NEXT GENERATION
MISSION CRITICAL COMMUNICATIONS
from Cassidian Communications

The Path to Integrated Command and Control
On a Rushing Train...

...packed with evening commuters, a passenger goes on a rampage, clutching a knife and swinging it erratically. Just then, the fire alarm goes off.

Amid the chaos, a passenger calls 9-1-1, but the call is cutoff midsentence: “59th train…”

Video from surveillance cameras displayed on the 9-1-1 dispatcher’s CAD screen fills in the details the caller couldn’t provide.

The video provides a picture of the suspect. The AVL application shows the location of the train and provides the dispatcher the location of the closest available police units, which are immediately dispatched to the train station.

Using the video information, police officers identify and subdue the suspect; firefighters extinguish the fire; and paramedics help passengers who sustained injuries.

Train service is temporarily interrupted and the commuters are notified of alternate transportation options via opt-in and location-specific text messaging.

Integrated command and control is the future of public safety. And the future is here.
In the corporate environment, immediate access to critical information is the difference between success and failure; however, in public safety, it’s the difference between life and death.

For many public safety agencies, the future is one where emergency call centers move from a circuit switched to broadband IP network technology and from voice centric to multimedia enabled operations. Call centers will receive and process a wide variety of data, including text, video, and other media, received via traditional as well as non-traditional communications channels, such as sensors, auto crash detectors, and shot cameras. These same centers will be, in turn, sharing this data with first responders as well as other PSAPs, creating a common operating picture that enhances situational awareness.

The future of public safety wireless communication will see a similar shift, as voice centric operations are augmented with broadband data communications. Long term evolution (LTE), a 4G cellular technology standard, has been endorsed by major public safety organizations as the broadband technology for the public safety 700 MHz band. LTE will provide the broadband wireless communications necessary to share building schematics, video, high-definition imagery and other high bandwidth incident information between dispatchers, first responders and incident commanders.

In some situations, providing more data about an incident may prove to be a greater challenge than opportunity. History has shown that the increased volume of data received during a crisis may amplify the chance of error as information is quickly reviewed and gleaned for accuracy, a task particularly daunting when call takers have up to eight monitors to interpret.

Now add data and video communications from a wide variety of new devices, alerts from alarms/sensors, location information and other inputs to that volume and, unless managed properly, the barrage of data coming into a call center can become a hindrance rather than an enhancement.

Once relevant information is available, getting it to the right person when they need it is no easy task as it can require overcoming disparate databases, isolated networks, incompatible devices and even insufficient bandwidth to transport the information type.
Open Standards
Improve Control, Speed Response and Save Lives

Cassidian Communications understands that, for the call center of the future, developing a common operating picture to enhance situational awareness is just as critical as ensuring that the solution chosen today doesn’t limit its choices in the future. That’s why our vision for integrated command and control starts with a common technology framework—one that is open, standards-based, with a common IP backbone providing the unified multimedia communications technology that strengthens all aspects of coordinated emergency response.

IP communications not only support the convergence of multiple data types at a single workstation, it makes the physical and/or virtual consolidation of sites possible and provides the superior level of resiliency and reliability required for mission critical communications.

In addition to the convergence of voice, video and data communications, Cassidian Communications vision also includes the use of Emergency Service IP Networks (ESINets) to interconnect emergency call centers, PSAPs and notification systems within and between agencies providing full interoperability and promoting operational collaboration through the secure sharing of relevant data bases (such as map data), incident information and multimedia content.

Our vision also includes the transformation of emergency notification from standalone solution to integrated capability, providing the ability to initiate communication with groups of geo-coded resources from within other call center applications, such as mapping. Emergency notification will take advantage of new, emerging communication channels including social media to provide critical incident-related information and instructions to targeted audiences.
Eliminate Emergency Call Center Isolation

The Cassidian Communications vision for integrated command and control includes interoperable narrowband and broadband wireless communications. Narrowband delivers ubiquitous two-way mission critical voice communications and broadband enables the high-speed data services necessary to provide all parties, regardless of location or affiliation, with access to actionable information, including high bandwidth imagery, telemetry and video.

