



PolicyGuru® Meta-Policy Controller Functional Systems Test (Customer name)

Document Revision 1.0

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Date of Test:

Customer:

SLC Tester:

Functional System Test Plan Revision History		
Date of Change	Committed By	Description
	Jane Byrne	Rev 1.0 test plan to support change control to validate interoperability with site SBCs

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II. Introduction

A. Goals and Objectives

This document defines the Functional System Test (FST) to validate interoperability with the Customer's SBC(s) and receipt of data from the Customer's voice tap device(s) at the locations listed in Table 1. At the conclusion of this event, the PolicyGuru Solution will be validated as functional, thus completing the installation phase of the project and marking the transition to the Managed Service.

Location	Deployed PolicyGuru Solution Items

Table 1

III. Statement of Scope

A. Test Scope

The focus of this Functional System Test (FST) is to validate PolicyGuru Solution installation tasks were completed successfully and the deployed system correctly interacts with the Customer's SBC(s) and receives requested data from Customer's voice tap device(s) in locations in Table 1.

B. Out of Scope

The testing of the deployed production PolicyGuru Solution with the Customer's SBC(s) and voice tap device(s) will occur within a single change control event. This FST is specific to that effort. Any task not specifically described within this document, including all preceding and post change work to be performed by the Customer or their agents, are considered out of scope of this change.

It is assumed requested access and communications to/from the deployed PolicyGuru Solution has been validated prior to execution of this FST.

IV. Test Resources

Table 2 describes the Roles, Responsibilities, and Resource Name for the testing tasks described in this FST.

Role	Responsibilities	Resource Name(s)
SecureLogix	<ul style="list-style-type: none">✓ Schedule resources to execute this FST.✓ Prepare systems in anticipation of the change control.✓ Once in the change control window, execute the Implementation Plan.	

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	<ul style="list-style-type: none">✓ Execute this FST.✓ Find, report, and resolve any findings.✓ Re-test as required.✓ Record final results.✓ Provide copy of test plan with results to the Customer.	
(Customer)	<ul style="list-style-type: none">✓ Gain approvals and change controls to proceed with testing.✓ Notify SecureLogix of all Customer-required test steps.✓ Provide test phone numbers, that when dialed from a phone outside the Customer's network, will generate an ENUM request from each site's SBC to the SecureLogix PolicyGuru ENUM servers.✓ Provide minimum of two (2) internal destination extensions per site for the inbound test calls. One will be the destination for a rerouted call and the other as the destination of a terminated call.✓ Coordinate and verify Customer's Voice Engineer will be available and ready to apply the appropriate configuration to the SBCs and troubleshoot as required during testing.✓ Coordinate and verify Customer's Voice Engineer will be available and ready to apply the appropriate configuration to the voice tap device and troubleshoot as required during testing.✓ (Optional) Witness vendor test plan.✓ Receive completed test plan with results.	

Table 2

V. Test Schedule

Table 3 describes the schedule for the FST.

Task	Artifacts	Projected Completion
SecureLogix Implementation Plan Completed	PolicyGuru Implementation Plan v1.0	
SecureLogix FST Plan Completed	PolicyGuru Solution Functional Test Plan v 1.0	
Execute Implementation Plan	PolicyGuru Implementation Plan v1.0	
Execute FST	FST Version 1.0, Appendix A	
(Optional) Customer Witnessed Test	FST Version 1.0, Appendix B	
Final Copy of FST with Documented Results Submitted to Customer	FST Version 1.0	

Table 3

VI. Test Design

- A. PolicyGuru Solution Baseline Configuration Validation
- B. PolicyGuru ENUM Server Validation Testing with SBC
- C. PolicyGuru Meta-Data Probe Server Validation Testing

VII. Test Strategy

The tester(s) will execute the following test procedures. The assumption is the tester is familiar with the PolicyGuru Solution implementation and does not require step-by-step instructions to execute a test objective.

The test procedures are located in Appendix A.

A. PolicyGuru Solution Baseline Configuration Validation

- 1. Running State
- 2. Enhanced Availability

B. PolicyGuru ENUM Server Validation

- 1. Receipt of ENUM Requests from SBC
- 2. Proper Exchange and Processing of Regex Response by SBC
- 3. SBC Routing of Calls Based on ENUM Server Status

C. PolicyGuru Meta-Data Probe Server Validation

1. Receipt of UDP SIP Signaling from Tap Device
2. Proper Processing of Received Data

VIII. Test Record Keeping

Test Result Forms are found in Appendix B. Each test has a corresponding result sheet. Each result sheet must be endorsed by the vendor and Customer's representative(s).

IX. Criteria for Successful Test

All test cases must have a result of PASS in order to be considered a successful FST. PASS or OTHER with caveats\comments is also acceptable if the Customer agrees in writing (provided either as a note in Appendix B or via email).

