CA Spectrum®

Outsourcer Billing User Guide

Release 9.4

ca technologies

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Chapter 1: Getting Started

CA Spectrum Outsourcer Billing is a powerful tool that enables service providers to produce accurate and meaningful data which can be further used as a basis for billing their customers for outsourced network services.

CA Spectrum Outsourcer Billing users should be familiar with the following:

- CA Spectrum

- Network management

- UNIX and/or Microsoft Windows

- The networks and devices you intend to bill for with CA Spectrum

Chapter 2: Introduction

This section contains the following topics:

Outsourcer Billing Users

Many end-customers would rather pay for managed network services as they use them, rather than buy, install, and maintain CA Spectrum themselves. CA Spectrum Outsourcer Billing helps the CA Spectrum equipped service provider bill these customers based upon the number of devices being managed or monitored by CA Spectrum in an outsourcing relationship.

Service providers who should consider using CA Spectrum Outsourcer Billing include:

- ASPs (Application Service Providers)

- CLECs (Competitive Local Exchange Carriers)

- DSPs (Data Service Providers)

- ISPs (Internet Service Providers)

- IXCs (IntereXchange Carriers)

- MSOs (Multiple Service Operators [e.g., cable, DSL, wireless, etc.])

- MSPs (Management Service Providers)

- RBOCs (Regional Bell Operating Companies)

Preliminary Information

CA Spectrum Outsourcer Billing is installed as part of the SpectroSERVER base installation.

Before you use CA Spectrum Outsourcer Billing for the first time you should gather some pertinent information about the network upon which you are utilizing Outsourcer Billing:

- The number of devices on the network.

- The types of devices on the network.

■ Whether or not your customer has a distributed SpectroSERVER (DSS) environment (e.g., more than one SpectroSERVER).

■ Pricing schedules and volume discounts.

Such information will assist you in determining the best way to use CA Spectrum Outsourcer Billing to extract the most accurate information and eliminate billing inconsistencies.

Usage Fees

You will also need to design a usage fee schedule that meets your needs and those of your customers. You may or may not wish to incorporate volume discount pricing for your larger clients as well. This should be researched carefully to ensure an acceptable mix of value for your customers and profit for you.

Chapter 3: Operation

This section contains the following topics:

Starting CA Spectrum Outsourcer Billing

To invoke CA Spectrum Outsourcer Billing:

1. In a command prompt window, navigate to the <$SPECROOT>/SS-Tools directory.

2. Start the Billing executable using the syntax described below:

    ```
    ./Billing -landscape landscape [-detailed True|False] [-output file]
    [-overrideClassFile file] [-mailQueueSize number]
    [-mailTimeout seconds] [-throttle count] [-debug] [-help]
    ```

    Parameters are described below.

    landscape

    The landscape handle of the default SpectroSERVER.

    Default value: 0x0

    detailed

    Toggles the option for a detailed report on (TRUE) or off (FALSE).

    Default value: False

    output

    The path to the desired output file. If no output file is specified, the output displays on the screen. If a file of the same name exists, it is overwritten.

    overrideClassFile

    A user-defined text file used to force a different class upon a model type.

    mailQueueSize

    The maximum number of pending SpectroSERVER requests.

    Default value: 1024

    mailTimeout

    The minimum time, in seconds, the MailService waits for a SpectroSERVER response before the request is canceled.

    Default value: 1800 (30 minutes)

throttle

The maximum number of models from which CA Spectrum Outsourcer Billing can read information simultaneously.

Default value: 500

debug

Invokes CA Spectrum Outsourcer Billing in debug mode.

help

Displays CA Spectrum Outsourcer Billing syntax information.

Important! The amount of time that CA Spectrum Outsourcer Billing takes to complete a billing audit is dependent upon the numbers of devices in the network and models in the SpectroSERVER database. Audits run on large networks will take longer than those run on smaller networks.

Output

Invoking the application with no options (by typing only ./Billing at the command line) causes CA Spectrum Outsourcer Billing to read and display a report on the device models in all landscapes in the local SpectroSERVER's landscape database.

