



# Configuring the IPDR Login Event Generator

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## Introduction

This chapter provides the instructions to configure the IPDR Login Event Generator (LEG).

To start the IPDR LEG, you must configure the following three files in the directory `sm-inst-dir/sm/server/root/config` directory, where `sm-inst-dir` refers to the SM installation directory:

- `ipdr.cfg`—IPDR LEG configuration file. For configuration details, see [“Configuring the IPDR LEG” section on page 37-12](#).
- `vlink.cfg`—VLINK configuration file. For configuration details, see the *Cisco Service Control for Managing Remote Cable MSO Links Solution Guide*.
- `import.csv`—File to import the CMTS device credentials.

The `ipdr.cfg` file is loaded only upon Service Control Management Suite (SCMS) Subscriber Manager (SM) IPDR LEG startup.

The configuration files consist of sections headed by a bracketed section title; for example, `[IPDR LEG]` for the IPDR LEG configuration section. Each section consists of several parameters and they are given in a specific format, for example, `port=4737`. The pound symbol (`#`) at the beginning of a line signifies that it is a comment.

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## Information About Configuring the IPDR LEG

The [IPDR LEG] section in the configuration file defines the behavior of the IPDR LEG and contains the following parameters:

- **start**  
Defines whether to start the LEG at SM startup.  
Possible values for this parameter are yes and no.  
The default value is no.
- **enable\_ipv6**  
Defines whether a subscriber has to be logged in with IPv6 address.  
Possible values are true and false.  
The default value is false.
- **log\_failures**  
Defines whether the LEG will log the messages that are issued for failed queries.  
Possible values for this parameter are yes and no.  
The default value is no.
- **log\_all**  
Defines whether the LEG will log all the messages.  
Possible values for this parameter are yes and no.  
The default value is no.




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**Note** This parameter should only be set to yes when troubleshooting.

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- **log\_subs\_details**  
Enable this parameter to log the IPDR messages that are received.  
Possible value for this parameter is either true or false.  
The default value is false.
- **log\_mapping\_table**  
Enable this parameter to log the mapping table information.  
Possible value for this parameter is either true or false.  
The default value is false.
- **log\_login\_partial\_subs**  
Enable this parameter to log the subscribers, who are partially logged in.  
Possible value for this parameter is either true or false.  
The default value is false.
- **cm\_mode**  
Possible values for this parameter are yes and no.  
If the value is set to yes, the IP address of the cable modem is assigned to the subscribers. If set to no, the IP address of the CPE is assigned to the subscribers.

The default value is no.

- collector\_mode

Defines the mode in which the collector starts.

Possible values for this parameter are ipdr and ipdr\_snmp.

If the value is set to ipdr, the collector runs in pure IPDR stack. If set to ipdr\_snmp, the collector runs in both the SNMP mode and the IPDR mode.

The default value is ipdr.

- snmp\_mode\_for\_BG

Defines whether to query the CMTS for bonding group information after the CM registration template is received.

Possible values for this parameter are true and false.

The default value is false.

- enable\_bulk\_query

Defines whether to send bulk SNMP queries to CMTS for the cable modem bonding group association query.




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**Note** Changing the value of this parameter may impact the CMTS CPU performance.

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Possible values for this parameter are true and false.

The default value is false.

- bulk\_query\_size

Defines the number of cable modem MAC addresses to be processed in a single bulk query.




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**Note** Changing the value of this parameter may impact the CMTS CPU performance.

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The maximum number of queries that can be processed each second is 100. Depending on the number of cable modems, the number of queries varies. To calculate the number of queries, multiply the number of cable modems with the number of object IDs.

The default value is 20.

- bulk\_query\_time\_interval

Defines the interval, in milliseconds, between two SNMP bulk queries.




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**Note** Changing the value of this parameter may impact the CMTS CPU performance.

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The default value is 1000 milliseconds.

- time\_interval\_for\_aggregated\_query

This parameter is applicable only if the collector\_mode is configured as ipdr\_snmp.

Defines the time interval, in seconds, at which the CMTS is periodically queried for bonding group information pertaining to the aggregated cable modem's MAC address.

The default value is 60 seconds.

The possible value range for this parameter is from 15 to 900 seconds.