If one or more FAIL results are recorded, SecureLogix shall work with the Customer to resolve issues to an acceptable level and retest relevant sections as required.

X. Deliverables

Deliverables due to the Customer at the conclusion of this FST are as follows:

- Functional Test Plan with Appendices A and B, including full documentation of results and signatures

XI. Appendix A: Test Procedures

A. PolicyGuru Solution Baseline Configuration Validation

1. Functions to be Tested

- Running State
- Enhanced Availability mode, required for production implementation, is configured correctly and is operational

2. Testing Procedure

a) Strategy

1) Running State

Visual inspection of the processes, the PolicyGuru running status, and interaction with the PolicyGuru Client will validate the active Mediation Server application processes are running and communicating with each other.


The Mediation Server requires communication with the Database Server in order to start. If the Mediation Server is running, by default, this verifies proper configuration of both applications.

Additional verification of the of the ENUM Sever and Meta-Data Probe Server configurations will be performed in Sections B and C in this Appendix.

2) PolicyGuru Enhanced Availability

The PolicyGuru Solution has been deployed in a distributed Enhanced Availability model to allow for rapid system recovery in the event of active management cluster failure. In this configuration model, the Mediation Server and Database Server in the primary location will be the active management cluster pair while the set in the second location will act as the warm-standby.

b) Test Steps

Test Case	Additional Information
Running State	
Start the PolicyGuru applications appropriate to that server. Using the ps command, verify the PolicyGuru processes are running.	The PolicyGuru processes appropriate to that server type will be running.
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	Processes are still running.
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	No critical errors are reported in the log.
Comments:	
PolicyGuru Enhanced Availability	
Verify the scripts and settings outlined in the document "PolicyGuru® Meta-Policy Controller Enhanced Availability Guide.pdf" have been implemented.  PolicyGuru System Enhanced Availability	Enhanced Availability correctly implemented.
Log into the warm-standby Mediation Server and Database Server. By taking note of timestamps, verify the scripts are syncing properly.	Files and directories on the warm-standby servers are being updated.
Comments:	

B. PolicyGuru ENUM Server Validation Testing

1. Functions to be Tested

- ENUM Requests are being received from the SBC
- The SBC and PolicyGuru Solution can correctly interpret exchanged regex expressions
- SBC properly handles call based upon received regex instruction
- SBC correctly configured to continue normal voice operations in the case of PolicyGuru solution failure state

2. Testing Procedure

a) Strategy

1) Receipt of ENUM Requests from SBC

Initiating test calls and verifying the SecureLogix PolicyGuru ENUM Servers receive properly formatted ENUM requests validates the following:

- (a) *SBC was configured with the correct ENUM request format and with the correct SecureLogix target IPs*
- (b) *PolicyGuru ENUM Server platforms are properly configured for the Customer's data network*
- (c) *PolicyGuru ENUM Server applications are functional and capable of receiving ENUM requests*
- (d) *Customer's data network has been correctly configured.*

2) Proper Exchange and Processing of Regex Response by SBC

When an ENUM request is made to the PolicyGuru ENUM Server application, the provided response is in the form of a regex statement. Verifying the SBC manages the call properly proves:

- (a) *The PolicyGuru application is properly configured to allow a user to create a rule that formats regex responses for the SBC*
- (b) *The SBC is properly configured to receive and interpret the regex responses from the PolicyGuru application*
- (c) *The SBC are correctly configured to process the call as it was directed to*

3) SBC Routing of Calls Based on ENUM Server Status

SBC configuration includes various routing tables that control how calls are directed within the Customer's voice network. This testing ensures that calls are routed as expected with the introduction of the PolicyGuru ENUM Server.

b) Test Steps

Test Case	Additional Information
Receipt of ENUM Requests from SBC	
Using the Analytics screen within the PolicyGuru Client while making test calls:	The PolicyGuru ENUM Servers should receive ENUM requests when test call traffic is generated.

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Using the presented fields, verify data is being received from each ENUM Server by selecting to display: <ul style="list-style-type: none"> ENUM from Dataset Average CPS from View Hour from Grouping Display each Device, one at a time, from Device	Data is correctly formatted and displayed in the expected format.
Using the presented fields, verify the Mediation Server can properly determine which are source phone numbers within the data received from the ENUM Servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none"> ENUM from Dataset Top 10 Source from View Hour from Grouping All from Device 	Call direction is properly determined and source phone numbers are properly displayed.
Using the presented fields, verify the Mediation Server can properly determine which are destination phone numbers within the data received from the ENUM Servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none"> SIP from Dataset Top 10 Destination from View Hour from Grouping All from Device 	Call direction is properly determined and destination phone numbers are properly displayed.
Comments:	
Proper Exchange and Processing of Regex Responses by SBC	
Configure and install a policy rule that allows a specific test call to proceed.	Call will proceed to destination in a normal fashion.
Configure and install a policy rule that causes a specific test call to be terminated.	Call will not go to the dialed destination. It will be "terminated" from the caller's perspective.
Configure and install a policy rule that allows a specific test call to proceed.	Call will proceed to destination in a normal fashion.
Uninstall all test policies.	Policies are successfully uninstalled.
Generate a test call using phone numbers associated with terminate and redirect policies to verify they are no longer being acted upon.	Calls are allowed validating policy was successfully uninstalled.
Comments:	