If you type an incorrect landscape handle using the -landscape option, CA Spectrum Outsourcer Billing prompts you for a valid landscape handle from a list of known SpectroSERVERs (VNMs) in the local SpectroSERVER's landscape database. Enter the number that corresponds to the landscape against which you wish to run CA Spectrum Outsourcer Billing. Pressing the Enter (or Return) key selects the default landscape.

For example, if you enter a landscape handle value of '0' the screen output would look similar to this:

```
% ./Billing -landscape 0
Invalid landscape 0x0
Please select from the following list of valid
landscapes. Enter the number (1, 2, 3, etc.)
corresponding to the VNM name and landscape handle,
and press the return key.
    1) storyville (0x8400000)
    2) cottonclub (0x8e00000)
    3) birdland (0xa600000)
Selection? [default: 1]
```

You then make your selection, which in this case was '3' for the SpectroSERVER 'birdland', you would see the following:

```
3
Please wait - working...
```

Progress Messages

CA Spectrum Outsourcer Billing provides report progress feedback in the form of informational status messages as it performs the following operations:

- Retrieves the landscape map

- Retrieves device models from the landscape

- Reads device models

- Retrieves device class information for each device

- Retrieves port counts for each device

General Output Summary

If the following syntax is issued from running CA Spectrum Outsourcer Billing in a distributed SpectroSERVER environment:

```
$ ./Billing -landscape <landscape_handle>
```

The following output will be generated:

```
Retrieving the landscape map
Retrieving device models from server birdland
Retrieving Class information for each device. Total device
count=78
Read 78 models
Retrieving port count and system information for each device
Read 78 models

Audit Summary
-------------
SpectroSERVER=birdland Port=48879 Landscape=0xa600000
```

```
Device Class     Type     Quantity
-------------------------------------------
Router            1          0
Router            2          0
Router            3          0
Switch            1          24
Switch            2          12
Switch            3          0
Hub               1          2
Hub               2          0
Hub               3          0
Class 1           n/a        117
Pingable          n/a        38
```

Detailed Output

Detailed output provides you with more granular information. It includes the summary output as described in General Output Summary as well as information about every device modeled in the SpectroSERVER's database. This information, which provides the basis for the accurate billing you require, includes:

- Device name

- Device vendor

- Device class

- Number of ports

- Device type value based on the device class and the number of ports:

Class	Type 1	Type 2	Type 3
Hub	<= 24 ports	25-120 ports	> 120 ports
Switch	<= 24 ports	25-120 ports	> 120 ports
Routers	<= 4 ports	5-12 ports	> 12 ports
Class 1	no types		
Pingable	no types		

If the following syntax is issued from running CA Spectrum Outsourcer Billing in a distributed SpectroSERVER environment:

```
$ ./Billing -landscape <landscape_handle> -detailed True
```

