisco MGC provisioning data.

- [Provisioning the A-Number Digits for Global Title](#), page 4
- [Provisioning the B-Number Digits for Global Title](#), page 4
- [Provisioning the Fixed Number for Global Title](#), page 5

Provisioning the A-Number Digits for Global Title

To provision the A-number (calling number) for global title digits, perform the following steps:

-
- Step 1** Start a provisioning session, as described in the [“Starting a Provisioning Session”](#) section on page 13.
- Step 2** Log into the active Cisco MGC, start an MML session, and enter the following command to add a dial plan:

```
mml> numan-add:dialplan:custgrpid="dpl1",overdec="yes"
```

- Step 3** Enter the following command to add a result set:

```
mml> numan-add:resultset:custgrpid="dpl1",name="set1"
```

- Step 4** Enter the following command to add a result table with A-number global title types and global title digits:

```
mml> numan-add:resulttable:custgrpid="customer group ID",name="result name",
resulttype="result type",dw1="IN Service Key",dw2="Global Title Digits
Type",setname="result set name"
```

Where:

- *custgrpid*—The customer group ID. It is a 4-digit alphanumeric character string that uniquely identifies the customer group.
- *name*—The name of the result. The name can be as many as 20 characters long and can contain numbers, letters, and the dash (-) symbol. The name should begin with a letter.
- *resulttype*—The name of the result type. For the Global Title Provisioning feature, if you choose Global Title routing, the result type in this MML command can only be IN_SERVICE_KEY.
- *dwx*—A value for the corresponding dataword, where *x* is a value from 1 through 4. The values available for the dataword are determined by the result type.
- *setname*—The MML name for the result set.

For example, to add an A-number for global title, enter the following command:

```
mml> numan-add:resulttable:custgrpid="1111",name="Servicekey",resulttype="IN_SERVICE_KEY",
dw1="1",dw2="CALLING",setname="INservice"
```

- Step 5** Repeat Step 4 for each calling number result type you want to add to your provisioning data.
- Step 6** If there are no other components that you need to provision, end your provisioning session as described in the [“Saving and Activating Your Provisioning Changes”](#) section on page 14.
-

Provisioning the B-Number Digits for Global Title

To provision the B-number (called number) for global title digits, perform the following steps:

-
- Step 1** Start a provisioning session, as described in the [“Starting a Provisioning Session”](#) section on page 13.
- Step 2** Enter the following command to add B-number global title types and global title digits:

```
mml> numan-add:resulttable:custgrpid="customer group ID",name="result name",
resulttype="result type",dw1="IN Service Key",dw2="Global Title Digits Type",
setname="result set name"
```

Where:

- *custgrpid*—The customer group ID. It is a 4-digit alphanumeric character string that uniquely identifies the customer group.
- *name*—The name of the result. The name can be as many as 20 characters long and can contain numbers, letters, and the dash (-) symbol. The name should begin with a letter.
- *resulttype*—The name of the result type. For the Global Title Provisioning feature, if you choose Global Title routing, the resulttype in this MML command can only be IN_SERVICE_KEY.
- *dwx*—A value for the corresponding dataword, where *x* is a value from 1 through 4. The values available for the dataword are determined by the result type.
- *setname*—The MML name for the result set.

For example, to add an A-number for global title, enter the following command:

```
mm1> numan-add:resulttable:custgrpid="1111",name="Servicekey",resulttype="IN_SERVICE_KEY",
dw1="1",dw2="CALLED",setname="INservice"
```

- Step 3** Repeat Step 2 for each called number result type you want to add to your provisioning data.
- Step 4** If there are no other components that you need to provision, end your provisioning session as described in the [“Saving and Activating Your Provisioning Changes”](#) section on page 14.

Provisioning the Fixed Number for Global Title

To provision the fixed number for global title digits, perform the following steps:

- Step 1** Start a provisioning session, as described in the [“Starting a Provisioning Session”](#) section on page 13.



Note If dataword2 of the IN_SERVICE_TYPE result type is set to FIX, dataword3 must be provisioned with the digits name, which points to a digit modification table.

- Step 2** Enter the following MML commands to add the customer group ID and the digit modification string for the exact fixed global title value, which can be digits or overdecadic digits but must be less than 32 digits in length.

```
mm1> numan-add:dialplan:custgripid="1111",overdec="YES"
mm1> numan-add:digmodstring:custgripid="1111",name="gtfixdigits",digstring="99903651"
```

- Step 3** Enter the following MML command to add a result set.

```
mm1> numan-add:resultset:custgrpid="1111",name="LNPtrigger"
```

- Step 4** Enter the following MML commands to add a result table.

```
mm1> numan-add:resulttable:custgrpid="1111",name="GTLNP",resulttype="IN_SERVICE_KEY",
dw1="90001",dw2="FIX",dw3="gtfixdigits",setname="LNPtrigger"
mm1> numan-add:resulttable:custgrpid="1111",name="LNPtrigger",resulttype="IN_TRIGGER",
Dw1="24",dw2="4",dw3="0",dw4="6",setname="LNPtrigger"
```

- Step 5** Enter the following command to add a fixed number global title type and global title digits:

```
mm1> numan-add:resulttable:custgrpid="customer group ID",name="result name",
resulttype="result type",dw1="IN Service Key",dw2="Global Title Digits Type",dw3="Digits
Name",setname="result set name"
```

Where:

- *custgrpid*—The customer group ID. It is a 4-digit alphanumeric character string that uniquely identifies the customer group.
- *name*—The name of the result. The name can be as many as 20 characters long and can contain numbers, letters, and the dash (-) symbol. The name should begin with a letter.
- *resulttype*—The name of the result type, which is the IN_SERVICE_KEY result type.
- *dwx*—A value for the corresponding dataword, where *x* is a value from 1 through 4. The values available for the dataword are determined by the result type.
- *setname*—The MML name for the result set.

