

DigiTest[®] ICE[™]

DigiTest[®] ICE[™] BA IP Service Assurance Probe

As emerging IP triple play services experience rapid growth and converge with declining legacy services, service providers anticipate new revenue sources resulting from applications such as IPTV, VoIP, VPNs, and online gaming. More than ever before, service providers are challenged to provide cost effective and efficient service assurance solutions for these new services. The test and management solutions deployed in these converged, next generation networks (NGNs) must be able to support a complete set of services offered in the network. These unified solutions deployed for service assurance must not only verify the customer application and/or service trouble report; it must also be able to isolate the problem's source at both the physical location in the network and within the many logical and virtual layers that can exist in the NGN.

Tollgrade has developed the DigiTest ICE BA Test Probe to provide a more cost-effective and efficient service assurance solution for IP Triple Play services. With its extended temperature range operation, minimal size and robust feature set, the DigiTest ICE BA is optimized to support the pre-qualification, service verification and fault isolation needs of triple play services beyond those provided by DSLAM-embedded SELT/DELT capabilities. Coupled with Tollgrade's LoopCare Test OSS, the ICE BA proactively samples the network to determine its ability to provide IP triple play services. Once provisioned, the ICE BA can verify the services from the DSLAM, the point in the network that most precisely reflects the experience of the customer.

In addition to providing a broad set of diagnostic tools at every layer, the ICE BA fully emulates the subscriber and operator's network, allowing for smart dispatch decisions—either out to the subscriber premises or into the network, all from the DSLAM location.

With its compact size, flexible mounting configurations and low power consumption, the DigiTest ICE BA facilitates easy, flexible installation and economical operation—improving the IP triple play service assurance solution's ROI.

Under the control of Tollgrade's leading LoopCare Test OS, which applies expert analysis for fault diagnosis, ICE BA empowers service providers with a tool that can efficiently and cost-effectively complement their aggressive delivery and assurance objectives for IP Triple Play Services.



tollgrade[®]

Benefits

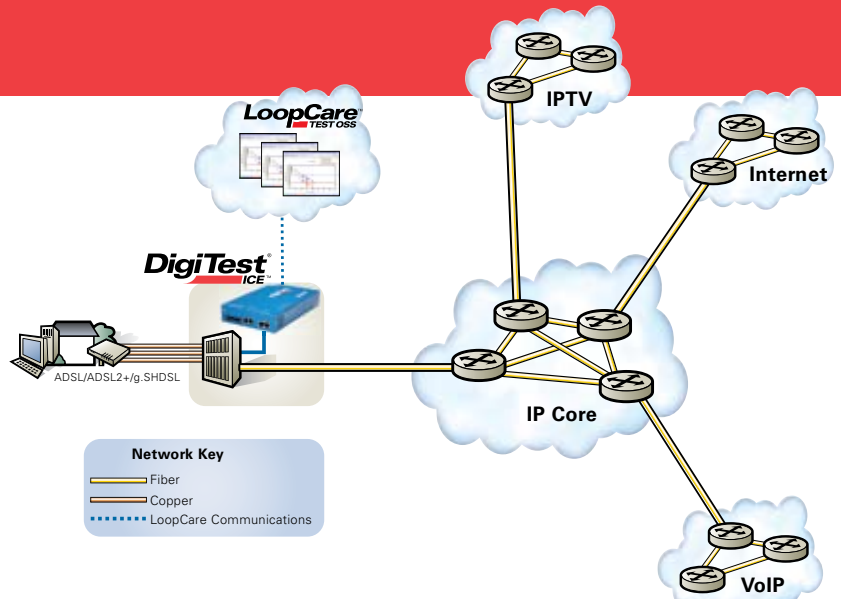
Tollgrade's DigiTest ICE with LoopCare allows IP triple play service providers to:

- Maximize service offering;
- Verify service prior to cutover, increasing subscriber's satisfaction while minimizing costly dispatches;
- Proactively identify network issues and faults prior to subscriber trouble reports;
- Reduce trouble ticket volume and handling time via front-end handling and flow through; and
- Minimize costly dispatches through expert trouble analysis.