The following output will be generated:

```
Retrieving the landscape map
Retrieving device models from server birdland
Retrieving Class information for each device.
Total device count=78
Read 78 models
Retrieving port count and system information for each device
Read 78 models



Audit Summary
-------------
SpectroSERVER=birdland Port=48879 Landscape=0xa600000


Device Class    Type     Quantity
-------------------------------------------
Router          1        0
Router          2        0
Router          3        0
Switch          1        12
Switch          2        6
Switch          3        0
Hub             1        1
Hub             2        0
Hub             3        0
Class 1         n/a      59
Pingable        n/a      19
```

```
Detailed Report
---------------
Name,Vendor,Class,Type,Ports
corporate36,ABC MANAGEMENT TECHNOLOGIES,Switch,2,26
corporate20,ABC MANAGEMENT TECHNOLOGIES,Switch,2,26
corporate50,ABC MANAGEMENT TECHNOLOGIES,Switch,2,30
corporate39,ABC MANAGEMENT TECHNOLOGIES,Switch,2,48
corporate30,ABC,Switch,1,4
corporate14,ABC,Switch,1,4
corporate28,ABC MANAGEMENT TECHNOLOGIES,Switch,1,0
poseidon,,Switch,1,4
corporate27,ABC,Switch,1,4
corporate17,ABC,Switch,1,4
corporate18,ABC MANAGEMENT TECHNOLOGIES,Switch,2,25
corporate31,ABC MANAGEMENT TECHNOLOGIES,Switch,1,3
corporate59,ABC MANAGEMENT TECHNOLOGIES,Switch,1,3
corporate38,ABC MANAGEMENT TECHNOLOGIES,Switch,1,3
corporate56,ABC MANAGEMENT TECHNOLOGIES,Switch,1,4
sales134,ABC MANAGEMENT TECHNOLOGIES,Switch,2,29
corporate11,ABC MANAGEMENT TECHNOLOGIES,Switch,1,2
corporate7,ABC MANAGEMENT TECHNOLOGIES,Switch,1,4
corporate12,ABC MANAGEMENT TECHNOLOGIES,Hub,1,1
sales27,ABC MANAGEMENT TECHNOLOGIES,None,0,8
corporate15,,None,0,4
corporate26,ABC MANAGEMENT TECHNOLOGIES,None,0,25
corporate53,ABC MANAGEMENT TECHNOLOGIES,None,0,13
corporate55,ABC MANAGEMENT TECHNOLOGIES,None,0,27
corporate29,ABC,None,0,3
pc1,,None,0,0
sales8,,None,0,0
sales7,,None,0,0
sales9,,None,0,0
sales6,,None,0,0
pc2,,None,0,0
pc3,,None,0,0
pc4,,None,0,0
pc5,COMPAQ COMPUTER CORPORATION,None,0,2
pc6,ABC MANAGEMENT TECHNOLOGIES,None,0,2
ws1,3COM CORPORATION,None,0,2
pc7,ABC MANAGEMENT TECHNOLOGIES,None,0,2
ws2,COMPUTER PRODUCTS INTERNATIONAL,None,0,2
pc8,3COM CORPORATION,None,0,2
ws3,COMPUTER PRODUCTS INTERNATIONAL,None,0,2
ws4,COMPUTER PRODUCTS INTERNATIONAL,None,0,2
ws5,COMPUTER PRODUCTS INTERNATIONAL,None,0,2
ws6,COMPUTER PRODUCTS INTERNATIONAL,None,0,2
ws7,COMPUTER PRODUCTS INTERNATIONAL,None,0,2
pc9,INTEL CORPORATION - HF1-06,None,0,2
pc10,3COM CORPORATION,None,0,2
```

```
pc11,INTEL CORPORATION - HF1-06,None,0,2
pc12,INTEL CORPORATION - HF1-06,None,0,2
pc13,ABC MANAGEMENT TECHNOLOGIES,None,0,2
ws8,SUN MICROSYSTEMS INC.,None,0,2
ws9,SUN MICROSYSTEMS INC.,None,0,2
ws10,SUN MICROSYSTEMS INC.,None,0,2
sales1,SUN MICROSYSTEMS INC.,None,0,2
ws11,SUN MICROSYSTEMS INC.,None,0,2
ws12,SUN MICROSYSTEMS INC.,None,0,2
ws13,SUN MICROSYSTEMS INC.,None,0,2
ws14,SUN MICROSYSTEMS INC.,None,0,2
ws15,SUN MICROSYSTEMS INC.,None,0,2
sales3,SUN MICROSYSTEMS INC.,None,0,2
ws16,SUN MICROSYSTEMS INC.,None,0,2
ws17,SUN MICROSYSTEMS INC.,None,0,2
ws18,Sun,None,0,2
salesRemote,SUN MICROSYSTEMS INC.,None,0,2
ws19,SUN MICROSYSTEMS INC.,None,0,2
ws20,SUN MICROSYSTEMS INC.,None,0,2
ws21,SUN MICROSYSTEMS INC.,None,0,2
ws22,SUN MICROSYSTEMS INC.,None,0,2
ws23,SUN MICROSYSTEMS INC.,None,0,2
ws24,SUN MICROSYSTEMS INC.,None,0,2
ws25,SUN MICROSYSTEMS INC.,None,0,2
ws26,SUN MICROSYSTEMS INC.,None,0,2
ws27,SUN MICROSYSTEMS INC.,None,0,2
ws28,SUN MICROSYSTEMS INC.,None,0,2
ws29,SUN MICROSYSTEMS INC.,None,0,2
ws30,SUN MICROSYSTEMS INC.,None,0,2
ws31,SUN MICROSYSTEMS INC.,None,0,2
corporate10,ABC MANAGEMENT TECHNOLOGIES,None,0,0
192.168.32.99,CISCO SYSTEMS INC.,None,0,32
```

Advanced Operations

CA Spectrum Outsourcer Billing enables you to customize its operation to your needs using several advanced options.