- `time_interval_for_retry_query`  
 This parameter is applicable only if the `collector_mode` is configured as `ipdr_snmp`. If the bonding group information for the aggregated cable modem's MAC address is not retrieved during the primary query, the IPDR LEG retries to retrieve the information during the retry queries. Based on the configured time interval, all the cable modems will be queried. The default value is 60 seconds. The possible value range for this parameter is 15 seconds to 900 seconds.
- `retry_query_data_wait_time`  
 This parameter is applicable only if the `snmp_mode_for_BG` parameter is enabled. If the bonding group information for the aggregated cable modem's MAC address is not retrieved during the primary query, the IPDR LEG retries to retrieve the information during retry queries. If a cable modem needs to be processed for retrying, the time interval should be passed in milliseconds after login time. The default value is 900000 milliseconds (15 minutes). The possible value range for this parameter can be from 0 to 900000 milliseconds.
- `template_types`  
 Defines the template types. CPE information is processed as a subscriber ID only if the CPE information is retrieved from one of the IPDR templates.  
 Possible values are:
  - `SAMIS-TYPE-1_3.5.1-A.1`
  - `CMTS-CM-REG-STATUS-TYPE_3.5.1-A.1`
  - `CPE-TYPE_3.5.1-A.1`
- `global_ignore_subscriber_ip`  
 Defines whether to ignore the Subscriber IP mapping when the subscriber logs in through the IPDR LEG.  
 Possible values are true and false. The default value is true.
- `enable_bg_query_on_cpe`  
 Defines whether to add the CM MAC address to the primary queue for each CPE login regardless of whether the corresponding subscriber has a VLink ID.  
 Possible values are true and false. The default value is true.

The `[IPDR.Exporter.<Exporter Name>]` section in the configuration file contains the following parameters:

- `start_exporter`  
 Defines whether to receive the IPDR exporter messages.  
 Always set the value to yes.  
 The default value is yes.
- `exporter_connection_type`  
 Defines the connection type of the exporter.  
 The value is always active.
- `connection_time_out`  
 Defines the connection time out period in minutes.  
 The default value is 100 minutes.

- `keep_alive`  
Defines the time in minutes, for which the session has to be kept alive.  
The default value is 15 minutes.
- `port`  
Defines the port to be used for the session.  
The default value is 4737.
- `session_id`  
A numeric value that defines the session ID.  
There is no default value.
- `ignore_subscriber_ip`  
Defines whether to ignore the Subscriber IP mapping when the subscriber logs in through the IPDR LEG.  
Possible values are true and false. The default value is true.

Configure the exporter IP in the `vlink.cfg` as `Device.<Exporter Name>`.

#### Reconnecting the Collector to the Exporter

If you modify the IPDR Exporter section of an IPDR configuration, or the exporter configuration in CMTS, you must complete these steps to reconnect the Collector to the Exporter:

- 
- Step 1** Change the start parameter to *no*.
  - Step 2** Load the `p3sm` configuration, using the `p3sm load config` command.
  - Step 3** Change the start parameter to *yes*.
  - Step 4** Load the `p3sm` configuration, using the `p3sm load config` command.
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## Information About Configuring the Subscriber ID

The `[IPDR.Subscriber ID]` section in the configuration file contains the following parameters:

- `fields`  
Defines the IPDR protocol field name.  
Do not start or end the field name with a space bar. Do not include the “=” character in the name.



**Note** It is mandatory to create an `[IPDR.Field.<field name>]` section for each field defined in this parameter.

The default value is `CmMacId`.

- `IPDR.Field.<field name>`  
Defines the field definition. Copy and uncomment this section for each field defined in `fields` parameter. The `fields` property can be defined in the Subscriber ID section.
- `ipdr_key`

Defines the `ipdr_key` parameter with the IPDR template key name. See the “[IPDR Templates](#)” section on page 36-1 for the various key names.

- `ipdr_key_type`

Defines the type of the IPDR key type. Possible values for this parameter are integers or strings.

The default value is string.

**Note**

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In a cable environment, we recommend that you configure the subscriber ID as `CmMacAddr` irrespective of whether the IPDR is in the CM mode or the CPE mode.

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## Information About Configuring the Policy

The [IPDR.Policy.packageID] section of the configuration file contains the following parameters:

- fields

Defines the IPDR fields from which the subscriber package ID is retrieved. For multiple fields, use commas between the field name.

The following restrictions apply to field names:

- Field name shall not start or end with space bar.
- Field name shall not contain “=” character.

