

IP Telephony in Crisis Situations: Important Factors for E911 and Location Determination

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The Future Belongs to VoIP & Mobility

Requirements and market expectations for emergency calling are changing:

- VoIP and mobility “change the game”
- Increased and confusing regulatory requirements, as a result of the transition to VoIP
- Increased user fear and uncertainty regarding E911 service for VoIP

Organizations providing IP Telephony to end-users must have a comprehensive E911 solution in order to:

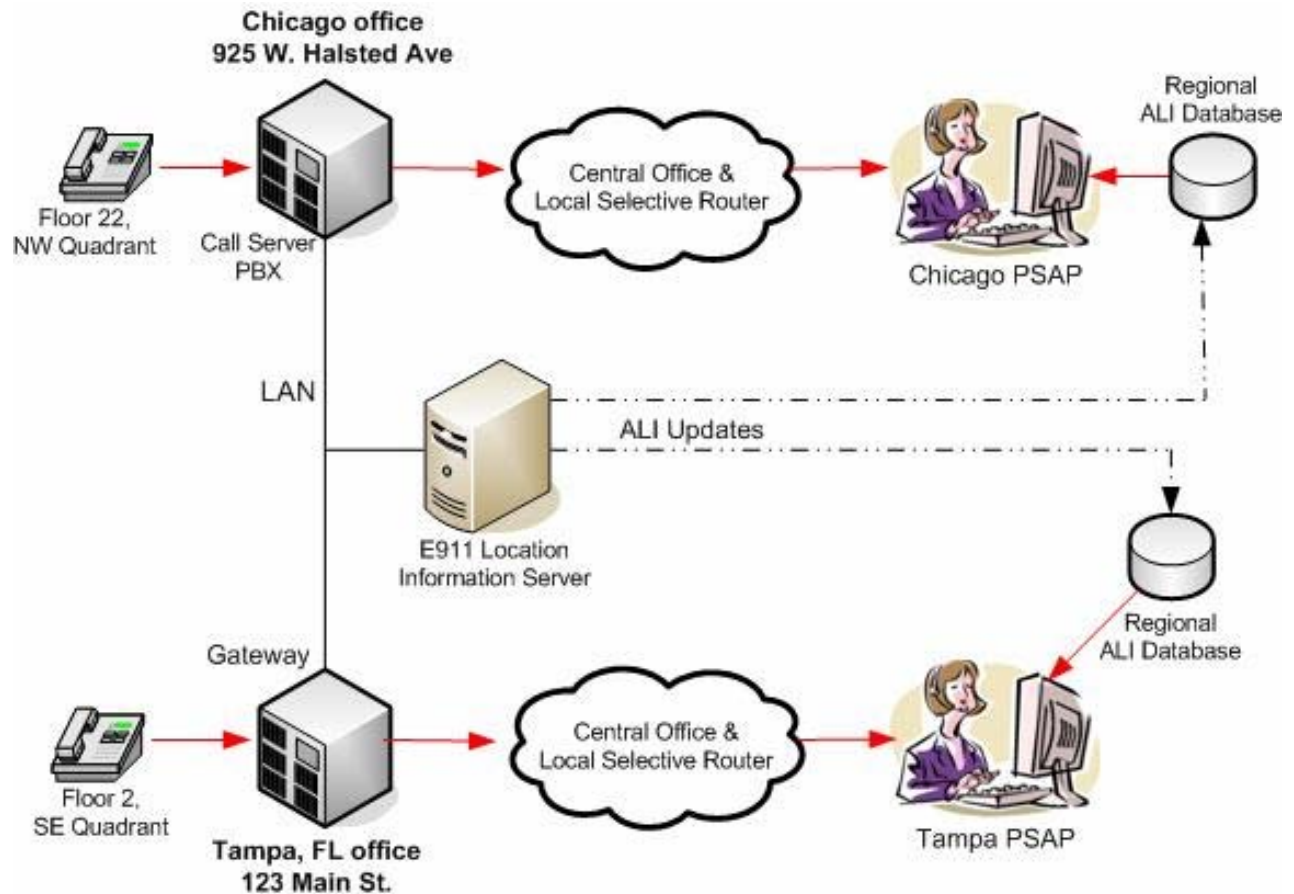
maximize productivity, reduce risk and maintain compliance with the law

Mobility Requires Location Determination

- Server-based location determination provides
 - Traditional MACs for TDM phones
 - Network discovery for on-premise IP phones
- Client-based location determination with Location Information Server (LIS) provides
 - Nomadic IP phones operating from a home office, remote office or on the road
 - Self provisioned
 - Automatically provisioned

E911 in a Day-To-Day Environment

911 calls are routed from the call server/PBX or gateway to the local Central Office and the local Public Safety Answering Point (PSAP) responsible for the call



What happens if there is an interruption in service due to a disaster or business altering emergency?

