

Brix 1000™ Verifier



- In-network service assurance appliance
- Measures real-time performance of IP services
- Delivers end-to-end service testing
- Offers worldwide time synchronization options
- Features carrier-class design plus NEBS Level 3 certification
- Provides operational simplicity for lights-out management
- Supports network-to-application layer testing



Versatile In-Network Performance Management

The Brix 1000 Verifier is an in-network service assurance appliance that measures the real-time performance of data transport, VoIP, and video services. The superior price/performance of the Brix 1000 makes it ideally suited for deployment in a wide variety of service provider and enterprise locations, including metro hubs, regional head-ends, PoPs, and data centers.

Critical Component of End-to-End Service Testing

The Brix 1000 represents a critical component of the Brix end-to-end service testing approach, delivering both the all-important end-user experience and the visibility and detail network administrators need to easily troubleshoot performance problems and identify their root causes.

By deploying the Brix 1000 Verifier at key in-network locations, the Brix 2500 in the core, and the Brix 100 or the software Brix Verifier Agent at end-user locations, an administrator can effectively segment the network to gain the needed visibility into the enterprise, access, and core networks. The Brix 1000 provides edge-to-core and edge-to-end-user testing.

Timing Accuracy for Real-Time Services

In addition to industry-leading performance, the Brix 1000 also features exceptionally accurate timing capability to support the sub-millisecond precision required for today's performance-sensitive services. All time measurements take advantage of the Brix 1000 Verifier's hardware packet timestamp engine, eliminating the variations caused by user or kernel-level, software-based timing schemes.

Optional CDMA or GPS timing modules provide worldwide, accurate synchronization of Brix 1000 timestamps to sub-100 microsecond precision, for identifying low latency intra-metro or regional issues.

Carrier-Class Design for In-Network Deployment

The Brix 1000 Verifier is designed from the ground up as carrier-class equipment, offering features such as AC and DC power options. Additionally, the Brix 1000 is Network Equipment Building System (NEBS) Level 3-compliant, meaning the platform has passed a series of independent and stringent environmental, safety, emissions, serviceability, reliability, and quality tests, and is certified for deployment in carrier central offices.

Brix Networks is the trusted provider of real-time performance management and service assurance solutions that allow carriers, service providers, cable companies, large enterprises, and government agencies to build, operate, and assure their Voice over Internet Protocol (VoIP) networks and services.

The company's seamlessly integrated hardware and software products, collectively called the Brix System, let network operators proactively manage the quality and reliability of their offerings.

The Brix System consists of a family of hardware appliances — including the Brix 100™ Verifier, Brix 1000™ Verifier, Brix 2500™ Verifier, and Brix 3500™ Verifier — and software Brix Verifier Agents that are pervasively deployed throughout a network and are tightly coupled with either the BrixWorx™ (service provider) or BrixMon™ (enterprise) central-site software and related optional test suites.

The Brix System improves the overall effectiveness of networks, and allows organizations to maximize their investment in — and increase the value of — their business-critical IP services.

SUPPORTED TESTS

- VoIP: H.323, MGCP, NCS, SCCP, SIP
- Video: H.323, RTP, RTSP
- VPN: Full-mesh availability/performance
- Network Infrastructure: DHCP, DNS, FTP, SNMP
- Quality of Service and VLAN support
- One-way performance, path analysis
- Web, E-mail, Instant Messaging

INDICATORS AND INTERFACES

- Test Port: 10/100 Mbps Fast Ethernet
 - Auto sensing, auto-negotiating
 - Hardware packet timestamp engine
 - Link and activity LEDs
- Management Port: 10/100 Mbps Fast Ethernet
 - Auto sensing, auto-negotiating
 - Link and activity LEDs
- Optional CDMA or GPS timing module
- Console port EIA-232
- 3 Dry contact alarms
- System status LED – green/amber
- Backlit system information LCD display
- Reset switch (recessed)

