

- Conference Bridge: a telephony system that enables call transfers where all parties (caller, transferor, and transferee) stay on the call for as long as desired (sometimes called a “warm transfer”).
- Legacy PSAP Gateway (LPG): provides protocol conversion from the NG9-1-1 ESInet to E9-1-1 PSAP equipment.
- Location Information Server: stores location information related to subscribers and network devices.
- Call Information Database (CIDB): stores information that is not related to location, such as an indication of disability or the type of service.

Your Established Partner

TeleCommunication Systems, Inc. (TCS) (NASDAQ: TSYS) is a world leader in highly reliable and secure mobile communication technology. TCS infrastructure forms the foundation for market-leading solutions in E9-1-1, text messaging, commercial location, and deployable wireless communications. TCS is at the forefront of new mobile cloud computing services, providing wireless applications for navigation, hyper-local search, asset tracking, social applications, and telematics. Millions of consumers around the world use TCS wireless apps as a fundamental part of their daily lives. Government agencies utilize TCS' cybersecurity expertise, professional services, and highly secure deployable satellite solutions for mission-critical communications. Headquartered in Annapolis, Maryland, TCS maintains technical, service, and sales offices around the world. To learn more about emerging and innovative wireless technologies, visit www.telecomsys.com.

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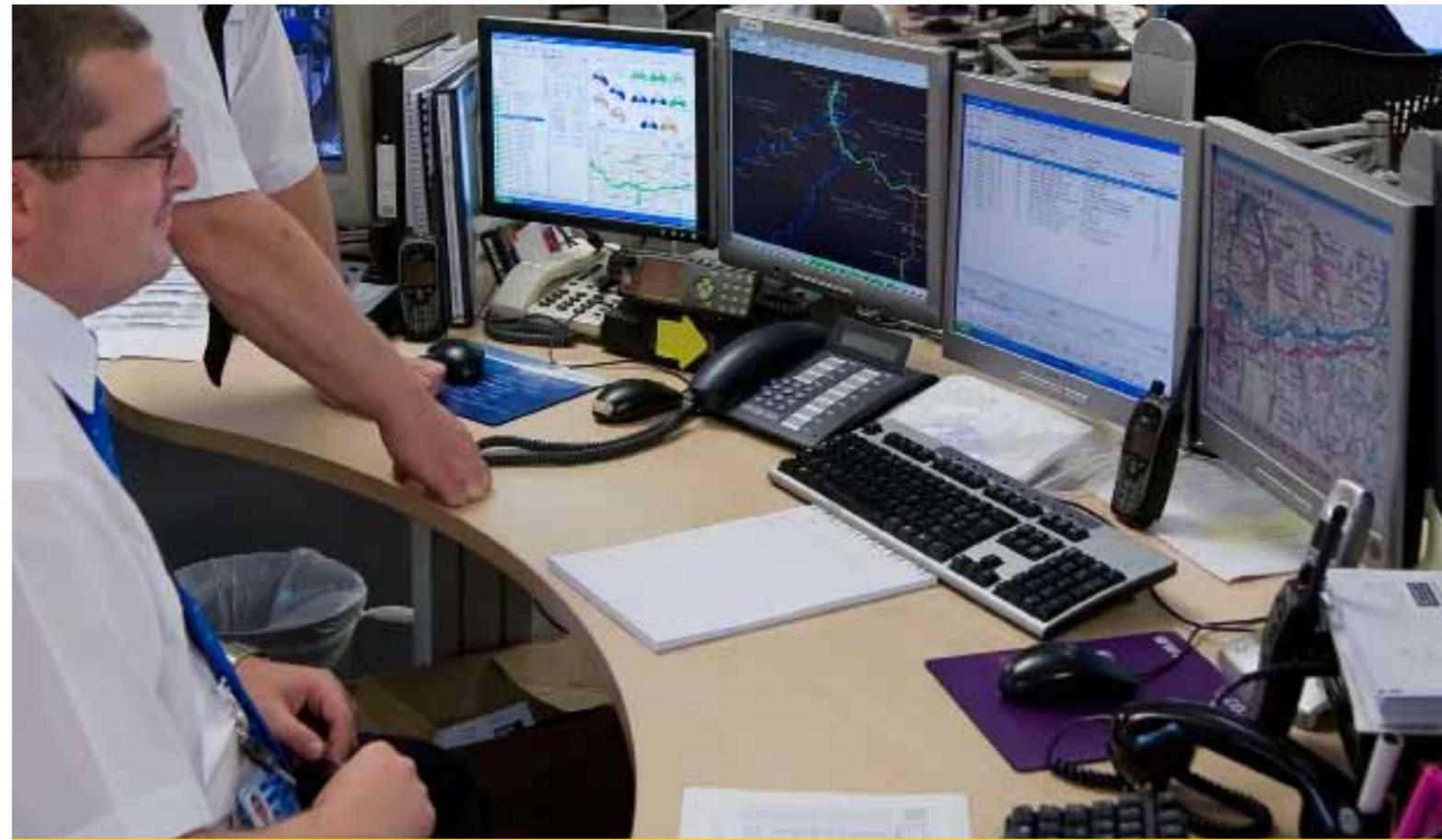
Vendor Teaming