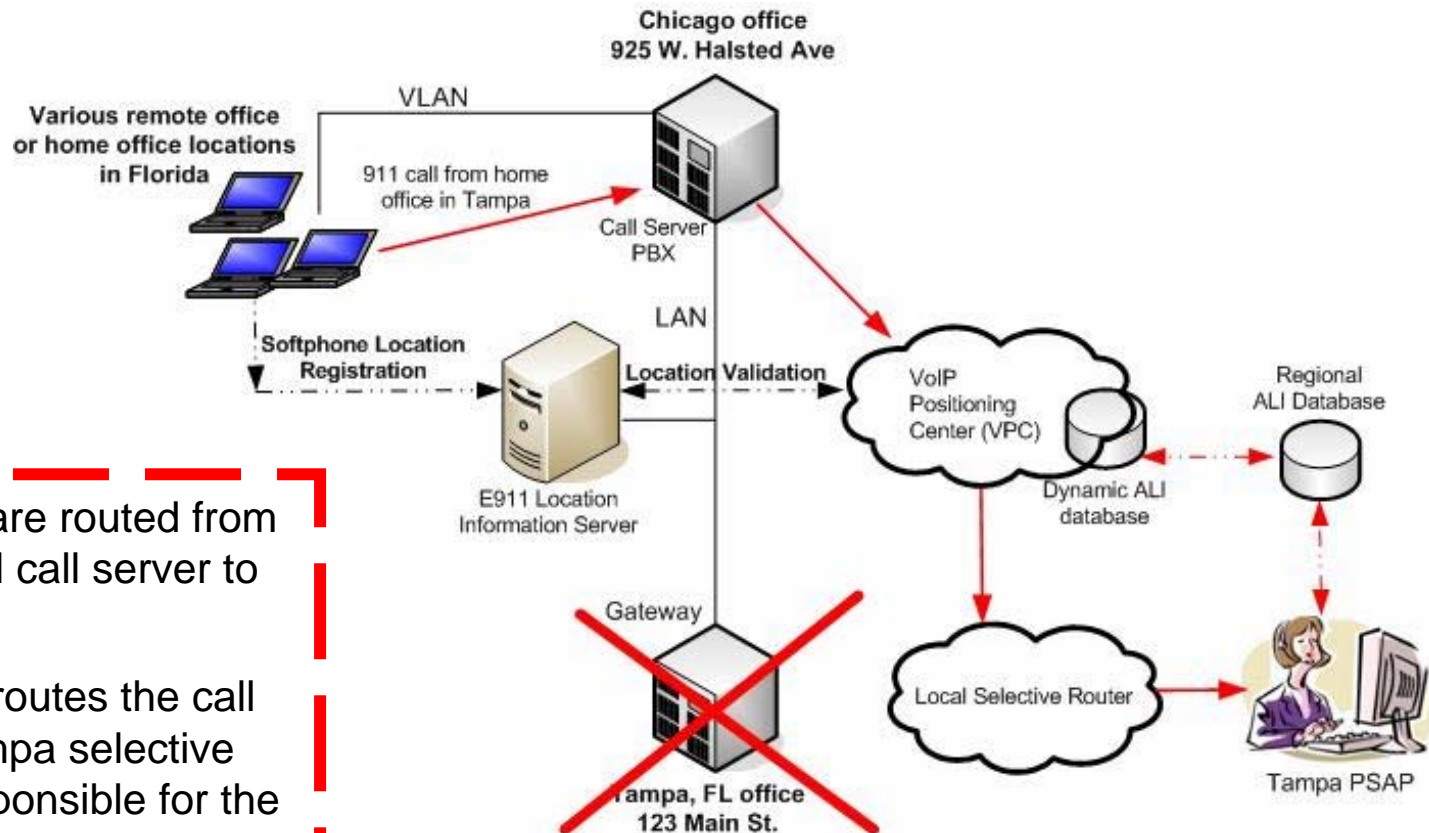
→ Employee relocation to a remote office or home office until business operations are restored

Disaster Planning Helps Ensure Business Continuity

- You cannot predict where or when an event will occur or how damaging it will be
- Solid disaster planning is critical to quickly relocate workers and maintain systems and communications
 - Contingency plans are necessary for businesses with multiple locations
 - Placing workers at another facility or enabling work from home requires flexibility in systems and processes
- A comprehensive E911 system that supports all disaster recovery scenarios is a critical piece of the puzzle to ensure ongoing safety for workers

E911 in Disaster Mode

- Relocated users login to VLAN for phone service
- The user's new location can be captured using real-time location tracking applications that prompt the user to indicate their new location
- A Location Information Server integrated with a VoIP Positioning Center (VPC) validates the location so that calls can be routed properly and location can be identified



911 calls are routed from the central call server to the VPC

The VPC routes the call to the Tampa selective router responsible for the caller

The Future of E911

- Emergency services are a subset of broader Location Based Services (LBS)
- Location determination needs to be “real-time,” or “near real time”
- Location service becomes “just another network service,” like DHCP
- With next generation E911, location will be transmitted with call; no longer an “ahead of time” provisioning issue
- VoIP evolution enables SIP-based technologies; traditional ANI/ALI systems will be replaced by SIP URI’s and Location Objects (LO)
- Standards body activities and specific customer requirements will drive architecture and definition of next generation emergency services architecture