SBC Routing of Calls Based on ENUM Server Status	
SSH into each ENUM Server under test and initiate a TCP dump on the ETH2 interface.	TCP dump successfully initiated.
By observation of traffic received on the ETH2 interface, verify ENUM requests from the SBC are distributed in a round-robin fashion.	The SBC is properly configured to send ENUM requests in a round-robin fashion (e.g. call #1 goes to ENUM 1, call #2 goes to ENUM 2, call #3 goes to ENUM 3, call #4 goes to ENUM 1, call #5 goes to ENUM 2, etc.)
Disable the ENUM Server services on ENUM 1. Verify all ENUM requests are sent to ENUM 2 and ENUM 3.	The SBC is properly configured to send all ENUM requests to ENUM 2 and ENUM 3 once it recognizes ENUM 1 is unavailable. All calls are processed normally.
Disable the ENUM Server services on ENUM 1 and ENUM 2. Verify all ENUM requests are sent to ENUM 3.	The SBC is properly configured to send all ENUM requests to ENUM 3 once it recognizes ENUM 1 and ENUM 2 are unavailable. All calls are processed normally.
Re-enable the services on ENUM 1 and ENUM 2 servers. Verify the SBC recognizes they are back online and sends ENUM requests to all servers after the defined timeout expires.	The SBC is properly configured to place ENUM 1 and ENUM 2 servers on a blacklist for a specific period of time. Once that time expires, it will again send ENUM requests to ENUM 1 and ENUM 2.
Disable the ENUM Server services on all ENUM Servers for the site. Verify all calls proceed normally.	The SBC is properly configured to detect the ENUM Servers are unavailable and will route calls to the next hop in the Customer's network in a normal fashion.
Re-enable the services on all ENUM Servers at the site. Verify ENUM requests are again received in a round-robin fashion.	The SBC properly detects the ENUM Servers are again available and returns to the normal operation of a round-robin distribution of requests.
Comments:	

C. PolicyGuru Meta-Data Probe Server Validation

1. Functions to be Tested

- Call data is received from connected span ports.
- The Meta-Data Probes are properly configured to receive and interpret the provided UDP SIP signaling and RTP streams.

2. Testing Procedure

a) Strategy

- 1) Receipt of UDP SIP Signaling and RTP from Tap Device
UDP formatted SIP signaling and RTP data feed must be received from the tap device connected to each Meta-Data Probe server.
- 2) Proper Processing of Received Data
The PolicyGuru Solution properly parses and displays data received from the Meta-Data Probe Servers.

Date of Test:

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SLC Tester:

b) Test Steps

Test Case	Additional Information
Receipt of UDP SIP Signaling and RTP from Tap Device	
From the operating system of the Meta-Data Probe under test, verify interface ports 6 and 7 are in a bonded configuration.	Ports are bonded.
From the operating system of the Meta-Data Probe under test, start a packet capture on the bonded interface. Verify data is being forwarded from the tap device to the Meta-Data Probe server over this interface.	Data is being received over this interface from the span port.
Comments:	
Proper Processing of Received Data	
Using the Analytics screen within the PolicyGuru Client:	
Using the presented fields, verify data is being received from each Meta-Data Probe by selecting to display: <ul style="list-style-type: none">SIP from DatasetAverage CPS from ViewHour from Grouping Display each Device, one at a time, from Device	Data is correctly formatted and displayed in the expected format.
Using the presented fields, verify the Mediation Server can properly determine which are source phone numbers within the data received from the Meta-Data Probe servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none">SIP from DatasetTop 10 Source from ViewHour from GroupingAll from Device	Call direction is properly determined and source phone numbers are properly displayed.
Using the presented fields, verify the Mediation Server can properly determine which are destination phone numbers within the data received from the Meta-Data Probe servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none">SIP from DatasetTop 10 Destination from ViewHour from GroupingAll from Device	Call direction is properly determined and destination phone numbers are properly displayed.

Date of Test:

Customer:

SLC Tester:

Comments:

XII. Appendix B: Test Result Forms

Each page of Appendix B must be dated and signed by the SecureLogix Tester. If available, the participating Customer Witness will sign and date in the appropriate fields.