We've selected the industry's best partners to make your deployment option a reality. We've also optimized our solution for high performance, meaning delivery will be smooth, reliable, and transparent.

Interoperability

TCS recommends the NENA i3 NG9-1-1 solution. The i3 specification, unlike RFAI and other systems, is progressive and futuristic for it supports open interfaces, is technology neutral, uses the modern IP network, and is based on COTS components to enhance flexibility and drive down costs.

NENA i3 Next Generation 9-1-1 Solutions



Call today to learn more about your NENA i3 NG9-1-1 options from TCS.
1.800.307.9491

NENA i3 Solutions for State and Local Governments



Next Generation 9-1-1 Solutions

NENA i3. Options That Work.

Options That Work

Voice. Video. Data. Text. Next Generation 9-1-1 (NG9-1-1) gives citizens options for getting help, and TCS' NENA i3 NG9-1-1 solutions give government agencies deployment options, too. Enable information sharing between citizens, public safety answering points (PSAPs), and downstream agencies. Leverage your current capabilities and components to make your NG9-1-1 deployment work. Launch the TCS NENA i3 solution that meshes with your existing IP network and system capabilities. Bypass costly legacy architecture and improve system survivability. Above all, maintain control over your NG9-1-1 system.

NENA i3 NG9-1-1 from TCS means options. Let us make your NG9-1-1 transition a reality by making your options work. We describe and recommend deployment options in terms of:

- NG9-1-1 Network
- NG9-1-1 Systems
- NG9-1-1 Services
- Vendor Teaming
- Interoperability

How Public Safety Agencies Benefit

Save Money

TCS' highly scalable NENA i3 NG9-1-1 solution and our use of commercial off-the-shelf (COTS) components lower your capital investment, reduce maintenance costs, and provide long-term value for the life of your system.

Support New Technology

TCS' advanced service features support new technology, whether wireline, mobile, or nomadic. Regardless of the technology—text, files, voice, video, sensor data, telematics, or other kinds of data—TCS systems give PSAPs the ability to share data with downstream agencies.

