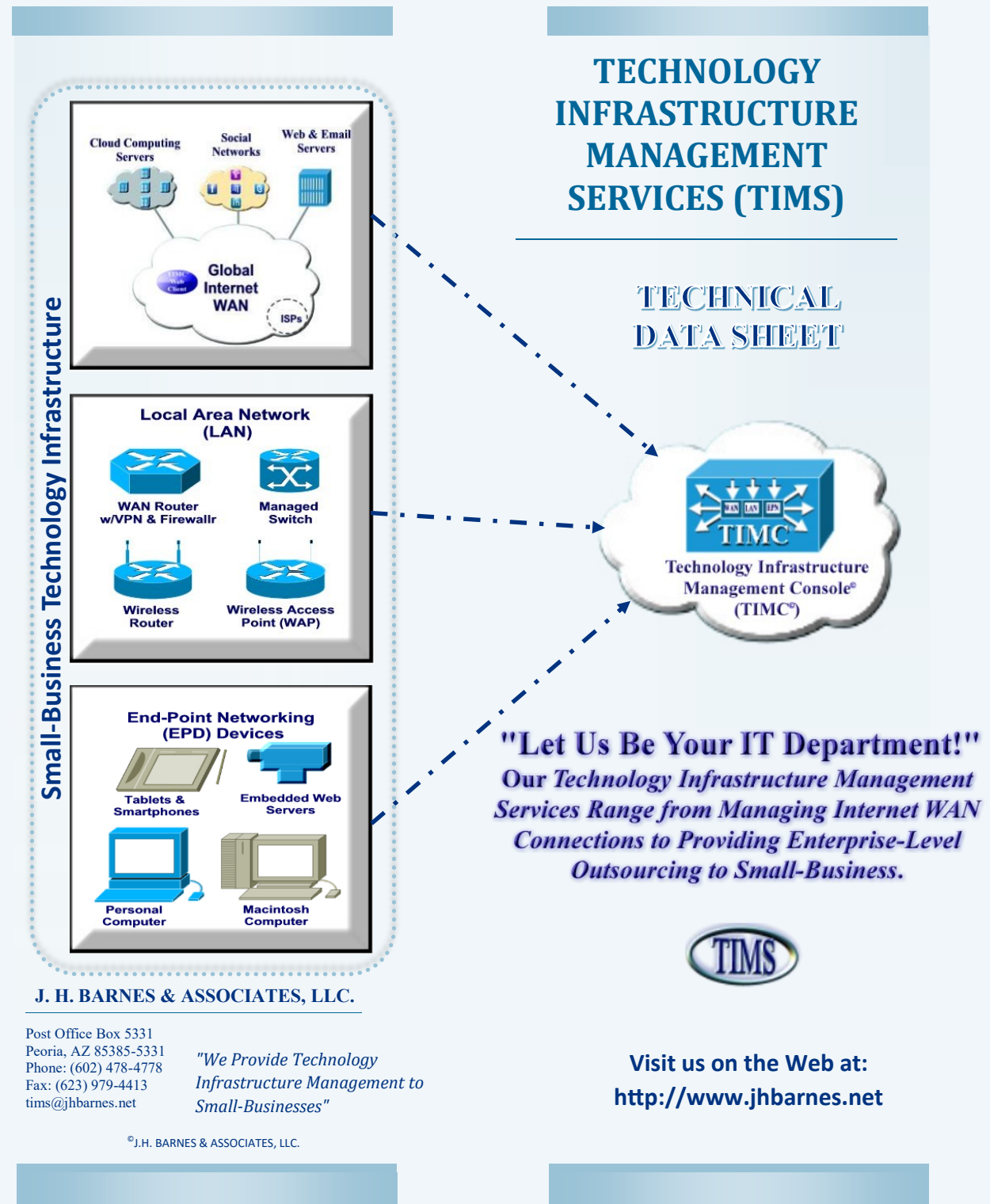


Technology Infrastructure Management Services (TIMS), range from managing existing broadband Internet connections, to providing enterprise-wide network outsourcing services. Configuration, optimization, and on-going management services are provided via a remote, cloud-based management console, referred to as the Technology Infrastructure Management Console (TIMC). In addition to monitoring the complete small-business technology infrastructures on a continuous, 24/7 basis, TIMC also provides secure VPN support, an on-line problem management system, a user help desk, and free network technical support. TIMS subscription rates start at just \$99/month, and:

