



Ghana's National Emergency Call Centre Platform



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4.0 Conclusion

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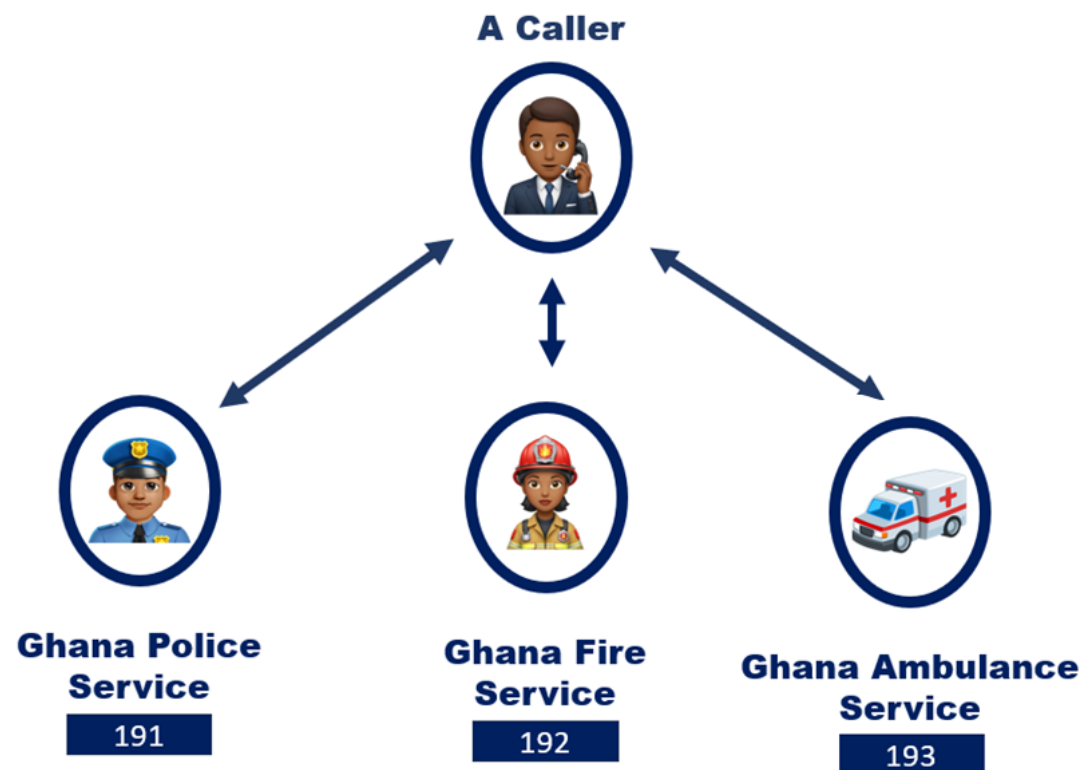
1.0 The Evolution of Emergency Communication in Ghana

Before Centralised 112:

- Emergency calls to Police, Fire, and Ambulance services were handled in silos
- Each service operated its own distinct contact number and dispatch system

Key Challenge

- Lack of integration led to minimal coordination during multi-agency emergency responses
- Delays and inefficiencies in sharing information





1.2 The Solution: Nationwide Infrastructure

- A unified, nationwide emergency infrastructure had to be established across Ghana
- Enables seamless call routing and coordinated response

Core Infrastructure Components:

