Spectra2

Version 8.5 Release Notes

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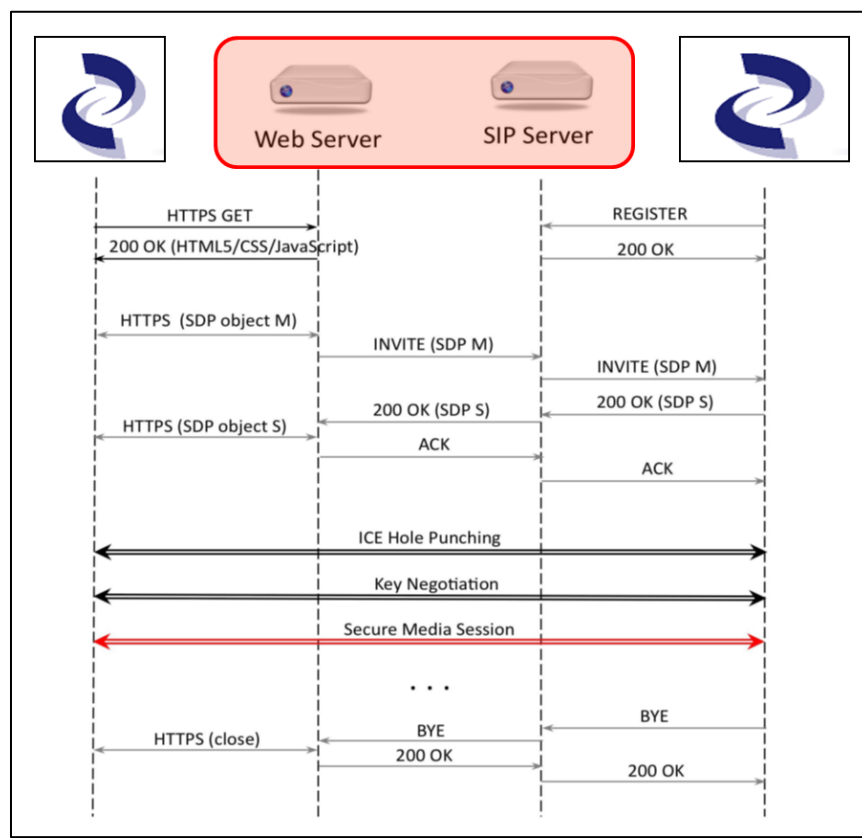
1   Introduction

This document contains information pertaining to the Spectra2 version 8.5 release. This information is intended for individuals who are responsible for installing, deploying, using or supporting Spectra2. This release contains introduction of new features and fixes to some major and minor issues listed.

2   New Features

2.1   WebRTC Test solution

Spectra2 v8.5 introduces support for validating vendor independent WebRTC gateway solutions. These gateways can be collocated with other existing core network nodes such as CSCF, Media Gateways or standalone implementations functioning as Web Servers and Media Interworking/Proxy/Relay functions.
WebRTC standardizes the media exchange between endpoints by dictating codecs , NAT/Firewall handling and Security negotiation. Session establishment on the other hand is not standardized and multiple options are implemented by different vendors. Spectra2 addresses the non-standard aspect of it by allowing flexible signaling in the way of HTTP and JSON. Examples of the supported signaling and media mechanisms are:

- ICE/STUN integrated support
- SDES and DTLS SRTP
- G711/H.264 standard audio and video codecs and support for OPUS and VP8 with Inject Raw
- HTTP/HTTPS with JSON and JSON/Websocket programmable signaling mechanisms

2.2   Spectra2 for the Production Network – Network Element Assurance

Spectra2 now extends into the production (live) network with a new powerful function that validates the hardware and software functionality of a given element. The most common use case considers media issues. Many carriers suffer from voice and video quality issues in the form of one-way audio, poor transcoding, dropout, and more. High order monitoring tools can detect these problems but they frequently do not have the power to effectively troubleshoot them because they do not control the signaling and the media. Consequently, Spectra2 has been modified to provide a means of thoroughly exercising every physical and virtual resource on a given element to prove that the element is functioning properly or to prove that it is not functioning properly. For example in a Media Gateway, Spectra2 can generate a series of calls with signaling and media to validate every physical port, board, and DSP as well as the algorithms that perform transcoding thus giving the carrier a clear view of exactly what is and what not working properly on that given MGW.

The new capability includes a detailed report that provides detail on every test call that went through the MGW and yields data on call control quality as well as media quality. These new reports give the user the option to generate individual records on a per call leg basis which include signaling and media details such as Date/Time, Duration, Calling/Called parties, RTP QoS details as well as flexible custom fields which are defined in the scripts and can contain ANY details available in the signaling via a GET command.
This new reporting capability effectively enables a complete Active Test solution for any production network where Spectra2 simulated endpoints are placed in strategic points of the network and can launch calls in a controlled manner to evaluate cases such as:
-   Network/Destination reachability;
-    Media Quality issues such as One-way audio, Excessive Packet Loss and others
Reports are created and stored on the server and can be split into multiple files based on number of records collected. These are CSV files that can easily be used for post analysis of test results.

