

## MARKET BRIEF

# Optical Networks: Closing the Gap Between Patient and Caregiver

The healthcare industry operates in an increasingly digital world. Web, video and audio-conferencing allow far-flung specialists to consult on a single patient's case. Digital transmission of medical images brings the latest advances in health care to the most remote regions. Digital Health applications (formerly known as telemedicine) allow nurses and other skilled professionals to monitor patients' vital signs even while the patient – or the caregiver – is at home or another remote location.

Erasing the barriers of distance between patient and caregiver can reduce medical errors and increase patient safety. They can also enhance the satisfaction of both patients and caregivers by giving them the flexibility to receive, or provide, care with less travel and interruption to their normal routines.

However, applications such as these (not to mention everyday applications such as e-mail) greatly increase the amount of traffic over the networks that link location-specific LANs across a hospital campus or other metropolitan area. Hospitals, clinics, laboratories and individual practitioners need cost effective, scalable networks that can respond to rapid changes in their networking needs, as well as provide connectivity to the Internet and to storage area networks (SANs) and other backup, recovery and archiving resources.

Optical network solutions from AT&T provide the foundation for the bandwidth rich applications that bring today's advances in health care to so many patients.

### Multi-Location Data Sharing

With an expanding, increasingly distributed population, the rise of medical specialties and an increasing patient load, most healthcare providers now support multiple facilities within any given metropolitan area, across the state and even overseas. Some locations might host laboratories; others might be treatment facilities; yet others might be administrative or teaching facilities. They all need to share very large files, such as X-rays and CAT scans, as well as research results. Health care providers need metropolitan area network services and wide area network services that can provide a high bandwidth backbone linking the familiar Ethernet networks at their various locations.

### Factors Driving Health Care Adoption of Optical Networks

Health care providers need the scalable, secure bandwidth of optical networks because:

- Regulations require strict protection of patient information
- Clinicians and doctors require near real-time access to medical images
- Hospital data storage requirements are growing rapidly
- Providers are doing more "mining" of large databases

For healthcare organizations needing a broader reach, AT&T's OPT-E-WAN<sup>SM</sup> VPLS service can help medical professionals share imaging and data from their local sites served by AT&T's Ethernet services across a national or global area linking hospitals and other supporting medical associations at high speeds. OPT-E-WAN service allows speeds domestically up to 1 Gig for almost real-time medical imaging support and high speed data queries and data transfers. Since OPT-E-WAN service uses the same simple and highly scalable Ethernet interfaces, healthcare organizations have a great deal of flexibility to manage their bandwidth and security among locations.

### Reducing Network Costs

Using a managed data network service from a world class provider can free internal IT resources for more strategic projects, while reducing total network management costs. Such services can simplify the IT infrastructure, reduce network complexity and associated operation costs and improve overall network performance.

### AT&T At Work

Reliable availability of medical information is critical for any health care provider, but especially for Evanston Northwestern Healthcare (ENH) in Evanston, Illinois. That's because the academic health care



system, which includes three hospitals and 65 medical offices and facilities, operates with virtually no paper. "Constant access to our voice and data communications is essential to our operations," says Evanston Northwestern Healthcare Chief Information Officer Tom Smith.

To help ensure the uptime of its critical systems, ENH turned to AT&T for a Synchronous Optical Network (SONET) ring and GigaMAN® service to create a new converged network. The expanded bandwidth and increased reliability will help ensure constant access to critical applications and patient records, and allow ENH to continue to provide highly available voice and data connectivity to its hospitals and medical offices. These new services also allow ENH to open a new data center and convert the existing facility into a backup data location, increasing security and redundancy and protecting ENH against service outages. Smith says this enables Evanston Northwestern Healthcare "to focus on our number one priority – delivering excellent patient care."

### AT&T Optical Services

AT&T offers a broad range of optical network services that provide almost any level of secure, reliable bandwidth whenever doctors, nurses, administrators, researchers or insurers need it, while reducing management and administrative overhead. These scalable optical network solutions also can provide the bandwidth required to support Voice over IP to help hold down costs while offering the latest telecommunication services to health care professionals.

#### Key Benefits

##### AT&T Optical Network Services help health care providers:

- **Increase patient safety and reduce errors by allowing specialists to quickly review patient information over long distances**
- **Increase patient satisfaction by providing rapid access to skilled medical care and the services of remote specialists**
- **Increase employee satisfaction by providing training and professional development at a time and location convenient to the employee**
- **Reduce the cost of managing campus-wide data networks**

AT&T's portfolio of optical switched Ethernet services allows hospitals, clinics, researchers or insurers to extend their Ethernet networks from the LANs within individual sites or offices to networks serving entire metropolitan areas and beyond. These solutions allow health care entities to scale their bandwidth as their capacity needs grow, usually without expensive equipment upgrades. Their reliability is assured through AT&T's unsurpassed network management expertise and 24/7 network monitoring and management. AT&T switched Ethernet services include OPT-E-MAN®, CSME (Customized Switched Metro Ethernet), Metro Ethernet and ESS-MAN (Ethernet Switched Service – Metropolitan Area Network).

AT&T Ethernet private line services such as GigaMAN®, DecaMAN® and Ethernet over SONET improve network performance while reducing network complexity and the associated operating costs. They make it easy for health care entities to meet changing needs for bandwidth and support data-intensive applications such as videoconferencing in addition to being easy to manage. These services offer protection options, stringent service-level agreements and 24x7 monitoring.

These services also provide a cost-effective way to connect local sites to the Internet; to SANs which store research data, or to backup and disaster recovery sites. They also support the deployment of virtual LANs (VLANs) to help assure the security of critical data and applications.

In addition to local Ethernet data services, AT&T offers reliable long-haul optical services that can extend data-intensive applications to locations outside the metro area. AT&T's long-haul optical services, such as Optical Mesh Service (OMS), AT&T Ultravailable® Network Service (UVN), Ethernet Private Line Service WAN (EPLS WAN), and Optical Private Line Service (OC3, OC12, OC48, and OC192) allow healthcare organizations to collaborate with caregiver professionals who are not within the local area, thus allowing for more rapid consultation with experts without regard to distance. With AT&T's portfolio of long-haul optical services, healthcare organizations can employ near real-time optical solutions that support video-based teletraining, telemedicine, teleconferencing, records management and disaster recovery for those client locations on the optical network.

For more information contact your AT&T Representative or visit us at [www.att.com/healthcare](http://www.att.com/healthcare).

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