For example, to add fixed digits for global title, enter the following commands:

```
mml> numan-add:digmodstring:digstring="12345abcdef",name="gtfixdigits",custgrpid="1111"
mml> numan-add:resulttable:custgrpid="1111",name="Servicekey",resulttype="IN_SERVICE_KEY",
dw1="1",dw2="FIX",dw3="gtfixdigits",setname="INservice"
```



Note The IN_SERVICE_KEY result type is used for global title provisioning.

Step 6 Enter the following MML command to provision the B-number digit string.

```
mml> numan-add:bdigtree:custgrpid="1111",callside="originating",digitstring="21468012",
setname="LNPtrigger"
```

Step 7 Repeat Step 5 for each fixed digit result type you want to add to your provisioning data.

Step 8 If there are no other components that you need to provision, end your provisioning session as described in the [“Saving and Activating Your Provisioning Changes”](#) section on page 14.

Modifying Global Title Digits

The following sections contain the procedures for modifying the global title digits in your Cisco MGC provisioning data:

- [Modifying the A-Number for Global Title, page 6](#)
- [Modifying the B-Number for Global Title, page 7](#)
- [Modifying the Fixed Number for Global Title, page 8](#)

Modifying the A-Number for Global Title

To modify the A-number (calling number) for global title digits, perform the following steps:

Step 1 Start a provisioning session, as described in the [“Starting a Provisioning Session”](#) section on page 13.

Step 2 Enter the following command to edit A-number global title digit type and global title digits:

```
mml> numan-ed:resulttable:custgrpid="customer group ID",name="result name",
resulttype="result type",dw1="IN Service Key",dw2="Global Title Digits Type",
setname="result set name"
```

Where:

- *custgrpid*—The customer group ID. It is a 4-digit alphanumeric character string that uniquely identifies the customer group.

- *name*—The name of the result. The name can be as many as 20 characters long and can contain numbers, letters, and the dash (-) symbol. The name should begin with a letter.
- *resulttype*—The name of the result type, which is the IN_SERVICE_KEY result type.
- *dw_x*—A value for the corresponding dataword, where *x* is a value from 1 through 4. The values available for the dataword are determined by the result type.
- *setname*—The MML name for the result set.

For example, to edit an A-number for global title, enter the following command:

```
mml> numan-ed:resulttable:custgrpid="1111",name="Servicekey",resulttype="IN_SERVICE_KEY",
dw1="1",dw2="CALLED",setname="INservice"
```

- Step 3** Repeat Step 2 for each calling number result type you want to modify in your provisioning data.
- Step 4** If there are no other components that you need to provision, end your provisioning session as described in the [“Saving and Activating Your Provisioning Changes”](#) section on page 14.
-

Modifying the B-Number for Global Title

To modify the B-number (called number) for global title digits, perform the following steps:

- Step 1** Start a provisioning session, as described in the [“Starting a Provisioning Session”](#) section on page 13.
- Step 2** Enter the following command to edit B-number global title types and global title digits:

```
mml> numan-ed:resulttable:custgrpid="customer group ID",name="result name",
resulttype="result type",dw1="IN Service Key",dw2="Global Title Digits Type",dw3="Digits
Name",setname="result set name"
```

Where:

- *custgrpid*—The customer group ID. It is a 4-digit alphanumeric character string that uniquely identifies the customer group.
- *name*—The name of the result. The name can be as many as 20 characters long and can contain numbers, letters, and the dash (-) symbol. The name should begin with a letter.
- *resulttype*—The name of the result type, which is the IN_SERVICE_KEY result type.
- *dw_x*—A value for the corresponding dataword, where *x* is a value from 1 through 4. The values available for the dataword are determined by the result type.
- *setname*—The MML name for the result set.

For example, to add an A-number for global title, enter the following command:

```
mml> numan-ed:resulttable:custgrpid="1111",name="Servicekey",resulttype="IN_SERVICE_KEY",
dw1="1",dw2="CALLING",setname="INservice"
```

- Step 3** Repeat Step 2 for each called number result type you want to modify in your provisioning data.
- Step 4** If there are no other components that you need to provision, end your provisioning session as described in the [“Saving and Activating Your Provisioning Changes”](#) section on page 14.
-

Modifying the Fixed Number for Global Title

When modifying the fixed number for global title, you can modify the fixed number for global title digits to either CALLED or CALLING, modify the digit string, or add another digit string and modify the digit modification string name.

To modify a fixed number global title type, perform the following steps:

Step 1 Start a provisioning session, as described in the [“Starting a Provisioning Session”](#) section on page 13.