The FST has been fully executed when the following is satisfied:

- A verdict has been selected for each test below.
- Comments have been filled in where applicable.
- Exemptions and additional comments, if warranted, have been filled in.
- The tester and witness have signed the final page affirming the contents of Appendix B are acceptable and its content final.

A. Test Results – PolicyGuru Solution Baseline Configuration Validation


1. Primary PolicyGuru Mediation Server

Test Case	Additional Information
Running State	
Start the PolicyGuru applications appropriate to that server. Using the ps command, verify the PolicyGuru processes are running.	PASS FAIL OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS FAIL OTHER
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS FAIL OTHER
Comments:	
PolicyGuru Enhanced Availability	
Verify the scripts and settings outlined in the document “PolicyGuru® Meta-Policy Controller Enhanced Availability Guide.pdf” have been implemented.	PASS FAIL OTHER


Date of Test:

Customer:

SLC Tester:

 PolicyGuru System Enhanced Availability	
Log into the warm-standby Mediation Server. By taking note of timestamps, verify the scripts are syncing properly.	PASS FAIL OTHER
Comments:	

2. Primary PolicyGuru Database Server

Test Case	Additional Information
Running State	
Start the PolicyGuru applications appropriate to that server. Using the ps command, verify the PolicyGuru processes are running.	PASS FAIL OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS FAIL OTHER
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS FAIL OTHER
Comments:	
PolicyGuru Enhanced Availability	
Verify the scripts and settings outlined in the document "PolicyGuru® Meta-Policy Controller Enhanced Availability Guide.pdf" have been implemented.  PolicyGuru System Enhanced Availability	PASS FAIL OTHER
Log into the warm-standby Database Server. By taking note of timestamps, verify the scripts are syncing properly.	PASS FAIL OTHER
Comments:	

Date of Test:

Customer:

SLC Tester:

3. Site 1 PolicyGuru ENUM Server 1

Test Case	Additional Information
Running State	
Start the PolicyGuru applications appropriate to that server. Using the <code>ps</code> command, verify the PolicyGuru processes are running.	PASS FAIL OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS FAIL OTHER
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS FAIL OTHER
Comments:	
PolicyGuru Enhanced Availability	
Not applicable	Not applicable
Comments:	

4. Site 1 PolicyGuru ENUM Server 2

Test Case	Additional Information
Running State	
Start the PolicyGuru applications appropriate to that server. Using the <code>ps</code> command, verify the PolicyGuru processes are running.	PASS FAIL OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS FAIL OTHER
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS FAIL OTHER
Comments:	
PolicyGuru Enhanced Availability	

Date of Test:

Customer:

SLC Tester:

Not applicable	Not applicable
Comments:	

5. Site 1 PolicyGuru Meta-Data Probe Server 1

Test Case	Additional Information
Running State	
Start the PolicyGuru applications appropriate to that server. Using the <code>ps</code> command, verify the PolicyGuru processes are running.	PASS FAIL OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS FAIL OTHER
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS FAIL OTHER
Comments:	
PolicyGuru Enhanced Availability	
Not applicable	Not applicable
Comments:	

6. Site 1 PolicyGuru Meta-Data Probe Server 2

Test Case	Additional Information
Running State	
Start the PolicyGuru applications appropriate to that server. Using the <code>ps</code> command, verify the PolicyGuru processes are running.	PASS FAIL OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS FAIL OTHER


Date of Test:

Customer:

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Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS	FAIL	OTHER
Comments:			
PolicyGuru Enhanced Availability			
Not applicable	Not applicable		
Comments:			

7. Secondary PolicyGuru Mediation Server


Test Case	Additional Information		
Running State			
Start the PolicyGuru applications appropriate to that server. Using the ps command, verify the PolicyGuru processes are running.	PASS	FAIL	OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS	FAIL	OTHER
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS	FAIL	OTHER
Comments:			
PolicyGuru Enhanced Availability			
Verify the scripts and settings outlined in the document "PolicyGuru® Meta-Policy Controller Enhanced Availability Guide.pdf" have been implemented.  PolicyGuru System Enhanced Availabilit	PASS	FAIL	OTHER
Log into the warm-standby Mediation Server. By taking note of timestamps, verify the scripts are syncing properly.	PASS	FAIL	OTHER
Comments:			

Date of Test:

Customer:

SLC Tester:

8. Secondary PolicyGuru Database Server

Test Case	Additional Information
Running State	
Start the PolicyGuru applications appropriate to that server. Using the <code>ps</code> command, verify the PolicyGuru processes are running.	PASS FAIL OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS FAIL OTHER
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS FAIL OTHER
Comments:	
PolicyGuru Enhanced Availability	
Verify the scripts and settings outlined in the document "PolicyGuru® Meta-Policy Controller Enhanced Availability Guide.pdf" have been implemented.  PolicyGuru System Enhanced Availabilit	PASS FAIL OTHER
Log into the warm-standby Database Server. By taking note of timestamps, verify the scripts are syncing properly.	PASS FAIL OTHER
Comments:	