Overriding Class Files for Custom Billing

There may be times when you wish to override the default device classifications. For example, you may have a need to define a brouter as either a switch or a router. Or, you may at some point need to define a completely new device classification. This is where the overrideClassFile parameter is used.

To override the default device class files

1. Create a text file containing the model type name and new class number in the following format:

   `model_type_name new_class_number`

   The file might look something like this:

   `GnSNMPDev 5`

2. Give the new file a name.

3. Invoke CA Spectrum Outsourcer Billing using the -overrideClassFile parameter with the newly created file's name as the value. For example:

   `$ ./Billing -landscape <landscape_handle> -overrideClassFile newclass`

   The output file is displayed on the screen and includes the new device class by name (e.g., Hub, Switch, etc.).

Adjusting the Mail Queue Size

By default CA Spectrum Outsourcer Billing can have 1024 pending SpectroSERVER requests queued at any one time. However, if your mail queue becomes full, you can configure the queue size so that more requests can be passed to CA Spectrum Outsourcer Billing using the mailQueueSize parameter.

To adjust the mail queue size when using CA Spectrum Outsourcer Billing

- Invoke CA Spectrum Outsourcer Billing using the -mailQueueSize parameter. For example:

  `$ ./Billing -landscape <landscape_handle> -mailQueueSize 2048`

  Now 2048 pending SpectroSERVER requests can be passed to CA Spectrum Outsourcer Billing.

Note: The value for the mailQueueSize parameter must be greater than or equal to 1. If an invalid value is entered (for example, 0 or a negative value), CA Spectrum Outsourcer Billing will terminate.

Adjusting the Mail Timeout Value

There may be instances when you wish for CA Spectrum Outsourcer Billing to wait longer than the default 1800 seconds for a response from the SpectroSERVER. For example, if in a DSS environment, a remote SpectroSERVER upon which you wish to run CA Spectrum Outsourcer Billing terminates abnormally, you may wish to increase the timeout value to compensate for the time required for that machine to come back up.

To adjust the mail timeout value when using CA Spectrum Outsourcer Billing

■ Invoke CA Spectrum Outsourcer Billing using the -mailTimeout parameter. For example:

```
$ ./Billing -landscape <landscape_handle> -mailTimeout 3600
```

Now CA Spectrum Outsourcer Billing will wait for 3600 seconds before responding with an error message indicating a lack of response from the remote SpectroSERVER.

Adjusting the Throttle Count

There may be instances when CA Spectrum Outsourcer Billing is reading device information from some device models that have timed out, thus causing the application to appear sluggish. This can happen because by default CA Spectrum Outsourcer Billing reads information from 500 models at once. You can reduce that default number upon invoking CA Spectrum Outsourcer Billing.

To adjust the throttle count when using CA Spectrum Outsourcer Billing

■ Invoke CA Spectrum Outsourcer Billing using the -throttle parameter. For example:

```
$ ./Billing -landscape <landscape_handle> throttle 200
```

Now CA Spectrum Outsourcer Billing will read information from just 200 models simultaneously.

Note: The value for the throttle parameter must be greater than or equal to 1. If an invalid value is entered (for example, 0 or a negative value), CA Spectrum Outsourcer Billing will terminate.

Gathering Debug Information

In the event that you require technical assistance with CA Spectrum Outsourcer Billing, you should run the application with the -debug option and capture the output to a file. This will provide the support personnel with needed low-level information for troubleshooting and analysis. For example:

```
$ ./Billing -landscape <landscape_handle> -debug > debugfile
```

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