Step 2 First retrieve the previous configuration by entering the following command:

```
mml> numan-rtrv:custgrpId="1111",name="gtfixdigits_1",digstring="12345abcdef"
```

Step 3 Enter the following MML command to add a digit modification string:

```
mml> numan-add:digmodstring:custgrpId="1111",name="gtfixdigits_2",digstring="9990325610"
```

Step 4 Then enter the following command to modify dataword3 in the IN_SERVICE_KEY result table:

```
numan-ed:resulttable:custgrpId="1111",setname="INservice",name="Servicekey",
resulttype="IN_SERVICE_KEY",dw1="90001",dw2="FIX",dw3="gtfixdigit2"
```

Where:

- *custgrpId*—The customer group ID. It is a 4-digit alphanumeric character string that uniquely identifies the customer group.
- *name*—The name of the result. The name can be as many as 20 characters long and can contain numbers, letters, and the dash (-) symbol. The name should begin with a letter.
- *resulttype*—The name of the result type, which is the IN_SERVICE_KEY result type.
- *dw_x*—A value for the corresponding dataword, where *x* is a value from 1 through 4. The values available for the dataword are determined by the result type.
- *setname*—The MML name for the result set



Note .An alternate provisioning method would be to retrieve the fixed number, and modify the digit string as follows:

```
mml> numan-rtrv:custgrpId="1111",name="gtfixdigit1",digstring="1245abcdef"
mml> numan-ed:digmodstring:custgrpId="1111",name="gtfixdigit",
digstring="124567890"
```

Step 5 Repeat Step 4 for each FIX digit result type you want to modify in your provisioning data.

Step 6 If there are no other components that you need to provision, end your provisioning session as described in the [“Saving and Activating Your Provisioning Changes”](#) section on page 14.

Deleting Global Title

This section contains the procedures that you must perform to delete global title for A-numbers, B-numbers, and for fixed numbers to your Cisco MGC provisioning data.

[Deleting the A-Number for Global Title, page 9](#)

[Deleting the B-Number for Global Title, page 9](#)

[Deleting the Fixed Number for Global Title, page 10](#)

Deleting the A-Number for Global Title

To delete the A-number (calling number) for global title digits, perform the following steps:

-
- Step 1** Start a provisioning session, as described in the [“Starting a Provisioning Session”](#) section on page 13.
- Step 2** Enter the following command to add A-number global title types and global title digits:
- ```
mml> numan-dlt:resulttable:custgrpid=customer group ID,resulttype=result type name,setname=result set name,name=global title name
```
- Where:
- *custgrpid*—The customer group ID. It is a 4-digit alphanumeric character string that uniquely identifies the customer group.
  - *resulttype*—The name of the result type, which is the IN\_SERVICE\_KEY result type.
  - *setname*—The MML name for the result set.
  - *name*—The global title name.
- For example, to delete a A-number for global title, enter the following command:
- ```
mml> numan-dlt:resulttable:custgrpid="1111",resulttype="IN_SERVICE_KEY",setname="INService",name="inservicekey"
```
- Step 3** Repeat Step 2 for each calling number result type you want to delete from your provisioning data.
- Step 4** If there are no other components that you need to provision, end your provisioning session as described in the [“Saving and Activating Your Provisioning Changes”](#) section on page 14.
-

Deleting the B-Number for Global Title

To delete the B-number (called) for global title digits, perform the following steps:

-
- Step 1** Start a provisioning session, as described in the [“Starting a Provisioning Session”](#) section on page 13.
- Step 2** Enter the following command to delete B-number global title types and global title digits:
- ```
mml> numan-dlt:resulttable:custgrpid=customer group ID,resulttype=result type name,setname=result set name,name=global title name
```
- Where:
- *custgrpid*—The customer group ID. It is a 4-digit alphanumeric character string that uniquely identifies the customer group.
  - *resulttype*—The name of the result type, which is the IN\_SERVICE\_KEY result type.
  - *setname*—The MML name for the result set.
  - *name*—The global title name.
- For example, to delete an B-number for global title, enter the following command:
- ```
mml> numan-dlt:resulttable:custgrpid="1111",name="Servicekey",resulttype="IN_SERVICE_KEY",setname="INService"
```
- Step 3** Repeat Step 2 for each called number result type you want to delete from your provisioning data.

- Step 4** If there are no other components that you need to provision, end your provisioning session as described in the [“Saving and Activating Your Provisioning Changes” section on page 14.](#)
-

Deleting the Fixed Number for Global Title

To delete the fixed number for global title digits, perform the following steps:

- Step 1** Start a provisioning session, as described in the [“Starting a Provisioning Session” section on page 13.](#)

- Step 2** Enter the following command to delete fixed number global title types and global title digits:

```
mml> numan-dlt:resulttable:custgrpid="customer group ID",resulttype="result type name",setname="result set name",name="global title name"
```

Where:

- *custgrpid*—The customer group ID. It is a 4-digit alphanumeric character string that uniquely identifies the customer group.
- *resulttype*—The name of the result type, which is the IN_SERVICE_KEY result type.
- *setname*—The MML name for the result set.
- *name*—The global title name.