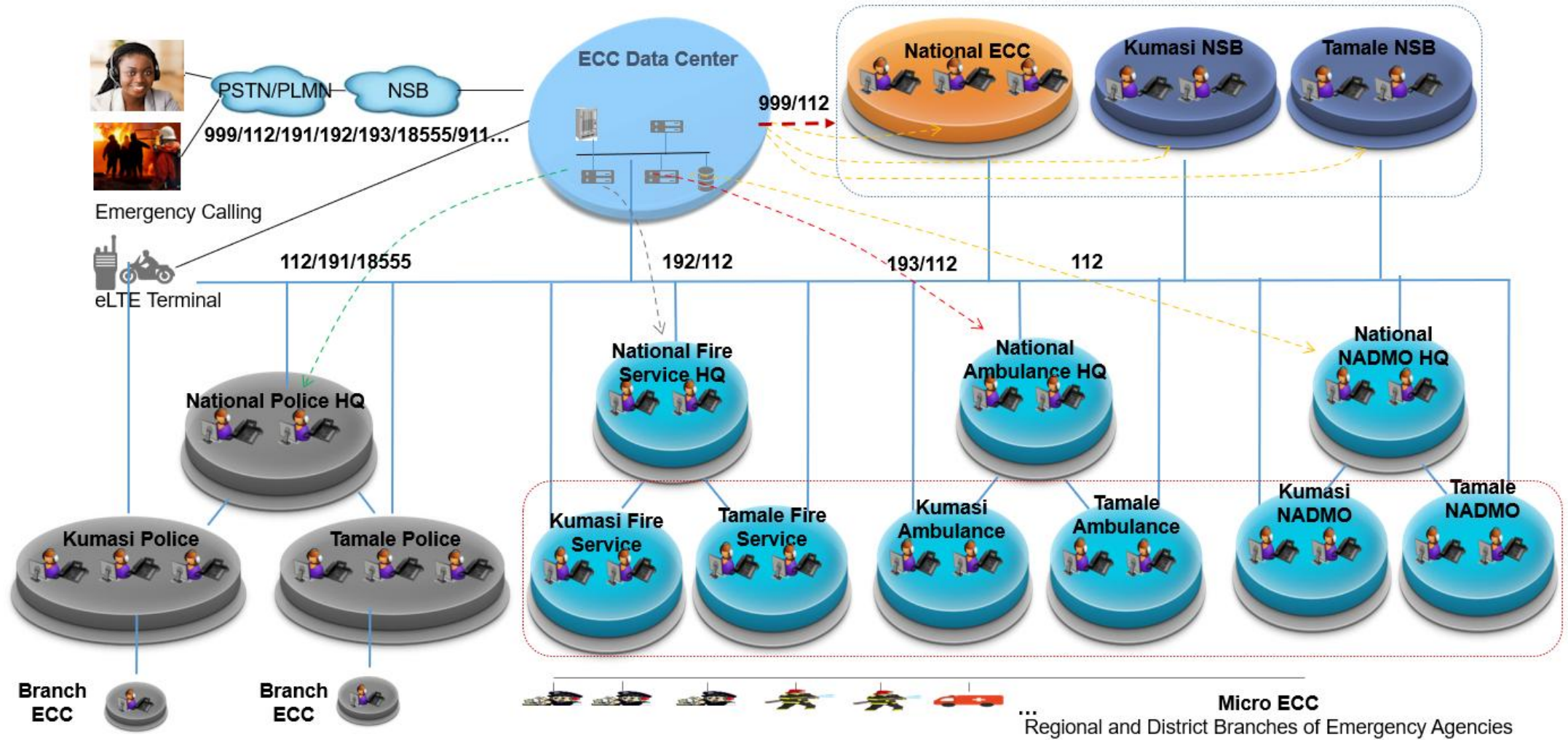
- The emergency platform was made to run on the existing national security communications infrastructure
- Two major data centres built as part of the national emergency system
- These supported connectivity to various mobile network operators and command centres of the various security agencies



