

Spectra2

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What's new with Spectra2 in 2H 2014

There is a lot to share!

Greetings to all our loyal Spectra2 customers. The first half of the year has been busy for the TekComms Spectra2 team, and I'm sure the same applies to you.

As I travel across the world, I continue to see growing deployment of LTE and VoLTE service launches. Along with LTE services come the challenges of validating service quality and

media quality, verifying 2G to 4G roaming (MAP to Diameter Interworking), introducing new Diameter interfaces along with capacity increases, and a litany of other things.

We have listened to you as you have shared your needs with us. As a result, we continue to release a portfolio that will help you combat the challenges you are experiencing in your labs and live networks.

In this version of the newsletter, I will provide you a view of what has been recently released and give you a clear vision into the remainder of the year so that you can plan accordingly. Should you have any questions, concerns or feedback, please do not hesitate to contact me or your local sales team directly.

Best Regards,
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Announcing LTE Service Testing

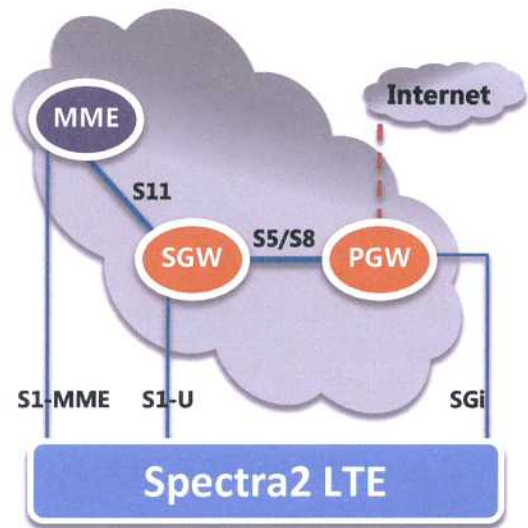
This September we will introduce some very exciting new Spectra2 products and features.

Spectra2 LTE

The new linearly scalable test solution for 3GPP LTE enhanced packet core, Spectra2 LTE gives users the power to easily test a single session with full traceability, or tens of thousands of simultaneous sessions using data services. Create, configure, and control several simulated nodes like MME, SGW, PGW from an intuitive user interface. The solution supports the S1, S5/S8, S11, and SGi interfaces.

Use Cases:

- **Mobile Data Traffic Modeling** allows you to simulate up to hundreds of thousands of mobile UEs across a network of eNodeBs with HTTP, FTP, POP, and streaming traffic over the S1 interface.
- **EPC Emulation** allows you to emulate MME, SGW or PGW without having to invest in physical equipment.
- **Virtual EPC Testing** allows you to test virtual instances of EPC elements.
- **MME, SGW, or PGW Testing** enables you to validate the capacity and functionality of these elements.
- **Small Cell Simulation** allows for the testing of the EPC through the generation of traffic from multiple instances of micro, pico, or femto cells



