

AT&T Consulting and Professional Services: Enhanced 911 transformation services

Address employee safety and regulatory compliance by
improving location accuracy

Benefits of E911 service

- Provides dynamic, precise location identification of the 911 caller to dispatchers and first responders
- Generates internal notifications of the 911 call via:
 - Text and e-mail alerts
 - Desktop pop-up screens
 - Three-way calls with security desk

Benefits of AT&T Consulting and Professional Services

- Turnkey experience from planning and discovery to site migration and management
- Reduced project risk via technical and engineering expertise and resource availability
- Accelerated time to benefit

Need to implement Enhanced E911 (E911)? We'll work with you to help you meet federal and state compliance requirements

Safety and security have become top priorities for leaders in business, education, and government across America. Advancements in voice communication technologies are playing a crucial role in addressing these concerns.

E911 solutions are especially important. The E911 emergency response system is designed to ensure that phone number and caller location are provided to public safety answering points (PSAPs) based on cellular and landline networks. This ensures that emergency calls are accurately routed to the right PSAP and that internal personnel are notified for a prompt response.

With evolving statewide regulations and potential corporate liabilities, implementing E911 is increasingly vital for organizations of all types—public and private. It is essential to design an E911 solution that's tailored to each organization's unique needs to maximize employee safety and security. The importance of E911 becomes clear when compared to traditional 911 calling methods.

In residential emergencies, first responders can quickly locate a 911 caller because the location is tied to the caller's address as recorded during the phone system installation. However, in office buildings or multi-building complexes, traditional 911 systems make it much more challenging to determine the precise location of an emergency caller, highlighting the need for advanced E911 solutions.

Enhanced 911 solutions can automatically detect a caller's location, even if the device has moved between floors or buildings. This capability enables emergency personnel to accurately pinpoint the caller's exact location.

Federal and state compliance

Providing the legally required level of location detail is essential for compliance. While the Federal Communications Commission (FCC) has increased its focus on E911 legislation, there is currently no single, national standard. Therefore, companies should review current state requirements, anticipate future ones, and evaluate their risk tolerance to determine the right level of E911 compliance.

To further complicate matters, 911 caller location information can change. E911 solutions need to address the intrinsically dynamic nature of emergency caller locations in these business environments. This is especially relevant since companies often move, renovate office layouts, and have employee mobility across office buildings.

AT&T Consulting and Professional Services provides transformation services to help enterprises plan, design, and implement an appropriate E911 solution. We have extensive experience deploying technologies and implementing practices that enable enterprises to dynamically manage employee location, thus helping ensure accurate location information. Your E911 transformation can be implemented as an on-premise voice and unified communications (UC) solution or in conjunction with other hosted UC solutions along with SIP trunking services.

E911 and SIP transformation

Many organizations are migrating from time division multiplexing (TDM) voice to SIP trunking to reduce telecommunications costs and support their digital transformation. There are several advantages to coordinating E911 as part of a broader SIP transformation. They include:

- Finding interdependencies and minimizing risks that typically arise when both programs are undertaken independently
- Realizing greater budget and resource use from a unified program governance approach
- Benefiting from AT&T Consulting and Professional Services' comprehensive experience across SIP and E911 projects, helping to accelerate program benefits

Service methodology

AT&T Consulting and Professional Services works with leading E911 service providers to deliver comprehensive services. To remain as flexible as possible to unique customer needs, we build custom-tailored E911 transformation programs based on the following sequenced activities:

- Planning and discovery
- Solution design
- Engineering and implementation
- Testing
- Cutover and deployment
- Service management

E911 Planning and discovery

The first phase of our E911 transformation program is planning and discovery. This phase entails a review of the customer requirements for E911 along with development of a project plan. Next, the physical building layouts and network infrastructure information for all sites and locations must be captured. This information is used to begin the determination of Emergency Response Location (ERL) elements. At this stage, AT&T Consulting and Professional Services will determine if there will be a requirement to develop a site survey process. This is determined based on the initial capture of network layer 2 and layer 3 architecture, and the Wi-Fi® environment information.

E911 solution design

AT&T Consulting and Professional Services provides expertise to establish the detailed design and architecture. This phase focuses on the development of the equipment configurations, test plans, and integration plans needed to communicate to the telephony and network elements. The E911 solution design elements typically include:

- Emergency Response Locations (ERLs)
- E911 database appliance
- Internal notification
- Session border controller (SBC)
- Private Branch Exchange (PBX)
- Connectivity to the E911 service provider
- Network Infrastructure components

E911 engineering and implementation

Once the solution design phase is complete, the installation and configuration of the E911 database appliance starts. Also, integration with the IP private branch exchange (PBX) platform, network infrastructure, and E911 service provider will be completed.

E911 testing

System and initial functionality testing is performed to validate the integration of the platforms. In parallel to the cutover and deployment phase, individual site testing is performed to validate the tracking of phones that move within a building or across the campus to a different local area network (LAN) switch or subnet. The tracking of a station location down to the switch port level or subnet verifies that 911 calls are routed based on the correct physical location and test internal notification applications. This functionality is part of our E911 solutions and helps address the “dynamic” nature of location tracking and ongoing database updates.

E911 cutover and deployment

Throughout cutover and deployment, each site’s ERL information is defined in the E911 database appliance.

The network infrastructure, including either Layer 3 subnets, LAN switches and ports, and/or Wi-Fi Access Points (AP) Broadcast Service Set Identifier (BSSID), is discovered. A matrix of ERL information and network

maps is performed. IP PBX dial plans are reviewed and changed as necessary to address 911 call routing, internal security calls, and test calls. The security or facility notification elements are configured for every ERL. Analog devices are defined, as well as the implementation of software, to address local office and remote soft clients.

E911 service management

Service management focuses on developing the target state for the people, processes, and tools needed to support the E911 environment. We combine our expertise in solution development and critical readiness assessment to help customers create a robust support model. We also develop new and augment existing IT service management (ITSM) operational processes specifically related to E911 Incident Management and E911 Service Request Management.

Whether implementing the Enhanced 911 solution with an on-premise telephony, unified communications solution, or with another hosted voice or UC service, AT&T Consulting and Professional Services is a trusted advisor with a unique pedigree and proven approach. We use our skills and expertise so you can more efficiently integrate a unique E911 solution fit for your business requirements.

Why AT&T Consulting and Professional Services

AT&T Consulting and Professional Services provides world-class expertise and extensive experience, backed by a legacy as a Trusted Advisor. We offer a proven methodology and approach, best-of-breed solutions, a global network of advanced technologies, and a long history of stability and trust to deliver innovative solutions. As a leader in network, voice, and mobility technologies and communications for over a century, AT&T helps to accelerate and de-risk your organization’s transformation. Your business deserves the AT&T Business difference—a new standard for networking.

Ready to take your business to the next level? Contact us at CPS@att.com to discover how AT&T Consulting and Professional Services can help.