It is mandatory to create an [IPDR.Field.<field name>] section for each field defined in this parameter.

There is no default value for this parameter.

- field\_seperator

Defines the separator value to use when concatenating options.

The default value is “\_”.

- field\_manipulation.<field name>=<regular expression>

Defines the ways to manipulate the IPDR field values. You can define field manipulation rule for each field\_name.

To define manipulation operations, use the following format:

field\_manipulation.<field name>=<regular expression>, where:

<field name> is one of the fields defined in fields parameter.

<regular expression> is the reduction regular expression for the <field name>.

.\* means no reduction is required. This the default rule if field manipulation is not configured.

The default values is .\*.

- mapping\_table.<Regular Expression match rule>=<property-value>

Defines a conversion table for the result of the attribute value manipulation, the matching rule, and the property value.

The <Property-value> is an integer in case of a match. You can define <.\*> to the default value if there is no match.

There is no default value for this parameter.

Example:

- mapping\_table.^gold\$=1
- mapping\_table.silver=2

- `ignore_policy_list`  
Defines a list of policy IDs separated by commas. During login, if the policy ID matches one of the values defined in this parameter, a login operation occurs without changing the policy value.  
This parameter is valid only if `allow_login_with_no_policy` parameter is true.  
There is not default value for this parameter.
- `allow_login_with_no_policy`  
Defines whether a login can be performed when no policy is found for assigning.  
Possible values for this parameter are true and false.  
The default value is true.
- `policy_property_name`  
Defines the policy property key to use for policy assignment.  
Possible values for this parameter are `downVlinkId` or `upVlinkId`.  
The default value is `packageId`.




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**Note** The `policy_property_name` parameter is case sensitive and must be written exactly as defined in the Cisco SCA BB Console, for example, `packageId`, `upVlinkId`, or `downVlinkId`.

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- `use_default`  
Determines whether to use a default policy when no policy information can be extracted from the IPDR data.  
Possible values for this parameter are true or false. The default value is false.
- `default_policy`  
Defines the default policy ID to use if no policy information is extracted from the IPDR data. This parameter is relevant only if the `use_default` parameter is set to true.  
Possible values for this parameter are any integer number. This parameter has no default value.

The `[IPDR.Policy.VirtualLinkDownstream]` section of the configuration file contains the following parameters:

- `fields`  
Defines the IPDR fields from which the subscriber `downVlinkId` is retrieved. For multiple fields, use commas between the field names.  
The following restrictions apply to field names:
  - The field name shall not start or end with a space bar.
  - The field name shall not contain the “=” character.
 It is mandatory to create an `[IPDR.Field.<field name>]` section for each field defined in this parameter.  
There is no default value for this parameter.
- `field_seperator`  
Defines the separator value to use when concatenating options.  
The default value is “\_”.
- `policy_property_name`



Defines the package property key to use for policy assignment.

The default value is downVLinkId.

The [IPDR.Policy.VirtualLinkUpstream] section of the configuration file contains the following parameters:

- fields

Defines the IPDR fields from which the subscriber VirtualLinkUpstream is retrieved. For multiple fields, use commas between the field names.

The following restrictions apply to field names:

- The field name shall not start or end with a space bar.
- The field name shall not contain the “=” character.

It is mandatory to create an [IPDR.Field.<field name>] section for each field defined here.

There is no default value for this parameter.

- field\_seperator

Defines the separator value to use when concatenating options.

The default value is “\_”.

- policy\_property\_name

Defines the package property key to use for policy assignment.

The default value is upVLinkId.