Enhance Information Sharing

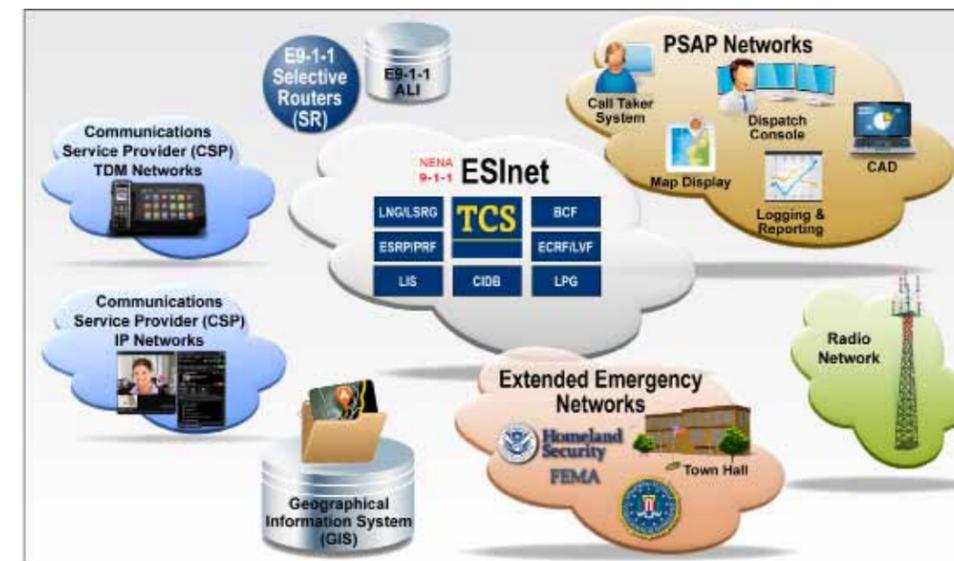
Because our NG9-1-1 solutions are anchored in an emergency services internet protocol network (ESInet), we can support rich media content sharing between the caller, the PSAP, and any connected responder.

Increase System Survivability

TCS provides round-the-clock geographical, system, network, and software process redundancy. We also own and operate the nation's only TL 9000-certified network operations center outside the carrier environment. Extensive monitoring at the level of the network, operating system, and application identifies potential issues before they affect services. Additionally, TCS improves system survivability by making satellite link backups available for PSAPs.

Maintain Control

TCS' NG9-1-1 systems and components are NENA i3 compliant, which means they support open and flexible standards-based solutions and give you total control of your systems. Our systems interface seamlessly with other standards-compliant hardware and software, and they coexist with neighboring jurisdictions where there is overlapping coverage.



The NENA i3 ESInet NG9-1-1 network. With 25 years of systems integration experience, TCS understands the complexity inherent in NG9-1-1. TCS has the expertise and relationships required to make your jurisdiction's system work.

Deployment Options and Recommendations

Your deployment options need to work. Period. Here are our recommendations for deployment options that will maximize your NG9-1-1 benefits.

NG9-1-1 Network

If your jurisdiction owns its own fiber-based multi-protocol label switching (MPLS) network, we recommend you use the existing network and back up your connectivity with the most practical air interface for each locality. Otherwise, we recommend using TCS' partnered, highly available, carrier-grade MPLS network. For added stability, incorporate our PSAP Satellite Link Backup services to support business continuity 24x7x365.

NG9-1-1 Systems

If you already have an IT organization that manages your network, we recommend you utilize your available in-house IT functions. If you don't have an IT organization, we recommend using TCS' proven IT capabilities. TCS capabilities for the delivery of production environments for critical communications include engineered data centers, network routers, Ethernet switches, load balancers, network firewalls, and security certificate systems.

NG9-1-1 Services

If, like many jurisdictions, you don't have NG9-1-1 expertise in house, we recommend you oversee key services provided by TCS and its team of partners. This arrangement will ensure that you maintain the highest

possible level of control over vendor performance. Your oversight involvement includes the following:

- Reviewing performance of media gateways, session border controllers (SBCs), load balancers, and conference bridges.
- Participating in geographical information system (GIS) data creation and maintenance.
- Serving as the source of GIS data used for the location validation function (LVF), emergency call routing function (ECRF), and location information server (LIS) record auditing for NG9-1-1 functional elements.
- Accessing the LVF and a copy of the production LIS.
- Providing authorization of call routing and network security policies.
- Participating in a gradual transition plan that includes PSAP system deployment.

Under your oversight, TCS delivers the following NENA i3-compliant NG9-1-1 components and services:

- Legacy Network Gateway/Legacy Selective Router Gateway (LNG/LSRG): provides protocol conversion from carrier networks and E9-1-1 networks into the NG9-1-1 ESInet.
- Border Control Function (BCF): provides security for NG9-1-1 applications.
- Emergency Services Routing Proxy (ESRP): proxies VoIP telephone, makes it possible to perform an advanced base routing function that incorporates added information to the signaling and local PSAP call-completion policies.
- Emergency Call Routing Function: a GIS-based function that provides call routing instructions based on location.