



DigiTest[®] ICE[™].BA

IP Service Assurance Probe

Tollgrade's
DigiTest ICE.BA
provides *cost-effective*
IP service assurance.

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 OSS, 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.



DigiTest ICE.BA Benefits

Tollgrade's DigiTest ICE.BA 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
- » Minimize costly dispatches through expert trouble analysis

DigiTest ICE.BA Features

The DigiTest ICE.BA delivers xDSL and VoIP 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

DigiTest ICE.BA 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

ENVIRONMENTAL

Operating Temperature -40°C to +70°C
(-40°F to +158°F)

Storage Temperature -40°C to +85°C
(-40°F to +185°F)

Humidity 5 to 95% (non-condensing)

POWER REQUIREMENTS

Power -48VDC
12 watts nominal
20 watts maximum

Fusing 0.5A

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

2-wire look-in and 2-wire look-out Test Bus for metallic and xDSL testing

CERTIFICATION

NEBS Level 3 and CE Mark

DSL COMPATIBILITY

g.992.1-g.992.5 (ADSL, ADSL2, ADSL2+)
g.993.2 (VDSL2)

XDSL TESTING

XTU-C and XTU-R Synchronization

Actual and Attainable Data Rate

Percentage of Capacity Utilized

Interleave Delay and Depth

Signal to Noise Ratio Margin

Signal and Transmit Power

Line and Signal Attenuation

Actual Impedance

Vendor Information (ID, Serial Number, Transmission Capabilities)

Signal to Noise Ratio and Bits per Bin

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)

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)

DNS Resolution

HTTP Connectivity

FTP Throughput

HTTP Throughput

METALLIC TESTING

AC/DC Voltage and Resistance

Capacitance

Longitudinal Balance

Load Coil Detection

Capacitive Balance

Loop Insertion Loss

Hazardous Potential

Speech Detection

Tx/Rx Narrowband and Wideband Tone

Line Circuit Analysis

Soak Test

Weighted Noise (C, D, Flat 3K, Flat 15K, Psophometric, E, F, G)

Bridged TAP graphical results (future application)

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

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