For example, to delete fixed digits for global title, enter the following commands:

```
mml> numan-dlt:resulttable:custgrpid="1111",resulttype="IN_SERVICE_KEY",setname="INservice",name="Servicekey"
```

- Step 3** Repeat Step 2 for each fixed digit result type you want to delete from your provisioning data.

- Step 4** If there are no other components that you need to provision, end your provisioning session as described in the [“Saving and Activating Your Provisioning Changes” section on page 14.](#)
-

Changing Global Title to DPC Plus SSN

To change Global Title to DPC plus SSN, perform the following steps.

- Step 1** Start a provisioning session, as described in the [“Starting a Provisioning Session” section on page 13.](#)

- Step 2** Enter the following command to edit the Global Title configuration to route by SSN:

```
mml> prov-ed:name="inap-lnp-initdp",skortcv=1,gtorssn="ROUTEBYSSN",gtformat="NOGT",msname="inap-lnp-initdp"
```

- Step 3** Enter the following command to edit the IN_SERVICE_KEY result type to use DPC plus SSN to route the IN call:

```
mml> numan-ed:resulttable:custgrpid="1111",setname="LNPTrigger",name="GTLNP",resulttype="IN_SERVICE_KEY",dwl="90001"
```

- Step 4** If there are no other components that you need to provision, end your provisioning session as described in the [“Saving and Activating Your Provisioning Changes” section on page 14.](#)
-

Provisioning Examples

This section provides a provisioning example for this feature. Additional provisioning examples for the Cisco MGC software can be found in the *Cisco Media Gateway Controller Software Release 9 Provisioning Guide*.

```
;Common INAP provisioning of APC,SS7ROUTE, and SS7SUBSYS
;
mm1> prov-add:apc:name="scp",desc="SCP Point Code",netaddr="3.6.7",netind=2
mm1> prov-add:ss7route:name="ss7-rte-scp",desc="SS7 route to SCP",opc="opc-pgw",
dpc="scp",lnkset="lnkset-scp",PRI=1
mm1> prov-add:ss7subsyst:name="scp-ss7subs",desc="ss7 subsystem for SCP",svc="scp",
PRI=1,matedapc="",localssn=242,proto="SS7-ITU",stpscpind=4,transproto="SCCP",opc="redbud",
suakey="",remotessn=242
```

```
;Calling party address as Global Title
;
mm1> prov-sta::srcver="active",dstver="callinggt",confirm
mm1> numan-add:dialplan:custgripid="1111",overdec="YES"
mm1> numan-add:resultset:custgripid="1111",name="LNPtrigger"
mm1> numan-add:resulttable:custgripid="1111",name="GTLNP",resulttype="IN_SERVICE-KEY",
dw1="90001",dw2="CALLING",setname="LNPtrigger"
mm1> numan-add:resulttable:custgripid="1111",name="LNPtrigger",resulttype="IN_TRIGGER",
dw1="24",dw2="4",dw3="0",dw4="6",setname="LNPtrigger"
mm1> numan-add:bdigtrees:custgripid="1111",callside="originating",digitstring="21468012",
setname="LNPtrigger"
mm1> Prov-cpy (standalone mode) or mm1> prov-dply (switchover mode)
```

```
;Called party address as Global Title
;
mm1> prov-sta::srcver="active",dstver="calledgt",confirm
mm1> numan-add:dialplan:custgripid="1111",overdec="YES"
mm1> numan-add:resultset:custgripid="1111",name="LNPtrigger"
mm1> numan-add:resulttable:custgripid="1111",name="GTLNP",resulttype="IN_SERVICE_KEY",
dw1="90001",dw2="CALLED",setname="LNPtrigger"
mm1> numan-add:resulttable:custgripid="1111",name="LNPtrigger",resulttype="IN_TRIGGER",
dw1="24",dw2="4",dw3="0",dw4="6",setname="LNPtrigger"
mm1> numan-add:bdigtrees:custgripid="1111",callside="originating",digitstring="21468012",
setname="LNPtrigger"
mm1> prov-cpy (standalone mode) or mm1> prov-dply (switchover mode)
```

```
;Fix digit as Global Title
;
mm1> prov-sta::srcver="active",dstver="fixgt",confirm
mm1> numan-add:dialplan:custgripid="1111",overdec="YES"
mm1> numan-add:digmodstring:custgripid="1111",name="gtfixdigits",digstring="99903651"
mm1> numan-add:resultset:custgripid="1111",name="LNPtrigger"
mm1> numan-add:resulttable:custgripid="1111",name="GTLNP",resulttype="IN_SERVICE_KEY",
dw1="90001",dw2="FIX",dw3="gtfixdigits",setname="LNPtrigger"
mm1> numan-add:resulttable:custgripid="1111",name="LNPtrigger",resulttype="IN_TRIGGER",
dw1="24",dw2="4",dw3="0",dw4="6",setname="LNPtrigger"
mm1> numan-add:bdigtrees:custgripid="1111",callside="originating",digitstring="21468012",
setname="LNPtrigger"
mm1> prov-cpy (standalone mode) or mm1> prov-dply (switchover mode)
```

Dial Plan Procedures

You must modify the dial plan data of your system to enable this feature. Before you begin to create the dial plan data for this feature, we recommend that you plan your changes as described in the [“Dial Plan Prerequisites”](#) section on page 17.



