



# Using the RADIUS Listener Login Event Generator Command Line Utility

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## Introduction

This chapter describes the command-line utility (CLU) commands when the software is installed on the Subscriber Manager (SM).

## Information About the p3radius Utility

The **p3radius** utility displays the RADIUS listener configurations, status, and statistics. It also provides utilities to test RADIUS configuration and regular expression manipulation. The RADIUS listener configuration includes all configured Network Access System (NAS) devices and general RADIUS listener parameters.

The **p3radius** command format is **p3radius <operation>**.

[Table 21-1](#) lists the **p3radius** operations.

**Table 21-1** *p3radius Operations*

Operation	Description
<code>--show</code>	Displays all of the NAS and RADIUS configurations and other general information (status of ports, regular expression configuration, and so on).
<code>--show-statistics</code>	Displays counters of RADIUS messages handled and number of logon operations performed.
<code>--test-reg-exp</code>	Returns a value indicating if the regular expression is valid or not.
<code>--test-manipulation</code>	Validates the section definition and performs the manipulation operation on a given field's data against the specified section in a given configuration file.

Table 21-1 p3radius Operations (continued)

Operation	Description
<code>--test-reduction-rule</code>	Performs reduction of the input string and returns: <ul style="list-style-type: none"> <li>Reduction result.</li> <li>Average time (in milliseconds) for a single reduction operation. The average time is used for performance analysis.</li> </ul>
<code>--test-matching-rule</code>	Performs a match of the input string against a given regular expression and returns: <ul style="list-style-type: none"> <li>A result indicating if there is a match or not.</li> <li>Average time (in milliseconds) for a single matching operation. The average time is used for performance analysis.</li> </ul>
<code>--reset-statistics</code>	Reset statistics counters.

Table 21-2 lists the p3radius options.

Table 21-2 p3radius Options

Option	Abbreviation	Description
<code>--reg-exp=reg exp rule</code>	—	Tests the validity of regular expression patterns. Possible results are: <ul style="list-style-type: none"> <li>&lt;regular expression rule&gt; is a valid regular expression pattern.</li> <li>&lt;regular expression rule&gt; is an invalid regular expression pattern. Also includes GNU error information.</li> </ul>
<code>--performance</code>	—	Use with the <b>test-reduction-rule</b> and <b>test-matching-rule</b> operations to calculate the average time for a single reduction/matching operation.

Table 21-2 p3radius Options (continued)

Option	Abbreviation	Description
<pre>--file=configuration_file name --fields=fieldname= fieldValue [ ,fieldname=fieldValue ] --section=section name</pre>	<pre>-f configuration_file name --fields=fieldname= fieldValue [ ,fieldname=fieldValue ] --section=section name</pre>	<p>Tests the new/updated configuration file.</p> <p>The tests are done by providing the following parameters:</p> <ul style="list-style-type: none"> <li>-f &lt;path&gt; or --file=&lt;path&gt;: Perform the operation on a specified configuration file.</li> <li>--field=fieldName=fieldValue: Perform the operation using specified field attribute(s), and field attribute(s) data.            &lt;fieldName&gt;: Property name as defined in the <b>fields</b> property.            &lt;fieldValue&gt;: String value of the field property.</li> <li>section=section name: Perform the operation on the specified section in the configuration file.</li> </ul>
<pre>--input=string</pre>	—	<p>Provides the input string that is being tested using the <b>--test-reduction-rule</b> or the <b>--test-manipulation-rule</b> operations.</p>
<pre>--fields=field=value[,field= value]</pre>	—	<p>Perform the operation using specified field attribute(s), and field attribute(s) data.</p> <p>&lt;field&gt;: Attribute is defined in the configuration file.</p> <p>&lt;value&gt;: String value of the field attribute. If value is “none”, the operation refers to field whose data was not found in RADIUS packet.</p>
<pre>--section=NAME</pre>	—	<p>Perform the operation on the specified section in the configuration file.</p>