9. Site 2 PolicyGuru ENUM Server 1

Test Case	Additional Information
Running State	

Date of Test:

Customer:

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Start the PolicyGuru applications appropriate to that server. Using the ps command, verify the PolicyGuru processes are running.	PASS	FAIL	OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS	FAIL	OTHER
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS	FAIL	OTHER
Comments:			
PolicyGuru Enhanced Availability			
Not applicable	Not applicable		
Comments:			

10. Site 2 PolicyGuru ENUM Server 2

Test Case	Additional Information		
Running State			
Start the PolicyGuru applications appropriate to that server. Using the ps command, verify the PolicyGuru processes are running.	PASS	FAIL	OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS	FAIL	OTHER
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS	FAIL	OTHER
Comments:			
PolicyGuru Enhanced Availability			
Not applicable	Not applicable		
Comments:			

Date of Test:

Customer:

SLC Tester:

11. Site 2 PolicyGuru Meta-Data Probe Server 1

Test Case	Additional Information
Running State	
Start the PolicyGuru applications appropriate to that server. Using the <code>ps</code> command, verify the PolicyGuru processes are running.	PASS FAIL OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS FAIL OTHER
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS FAIL OTHER
Comments:	
PolicyGuru Enhanced Availability	
Not applicable	Not applicable
Comments:	

12. Site 2 PolicyGuru Meta-Data Probe Server 2

Test Case	Additional Information
Running State	
Start the PolicyGuru applications appropriate to that server. Using the <code>ps</code> command, verify the PolicyGuru processes are running.	PASS FAIL OTHER
Wait 10 minutes and verify the appropriate application processes on each server being tested are still running.	PASS FAIL OTHER
Wait 30 minutes and review the application log file appropriate to the server being tested to verify there are no reported errors.	PASS FAIL OTHER
Comments:	
PolicyGuru Enhanced Availability	

Date of Test:

Customer:

SLC Tester:

Not applicable	Not applicable
Comments:	

B. Test Results – PolicyGuru ENUM Server Validation Testing

1. Site 1 PolicyGuru ENUM Server 1

Test Case	Additional Information		
Receipt of ENUM Requests from SBC			
Using the Analytics screen within the PolicyGuru Client while making test calls:	PASS	FAIL	OTHER
Using the presented fields, verify data is being received from each ENUM Server by selecting to display: ENUM from Dataset Average CPS from View Hour from Grouping Display each Device, one at a time, from Device	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are source phone numbers within the data received from the ENUM Servers, and that the phone numbers are presented in a normalized format, by selecting to display: ENUM from Dataset Top 10 Source from View Hour from Grouping All from Device	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are destination phone numbers within the data received from the ENUM Servers, and that the phone numbers are presented in a normalized format, by selecting to display: SIP from Dataset Top 10 Destination from View	PASS	FAIL	OTHER

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Hour from Grouping All from Device	
Comments:	
Proper Exchange and Processing of Regex Responses by SBC	
Configure and install a policy rule that allows a specific test call to proceed.	PASS FAIL OTHER
Configure and install a policy rule that causes a specific test call to be terminated.	PASS FAIL OTHER
Configure and install a policy rule that allows a specific test call to proceed.	PASS FAIL OTHER
Uninstall all test policies.	PASS FAIL OTHER
Generate a test call using phone numbers associated with terminate and redirect policies to verify they are no longer being acted upon.	PASS FAIL OTHER
Comments:	
SBC Routing of Calls Based on ENUM Server Status	
SSH into each ENUM Server under test and initiate a TCP dump on the ETH2 interface.	PASS FAIL OTHER
By observation of traffic received on the ETH2 interface, verify ENUM requests from the SBC are distributed in a round-robin fashion.	PASS FAIL OTHER
Disable the ENUM Server services on ENUM 1. Verify all ENUM requests are sent to ENUM 2 and ENUM 3.	PASS FAIL OTHER
Disable the ENUM Server services on ENUM 1 and ENUM 2. Verify all ENUM requests are sent to ENUM 3.	PASS FAIL OTHER
Re-enable the services on ENUM 1 and ENUM 2 servers. Verify the SBC recognizes they are back online and sends ENUM requests to all servers after the defined timeout expires.	PASS FAIL OTHER

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Disable the ENUM Server services on all ENUM Servers for the site. Verify all calls proceed normally.	PASS	FAIL	OTHER
Re-enable the services on all ENUM Servers at the site. Verify ENUM requests are again received in a round-robin fashion.	PASS	FAIL	OTHER
Comments:			