Tip

You can find information on starting and ending dial plan sessions and retrieving dial plan data in the [“Dial Plan Basics”](#) section on page 17.

The following sections describe the tasks related to creating a dial plan for this feature:

- [Creating Dial Plan Data for This Feature](#), page 12
- [Dial Plan Examples](#), page 12

Creating Dial Plan Data for This Feature

Refer to [“Provisioning Global Title”](#) section on page 3 for complete instructions on how to create, modify, and delete dial plan data for this feature using MML commands.

For more information on creating dial plans for other functions of the Cisco MGC software, refer to the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.

Dial Plan Examples

The following MML commands provide examples of adding calling number, called number, and fixed digits for global title.

; A-number (calling) as the global title

```
mml> numan-add:dialplan:custgripid="1111",overdec="YES"
mml> numan-add:resultset:custgripid="1111",name="LNPtrigger"
mml> numan-add:resulttable:custgripid="1111",name="GTLNP",resultttype="IN_SERVICE_KEY",
dw1="90001",dw2="CALLING",setname="LNPtrigger"
mml> numan-add:resulttable:custgripid="1111",name="LNPtrigger",resultttype="IN_TRIGGER",
Dw1="24",dw2="4",dw3="0",dw4="6",setname="LNPtrigger"
mml> numan-add:bdigtree:custgripid="1111",callside="originating",
digitstring="21468012",setname="LNPtrigger"
```

; B-number (called) as the global title

```
mml> numan-add:dialplan:custgripid="1111",overdec="YES"
mml> numan-add:resultset:custgripid="1111",name="LNPtrigger"
mml> numan-add:resulttable:custgripid="1111",name="GTLNP",resultttype="IN_SERVICE_KEY",
dw1="90001",dw2="CALLED",setname="LNPtrigger"
mml> numan-add:resulttable:custgripid="1111",name="LNPtrigger",resultttype="IN_TRIGGER",
Dw1="24",dw2="4",dw3="0",dw4="6",setname="LNPtrigger"
mml> numan-add:bdigtree:custgripid="1111",callside="originating",digitstring="21468012",
setname="LNPtrigger"
```

; Fixed digits as the global title

```
mml> numan-add:dialplan:custgripid="1111",overdec="YES"
```

```
mm1> numan-add:digmodstring:custgrpid="1111",name="gtfixdigits",digstring="99903651"  
mm1> numan-add:resultset:custgrpid="1111",name="LNPtrigger"  
mm1> numan-add:resulttable:custgrpid="1111",name="GTLNP",resulttype="IN_SERVICE_KEY",  
dw1="90001",dw2="FIX",dw3="gtfixdigits",setname="LNPtrigger"  
mm1> numan-add:resulttable:custgrpid="1111",name="LNPtrigger",resulttype="IN_TRIGGER",  
Dw1="24",dw2="4",dw3="0",dw4="6",setname="LNPtrigger"  
mm1> numan-add:bdigtrees:custgrpid="1111",callside="originating",digitstring="21468012",  
setname="LNPtrigger"
```

Reference Information

The following sections contain reference material related to this feature. Information is included on the following areas:

- [Planning for Provisioning, page 13](#)
- [Provisioning Basics, page 13](#)
- [Dial Plan Prerequisites, page 17](#)
- [Dial Plan Basics, page 17](#)
- [Result Type Definitions, page 20](#)
- [Dial Plan Worksheets, page 22](#)

Planning for Provisioning

This section lists the data that you must gather to successfully provision this feature. For more information on planning the provisioning for the rest of the Cisco MGC software, refer to the *Cisco Media Gateway Controller Software Release 9 Provisioning Guide*.

Provisioning Basics

Section Instructions - include this section if the this feature requires that a provisioning session be open. The content in this section and related subsections are boilerplate content.

The procedures in this section describe how to start a provisioning session and how to save and activate the changes you have made.

- [Starting a Provisioning Session, page 13](#)
- [Saving and Activating Your Provisioning Changes, page 14](#)
- [Ending a Provisioning Session Without Activating Your Changes, page 15](#)
- [Retrieving Provisioning Data, page 15](#)

For more detailed information about provisioning your Cisco MGC, refer to the *Cisco Media Gateway Controller Software Release 9 Provisioning Guide*.

Starting a Provisioning Session

You might need to start a provisioning session as part of your system operations. To do this, log in to the active Cisco MGC, start an MML session, and enter the following command:

```
prov-sta::srcver="curr_ver",dstver="mod_ver"
```

Where:

- *curr_ver*—The name of the current configuration version. In place of the name of the current configuration version, you can also enter:
 - *new*—A new default session configuration; no existing source configuration is available.
 - *active*—Selects the active configuration as the source for configuration changes.



Note If you do not know the name of your current configuration session, you can use the procedure described in the [“Retrieving Data on the Current Provisioning Session”](#) section on page 7.

- *mod_ver*—A new configuration version name that contains your provisioning changes.

For example, to use a configuration version called *ver1* as the basis for a version to be called *ver2*, you would enter the following command:

```
prov-sta::srcver="ver1",dstver="ver2"
```

Once a provisioning session is underway, you can use the **prov-add**, **prov-ed**, and **prov-dlt** MML commands to add, modify, and delete components on your system. This document describes how to provision this feature. For more information on provisioning other components on your Cisco MGC, refer to the *Cisco Media Gateway Controller Software Release 9 Provisioning Guide*.