Sales Team

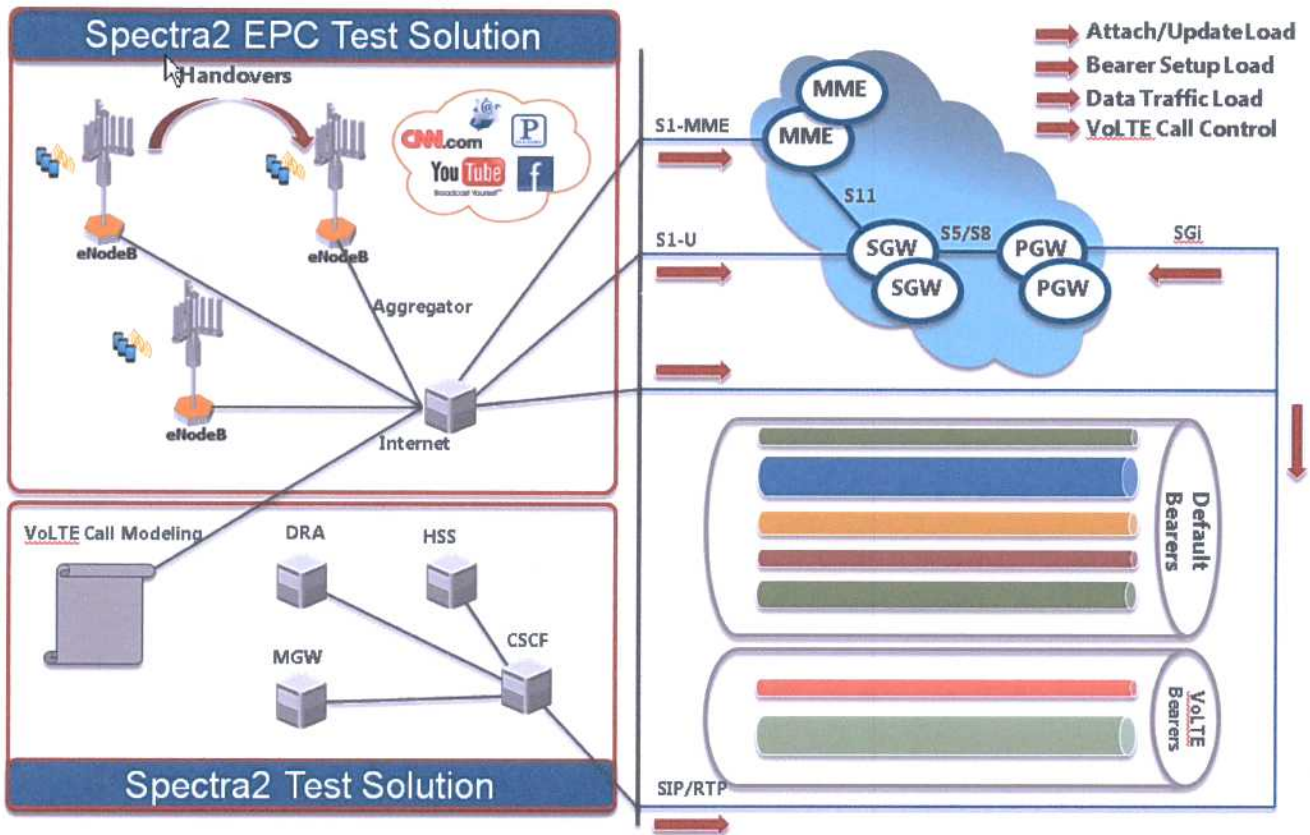
Americas West Coast:
Americas East Coast:
Americas T2/T3, Canada:
EMEA:
Germany
Sweden
United Kingdom
Japan:
China:
India
Australia:
Mexico:
Peru:
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Coming in 4th Quarter: VoLTE Service Testing

Spectra2 LTE leverages existing IMS test capabilities to provide End-to-End VoLTE testing, performing Service QoE, and mixed VoLTE+data traffic modeling



Live Network Element Level Assurance

A new way to actively manage and troubleshoot your live network...

Troubleshooting Equipment in the Live Network

Are you getting ready to launch a new service like VoLTE but finding it difficult to isolate recurring voice quality issues?

As a carrier, are you constantly receiving customer complaints about service quality, yet your network KPIs are not indicating a service problem?

Are you an equipment manufacturer that gets called on-site every time the carrier has a problem—regardless of whether or not the problem is located in your hardware or software?

Are you sure that all of the hardware and software in your network elements is functioning properly?