2. Site 1 PolicyGuru ENUM Server 2

Test Case	Additional Information		
Receipt of ENUM Requests from SBC			
Using the Analytics screen within the PolicyGuru Client while making test calls:	PASS	FAIL	OTHER
Using the presented fields, verify data is being received from each ENUM Server by selecting to display: <ul style="list-style-type: none">ENUM from DatasetAverage CPS from ViewHour from Grouping Display each Device, one at a time, from Device	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are source phone numbers within the data received from the ENUM Servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none">ENUM from DatasetTop 10 Source from ViewHour from GroupingAll from Device	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are destination phone numbers within the data received from the ENUM Servers, and that the phone numbers are presented in a normalized format, by selecting to display:	PASS	FAIL	OTHER

Date of Test:

Customer:

SLC Tester:

<ul style="list-style-type: none"> SIP from Dataset Top 10 Destination from View Hour from Grouping All from Device 	
Comments:	
Proper Exchange and Processing of Regex Responses by SBC	
Configure and install a policy rule that allows a specific test call to proceed.	PASS FAIL OTHER
Configure and install a policy rule that causes a specific test call to be terminated.	PASS FAIL OTHER
Configure and install a policy rule that allows a specific test call to proceed.	PASS FAIL OTHER
Uninstall all test policies.	PASS FAIL OTHER
Generate a test call using phone numbers associated with terminate and redirect policies to verify they are no longer being acted upon.	PASS FAIL OTHER
Comments:	
SBC Routing of Calls Based on ENUM Server Status	
SSH into each ENUM Server under test and initiate a TCP dump on the ETH2 interface.	PASS FAIL OTHER
By observation of traffic received on the ETH2 interface, verify ENUM requests from the SBC are distributed in a round-robin fashion.	PASS FAIL OTHER
Disable the ENUM Server services on ENUM 1. Verify all ENUM requests are sent to ENUM 2 and ENUM 3.	PASS FAIL OTHER
Disable the ENUM Server services on ENUM 1 and ENUM 2. Verify all ENUM requests are sent to ENUM 3.	PASS FAIL OTHER
Re-enable the services on ENUM 1 and ENUM 2 servers. Verify the SBC recognizes they are back online and sends ENUM requests to all servers after the defined timeout expires.	PASS FAIL OTHER

Date of Test:

Customer:

SLC Tester:

Disable the ENUM Server services on all ENUM Servers for the site. Verify all calls proceed normally.	PASS	FAIL	OTHER
Re-enable the services on all ENUM Servers at the site. Verify ENUM requests are again received in a round-robin fashion.	PASS	FAIL	OTHER
Comments:			

3. Site 2 PolicyGuru ENUM Server 1

Test Case	Additional Information		
Receipt of ENUM Requests from SBC			
Using the Analytics screen within the PolicyGuru Client while making test calls:	PASS	FAIL	OTHER
Using the presented fields, verify data is being received from each ENUM Server by selecting to display: <ul style="list-style-type: none">ENUM from DatasetAverage CPS from ViewHour from Grouping Display each Device, one at a time, from Device	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are source phone numbers within the data received from the ENUM Servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none">ENUM from DatasetTop 10 Source from ViewHour from GroupingAll from Device	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are destination phone numbers within the data received from the ENUM Servers, and that the phone numbers are presented in a normalized format, by selecting to display:	PASS	FAIL	OTHER

Date of Test:

Customer:

SLC Tester:

<ul style="list-style-type: none"> • SIP from Dataset • Top 10 Destination from View • Hour from Grouping • All from Device 	
Comments:	
Proper Exchange and Processing of Regex Responses by SBC	
Configure and install a policy rule that allows a specific test call to proceed.	PASS FAIL OTHER
Configure and install a policy rule that causes a specific test call to be terminated.	PASS FAIL OTHER
Configure and install a policy rule that allows a specific test call to proceed.	PASS FAIL OTHER
Uninstall all test policies.	PASS FAIL OTHER
Generate a test call using phone numbers associated with terminate and redirect policies to verify they are no longer being acted upon.	PASS FAIL OTHER
Comments:	
SBC Routing of Calls Based on ENUM Server Status	
SSH into each ENUM Server under test and initiate a TCP dump on the ETH2 interface.	PASS FAIL OTHER
By observation of traffic received on the ETH2 interface, verify ENUM requests from the SBC are distributed in a round-robin fashion.	PASS FAIL OTHER
Disable the ENUM Server services on ENUM 1. Verify all ENUM requests are sent to ENUM 2 and ENUM 3.	PASS FAIL OTHER
Disable the ENUM Server services on ENUM 1 and ENUM 2. Verify all ENUM requests are sent to ENUM 3.	PASS FAIL OTHER
Re-enable the services on ENUM 1 and ENUM 2 servers. Verify the SBC recognizes they are back online and sends ENUM requests to all servers after the defined timeout expires.	PASS FAIL OTHER