## IPDR Configuration File Example

The following is an example of an IPDR LEG configuration file:

```
#The ipdr section configures the IPDR LEG
[IPDR LEG]
start=no
log_failures=no
log_all=no
Enable the below option to log the receiving IPDR messages
# (Default value: false)
# log_subs_details=false
# Enable the below option to log the mapping table information
# (Default value: false)
# log_mapping_table=false
# Enable the below option to log the subscribers who are partially logging in
# (Default value: false)
# log_login_partial_subs=false

# When cm_mode is set to yes, subscriber will be assigned with the Cable Modem(CM) IP
address
# and when set to no, subscriber will be assigned with CPE IP address
# (default: no)
cm_mode=no

# Configure the following parameter to get the cable modem(subscriber) and bonding group
associations
# from the source IPDR or by IPDR & SNMP query. By default it will be ipdr.
# collector_mode=<ipdr/ipdr_snmp>

# enable the below option to query the CMTS for BG info once the CM registration template
received.
```

```

# snmp_mode_for_BG=<true/false>

# Enable the below option to send bulk snmp queries to CMTS for Cabel Modem Bonding Group
association query
# Default value is false
# enable_bulk_query=<true/false>

# No of Cabel Modem MAC addresses to be processed in a single bulk query
# Default value is 20
# bulk_query_size=20

# Time interval in between SNMP bulk queries
# Unit in Milli Seconds
# Default value is 1000 Milli Seconds
# bulk_query_time_interval=1000

# This is applicable only if snmp_mode_for_BG option is enabled.If value is 0, then IPDR
LEG
# will do a immediate query to the CMTS for each CM registration messages to retrieve the
BG info.
# Otherwise based on the configured time interval it will aggregate the CMs mac addresses
from the
# IPDR messages and do a bulk query to retrieve for BG info. Default value is 60 seconds.
# time_interval_for_aggregated_query=60

# Templates types.
# Possible values:
# SAMIS-TYPE-1_3.5.1-A.1
# CMTS-CM-REG-STATUS-TYPE_3.5.1-A.1
# CPE-TYPE_3.5.1-A.1
template_types=CMTS-CM-REG-STATUS-TYPE_3.5.1-A.1,SAMIS-TYPE-1_3.5.1-A.1,CPE-TYPE_3.5.1-A.1

#[IPDR.Exporter.<Exporter Name>]
#start_exporter=yes
#exporter_connection_type=active
#connection_time_out=100
#keep_alive=15
#port=4737
#session_id=3,2

#In a cable environment, it is recommended to configure subscriber Id as CmMacAddr
#irrespective of whether IPDR is in CM mode (or) CPE mode
[IPDR.Subscriber ID]
fields=CmMacAddr

[IPDR.Field.CpeMacAddr]
ipdr_key=CpeMacAddr
ipdr_key_type=string

[IPDR.Field.CMmacAddress]
ipdr_key=CmMacAddr
ipdr_key_type=string

[IPDR.Field.CmIpv4Addr]
ipdr_key=CmIpv4Addr
ipdr_key_type=integer

[IPDR.Field.CpeIpv4Addr]
ipdr_key=CpeIpv4Addr
ipdr_key_type=integer

```

```
# [IPDR.Policy.packageId]
#fields= CmtsMdIfIndex
#field_separator=
#allow_login_with_no_policy=true
#policy_property_name=packageId
#policy_property_type=integer
#ignore_policy_list=
#use_default=false
#default_policy=0

# the following parameter define a conversion table between the
# result of the attribute value manipulation, the matching rule and the property
# value. To define this conversion uses the following format:
# mapping_table.<Regular Expression match rule>=<property-value>
# <regExp> Regular Expression Matching Rule
# <property-value> \226 Integer result in case of match.
# defaults: user can define <.*> to be the default value incase there is no match.
#
# for example:
# mapping_table.^gold$=1
# mapping_table.silver=2
#
# mapping_table.<Regular Expression match rule>=<property-value>

# [IPDR.Policy.VirtualLinkDownstream]
#fields=CmtsIpv4Addr,CmtsMdIfIndex,CmtsRcsId
#field_separator=CmtsIpv4Addr_CmtsMdIfIndex_CmtsRcsId
#policy_property_name=downVlinkId
#policy_property_type=integer

[IPDR.Field.CmtsIpv4Addr]
ipdr_key=CmtsIpv4Addr
ipdr_key_type=integer

[IPDR.Field.CmtsMdIfIndex]
ipdr_key=CmtsMdIfIndex
ipdr_key_type=integer

[IPDR.Field.CmtsRcsId]
ipdr_key=CmtsRcsId
ipdr_key_type=integer

[IPDR.Field.CmtsTcsId]
ipdr_key=CmtsTcsId
ipdr_key_type=integer

# [IPDR.Policy.VirtualLinkUpstream]
#fields=CmtsIpv4Addr,CmtsMdIfIndex,CmtsTcsId
#field_separator=CmtsIpv4Addr_CmtsMdIfIndex_CmtsTcsId
#policy_property_name=upVlinkId
#policy_property_type=integer
```

## Configuring the IPDR LEG

The following is an overview of the steps you need to perform to configure the IPDR LEG:

- 
- Step 1** Configure each exporter or CMTS to send messages to the Collector. See the “[Configuring Exporter or CMTS to Send IPDR Messages to the Collector](#)” section on page 37-12 or the “[Configuring the IPDR Collector and Templates On an Arris CMTS](#)” section on page 37-14.
  - Step 2** Configure the IP address of the SCE and the Collection Manager in p3sm.cfg. See the “[Configuring the IP Address of the SCE in p3sm.cfg](#)” section on page 37-14.
  - Step 3** (Optional) Add a host entry in the Subscriber Manager server. See the “[Adding Host Entry in the Subscriber Manager Server](#)” section on page 37-15.
  - Step 4** Configure IPDR LEG to collect IPDR Messages from the Exporter and send it to the IPDR LEG. See the “[Configuring IPDR LEG to Collect IPDR Messages from the Exporter and to Send it to VLM](#)” section on page 37-16.
  - Step 5** Configure VLM. See the “[Configuring VLM](#)” section on page 37-17.
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## Configuring Exporter or CMTS to Send IPDR Messages to the Collector



### Note

This section is applicable only to Cisco CMTS.

To configure each exporter or CMTS to send the IPDR messages to the collector (Subscriber Manager), perform the following steps:

- 
- Step 1** Configure CMTS with session ID for Collector.  

```
CMTS(config)# ipdr session 1 <Session_Name> <Session_Description>
```
  - Step 2** Configure time-based or event-based IPDR Session Type.  

```
CMTS(config)# ipdr type 1 time-interval 15
```
  - Step 3** Associate the template to a session.  

```
CMTS(config)# ipdr template 1 <Template_Name>
```
  - Step 4** Add a Collector.  

```
CMTS(config)# ipdr collector <Name of the Collector> <IP address of the Collector or the Subscriber Manager>
```

**Step 5** Associate the collector to a session.

```
CMTS(config)# ipdr associate 1 <Name of the Collector>
```

**Step 6** (Only for SAMIS-TYPE template) Enable metering.

```
uBR10012(config)# cable metering ipdr-d3 session 1 type 1
```

**Step 7** Start the IPDR Exporter.

```
CMTS(config)# ipdr exporter start
```



**Note** Repeat [Step 1](#), [Step 2](#), [Step 3](#), and [Step 5](#) for each session.



**Note** If you modify the IPDR Exporter section of an IPDR configuration or the exporter configuration in the CMTS, you must complete the steps provided in the [“Reconnecting the Collector to the Exporter”](#) section on page 37-5 to reconnect the Collector to the Exporter.



**Tip** Use different templates for different sessions.

## Configuring CMTS—Example

The following is an example of configuring the CMTS to send IPDR messages to the Collector:

```
uBR10012(config)# ipdr session 2 CM_Registration Cm_Registration
IPDR session created: name CM_Registration, id 2, description: Cm_Registration
uBR10012(config)#
uBR10012(config)# ipdr session 3 SAMIS SAMIS
IPDR session created: name SAMIS, id 3, description: SAMIS
uBR10012(config)# ipdr session 4 CPE-TYPE CPE
IPDR session created: name CPE-TYPE, id 4, description: CPE
uBR10012(config)# ipdr type 2 event
uBR10012(config)# ipdr type 3 time-interval 15
uBR10012(config)# ipdr type 4 event
uBR10012(config)# ipdr template 3 SAMIS-TYPE1
uBR10012(config)# ipdr template 2 CM-STATUS
uBR10012(config)# ipdr template 4 CPE-TYPE
uBR10012(config)# ipdr collector cisco 10.78.242.214
uBR10012(config)# ipdr associate 2 cisco 1
IPDR collector is associated to session.
uBR10012(config)# ipdr associate 3 cisco 1
IPDR collector is associated to session.
uBR10012(config)# ipdr associate 4 cisco 1
IPDR collector is associated to session.
uBR10012(config)# cable metering ipdr-d3 session 3 type 1
uBR10012(config)# ipdr exporter start
IPDR exporter is now started.
```

## Configuring the IPDR Collector and Templates On an Arris CMTS

To configure each Exporter or CMTS to send the IPDR messages to the collector or to the Subscriber Manager, complete these steps:

- 
- Step 1** Enable the DOCSIS compatibility mode.  
`# cable metering mode <docsis mode>`
- Step 2** Set a time for sending keep-alive-interval to the Collector.  
`# cable metering keep-alive-interval <KEEP ALIVE INTERVAL VALUE>`
- Step 3** Add the Collector to the IPDR Exporter.  
`# cable metering collector <Collector ID> <Collector IP>`
- Step 4** Add a session, a template and the mode of collection to the exporter.  
`# cable metering session <Session id> service <template name> method <Type of collection>`
- Step 5** Configure the periodic intervals for sending SAMIS messages.  
`# cable metering report-cycle set <session id> start <Start Time in HH:MM format> interval <Period time in minutes>`
- Step 6** Enable the IPDR Exporter.  
`# cable metering enable`




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**Note** Repeat Step 4 for SAMIS-1 service with method as time, and for CPE service with method as event.

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### Configuring CMTS—Example:

The following is an example of configuring the IPDR Collector and Templates in an Arris CMTS:

```
cable metering mode docsis30
cable metering keep-alive-interval 120
cable metering collector 1 10.12.3.57
cable metering session 1 service samis-1 method time
cable metering session 2 service cpe method event
cable metering report-cycle set 1 start 00:07 interval 15
cable metering enable
```

### Configuring the IP Address of the SCE in p3sm.cfg

Configure the IP address of the SCE and the port in the <pcube>/sm/server/root/config/p3sm.cfg file:

```
[SCE.XXX]
ip=<ip address>
port=<port>
```

## Configuring the IP Address of the Collection Manager in p3sm.cfg

Configure the IP address of the Collection Manager in the <pcube>/sm/server/root/config/p3sm.cfg file:

```
# The following [CM.XXX] is relevant for the Virtual Link Manager module
# Each CM section represents single Collection Manager.
# The format of the CM section clause is CM.XXX when XXX represents the CM name.
# [CM.<CM Server Host Name>]

# The following parameter defines IP address of the CM box
# ip=<ip address>

# The following parameter defines port through which to connect to the CM box
# Default: 14375
# port=<port>
```

## Adding Host Entry in the Subscriber Manager Server

To add a host entry in the Subscriber Manager server perform the following steps:

- 
- Step 1** Login to the Subscriber Manager as the root user.
  - Step 2** Open the /etc/hosts file in a text editor, such as vi editor.
  - Step 3** If Subscriber Manager server host name information is missing in this file, add the following as the last line in the given format:  
  
<SM Server IP Address> <SM Server hostname>
  - Step 4** Save the file and quit the editor.
  - Step 5** Restart the network server by using the **#/etc/rc.d/init.d/network restart** command.



---

**Note** This command terminates all the existing SSH and Telnet connections to the Subscriber Manager.

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## Configuring IPDR LEG to Collect IPDR Messages from the Exporter and to Send it to VLM

To configuring the IPDR LEG to collect IPDR messages from the exporter and to send it to VLM complete these steps:

**Step 1** Configure the <pcube>/sm/server/root/config/ipdr.cfg file.

The CM Mac Address will be the default Subscriber ID. The CMTS name should be mapped to the CMTS Name configured in vlink.cfg file.

The following is an example of the configuration:

```
[IPDR LEG]
start=yes
log_failures=yes
log_all=no
cm_mode=no

#CM Mac Address will be the default Subscriber ID
[IPDR.Subscriber ID]
fields=CMmacAddress

[IPDR.Field.CMmacAddress]
ipdr_key=CmMacAddr
ipdr_key_type=string

#Configure IPDR Exporter
# [IPDR.Exporter.<CMTS NAME>]
# The CMTS Name should mapped to the CMTS Name configured in vlink.cfg

[IPDR.Exporter.CMTS1]
start_exporter=yes
exporter_connection_type=active
connection_time_out=100
keep_alive=15
port=4737
# Configure the session ids specified in the exporter.
#session_id=<session_id>,<session_id>
session_id=2,3,4
```

**Step 2** If the host entry is not added in the Subscriber Manager, then add the IPDR Collector IP address to the ipdr.cfg file.

The following is an example of the configuration:

```
[IPDR.Collector]
collector_ip=<SM IP address>
```



## Configuring VLM

Configure the VLM configuration file, <pcube>/sm/server/root/config/vlink.cfg.

