



TCS TotalCom[®] Healthcare Solutions

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Author: Steve Casper

Senior Director, Government Solutions Group

TeleCommunication Systems, Inc.

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Introduction

Since 1987, TCS has produced communications technology solutions that require proven high levels of reliability and functionality. TCS provides secure deployable communication systems, wireless and VoIP E9-1-1 network-based services, engineered satellite-based services, and commercial location applications using the precise location of a wireless device. Headquartered in Annapolis, MD, TCS is a leading provider of fixed and deployable communication solutions for government customers and mobile operators including some of the nation's premier Healthcare centers.

TotalCom® Healthcare includes a comprehensive offering of IT applications and services that Healthcare enterprises need to address emerging requirements in patient care, health regulation and cost management. Our solutions provide seamless, highly secure communication between fixed sites and remote operations to give providers critical decision-making information. TotalCom® solutions include wireless infrastructure, device and connection management, backup satellite services, technical support services, information assurance, applications, and more.

For healthcare, TCS is dedicated to providing timely and critical solutions to information, communication and security needs across the patient experience. Meanwhile we provide tools to assist in managing healthcare costs and maintain compliance with national, state and industry regulations. These capabilities can be described in four solution sets:

1. TotalCom® Mobility Management
2. Healthcare Data Management
3. IT Services
4. Enterprise Resiliency Solutions

Past Performance and Credentials

TCS has a history of installing and maintaining communications equipment and services in healthcare environments. We understand the unique challenges and requirements of working around facilities designed to maintain the health and safety of patients and practitioners alike. For example, we have experience properly remodeling around quarantined/infectious disease areas, or in setting up secure solutions for the intricate operations of a psychiatric ward. Whether your building or information system is ancient or state of the art, TCS engineers and technicians bring a patient-oriented attitude and will work with you to optimize overall operations. Recent TCS healthcare efforts include:

DeWitt Army Community Hospital at Fort Belvoir

Fort Belvoir Community Hospital

St. Elizabeth's Hospital, Washington, DC

Walter Reed National Military Medical Center

		
Patient Care	Regulatory Compliance	Operating Costs
Improved Patient Safety Improved Experience	Controlled Access EHR Disaster Recovery	Decreased IT Costs Increased Productivity
TCS	TCS TotalCom® Mobility Management	
TCS	TCS Healthcare Data Management	
	TCS	TCS IT Services
	TCS	TCS Enterprise Resiliency

TotalCom® Mobility Management

TCS offers a unique portfolio of solutions to enable mobile productivity and seamless connectivity from user-defined apps to dedicated stand-up cellular infrastructure. TCS TotalCom® Mobility Management (TMM) incorporates In-Building Wireless solutions, Device Management solutions, Expense Management solutions, Mobile Application Store solutions and more, all wrapped within a protective layer of security services and solutions.

In-Building Wireless

Cellular

Cell phones and wireless communications are ubiquitous, and people expect to be able to use their cell phones wherever they work and congregate. Increasingly healthcare organizations are relying on cellular and other mobile communications in their day-to-day operations, as well as for emergency communications.

As most of us know, these devices use radio frequency (RF) technology to send and receive the communications signals. RF signals can penetrate some materials, but are not able to penetrate through common materials used in constructing most buildings, such as poured concrete, metal and cinderblock. With the advent of high efficiency window glass, even the thin glass windows are now blocking signal energy. Today many large buildings, new and old are obstructions that prevent cellular and radio signals from getting to the people working in the buildings.

TCS can solve these problems in buildings. Our solutions bring the cellular and radio signals from outside and distribute them throughout the building so there is no loss of connectivity using cellular and radio devices anywhere within the building.

LMR

TCS also designs and installs an IBW first responder network to ensure the dispatch radios of key emergency personnel remain at full strength campus wide. TCS extends the first responder Land Mobile Radios (LMR) coverage to provide access in places like the hospital building emergency rooms and the command and control center.

This allows the first responder radios to work throughout the hospital, so when first responders arrive at the emergency room of the hospital, the

first responders' LMR radios work in the emergency room area. Hospitals have quickly seen gaps in other IBW solutions when they realized that first responder's radios failed to perform when entering the hospital with an emergency. The LMR radios operate at a frequency that is lower than what the hospital's distributed cellular antenna system (DAS) allows, so the TCS may install a separate antenna system.