Manage Information to Prevent Overload

Increased amounts of new information will present a number of challenges to call takers, dispatchers and field personnel, as well as to network administrators and data storage managers who will have to contend with additional information streaming in and straining capacity. The ability to rapidly organize, manage, distribute and act on relevant multimedia data must then be met.

The Cassidian Communications vision of integrated command and control includes the applications and resources necessary to avoid overwhelming network resources and human operators; bring order and structure to the primary actionable information; and make additional information easily accessible when needed.

- Security access controls to ensure that information is presented only to those with proper authorization – restricted by service, by role, by site, etc.
- Information presented in layers, with users able to turn on or off available content of interest – by incident type, geographic location, etc.
- Availability on-demand that enables users to retrieve specific, media-rich content only when needed – live streaming video, archived video, audio recordings, etc.
The Future Is Here - Our Vision Becomes Reality

The Cassidian Communications vision of integrated command and control is fast becoming a reality. During the recent SMS trial with Greater Harris County 9-1-1 Emergency Network (GHC 9-1-1), Cassidian Communications successfully demonstrated that its NG9-1-1 emergency response call processing platform supports the receipt and processing of text messages from any SMS-enabled device on any wireless service provider.

Cassidian Communications ESINet Interface Module is adding voice and data convergence to its NG9-1-1 call processing platforms and making it possible for emergency call takers to receive voice and location information via ESINets and provides the essential foundation for accessing other advanced NG9-1-1 public safety applications and services currently under development.

Our comprehensive application suite is also being enhanced to make it possible for applications to seamlessly share data appropriate to an individual's role and device, improving the flow of information. With the addition of an intuitive, customizable user interface common to all our applications, call takers, dispatchers, incident commanders and others will be able to quickly access, analyze and act on critical incident information anytime, anywhere.

In addition, Cassidian Communications is delivering the LTE devices and applications necessary to improve incident response by:

- Enabling the deployment of mobile command posts wherever and whenever an incident occurs
- Providing first responders with access to high bandwidth information such as real-time video, high-resolution photographs, hazardous materials data and building schematics
- Supporting roaming between public safety and commercial networks using subscriber devices that emulate LMR Push-to-Talk (PTT) capability over LTE

For our customers, the benefits include:

- Improved situational awareness as data is pre-interpreted, harmonized and intelligently displayed in an immediately actionable format
- Incident information and awareness shared with any/all incident participants that have network connectivity, regardless of location
- Maximized use of broadband radio and multimedia data communications to quickly deliver rich content information to the right recipient at any site using any device
- Support for new data types and formats in the emergency call center through phased solution updates with functional evolution
- Flexible ESINet solutions, which support regional, statewide or larger deployments
- Increased operational effectiveness with the ability to share a “common operating picture” with all responders

Helping You Take the First Step - Flexible, Scalable, Interoperable Solutions

Cassidian Communications innovation is bringing the future to reality by delivering the products, applications and services with the flexibility, scalability and interoperability necessary for you to determine your own, unique path to NG9-1-1 mission critical communications. While other public safety agencies find themselves limited by equipment and networks that are incapable of providing a cost effective evolution for integrated command and control, Cassidian Communications is providing its customers with the technology to carry them into tomorrow at a budget their agency can afford today.
The Industry Leader

A pioneer and trusted leader in mission critical communications, Cassidian Communications, an EADS North America company, provides key technologies for public safety, federal and corporate markets. Our full-circle security and communications portfolio includes 9-1-1 call center CTI applications for call processing, CAD, mapping and information management, as well as managed services, notification solutions and services and P25 Land Mobile Radio networks. For more information on how Cassidian Communications can help you protect your community through our NG9-1-1 solutions, please contact your Cassidian Communications representative or visit www.CassidianCommunications.com.