There are two ways to close your provisioning session: saving and activating your provisioning changes, as described in the [“Saving and Activating Your Provisioning Changes”](#) section on page 14 or ending your provisioning session without saving and activating your changes, as described in the [“Ending a Provisioning Session Without Activating Your Changes”](#) section on page 15.

Saving and Activating Your Provisioning Changes

When you have completed making provisioning changes in your session, you must enter a command to save and activate your changes. There are two different provisioning MML commands that do this: **prov-cpy** and **prov-dply**.



Caution

Using the **prov-cpy** and **prov-dply** MML commands can severely impact your system’s call processing performance, depending on the extent of your provisioning changes. We recommend that these commands be issued during a maintenance window when traffic is minimal.

The **prov-cpy** MML command is used to save and activate your changes on simplex Cisco MGC (single host) systems.



Note

When you enter the **prov-cpy** command, your provisioning session is also automatically ended. If you want to make additional provisioning changes, you must start a new provisioning session as described in the [“Starting a Provisioning Session”](#) section on page 13.

**Caution**

Do not use the **prov-cpy** command to save and activate your changes on a continuous-service Cisco MGC system (one with active and standby hosts) system. Saving and activating using **prov-cpy** on such a system requires use of the **prov-sync** MML command to synchronize the provisioning data on the active and standby hosts. The system does not indicate when the synchronization process fails, which creates problems when a switchover operation occurs.

The **prov-dply** MML command is used to save and activate your changes on the active and standby Cisco MGCs in a continuous-service system. This command should not be used on a Cisco MGC in a simplex configuration.

**Note**

When you enter the **prov-dply** command, your provisioning session is also automatically ended, unless an error occurs during execution. If you want to make additional provisioning changes, you must start a new provisioning session, as described in the “[Starting a Provisioning Session](#)” section on page 13.

Ending a Provisioning Session Without Activating Your Changes

If you want to end a provisioning session without saving and activating the changes you have entered, enter the **prov-stp** MML command. This command ends your current provisioning session and your changes are not entered.

Retrieving Provisioning Data

You can use the **prov-rtrv** MML command to retrieve information about your current provisioning settings. The ways you can use this command to retrieve provisioning data are described in the following sections:

- [Retrieving Data for an Individual Component, page 15](#)
- [Retrieving Data for All Components, page 16](#)
- [Retrieving Data for All Components of a Particular Type, page 16](#)
- [Retrieving Data on the Current Provisioning Session, page 16](#)
- [Retrieving Data on Supported Signaling Protocols, page 16](#)

Retrieving Data for an Individual Component

You can retrieve provisioning data on any individual component on your system. To do this, log in to the active Cisco MGC, start an MML session, and enter the following command:

```
prov-rtrv:component:name=MML_name
```

Where:

- *component*—The MML component type associated with the desired component. You can find a complete list of MML component types in the *Cisco Media Gateway Controller Software Release 9 Provisioning Guide*.
- *MML_name*—The MML name for the desired component. You can determine the MML names for the various components using the **prov-rtrv:all** MML command.

For example, to view the provisioning data for a SS7 signaling service called `ss7svc1`, you would enter the following command:

```
prov-rtrv:ss7path:name="ss7svc1"
```

The response to the command is dependent upon the component type associated with the desired component. For example, to view the properties for an SUA routing key called suakey1, you would enter the following command:

```
prov-rtrv:suakey:name="suakey1"
```

Retrieving Data for All Components

You can retrieve data on all of the components provisioned on your system. To do this, log in to the active Cisco MGC, start an MML session, and enter the following command:

```
prov-rtrv:all
```

Retrieving Data for All Components of a Particular Type

You can retrieve provisioning data on all components of a particular type on your system. To do this, log in to the active Cisco MGC, start an MML session, and enter the following command:

```
prov-rtrv:component:"all"
```

Where *component* is the MML component type associated with the desired component group. You can find a complete list of MML component types in the *Cisco Media Gateway Controller Software Release 9 Provisioning Guide*.

For example, to view the provisioning data for all SS7 signaling services, you would enter the following command:

```
prov-rtrv:ss7path:"all"
```

Retrieving Data on the Current Provisioning Session

You can retrieve provisioning data on the current provisioning session. To do this, log in to the active Cisco MGC, start an MML session, and enter the following command:

```
prov-rtrv:session
```

The system returns a response similar to the following:

```
MGC-02 - Media Gateway Controller 2003-01-13 13:39:19
M  RTRV
   "session=jtest:session"
  /*
Session ID = mml1
SRCVER = active
DSTVER = jtest
  */
```

Retrieving Data on Supported Signaling Protocols

You can retrieve protocol data for the current provisioning session. To do this, log in to the active Cisco MGC, start an MML session, and enter the following command:

```
prov-rtrv:variants
```


Dial Plan Prerequisites

This section lists the data that you must gather to successfully create a dial plan as part of this feature. For more information on planning dial plans for other functions of the Cisco MGC software, refer to the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.

Preparing Trunk Data

During the provisioning process, all the bearer trunks that connect remote switches to all the media gateways attached to the Cisco MGC were defined. Each remote switch is identified by its destination point code (DPC), and each trunk is identified by its trunk ID or circuit identification code (CIC).