The following an example of the VLM configuration file:

```
[General]
start=yes

# This property defines a default integrated cli that is executed in the Device.
# general_default_cli_integrated default value is show controllers Integrated-Cable card ?
association.
# general_default_cli_integrated=show controllers Integrated-Cable card ? association

# This property defines a default modular cli that is executed in the Device.
# general_default_cli_modular default value is show hw-module bay ? config
wideband-channel.
# general_default_cli_modular=show hw-module bay ? config wideband-channel

# encrypt_cmts_credentials defines if the cmts credentials is encrypted or plaintext.
# encrypt_cmts_credentials default value is true.
# encrypt_cmts_credentials=true

# The CMTS Name should mapped to the CMTS Name configured in ipdr.cfg
#[Device.<CMTS_Name>]
[Device.CMTS1]
#IP Address of the CMTS
ip=10.52.206.2
port=161
log_all=yes
sce_name=sce8k
#SNMP Access parameter
snmp_community=lab-public

# an optional value, the Virtual Link Manager uses to communicate with the Device.
# This attribute overloads the general_default_cli_integrated property in general section.
# cli_integrated=show controllers Integrated-Cable card ? association

# an optional value, the Virtual Link Manager uses to communicate with the Device.
# This attribute overloads the general_default_cli_modular property in general section.
# cli_modular=show hw-module bay ? config wideband-channel
device_type=arris
```



**Note** Use a label device\_type only for non-Cisco CMTS.

## Configuring the IPDR LEG to Use Adhoc IPDR Sessions



**Note** This feature is applicable only for Cisco CMTS.

The Adhoc IPDR sessions retrieve the IPDR records that were not communicated due to lack of connection between CMTS and Subscriber Manager. After the connection is reestablished, the CMTS forwards all the IPDR records to the Subscriber Manager. Connection is reestablished because of various reasons including restarting of SM, CMTS, IPDR LEG, or the Exporter in CMTS.

To configure the IPDR LEG to use Adhoc IPDR sessions, perform the following steps:

- 
- Step 1** Configure CMTS.
- Step 2** Map the session IDs in the IPDR configuration file (ipdr.cfg).
- Step 3** Restart the Cisco SCMS Subscriber Manager.
- 

**Note**

The Adhoc-based IPDR sessions supports only the CMTS-CM-REG-STATUS-TYPE and DOCSIS-CPE-TYPE templates.

---

## Configuring Example for Adhoc IPDR Session Support

The following is an example of configuration for Adhoc IPDR sessions:

### Configuration in CMTS

```
ipdr session 2 CMREG cmreg
ipdr session 3 SAMIS samis
ipdr session 4 CPEEvent cpe
ipdr session 5 CPEAdhoc adhoc
ipdr type 2 event
ipdr type 3 time-interval 15
ipdr type 4 event
ipdr type 5 ad-hoc
ipdr collector SMDT 10.77.245.113
ipdr associate 2 SMDT 1
ipdr associate 3 SMDT 1
ipdr associate 4 SMDT 1
ipdr associate 5 SMDT 1
ipdr template 2 CM-STATUS
ipdr template 3 SAMIS-TYPE1
ipdr template 4 CPE-TYPE
ipdr template 5 CPE-TYPE
cable metering ipdr-d3 session 3 type 1
ipdr exporter start
```

### Configuration in Subscriber Manager

```
[IPDR.Exporter.CMTS1]
start_exporter=yes
exporter_connection_type=active
connection_time_out=100
keep_alive=15
port=4737
session_id=2,3,4,5
```

## Configuring the IPDR LEG to Learn the Cable Modem and Associated Bonding Groups Through an SNMP Query

**Note**

You must configure an additional 60 MB of memory for each CMTS in the Subscriber Manager process memory. This is to accommodate the SNMP queue.

To configure the IPDR LEG to learn cable modem and associated bonding groups through SNMP query, complete the following steps:

- 
- Step 1** Open the IPDR configuration file.
- Step 2** Change the value of `collector_mode` parameter to `ipdr_snmp`.
- Step 3** Change the value of `enable_bulk_query` parameter to `true`.
- Step 4** If the IPDR LEG must query the CMTS immediately after the cable modem registration template message is received, change the value of `snmp_mode_for_BG` parameter to `true`.
- Step 5** Configure these parameters:
- `time_interval_for_aggregated_query`
  - `time_interval_for_retry_query`
  - `retry_query_data_wait_time`
  - `bulk_query_size`
  - `bulk_query_time_interval`
- Step 6** Save the IPDR configuration file.
-