WiFi

As portable and mobile computing solutions play an increasing role in patient care, the WiFi networks they depend upon require higher levels of availability, robustness and security. TCS can integrate wireless networking improvements into the total program of in-building wireless availability.

Location Accuracy

The in-building distributed antenna system (DAS) allows for improved location accuracy where GPS signals are blocked by the building. Location-based applications, patient monitoring solutions and inventory tracking systems can be enhanced by adding location accuracy technology to the IBW system.

Campus Area Networks

In-Building Wireless network enhancements can be expanded across all the buildings in the campus. This includes all structures including parking decks, maintenance tunnels, or warehousing and storage areas. In addition many outdoor on-campus locations can have weak cellular or LMR coverage zones or require internal network signals (such as high-speed WiFi) to be extended outdoors. TCS can survey, evaluate and implement a solution that provides always-on connectivity across all facilities in the organization.

Integrated Mobile Solutions

Rarely can these mobile enterprise challenges be solved with a single off-the shelf solution. Multiple areas including devices, apps, security policies, acquisition channels, expense and plan management programs must be coordinated and integrated to match a specific organization. A complete solution might include the following tools:

MDM

Mobile Device Management (MDM) allows for device provisioning, tracking, decommissioning, replacing and securing the mobile devices (and their accessories) in your enterprise. TCS has partner relationships with leading MDM technology providers and can optimize the device management feature needed for a specific organization.

TEM

Telecom Expense Management (TEM) manages the expenses associated with the lifecycle of mobile devices in the organization. Voice and Data plans, App license fees need to be matched to usage requirements. Set-ups and cancellations need to be handled efficiently and quickly. Rich reporting tools allow policies to enhance end-user productivity. These and many other functions should be closely tied into MDM and other tools in Enterprise Mobility Management solution.

VAR Services

TCS is has Value Add Reseller (VAR) relationships with all the major carriers and can set up an independent single-point-provisioning solution while still providing the best mobility technology for individual and organizational needs.

MASec

Apps are the centerpiece of any effective mobility solution. For individuals, mobile effectiveness is sometimes measured in app availability and capability. But for healthcare enterprises, security, safety and privacy cannot be compromised. TCS offers an integrated enterprise Mobile Application Store (MAS) with added security solutions (MASec). It offers your users access to approved applications that have been tested and certified to protect the enterprise's integrity. TCS facilitates the process of setting up an enterprise app store and verifying the security of submitted apps.

Healthcare Data Management

Medicine is more than just technology, it is based on the caring of wise, supportive individuals. This makes it a knowledge profession with heart. Central to the knowledge organization is its information resources and Healthcare data is unique in its sensitivity and importance. Today, lives can literally be dependent on the accuracy, availability, privacy and reliability of patient data. At the same time, practitioners and health solution providers use and create their own data that enhances the decision making, information sharing and, of increasing concern, security.

TCS WindTalker™ Data Security enables encryption at the data level. This solves a variety of data security and data sharing issues of particular relevance to the healthcare industry. WindTalker allows one version of a file to be released to any number of users, with varying Role Keys to customize access. This “differential sharing” does away with the need for multiple versions of the same document and increases available storage and bandwidth. Lightning-fast and globally-scalable. When the security is within the data, hardening the network/perimeter is no longer a limitation. Information is free to roam outside the network. Data can now be secured from creation to deletion, protected where appropriate while still shared among many.

TCS Secure the Edge™ solution portfolio provides an integrated suite of mobile security applications and services for authentication, verification and notification to connect and manage devices over Mobile Broadband Networks. By augmenting mobile security policies with mobile location services, Secure the Edge secures your multi-modal business communications and helps protect your valuable corporate information.

In addition TCS provides the storage, transport and security solutions needed to ensure healthcare information can be safe and effective.

