



# High.Link Probes

High Performance Probes for IP-Based Interfaces



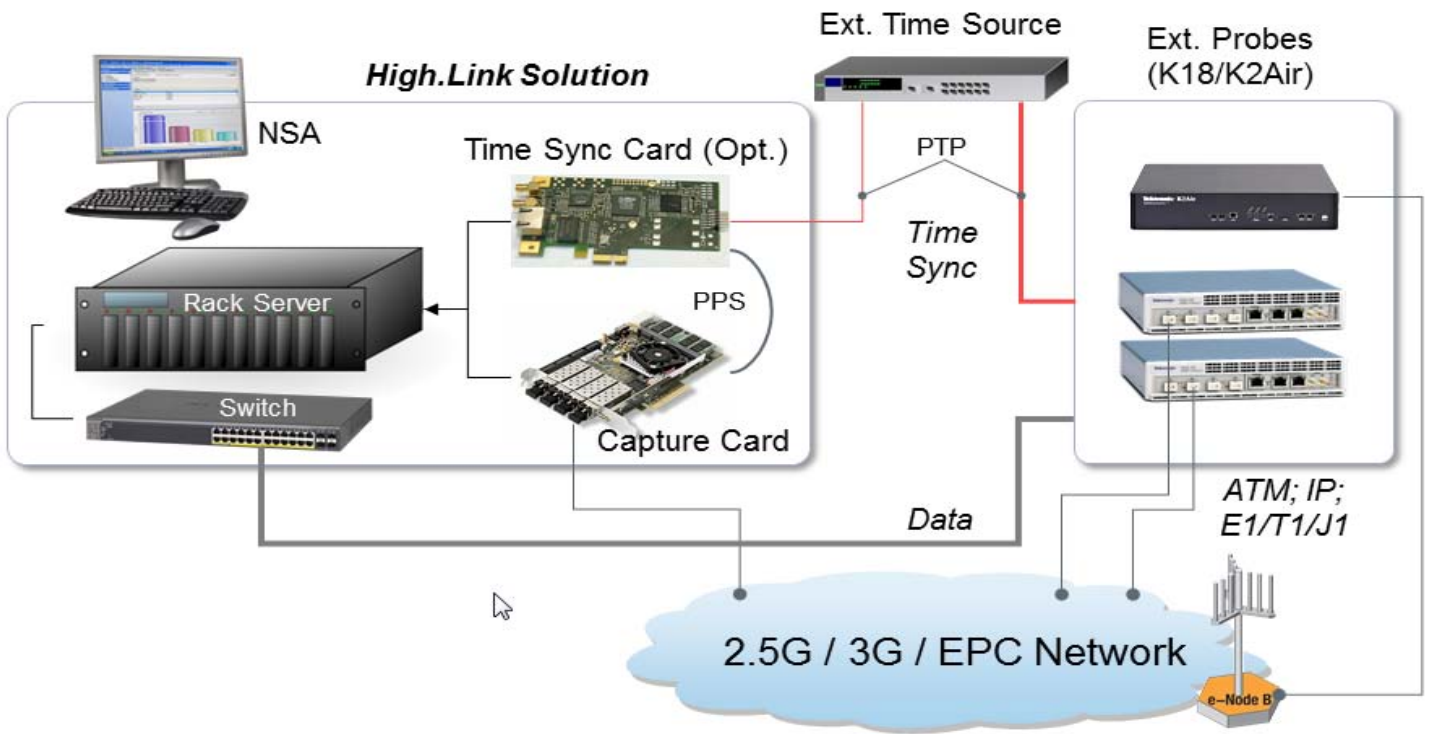
High.Link is the new suite of high performance monitoring probes designed to meet the most demanding challenges of 4G networks troubleshooting.

- Full support of Mobile Broadband data rates combined with deep-dive analysis
- Reliable correlation of events with lossless multi Gbps traffic capturing

Mobile Carriers are quickly moving to LTE in order to deliver the exponential increases in traffic volume that the new evolved market is demanding. With the introduction of the High.Link suite of probes, Tektronix Communications is complementing its portfolio of solutions for capturing and analyzing multi-Gbps IP traffic, thus providing customers with the tools needed to win the challenges posed by the roll out of 4G and HSPA+ networks and services.

## Key Features

- Lossless traffic capturing on 4x 1 Gbps or 2x 10 Gbps links
- Time synchronization with external K18 and K2Air probes (accuracy: 10  $\mu$ s)
- Probe configuration via NSA software
- Multi-Technology Support
  - 3G Core Networks, including Iu, Gn, Gi interfaces
  - LTE EPC networks, including S1, S3, S4, S6a, S10, S11, S12 interfaces
- Support of scenarios with complex transport layers configurations
  - High.Link for IP-based interfaces
  - K18 GbE for Iub/Iur over IP with advanced filtering capabilities
  - K18 STM-1 and K18 E1/T1 probes for other types of interfaces
  - Synchronization of K18 with High.Link probes via external time source (e.g. NSM – Network Sync Master)



High.Link Solution Concept

### Use Cases / Key Applications

- Lossless capturing traffic at high peak data rates over IP-based 2.5G, 3G and 4G network interfaces
- Capturing of traffic in mixed technology / transport layer scenarios

### Solution Components

- Dell R710 Rack Server
- 1x High-End IP Traffic Capture Card with either 4x1 Gbps or 2x 10 Gbps links
- 1x optional Time Synchronization Card

### High.Link-10G Capture Card

- PCIe card with 2x 10 Gbps ports
- Support of LC XFP modules (SR/LR)

### High.Link-1G Capture Card

- PCIe card with 4x 1 Gbps ports for Ethernet-based interfaces
- Support of SFP modules for RJ-45 and SR/LR optical connectors

### Capture Cards: Common Features

- On-board generation of timestamps, 10 ns time stamp accuracy
- Synchronization with external time source via PPS

### Key Features Time Sync Card (Optional)

- PCIe card for synchronization with external time source via PTPv1 (operation in slave mode only)
- Delivery of PPS signal to traffic capture card

### Dell R710 Server Specification

- Two 4 x Intel Xeon core (CPU X5560), 2.8 GHz
- 12GB RAM; HDD: 6x 600 GB SATA, 15k rpm
- Form factor: 2U rack height
- Microsoft Windows Server 2008 R2, Enterprise Edition (64 bit), English (US)



High.Link-10G Capture Card



High.Link-1G Capture Card



Time Synchronization Card

### Environmental characteristics

#### High.Link Capture Cards

- Operating temperature: 0 - 45°C
- Operating humidity: 20 - 80%

#### Time Synchronization Card

- Operating temperature: 0 - 50°C
- Operating humidity: 5% - 90% non-condensing



## About Tektronix Communications:

Tektronix Communications provides network operators and equipment manufacturers around the world an unparalleled suite of network diagnostics and management solutions for fixed, mobile, IP and converged multi-service networks. This comprehensive set of solutions support a range of architectures and applications such as LTE, fixed mobile convergence, IMS, broadband wireless access, WiMAX, VoIP and triple play, including IPTV. Tektronix Communications is headquartered in Plano, Texas.

Learn more about the company's test, measurement and network monitoring solutions by visiting [www.tektronixcommunications.com](http://www.tektronixcommunications.com)

## For Further Information:

Tektronix Communications maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology.

Please visit [www.tektronixcommunications.com](http://www.tektronixcommunications.com)

## Contact Tektronix Communications:

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