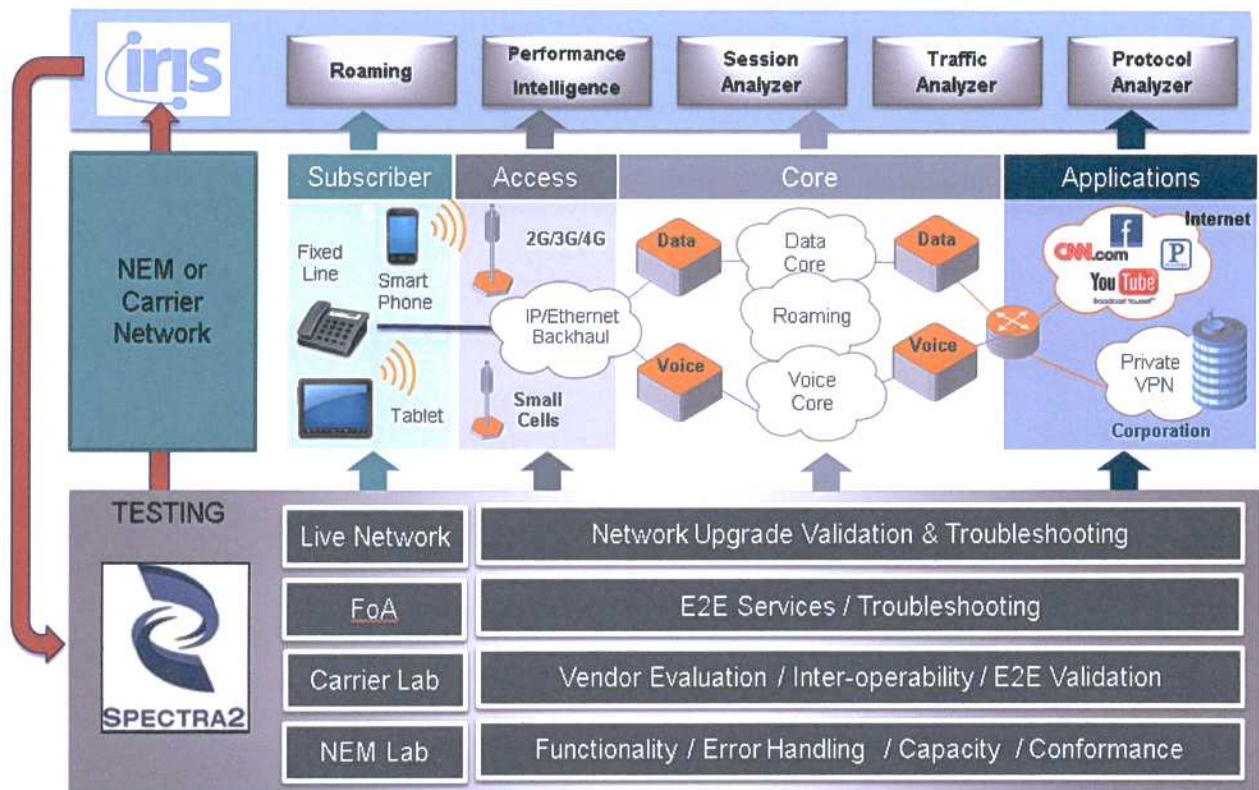
Live Assurance:

Spectra2's Live Network Element Level Assurance program has been designed to help you troubleshoot equipment in the live network. Our focus is to run a series of active tests that will completely exercise all the hardware and software in a given element and then provide a service quality report that isolates any issues found.

(Continued) A new way to actively manage and troubleshoot your live network...

Use Cases:

- Media Gateway Troubleshooting:** Use Spectra2 to exercise every IP port and DSP combination on every MGW in your network. This automated test will run at time prescribed by you and will generate voice calls through every resource on that MGW. The resulting report will show exactly where one-way audio or transcoding issues are occurring. This use case is ideal for any voice or video related service over any access technology.
- Access Gateway Testing:** Generate test calls at defined time intervals with second level granularity exercising every IP address on an SBC or other Access Gateway. This test ensures that your access gateway is always up and running in problem free mode. If troubles occur, Spectra2 will report the failed calls along with the reason.
- New Service Introduction:** Spectra2 can simulate your UEs as you get ready to launch a new service on your live network. Easily replicate device level call flows with media.