This includes:

- Data Storage
- Cloud Computing Resourcing
- Virtual Application Servers
- Location-based Data Optimization
- Role-Based, Self-protecting Data

IT Services

IT System Development and Operations

TCS brings proven, technology problem-solving expertise to healthcare IT. This is a full suite of IT services. From end-to-end information systems design, to technicians devoted to supporting patients or providers, TCS offers the TotalCom approach to complete enterprise management.

Typical services include:

- Enterprise Architectural Design and Implementation
- Information Assurance
- Knowledge Management
- Visual Information and Video Teleconferencing
- IT Governance
- Helpdesk Support
- Desktop Support
- Network Support and Administration
- Server Optimizations

Technology Refresh

As communications integrators for over 20 years, TCS has the engineering expertise to help manage the rapid pace of technology. Computing, processing, data storage and transmission equipment are all under constant change. We can help evaluate the sometimes difficult tradeoffs between existing functionality and the newest cutting-edge capabilities. In some cases new solutions can transform an organization, in others it can throw it into chaos. TCS provides the solutions to ensure a balance among cost effectiveness, change management and powerfully productive technology.

Enterprise Resiliency Solutions

Cyber Security

Protection of critical networks has increasingly become a challenge for healthcare enterprises. Today's distributed architectures, myriad mobile devices, and increased collaboration only make it more complex. Health institutions are targets of a vast array of new and evolving cyber threats and require advanced persistent defense against malicious attacks. TCS Enterprise Security & Protection™ (ESP), an integrated, end-to-end suite of security applications and services to safeguard health organizations

against becoming the next headline victim of a cyber-attack. We are at the forefront of developing and deploying secure mobile applications, and on the frontlines of protecting against Advanced Persistent Threats (APTs). We are familiar with critical environments, where success is measured in lives saved, and operational excellence is achieved by reducing downtime to minutes per year. Our team leverages these capabilities to provide comprehensive cyber protection for your most critical assets.

Securing a healthcare network starts by identifying vulnerabilities. TCS reviews all weaknesses exploitable by potential adversaries, provides comprehensive reports, and recommends countermeasures and corrective actions; then we can work with you to consider protective actions. This includes solutions for: Policies, Firewalls, Intrusion Detection Systems (IDS)/Intrusion Prevention Systems (IPS), and Virus/Adware/Malware Scanners.

Separately, the security of the system needs to be verified. This is done by regularly examining the ability of network systems to endure deliberate penetration attempts (internal and external) to bypass security. This verification includes open source evaluation, network discovery, and penetration tests.

For ongoing evaluation, TCS provides a persistent, subscription-based monitoring service. This is a continuous real-time protection solution that can quickly detect and limit the impact of an attack.

Ultimately cyber security capability depends on an informed and aware organization. TCS provides security awareness training conducted at three different levels (user, administrators/engineers, and executive level) and penetration team training (internal and external). This multi-level, hands-on cyber security training suite, applies an offensive mindset to security training and includes mobile training capability, penetration testing, intrusion detection, reverse engineering, information assurance, and forensics.

Emergency Preparedness Solutions

Consulting, design, implementation and maintenance of backup energy, communications, and facilities. Solutions include emergency response kit design development and maintenance.

Continuity of Operations Planning and Implementation

TCS builds its continuity solution on a strong foundation of continuity planning and program management designed to uphold the four key components, or pillars, that support your organization. TCS has defined a continuity solution for healthcare operations to comply with the US Homeland Security Council's National Continuity Plan.

Both are structured around four pillars:

- Planning and program management
- Leadership and staff
- Facilities
- Communications and technology

Conclusion

Within the end-to-end, telecommunications offerings of TCS TotalCom®, we offer solutions-oriented services for the healthcare industry. These services are described here in four categories:

- TotalCom® Mobility Management
- Healthcare Data Management
- IT Services
- Enterprise Resiliency Solutions

Learn more about TCS and our complete suite of products and services by visiting www.telecomsys.com. For general inquiries, e-mail info@telecomsys.com or contact us at 1.800.307.9489.

Call TCS today for more information
about TCS TotalCom® Healthcare Solutions.

Contact:

Steve Casper
Senior Director, Government Solutions Group
TeleCommunication Systems, Inc (TCS)

Phone: 410.280.1267

Email: SCasper@telecomsys.com

www.telecomsys.com