Date of Test:

Customer:

SLC Tester:

Disable the ENUM Server services on all ENUM Servers for the site. Verify all calls proceed normally.	PASS	FAIL	OTHER
Re-enable the services on all ENUM Servers at the site. Verify ENUM requests are again received in a round-robin fashion.	PASS	FAIL	OTHER
Comments:			

4. Site 2 PolicyGuru ENUM Server 2

Test Case	Additional Information		
Receipt of ENUM Requests from SBC			
Using the Analytics screen within the PolicyGuru Client while making test calls:	PASS	FAIL	OTHER
Using the presented fields, verify data is being received from each ENUM Server by selecting to display: <ul style="list-style-type: none">ENUM from DatasetAverage CPS from ViewHour from Grouping Display each Device, one at a time, from Device	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are source phone numbers within the data received from the ENUM Servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none">ENUM from DatasetTop 10 Source from ViewHour from GroupingAll from Device	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are destination phone numbers within the data received from the ENUM Servers, and that the phone numbers are presented in a normalized format, by selecting to display:	PASS	FAIL	OTHER

Date of Test:

Customer:

SLC Tester:

<ul style="list-style-type: none"> • SIP from Dataset • Top 10 Destination from View • Hour from Grouping • All from Device 	
Comments:	
Proper Exchange and Processing of Regex Responses by SBC	
Configure and install a policy rule that allows a specific test call to proceed.	PASS FAIL OTHER
Configure and install a policy rule that causes a specific test call to be terminated.	PASS FAIL OTHER
Configure and install a policy rule that allows a specific test call to proceed.	PASS FAIL OTHER
Uninstall all test policies.	PASS FAIL OTHER
Generate a test call using phone numbers associated with terminate and redirect policies to verify they are no longer being acted upon.	PASS FAIL OTHER
Comments:	
SBC Routing of Calls Based on ENUM Server Status	
SSH into each ENUM Server under test and initiate a TCP dump on the ETH2 interface.	PASS FAIL OTHER
By observation of traffic received on the ETH2 interface, verify ENUM requests from the SBC are distributed in a round-robin fashion.	PASS FAIL OTHER
Disable the ENUM Server services on ENUM 1. Verify all ENUM requests are sent to ENUM 2 and ENUM 3.	PASS FAIL OTHER
Disable the ENUM Server services on ENUM 1 and ENUM 2. Verify all ENUM requests are sent to ENUM 3.	PASS FAIL OTHER
Re-enable the services on ENUM 1 and ENUM 2 servers. Verify the SBC recognizes they are back online and sends ENUM requests to all servers after the defined timeout expires.	PASS FAIL OTHER

Date of Test:

Customer:

SLC Tester:

Disable the ENUM Server services on all ENUM Servers for the site. Verify all calls proceed normally.	PASS	FAIL	OTHER
Re-enable the services on all ENUM Servers at the site. Verify ENUM requests are again received in a round-robin fashion.	PASS	FAIL	OTHER
Comments:			

C. Test Results – PolicyGuru Meta-Data Probe Server Validation

1. Site 1 PolicyGuru Meta-Data Probe Server 1

Test Case	Additional Information
Receipt of UDP SIP Signaling and RTP from Tap Device	
From the operating system of the Meta-Data Probe under test, verify interface ports 6 and 7 are in a bonded configuration.	PASS FAIL OTHER
From the operating system of the Meta-Data Probe under test, start a packet capture on the bonded interface. Verify data is being forwarded from the tap device to the Meta-Data Probe server over this interface.	PASS FAIL OTHER
Comments:	
Proper Processing of Received Data	
Using the Analytics screen within the PolicyGuru Client:	
Using the presented fields, verify data is being received from each Meta-Data Probe by selecting to display: <ul style="list-style-type: none"> SIP from Dataset Average CPS from View Hour from Grouping 	PASS FAIL OTHER

Date of Test:

Customer:

SLC Tester:

Display each Device, one at a time, from Device	
Using the presented fields, verify the Mediation Server can properly determine which are source phone numbers within the data received from the Meta-Data Probe servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none"> SIP from Dataset Top 10 Source from View Hour from Grouping All from Device 	PASS FAIL OTHER
Using the presented fields, verify the Mediation Server can properly determine which are destination phone numbers within the data received from the Meta-Data Probe servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none"> SIP from Dataset Top 10 Destination from View Hour from Grouping All from Device 	PASS FAIL OTHER
Comments:	