2.0 The Technical Architecture and Network Infrastructure

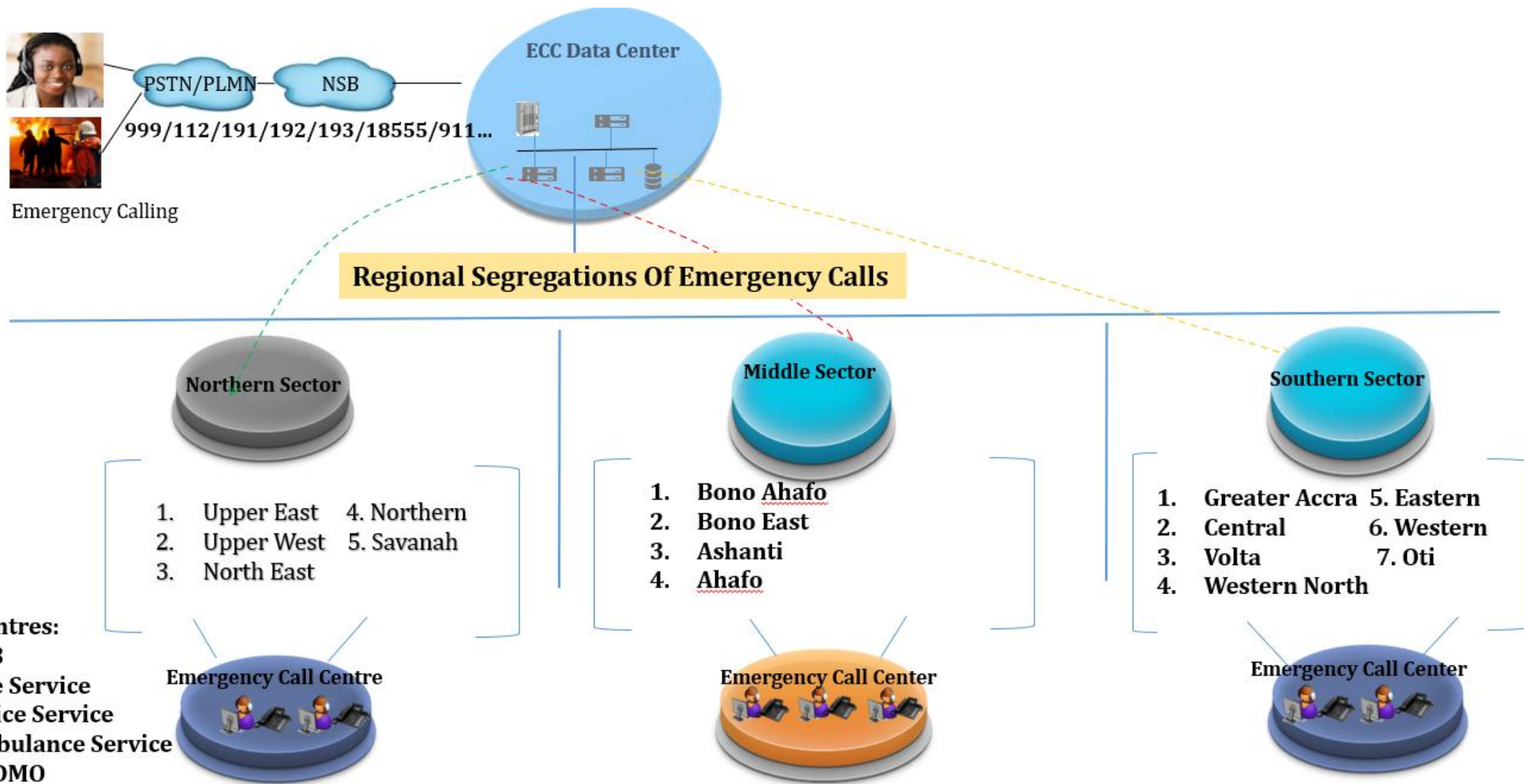


2.1 Technical framework





2.1 Cont.. Technical framework





2.2 Applications -Computer Aided Dispatch

The following are the principal applications used to manage security and emergency incidents, from reporting to conclusion.

Computer Aided Dispatcher (CAD)

- ❖ used to take the emergency calls, record information such as caller name, caller number, location, case nature and all other important information about the case.
- ❖ aids in dispatching emergency cases to the required respondents, records feedback from respondents and closes the case.
- ❖ Enables supervisors to monitor call takers and dispatchers and produce statistical reports of cases.



2.2 Applications

GIS

Displays the jurisdiction map, camera and handset locations, and finds the nearest resources for an emergency.

Location-Based Service (LBS)

Allows the CAD to display a caller's location on the GIS. This helps responders quickly locate and reach individuals in need, reducing response times and potentially saving lives.

SMS

- ❖ Allows one in an emergency or an incident reporter who cannot use a voice-based reporting method to send SMS messages to the CAD
- ❖ Call takers can read SMS messages and reply to them. Alternatively, call takers can directly send new messages to the incident reporter.



3.0 Ghana's Operational Experience with Emergency Number 112



3.1 Call Handling Procedures



Call-taker

- Receive a call with the ECC call-taking function, and fill in the case information.



Dispatcher

- Dispatch instruction as per specific situation to the field respondent to handle the case at site.



Supervisor

- Supervise and direct the dispatchers' work with the ECC shift leader function, and be engaged in dispatching if necessary.