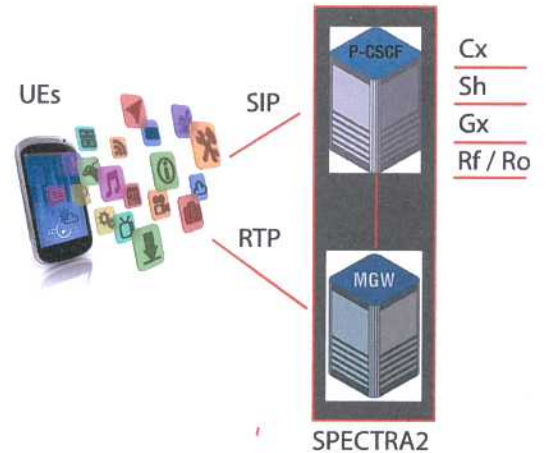


Announcing Spectra2 Release 8.4

Spectra2 version 8.4, available now, has some exciting new features

IMS Core Simulation with Media (RTP) Support in Advanced Signaling and Media Generator

- Description:** Complementing the capability to simultaneously generate SIP, Diameter, and TCAP protocols with shared data across protocols, the Advanced Signaling and Media Generators now support the inclusion of RTP traffic into these multi-protocol call scenarios.
- Use Cases:** Save the expense of having to purchase an IMS core. With Spectra2 you can simulate the various elements of your IMS Core with complete access to call flows. You can even simulate the behavior of a multi-vendor network by importing call traces directly from the field with the Autoscripting feature.



Video with H.248 Signaling

- Description:** H.248 Protocol Testers and Generators now support call setup for H.263, H.264, and MPeg3 Video calls.
- Use Case:** Validate MGW for Megaco Signaling and Video functionality, performance and capacity

Fax Over IP Enhancement

- Description:** Upgrade to support revisions to the Fax over IP media stream

TLS Version 1.2

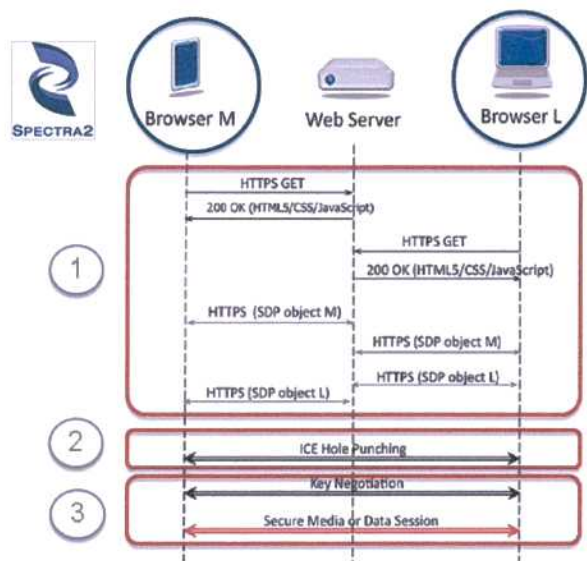
- Description:** SIP TLS now supports version 1.2

Spectra2 Release 8.5 Coming in Q4

Here is what we have for you at the end of the year in Release 8.5

WebRTC

- Description:** Browser emulation with basic WebRTC components, including ICE/STUN/TURN, SRTP/DTLS, and Websockets.
- Use Case:** Test your WebRTC servers for functionality and capacity with the simple Spectra2 user interface that you have grown accustomed to.
- Note:** Contact your local sales representative, if you are interested in a WebRTC demo or trial.



Diameter SLg / SLh

- Description:** Functional and Load testing of the SLg (MME / GMLC) and SLh (GMLC / HSS) interfaces.
- Use Case:** Test Location services in your LTE EPC network with the ability to simulate the mobility of your users.

QoS Reports for Live Network Element Level Assurance

- Description:** Deep level QoS reporting for every component of a MGW.
- Use Case:** A mechanism developed for carriers to troubleshoot media quality issues like one-way audio and poor transcoding in the live network. The purpose is to exercise every physical component within an element to determine exactly where media problems are occurring.

GA: Spectra2 Release 8.3 SP2

Spectra2 version 8.3 SP2 is Generally Available

MOS Scoring for HPM

- **Description:** This enhancement to High Performance Media mode provides MOS Scoring on a per interface or per board basis.
- **Use Cases:** QoS Scoring across multiple thousands of simultaneous media streams.