2. Site 2 PolicyGuru Meta-Data Probe Server 2

Test Case	Additional Information
Receipt of UDP SIP Signaling and RTP from Tap Device	
From the operating system of the Meta-Data Probe under test, verify interface ports 6 and 7 are in a bonded configuration.	PASS FAIL OTHER
From the operating system of the Meta-Data Probe under test, start a packet capture on the bonded interface. Verify data is being forwarded from the tap device to the Meta-Data Probe server over this interface.	PASS FAIL OTHER
Comments:	

Date of Test:

Customer:

SLC Tester:

Proper Processing of Received Data			
Using the Analytics screen within the PolicyGuru Client:			
Using the presented fields, verify data is being received from each Meta-Data Probe by selecting to display: <ul style="list-style-type: none"> SIP from Dataset Average CPS from View Hour from Grouping Display each Device, one at a time, from Device	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are source phone numbers within the data received from the Meta-Data Probe servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none"> SIP from Dataset Top 10 Source from View Hour from Grouping All from Device 	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are destination phone numbers within the data received from the Meta-Data Probe servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none"> SIP from Dataset Top 10 Destination from View Hour from Grouping All from Device 	PASS	FAIL	OTHER
Comments:			

3. Site 2 PolicyGuru Meta-Data Probe Server 1

Test Case

Additional Information

Date of Test:

Customer:

SLC Tester:

Receipt of UDP SIP Signaling and RTP from Tap Device			
From the operating system of the Meta-Data Probe under test, verify interface ports 6 and 7 are in a bonded configuration.	PASS	FAIL	OTHER
From the operating system of the Meta-Data Probe under test, start a packet capture on the bonded interface. Verify data is being forwarded from the tap device to the Meta-Data Probe server over this interface.	PASS	FAIL	OTHER
Comments:			
Proper Processing of Received Data			
Using the Analytics screen within the PolicyGuru Client:			
Using the presented fields, verify data is being received from each Meta-Data Probe by selecting to display: <ul style="list-style-type: none"> SIP from Dataset Average CPS from View Hour from Grouping Display each Device, one at a time, from Device	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are source phone numbers within the data received from the Meta-Data Probe servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none"> SIP from Dataset Top 10 Source from View Hour from Grouping All from Device 	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are destination phone numbers within the data received from the Meta-Data Probe servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none"> SIP from Dataset 	PASS	FAIL	OTHER

Date of Test:

Customer:

SLC Tester:

<ul style="list-style-type: none"> • Top 10 Destination from View • Hour from Grouping • All from Device 	
Comments:	

4. Site 2 PolicyGuru Meta-Data Probe Server 2

Test Case	Additional Information		
Receipt of UDP SIP Signaling and RTP from Tap Device			
From the operating system of the Meta-Data Probe under test, verify interface ports 6 and 7 are in a bonded configuration.	PASS	FAIL	OTHER
From the operating system of the Meta-Data Probe under test, start a packet capture on the bonded interface. Verify data is being forwarded from the tap device to the Meta-Data Probe server over this interface.	PASS	FAIL	OTHER
Comments:			
Proper Processing of Received Data			
Using the Analytics screen within the PolicyGuru Client:			
Using the presented fields, verify data is being received from each Meta-Data Probe by selecting to display: <ul style="list-style-type: none">SIP from DatasetAverage CPS from ViewHour from Grouping Display each Device, one at a time, from Device	PASS	FAIL	OTHER
Using the presented fields, verify the Mediation Server can properly determine which are source phone numbers within the data received from the Meta-Data Probe servers, and that the phone	PASS	FAIL	OTHER

Date of Test:

Customer:

SLC Tester:

numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none">• SIP from Dataset• Top 10 Source from View• Hour from Grouping• All from Device	
Using the presented fields, verify the Mediation Server can properly determine which are destination phone numbers within the data received from the Meta-Data Probe servers, and that the phone numbers are presented in a normalized format, by selecting to display: <ul style="list-style-type: none">• SIP from Dataset• Top 10 Destination from View• Hour from Grouping• All from Device	PASS FAIL OTHER
Comments:	

Overall Exceptions and/or Comments:

Date of Test:

Customer:

SLC Tester:

XIII. Appendix C: Final Acceptance

NOTE: This page should not be signed until ALL results and comments have been fully documented in Appendix B. Signing below indicates agreement between the Customer Witness and SecureLogix Tester that:

- The contents of Appendix B are final.
- The contents of Appendix B are complete and accurate.

This Functional System Test Result was Accepted on:

Date

Time

Customer Representative:

SecureLogix Representative:

Name

(Printed)

Name

(Printed)

Signature

Signature

Title

Title

This document may be faxed or scanned and emailed to the assigned SecureLogix Project Manager listed below. Please be sure to include the entire document, not just Appendix B, and verify all signature areas are legible.

Jane Byrne

Senior Project Engineer

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