Important: This requires RTP QoS licenses to enable media specific fields in the reports. Please contact Tekcomms' customer support for more details.

2.3   Diameter Testing: Support for SLh and SLg Location Based Service interfaces

This latest addition to the Spectra2 suite of Diameter interfaces allows for validation of Location Based Services through a GMLC while communicating with an MME and HSS. Location operations such as Provide Location Request and Location Report Request can be performed and fully validated based on UE operations.
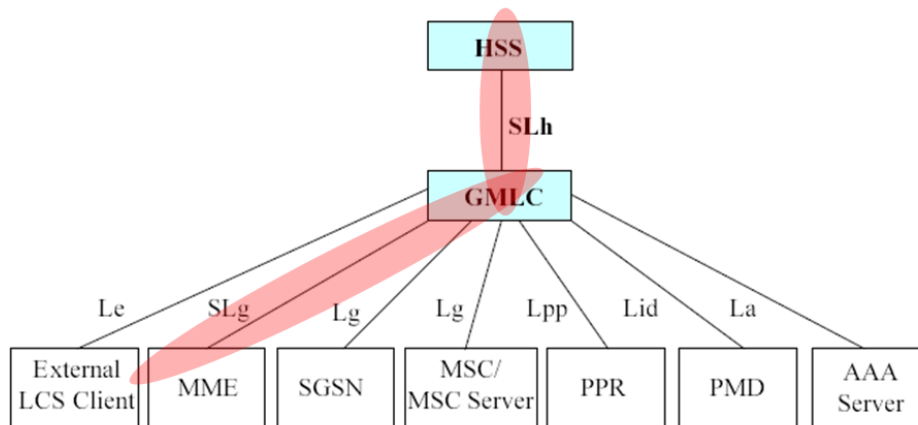
Important: This is a licensed feature. Please contact Tekcomms' customer support for more details.

3   System Product Enhancements

Spectra2 v8.5 contains the following enhancements:

3.1   Diameter

CT-1328   Some Diameter Rx AVP values should be added
Decode enhancements to add the following values:
- For Specific-Action AVP: INDICATION_OF_FAILD_RESOURCES_ALLOCATION(9)
- For Experimental-Result-Code AVP: REQUESTED_SERVICE_NOT_AUTHORIZED (5063)
- For Flow-Usage AVP: AF_SIGNALLING (2)

CT-1347   Support for SLh and SLg Diameter interfaces (LBS)
New support for the following Location Based Services Diameter interfaces:
- SLh interface between GMLC (Gateway Mobile Location Center) and HSS (Home Subscriber Server) based on 3GPP 29.173 Release 10
- SLg interface between GMLC (Gateway Mobile Location Center) and MME (Mobility Management Entity) based on 3GPP 29.172 Release 10

CT-2130   Expanded UE limits for Cx/Dx/Sh UE Profiles
The existing 65,535 UE count limit in place for this profile has been lifted and now can go upwards of 3 million. A warning may still appear on the event log when more than 192,000 entries are configured but can be otherwise ignored and will not affect the system performance.

3.2   WebRTC

CT-1436   WebRTC Test solution

Support for new HTTP, JSON, ICE/STUN and DTLS signaling and media capabilities as part of WebRTC Client simulation solution for validating Web Interworking gateways.

3.3   Reporting

CT-1799   **Spectra2 for the Production Network – Network Element Assurance - Generator based Call Detail Report**
Support for a new generator based call report with fixed and customized signaling and media fields. The report includes correlated details gathered from the signaling and media sessions of individual call legs in SIP Generator scripts.

3.4   XCAP

CT-2127   **XCAP URI file extension enhancement**
This version now includes support for defining XCAP URI index file extension without automatically assigning ".xml". This field can now be used to specify any file type.

4   Fixed Problem Reports

Tektronix corrected the following system problem reports (SPRs) in Spectra2 v8.5. The following lists the SPRs in alphabetical order by functional area.

4.1   ASMG

CT-2091   Event log error "IPSMi board(15) failed. Restarting the process." running SIP Traffic in ASMG

CT-2131   Inject RTP media with 2 Call Legs that include TCAP and SIP does not Inject RTP in ASMG

4.2   Capture

CT-1722   Capture saving error for large size buffer captures (usually > 200MB)

CT-2064   IClient.exe crash when modifying the color coded schemes on the Capture preferences

4.3   Diameter

CT-823   Diameter compact decode display issues

CT-2090   S2 is incorrectly encoding the Framed-IPv6-Prefix AVP according to RFC 3162

4.4   SIP

CT-838   SIP Gen UAS behavior for rport parameter is not correct

CT-1857   Event log Error: "SIP Authentication Fail: credential is rejected" when running SIP 486 BUSY HERE scenario

CT-2140   Error "Encountered an improper argument" running SIP Register script in Generator