IMS IPsec AKA v1/v2

- **Description:** SIP Generators now support IMS AKA IPsec v1/v2 from both the client and the server perspective.
- **Use Cases:** Test from the UE perspective by registering users with IPsec encryption or simulate the a servers such as a P-CSCF to establish IPsec encryption with multiple UEs.

Diameter Source Port Control

- **Description:** Provides TCP and SCTP support for static port definitions of Diameter node simulations.
- **Use Cases:** When configuring Diameter nodes, you can set the source port to be static or dynamic depending on your test needs.

Windows 8 and Server 2012

- **Description:** Spectra2 now supports Windows 8 and Windows Server 2012 Operating Systems.

Note: Please visit the customer portal to download release notes:

GA: Spectra2 Release 8.3 SP1

Release 8.3 SP1 is now Generally Available for Spectra2

Diameter Sy Interface

- **Description:** Functional and performance testing of the Diameter Sy interface.
- **Use Case:** Verifying the interactions between a 3GPP policy element (PCRF server) and the charging element (OCS server) along with capacity and performance.

InjectRaw Codec Agnostic in HPM

- **Description:** InjectRaw commands are now supported in High Performance Media mode.
- **Use Case:** Validate SBCs or MGWs capacity using any codec over RTP.

SSH access to Spectra2 API

- **Description:** Access the Spectra2 from Secure Shell environment.
- **Use Case:** Secure your automation with an SSH interface.

Passive Audio QoS Enhancements

- **Description:** Passive QoS is now extended additional codecs such as G.729B, GSM-FR, iLBC, and Speex.
- **Use Case:** Use the Spectra2 InjectRaw feature to extend your audio codec testing and QoS capabilities.