- ◆ Requires no hardware, software, or technical expertise at the small business customer premise.
- ◆ Requires no changes to small business customer's operations and business processes.
- ◆ Includes a remote, cloud-based Technology Infrastructure Management Console (TIMC).
- ◆ Utilizes management tools and utilities already built into networking components and computers.
- ◆ Utilizes remote management and administration interfaces in routers, switches, WAPs, and servers.
- ◆ Manages all components of technology infrastructure, including LAN, WAN, and EPN devices.
- ◆ Utilizes a variety of ICMP probes to continuously-monitors all Global Internet WAN connections.
- ◆ Utilizes application probes to continuously monitor cloud computing applications and databases.
- ◆ Includes secure Virtual Private Network (VPN) support for telecommuting, and BYOD access.



COMPONENTS OF THE TECHNOLOGY INFRASTRUCTURE MANAGEMENT SERVICES (TIMS) ARCHITECTURE

Components of TIMS Architecture:

Small-Business Technology Infrastructure

- ◆ Global Internet WAN connections to Cloud Computing, Social Networks, and Web service provider networks.
- ◆ LAN components such as routers, Ethernet switches, and wireless access points.
- ◆ Wired & Wireless End-Point Networking (EPN) devices, including PCs, MACs, tablets, smartphones, and BYODs.

Technology Infrastructure Management Information (TIMI)

- ◆ Sends ICMP Probes on Global Internet WAN connections to monitor availability, roundtrip times, latency, jitter, and ping times.
- ◆ Send Application Probes to cloud computing applications on service provider networks to monitor 24/7 performance and availability.
- ◆ Sends Device Probes to designed EPN devices, servers, and other web-compliant clients.
- ◆ Continuously receives unsolicited SysLog and SMTP logs from routers, switches, and other managed devices.
- ◆ Receives daily performance and problems logs from network devices, VPN client & gateways, and firewall.

Technology Infrastructure Management Console (TIMC)

The TIMC is a remote, cloud-based remote management console that is the under-pinning for the TIMS architecture. It runs on a Windows-based platform and acts as the “traffic cop” between key TIMS architectural components such as the small business technology infrastructure, TIMI, E2ERA, user help desk/technical support, and the TIMS database.

End-to-End Route Analysis (E2ERA)

Receives ICMP probe responses from TIMI, SysLog and SNMP messages, device performance logs, and a variety of performance-related information from other sources. This information is utilized to:

- ◆ Create real-time availability, performance, and problem reports that can be access online by TIMS customers.
- ◆ Create monthly, annual & on-demand performance and problem reports.
- ◆ Update the customer's performance and problem information stored in the TIMS database.
- ◆ Archive performance information for long-trend analysis, and to track the SLA of cloud computing services of CSP, SNSP and WSP.

User Help Desk Operator and Technical Support

Performs a variety of TIMS tasks on a continuous, 24/7 basis, including:

- ◆ Downloading daily statistics and logs from routers, switches, etc.
- ◆ Providing backup/recovery management for routers and switches.
- ◆ Escalating unresolved problems to TIMS technical support specialist.
- ◆ End user help-desk support for LAN and EPN problems, including Single Point of Contact (SPoC) for all network-related problems.

TIMS Database

- ◆ Inventory of key components such as routers, switches, and WAPs.
- ◆ Performance and availability statistics.
- ◆ Problem management and incident reporting system.