You need the following information for your trunks:

- **Trunk ID**—Designation assigned to a trunk.
- **Source signaling service**—MML name of the previously defined source signaling service. Valid signaling services are ISDN PRI, DPNSS, or any SS7 signaling service.
- **Source span**—Number of circuits assigned to the source span (range 0 through 65535).
- **Source span ID**—Identification assigned to the source span (range 0 through 65535).
- **Source time slot/CIC**—Time slot or CIC (range 0 through 31).
- **Destination signaling service**—MML name of a previously defined destination signaling service. Valid signaling services are ISDN PRI, DPNSS, or any SS7 signaling service.
- **Destination span**—Number of circuits assigned to the destination span (range 0 through 65535).
- **Destination span ID**—Identification assigned to the destination span (range 0 through 65535).
- **Destination time slot/CIC**—Time slot or CIC (range 0 through 31).
- **Line type**—T1 or E1.
- **Multiple trunk field**—Number of trunks per span (greater than 0, but less than or equal to 31).

The ingress and egress trunk IDs must match the corresponding trunk IDs used on the remote switches. The CICs are the SS7 values representing the trunks and must also match the CIC values defined at the remote switches.

The destination span ID and destination time slot must match the trunk configuration values defined during Cisco MGC configuration. The destination span ID is defined when you are configuring T1 and E1 controllers and must match the value of the `nfas_int` parameter. T1 spans use channels (time slots) 1-24 and E1 spans use time slots (channels) 0-31.

To save space, you might want to specify ranges of trunk IDs for each T1 or E1 connection. For large installations, you should make copies of this table or create your own worksheet with these columns.

Dial Plan Basics

The procedures in this section describe how to add, modify, and delete dial plan data and how to retrieve that data.

- [Adding Dial Plan Data, page 18](#)
- [Modifying an Element of Your Dial Plan Data, page 18](#)
- [Ending a Provisioning Session Without Activating Your Changes, page 15](#)
- [Retrieving Provisioning Data, page 15](#)

For more detailed information about creating a dial plan for your Cisco MGC, refer to the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.

Adding Dial Plan Data

The order in which you provision dial plan tables is important. Many tables refer to other tables that must be defined first. The following list identifies the recommended sequence for dial plan provisioning:

1. Create the dial plan file (unique CustGrpID)
2. Provision Digit Modification
3. Provision the Service
4. Provision the Result and Result Sets
5. Provision the A-numbers and B-numbers
6. Provision calling party category (CPC)
7. Provision transmission medium requirement (TMR) analysis
8. Provision B-number nature of address (NOA) and numbering plan indicator (NPI) analysis
9. Provision transit network selection (TNS)
10. Provision North American Numbering Plan (NANP) B-number normalization
11. Provision the Location value
12. Provision the Cause value
13. Provision the A and B Whitelist and Blacklist screening files

To begin creating a dial plan, log in to the active Cisco MGC, start an MML session, and enter the following command:

```
mml> numan-add:component:custgrpID=cust_groupID,param_name="param_value",...
```

Where:

- *component*—The name of the component type you want to add to your dial plan. A complete list of the valid dial plan component types can be found in the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.
- *cust_groupID*—Customer group ID number associated with your dial plan.
- *param_name*—The name of the parameter you want to configure for the selected component in your dial plan. A complete list of the valid parameters for each dial plan component type can be found in the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.
- *param_value*—The value of the parameter you want to configure for the selected component in your dial plan. A complete list of the valid values for the parameters of each dial plan component type can be found in the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.

For example, to provision a route result type called *resulttone*, you would enter the following command:

```
mml> numan-add:resulttable:custgrpID="t777",resulttype="route",setname="setone",
name="resulttone",dwl="rtlstone"
```

Modifying an Element of Your Dial Plan Data

To modify an existing dial plan, log in to the active Cisco MGC, start an MML session, and enter the following command:

```
mml> numan-ed:component:custgrpID="cust_groupID",param_name="param_value",...
```

Where:

- *component*—The name of the component type you want to modify in your dial plan. A complete list of the valid dial plan component types can be found in the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.
- *cust_groupID*—Customer group ID number associated with your dial plan.
- *param_name*—The name of the parameter you want to configure for the selected component in your dial plan. A complete list of the valid parameters for each dial plan component type can be found in the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.
- *param_value*—The value of the parameter you want to configure for the selected component in your dial plan. A complete list of the valid values for the parameters of each dial plan component type can be found in the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.

For example, to modify a result table, you would enter the following command:

```
mml> numan-ed:resulttable:custgroupid="t777",resulttype="route",setname="setone",
name="resulttwo",dw1="rtlistone"
```

Deleting an Element from Your Dial Plan Data

To delete an element from your dial plan, log in to the active Cisco MGC, start an MML session, and enter the following command:

```
mml> numan-dlt:component:custgroupid="cust_groupID",name="MML_name"
```

Where:

- *component*—The name of the component type you want to delete from your dial plan. A complete list of the valid dial plan component types can be found in the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.
- *cust_groupID*—Customer group ID number associated with your dial plan.
- *MML_name*—The MML name of the component you want to delete from your dial plan.