Autoscripting—A new level of productivity

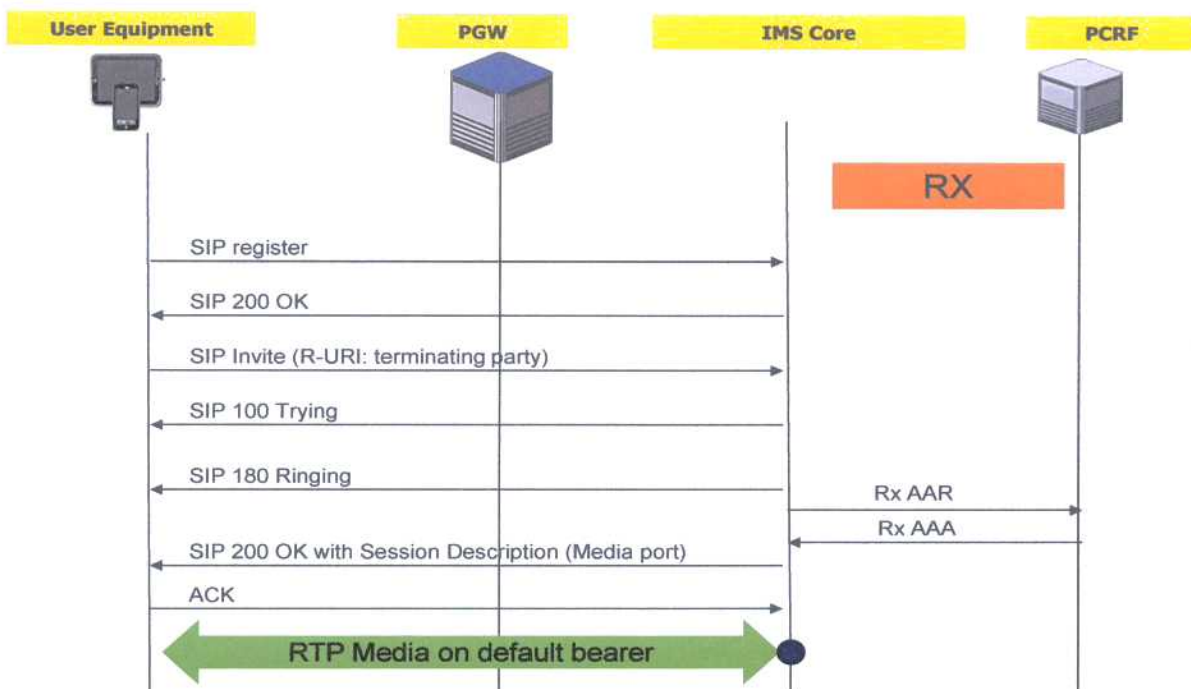
Building Simple Test Cases

Most users with test tool experience will agree that building test cases with Spectra2 is a relatively simple process. It's just a matter of defining the message sequence of a call flow and then inserting a series of TRANSMIT and TRIGGER commands into a script with appropriate signaling messages from the PDU library.

But even this simple process can be time consuming and prone to errors. For example, you could:

- Get your TRANSMIT and TRIGGER commands mixed up - using one instead of the other.
- Pick an incorrect PDU to TRANSMIT or TRIGGER upon
- Get your commands out of the proper sequence
- Forget to place appropriate timing intervals between events

And the longer the test case, the more possible it is to introduce these errors. Let's examine the time requirements to build a test case on Spectra2 using the call flow seen in the diagram below:



There are nine messages (7 SIP / 2 DIAMETER) spread across 2 Call Legs. To build this you would have to create the sip call leg, and then add 3 TRANSMIT and 4 TRIGGER commands. Next you would have to create the Diameter leg with 1 TRANSMIT and 1 TRIGGER command.

Let's assume it takes 20 seconds to add a TRANSMIT or TRIGGER command to a script. Therefore, it takes approximately 3 minutes to build this case - which in reality is NOT a very long time. However, if you have to build one hundred test cases, that is a different story all together.

With Autoscripting, you can import a PCAP trace of the very same call. Use the capture application to correlate the call into a single multi-protocol call trace record, and then click one more button to automatically convert it into a test script!

Spectra2 will:

- Automatically build the multi-leg multi-protocol script for you
- Automatically determine the directionality of the TRANSMIT and TRIGGER commands
- Import the messages from the PCAP into the PDU library of your choice
- Provide you instructions about setting up your simulated elements and system under test.

The whole process only take a matter of seconds per call trace

Element Simulation Capabilities Save CAPEX

Multi-vendor Network Element Simulation

In a multi-vendor network, it is quite common for one vendor's piece of equipment to behave differently than another vendors. It is also probable that, during a network upgrade, a new vendor-software release will behave differently from the elements running version N-1.

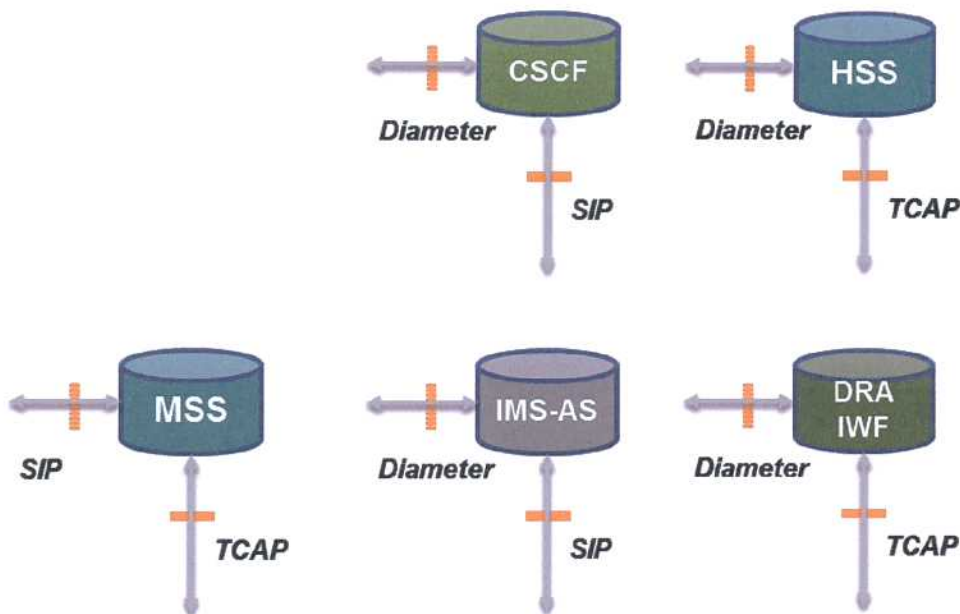
With Spectra2's powerful element simulation capabilities, you can easily replicate these multi-vendor multi-software release scenarios in your lab without having to invest in the actual vendor equipment.