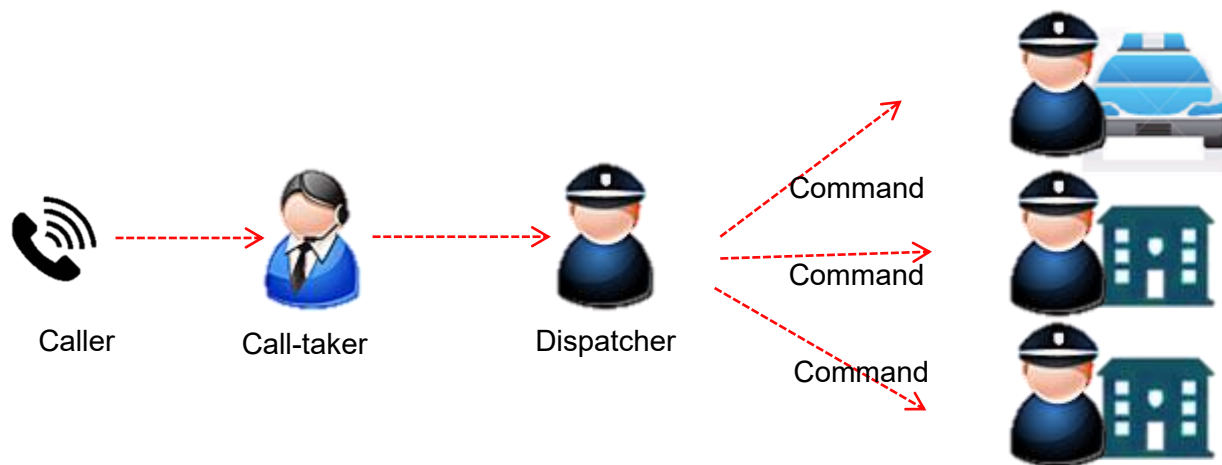
Emergency Respondents

- Respond to various emergencies based on the nature.



3.1 Cont.. Call Handling Procedures

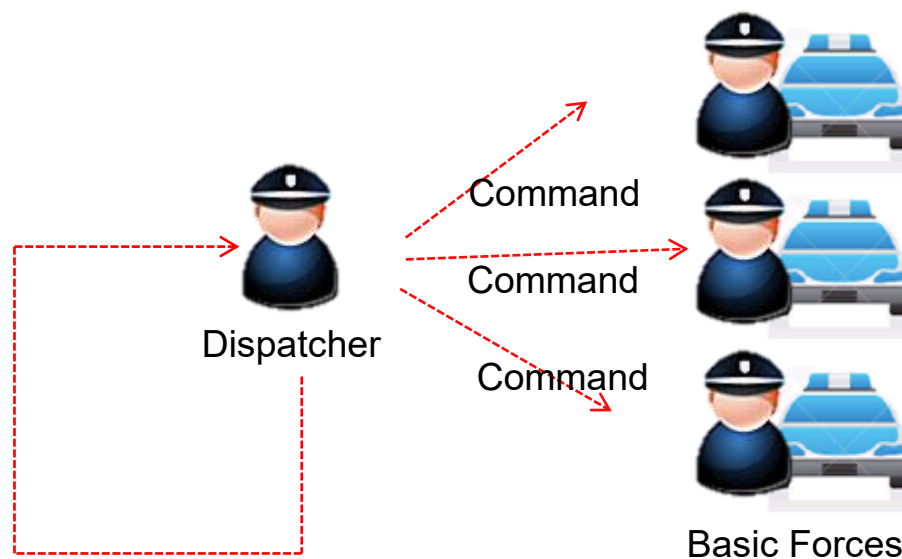
The call-taker and dispatcher in ECC System are normally separated from each other. The dispatcher receives a case and release dispatch to the field respondent. A case can be dispatched to multiple responding units.