For example, to delete a result set called *setone*, you would enter the following command:

```
mml> numan-dlt:resultset:custgroupid="t001",name="setone"
```

Retrieving Dial Plan Data

You can use the **numan-rtrv** MML command to retrieve information about your current dial plan settings. The ways in which you can use this command to retrieve dial plan data are described in the following sections:

- [Retrieving Data for an Individual Component, page 15](#)
- [Retrieving Data for All Components of a Particular Type, page 16](#)



Note

You can verify dial plans using the translation verification viewer on the Cisco MGC toolbar. For information on using the translation verification viewer, refer to the *Cisco Media Gateway Controller Software Release 9 Operations, Maintenance, and Troubleshooting Guide*.

Retrieving Data for an Individual Component

You can retrieve dial plan data on any individual component on your system. To do this, log in to the active Cisco MGC, start an MML session, and enter the following command:

```
mml> numan-rtrv:component:custgrpID="cust_groupID",name="MML_name"
```

Where:

- *component*—The name of the component type you want to retrieve from your dial plan. A complete list of the valid dial plan component types can be found in the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.
- *cust_groupID*—Customer group ID number associated with your dial plan.
- *MML_name*—The MML name of the component you want to retrieve from your dial plan.

For example, to retrieve the settings for a result set called *setone*, you would enter the following command:

```
mml> numan-rtrv:resultset:custgrpID="t001",name="setone"
```

Retrieving Data for All Components of a Particular Type

You can retrieve dial plan data for all components of a particular type on your system. To do this, log in to the active Cisco MGC, start an MML session, and enter the following command:

```
mml> numan-rtrv:component:custgrpID="cust_groupID","all"
```

Where:

- *component*—The name of the component type you want to retrieve from your dial plan. A complete list of the valid dial plan component types can be found in the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.
- *cust_groupID*—Customer group ID number associated with your dial plan.

For example, to retrieve the settings for all result sets in your dial plan, you would enter the following command:

```
mml> numan-rtrv:resultset:custgrpID="t001","all"
```

Result Type Definitions

Result analysis enables you to group actions into result sets that can be attached at different points of analysis. The main attachment points are: Pre-analysis, A-number analysis, B-number analysis, and Cause analysis.

The following result type definition is modified for this feature. For information on other result type definitions for the Cisco MGC software, refer to the *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*.

[Table 1](#) shows the result type modified for this feature.

Table 1 New Result Type Definitions

Result Number	Result Type	Dataword1	Dataword2	Dataword3	Dataword4	Analysis Points		Result Type Valid For			
						Intermediate	End Point	A-Digit Analysis	B-Digit Analysis	Cause	Pre-analysis
65	IN_SERVICE_KEY	InServiceKey	GlobalTitleDigitsType	DigitsName	0 (not used)	X			X		

Result Type Definitions

The following paragraphs define the result type listed in [Table 1](#).

IN_SERVICE_KEY

The IN_SERVICE_KEY result type permits assigning a service key value according to the B-number. This result type allows multiple service keys, with each service key assigned according to the B-number. Dataword1 (any 32-bit integer value, with 0 allowed) is used to provision the IN service key used when IN triggering is initiated toward the SCP.

If multiple service keys are required, then the IN_SERVICE_KEY result type must be configured in the B-digit tree, along with the IN_TRIGGER result type. This means the IN_SERVICE_KEY result type must be provisioned in the same result set as the IN_TRIGGER result type.

In software Release 9.7(3), dataword2 and dataword3 are added to provision the digits in global title.



Note

All these operations are for the global title in the Called Party Address parameter of the SCCP message.

To support multiple same services running simultaneously and using different global title values, you must provision global title digit types and associated information in the result tables that trigger IN service. The result type IN_SERVICE_KEY carries the global title information. For the Global Title Provisioning feature, the global title functionality is enabled by the IN_SERVICE_KEY result type and must be provisioned to function.

If dataword2 indicates the global title digits type. For FIX type, because digit numbers cannot be put into the data word directly, a digit modifying table first is built by using numan-add:digmodstring, and dw3 is set to be the entry in the name field of numan-add:digmodstring.

If dataword2(Global Title Digits Type) is set to CALLED or CALLING, do not provision dataword3 (Digits Name). If dataword2(Global Title Digits Type) is set to FIX, dataword3 (Digits Name) must be provisioned, as shown in [Table 2](#).

- **InServiceKey**—Any 32-bit integer value, with 0 allowed.
- **GlobalTitleDigitsType**—The type of global title digits. Values are CALLED, CALLING, or FIXED.
- **DigitsName**—This dataword must be configured if dataword2 is set to FIXED, as shown in [Table 2](#). When dataword2 is set to FIXED, this dataword value is set to the dial plan table name that contains the global title digits. For example, gtfixedigits.

Glossary

Table 4 contains expansions of acronyms and technical terms used in this feature module.

Table 4 *Acronyms and Expansions*

Acronym	Expansion
CIC	circuit identification code
DPC	destination point code
IN	Intelligent Network
LNP	Local Number portability
MGC	(Cisco) Media Gateway Controller
PGW	PSTN Gateway
SCP	Service Control Point
SCCP	Signaling Connection Control Part
SS7	Signaling System 7
SSN	subsystem number

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