Spectra2's ASMG (Advanced Signaling and Media Generator) and Element Simulations provide you the power you need to simulate the elements in your IMS Core. Coupled with Autoscripting, you can easily import scenarios from the field directly into your Spectra2 and quickly recreate the very same issues that are occurring on your live network.

Here are some of the benefits to both carriers and equipment and equipment manufacturers

1. Save on capital expense. You don't have to purchase every instance of every element for you lab. Nor do you to have duplicate elements to replicate software upgrade scenarios. You can simulate them instead.
2. Spectra2 can simulate multiple elements simultaneously for functional and performance testing. This can drastically reduce your capital spend.
3. Combined with autoscripting, you troubleshooting labor expense can be greatly improved.

The following simulations are now available on Spectra2: S-I-P CSCF, IMS-AS, PCRF, HSS, IWF, MSS, AAA, and Diameter to Diameter:



Register for the Spectra2 Customer Portal



The new Customer Portal is a single access point for you to get information about your Spectra2 system. Here are a few functions that are provided to you:

- **Personalize your Interest:** Pick and choose the types of information that interest you from products, to training courses, to manuals, to technical documents, to datasheets, and more.
- **Receive Notifications:** Receive notifications about new or updated assets that meet your personalization criteria.
- **Favorite Items:** Pin items to your desktop that you use frequently so that you can retrieve them quickly.
- **Filesharing:** Share files with single portal users or define groups of users among whom you can share files.
- **Contact Us:** Get easy access to your account and service manager's contact information, or request a meeting with them.
- **News and Information:** Receive the latest news and information about things going on at Tektronix Communications.

To register for your portal account, click here.

New in the Portal:

- *Spectra2 8.4 Release Notes*
- *Spectra2 8.3 SP1 and SP2 Release Notes*
- *IMS Test Specification*
- *IMS with AKA Configuration*
- *High Performance Mode Quickstart Guide*
- *ASMG Quickstart Guide*
- *Hardware Maintenance Guides*
- *Uwing InjectRat*
- *AP for SSH*

[Click Here to go to the Portal >](#)

Year End Promotions

Here some year-end promotions that may be of interest to you:

PROMO 1: BIG MEDIA

- If you need to test an SBC, MGW, or even E2E with UE simulation and media, we have a system for you. The Spectra2 XL3 supports multiple 10Gb interfaces and can drive up to 700K simultaneous media streams.
- **Promotion:** Purchase any XL3 system and receive the 40K RTP sessions capacity free.

PROMO 2: IMS ELEMENT FUNCTION SIMULATION

- Purchase any element simulation package listed above and get 20% off Autoscripting.

PROMO 3: PCIE-1 PORTABLE TEST CONFIGURATION

- The PCIE-1 is a portable T1/E1 interface that can fit in a briefcase. Connect the PCIE-1 to a Spectra2|SE2 on a laptop and you have an excellent field testing tool for IP an T1/E1 protocols.
- **Promotion:** Purchase any new PCIE-1 system or upgrade an existing Spectra2|SE2 with PCIE-1 and receive 20% off all hardware and software for the entire order.

PROMO 4: P3, P4, XL1, XL2, or 2u Chassis Upgrade

- Upgrade any older model chassis to a 3u, XL3, or SE2 and receive a 15% discount on the entire order (Software and Hardware).