## Viewing the RADIUS Listener LEG Status

The following is an example using the **p3radius** CLU with the **show** operation:

```
>p3radius --show

RADIUS Listener information
=====
running           : true
accounting port: 1813
packet types      : accounting-start, accounting-interim, accounting-stop
Interim Aging Time : 0

NASs:
====
name:             theNAS
nasId:            theNAS
ip:               10.73.233.143
secret:           cisco
domain:           subscribers

Subscriber ID
=====
Default association

Allow login if policy not found: false

Subscriber IP Address
=====
IP Configuration:
Default association

Attributes
=====
IP Configuration:
Default association
Attribute Configuration:
Acct-Session-ID: radius attribute: 44 type: string
Acct-Session-Time: radius attribute: 46 type: integer
Called-Station-ID: radius attribute: 30 type: string
WiMax-Active-Time: VSA Vendor-id: 24757 sub attribute: 39 type: integer
WiMax-BSID: VSA Vendor-id: 24757 sub attribute: 46 type: string
3GPP-Charging-Characteristics: VSA Vendor-id: 10415 sub attribute: 13 type: string
3GPP-Charging-Gateway-Address: VSA Vendor-id: 10415 sub attribute: 4 type: ip_address
3GPP-Charging-ID: VSA Vendor-id: 10415 sub attribute: 2 type: integer
3GPP-GGSN-Address-Code-7: VSA Vendor-id: 10415 sub attribute: 7 type: ip_address
3GPP-GGSN-Address: VSA Vendor-id: 10415 sub attribute: 87 type: ip_address
3GPP-GGSN-MCC-MNC: VSA Vendor-id: 10415 sub attribute: 9 type: string
3GPP-GPRS-Negotiated-QoS-Profile: VSA Vendor-id: 10415 sub attribute: 5 type: integer
3GPP-IMEISV: VSA Vendor-id: 10415 sub attribute: 20 type: string
3GPP-IMSI: VSA Vendor-id: 10415 sub attribute: 1 type: string
3GPP-MS-Timezone: VSA Vendor-id: 10415 sub attribute: 23 type: string
3GPP-NSAPI: VSA Vendor-id: 10415 sub attribute: 10 type: string
3GPP-PDP-Type: VSA Vendor-id: 10415 sub attribute: 3 type: integer
3GPP-RAT-Type: VSA Vendor-id: 10415 sub attribute: 21 type: string
3GPP-Selection-Mode: VSA Vendor-id: 10415 sub attribute: 12 type: string
3GPP-SGSN-Address: VSA Vendor-id: 10415 sub attribute: 128 type: ip_address
3GPP-SGSN-MCC-MNC: VSA Vendor-id: 10415 sub attribute: 18 type: string
3GPP-User-Location-Info: VSA Vendor-id: 10415 sub attribute: 22 type: string

Allow login if policy not found: false

Command terminated successfully
```

&gt;

## Viewing the RADIUS Listener LEG Statistics

The following is an example of the **p3radius** CLU with the **show-statistics** operation:

```
>p3radius --show-statistics

>p3radius --show-statistics
Statistics:
=====
Packets Received:      0
Packets Transmitted:  0
Accounting Request:   0
Accounting Start:     0
Accounting Interim:   0
Accounting Stop:      0
Dropped:              0
Successful logins:    0
Failed logins:        0
Successful logouts:  0
Failed logouts:       0
Successful logins:    0
Successful logouts:  0
Command terminated successfully
>
```

## Testing a Section in a Configuration File

The following is an example of the **p3radius** CLU with the **test-manipulation** operation:

```
p3radius --test-manipulation -f regExpTest.cfg --section="Radius.Subscriber ID"
--fields=user_name=,vsa=cisco.LTD.sanjose,filter-id=172.16.1.1
The following fields parameter were being extracted:
field_name=user_name, field_data=
field_name=vsa, field_data=cisco.LTD.sanjose
field_name=filter-id, field_data=172.16.1.1
reduction rules:
user_name pattern: (.*)@.*
vsa pattern: (.*)LTD(.)
filter-id pattern: .*
separator: user_name-vsa@filter-id
Reduction iteration [0]: field data=, RegExp Pattern=(.*)@.*, concatenated string (with
separator)--
Reduction iteration [1]: field data=cisco.LTD.sanjose, RegExp Pattern=(.*)LTD(.*),
concatenated string (with separator)--cisco.sanjose@
Reduction iteration [2]: field data=172.16.1.1, RegExp Pattern=.*, concatenated string
(with separator)--cisco.sanjose@
Manipulation result:-cisco.sanjose@
Command terminated successfully
>
```

## Testing a Reduction Rule

The following is an example of the **p3radius** CLU with the **test-reduction-rule** operation:

```
p3radius --test-reduction-rule --reg-exp=(.*)@.* --input=user@cisco.com --performance  
Pattern: '(.*)@.*'; String to reduce: 'user@cisco.com'; Reduction result: 'user'  
Regular Expression operation time is 0.112 ms
```

```
Command terminated successfully  
>
```

## Testing a Matching Rule

The following are examples of the **p3radius** CLU with the **test-matching-rule** operation:

```
p3radius --test-matching-rule --reg-exp=^user$ --input=user@cisco.com --performance  
Pattern: '^user$'; String to match: 'user@cisco.com'; Matching not found  
Regular Expression operation time is 0.0 ms.
```

```
p3radius --test-matching-rule --reg-exp=user --input=user@cisco.com --performance  
Pattern: 'user'; String to match: 'user@cisco.com'; Match found  
Regular Expression operation time is 0.045 ms.
```

```
p3radius --test-matching-rule --reg-exp=users --input=user@cisco.com --performance  
Pattern: 'users'; String to match: 'user@cisco.com'; Matching not found  
Regular Expression operation time is 0.045 ms.
```

```
Command terminated successfully  
>
```