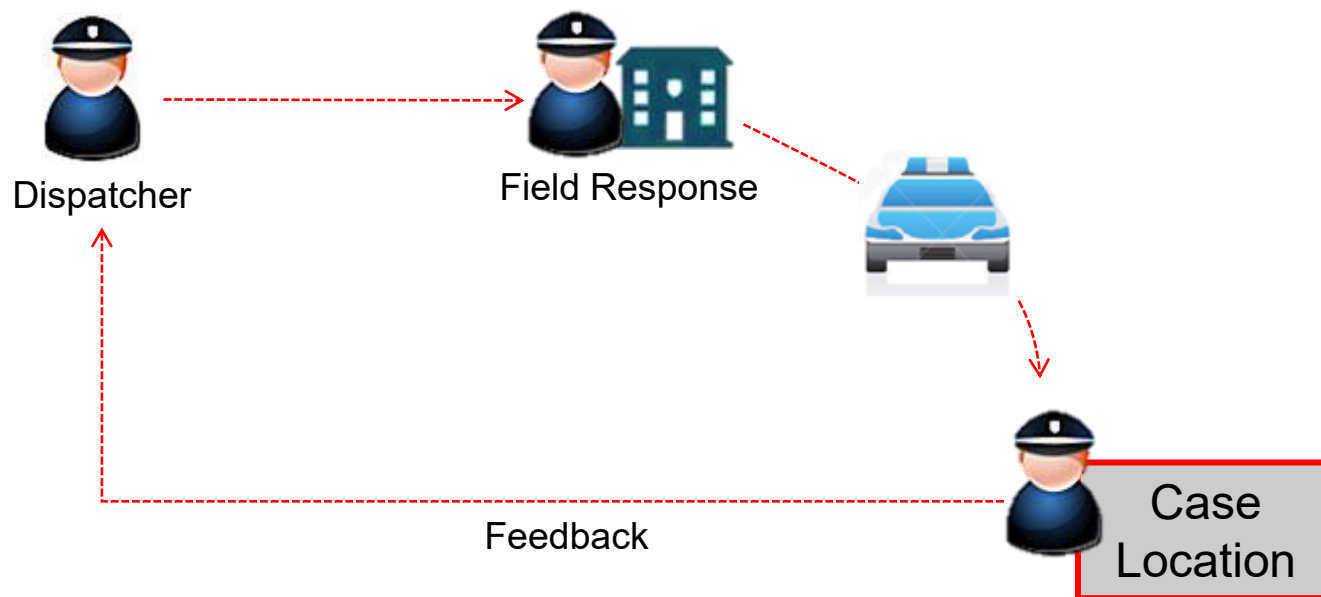
3.1 Cont.. Call Handling Procedures

The dispatch command for a case can be issued repeatedly if necessary, such as for reinforcement upon the first dispatching.





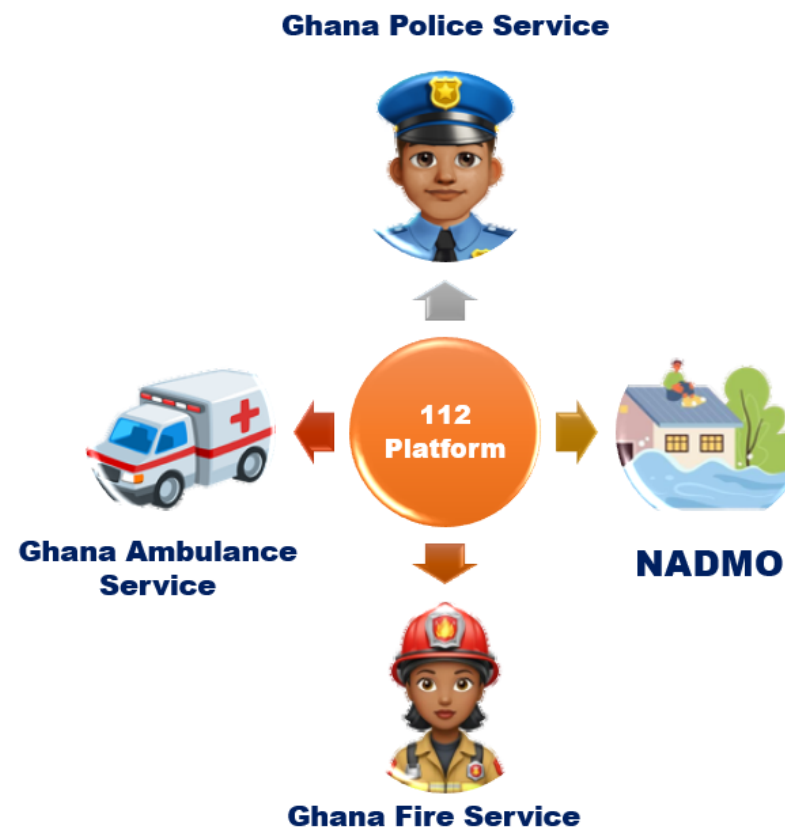
3.1 Cont.. Call Handling Procedures





3.2 Coordination with Emergency Services

- *Multi-agency notification of emergencies*
- *Unified Platform with agencies integrated*
- *Secure communication link for sharing information*





4.1 Challenges

Prank Calls

- Long Call Queue
- Operator Harassment
- Diversion of resources
- Enquiries other than emergencies

Human Factors

- Operator Fatigue
- Call overload

Technical

- Some areas in Ghana lack strong connectivity on some mobile operators thus limiting access to 112



4.2 Future of Ghana's ECC

Priority

Target

Early Warning

Implementation of an Early Warning System to predict disasters

Location accuracy

Within 20 meters

Multimedia support

Real-time video & images from callers

AI language translation

Support all major Ghanaian languages

Proactive surveillance

Detect some emergencies before they are reported

Prank call reduction

Implement legal & technical framework



Thank You