NETWORK MANAGEMENT

- SNMP Agent v1, v2c
- SNMP MIB II, Ethernet MIB, EtherStats

PHYSICAL

- 1.75 in. x 17 in. x 9.75 in. (H x W x D)
(4.4 cm x 43 cm x 25 cm)
- One Rack Unit (RU) high
- Weight: 15 pounds (6.8 kg)
- 19-inch rack mount (front or rear mounted)

POWER

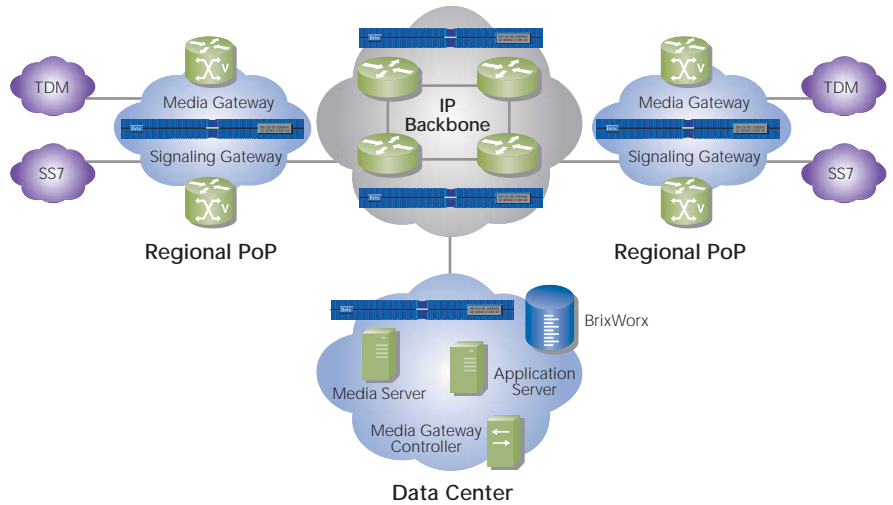
- AC Power: 100-240 VAC, 50/60 Hz 750mA
- DC Power: -42.4 to -60 VDC, 600 mA
- 35W, 120 Btu/hour (typical)

ENVIRONMENTAL

- Operating Temperature: 41 to 104° F (5 to 40° C)
- Storage Temperature: 14 to 158° F (-10 to 70° C)
- Relative Humidity: 90% non-condensing
- Operating Altitude: 13,000 feet maximum (4,000 meters)

REGULATORY

- **NEBS:** Level 3 Certified (GR-63-CORE; GR-1089-CORE; GR-78-CORE)
- **EMI/EMC:** EN55022:1998 Class A; FCC Class A; AS/NZS 3548:2002 Class A; EN6100-3-2:1995/A14:2000; EN6100-3-3:1995; EN55024:1998; VCCI Class A
- **Safety:** cUL, IEC 60950 (Edition 2)



VoIP Network Verification with Brix 1000 Verifiers

To support the manageability needs of in-network locations, the Brix 1000 supports a complete command line interface, accessible over the network via ssh or telnet or through the on-board serial console port. In addition, all Brix Verifiers can be remotely managed through the Web-based user interface provided by the central site BrixWorx or BrixMon server. Administrative communication between the Verifier and server can also be off-loaded from the production network onto a management network through the dedicated 10/100 Mbps Ethernet management port.

Operational Simplicity

The Brix 1000 delivers the reliability and management features required of carrier environments, combined with the ease of complete “lights-out” operation. Installation simply consists of plugging in cables for Ethernet connectivity and power and the Verifier completes the rest. As it powers up, the Brix 1000 Verifier performs system integrity checks, automatically discovers its BrixWorx or BrixMon server, and then downloads all system configuration, test modules, and test schedules over a secure, encrypted connection from the server.

Network-to-Application Layer Performance Management

The Brix 1000 Verifier supports the full suite of more than 50 active and passive tests provided by the Brix System. These tests support a wide array of IP services, including VoIP, video, VPN, and Web-based applications, plus network and infrastructure performance tests. The Brix 1000 calculates a deep set of performance statistics (such as one-way packet latency and jitter) by measuring application-specific transactions. Active tests precisely simulate user-level transactions, while application-aware passive tests monitor user-generated traffic.