Features

The DigiTest ICE delivers xDSL, VoIP and IPTV service assurance from the network DSLAM location, offering a full suite of multi-layered capabilities—all controlled via the LoopCare Test OSS—including:

- Network Service Assurance—Synchronization of xDSL DSLAM and CPE modems; ATM connectivity to emulate actual network facilities; Verification of PPPoE, PPPoA, and IPoA authentication
- IP Service Assurance—IP connectivity and verification of layer 4–7 service performance.
- VoIP Service Assurance (future application)—Set-up two-way VoIP call to verify call quality and connectivity; Subscriber emulation to authenticate subscriber on VoIP network; Proactive trouble isolation.
- IPTV Service Assurance (future application)—Emulate subscriber session to verify quality and connectivity.



DigiTest ICE IP Service Assurance Probe and LoopCare OSS Remote DSLAM Architecture

Specifications

Physical

Dimensions (H x W x D) 1.36 x 9.47 x 5.74 in. (35 x 241 x 139 mm)
Multiple Mounting options, Duplicate LED appearances

Environmental

Operating Temperature -40°C to +75°C (-40°F to +167°F)
Storage Temperature -40°C to +70°C (-40°F to +158°F)
Humidity 5 to 95% (non-condensing)

Power Requirements

Power -48VDC (15 watts)
Fusing 2A

Communications and Test Interfaces

10/100 Base-T Ethernet Communications
10/100 Base-T Ethernet Test Port (future application)
RS-232 Craft Port
Auxiliary RS-232 port
4-wire Test Bus for metallic narrowband/wideband and xDSL higher layer look-in/look-out testing

Certification

NEBS Level 3 and CE Mark

DSL Compatibility

g.992.1-g.992.5 (ADSL, ADSL2+, ReADSL)
g.993.1-g.993.2 (VDSL2) - Release 2

xDSL Testing

XTU-C Synchronization, XTU-R Synchronization

ATM Test Support

Set-up ATM PVC connection during testing
ATM F5 Loopback Requester
ATM F4/F5 Loopback Responder

IP Test Support (Subscriber)

User authentication/IP address assignment on all tests [PPPoE, PPPoA, (IPoA - future application)]
PING (standard ICMP) Traceroute
FTP Throughput HTTP Throughput
HTTP Connectivity

IP Test Support (ISP Emulation)

User authentication/IP address assignment on all tests [PPPoE, PPPoA, (IPoA - future application)]
DNS Resolution HTTP Connectivity
FTP Throughput HTTP Throughput

Metallic Testing Capabilities – Narrowband

AC/DC Voltage and Resistance	Capacitance
Longitudinal Balance	Load Coil Detection
Capactive Balance	Loop Insertion Loss
Hazardous Potential	Speech Detection
Tx/Rx Narrowband Tone	Tone
Line Circuit Analysis	

Active VoIP Testing

(Future application contact tollgrade for availability)

Protocols	SIP, RTP, RTCP
Call Quality Impairments	Delay, Loss, Jitter, MOS
Reporting	XR Reporting Capabilities
User Authentication	IEEE 802.1q
Class of Service	IEEE 802.1p

IPTV Testing

(Future application contact tollgrade for availability)

Signaling Protocol	IGMP V3 signaling
Transport Protocols	RTP, MPEG
Video Codec Formats	H.261, H.263, H.263+, MPEG1, MPEG2, MPEG4, VC1
Video Quality Impairments	Delay, Jitter, Loss and MOS-V, MOS-A, MOS-AV

Wideband Metallic Testing

Filtered weighted wideband noise (G filter)
Transmit/Receive Wideband tone
Bridged TAP Graphical Results (Future)

Availability and Ordering Information

Please contact your Tollgrade representative for more information.

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