Recommend, visualize, deploy – In the world of public safety and security, seconds can mean the difference between life and death. Significant challenges exist as communications personnel attempt to optimize the distribution of first responder teams throughout the region to minimize response time and maintain operational efficiency. Today, these decisions are made by individuals based on their knowledge of the current conditions and their past experiences. As cities and regions grow in population and size, the challenge of decision making increases and demands a faster, more objective method for operational decision support.

The CAE Deploy solution
The CAE Deploy solution integrates next-generation decision support tools to optimize the deployment of first responder resources. CAE Deploy maximizes resource coverage throughout the area of responsibility which in turn reduces response times and ultimately leads to more lives saved. The CAE Deploy solution is customized to meet the requirements of each agency’s operational model, processes, and the geographic region. As a component of the implementation process, CAE’s team conducts an analysis of current systems, processes, and performance metrics to ensure the configuration of CAE Deploy meets the client’s organizational objectives, performance goals, and response standards. The optimized distribution of first response resources enhances regional coverage therefore providing improved services to the community and increased first responder job satisfaction.

Sophisticated prediction and deployment
Currently, decisions regarding deployment and resource scheduling are calculated manually. CAE Deploy is a decision support tool that provides reliable, timely, and actionable deployment recommendations. This deployment tool enables resource workload to be aligned with key organizational goals and metrics, including meal periods, driving times, overtime, and response time compliance. Using a response time standard based on the service’s organizational goals and processes as well as historical call patterns, a predictive coverage model determines where gaps in coverage exist when units are dispatched to an incident. CAE Deploy identifies these gaps and recommends a deployment solution to optimize the expected response time of the available units.

Visualization
Using a geographical information system (GIS) enabled graphical user interface, communications personnel are able to visualize real-time resource positioning throughout the area of responsibility. CAE Deploy’s map display allows users to quickly and easily review the overall system status and accurate geo-positioning of units.

Designed with the user in mind
Through its partnership with the Ottawa Paramedic Service, the CAE Deploy development team engaged communications personnel and paramedic response teams to participate in focus groups and user trials throughout the development process. The result is a deployment tool that not only improves the deployment process and reduces response times, but also addresses the operational concerns of first responders. By understanding the complexity of the deployment decision making process, the CAE Deploy development team has designed a user-centred system to support and enhance situational awareness of communications personnel, improve effectiveness, and increase consistency in deployment decisions. The user interface has been designed to organize the information needed by communications personnel and present it in a format that is readily available to make deployment decisions quickly and maintain situational awareness of all units and areas of responsibility.

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Features

**Generated deployment recommendations.** CAE Deploy uses intelligent predictive models and scheduling engines to generate optimized deployment recommendations, to make sure coverage objectives are met and to ensure personnel management issues are considered, all with the objective of improving community response standards.

**Real-time unit positioning.** This resource management feature allows communications personnel to maintain situational awareness of unit location and status as well as personnel management statistics such as shift schedules, meal periods, cumulative drive time, and workload.

**Coverage model.** Unit deployment recommendations are generated based on calculated gaps in coverage, which is determined based on historical call patterns and response time standards and the client’s deployment strategy.

**Easy-to-use graphical interface.** CAE Deploy’s user interface has been designed by human factors professionals to organize the information needed by communications personnel and display it in a readily available format for improved decision making and enhanced situational awareness of all units and incidents.

**Integrated with existing operations systems.** CAE Deploy is integrated with existing operational systems to provide real-time unit positioning and incident status data. The system facilitates data sharing between systems to enhance the situational awareness of the user, thus improving the decision making process.

Benefits

- Improved overall response times through better deployment
- Consistency in deployment decisions
- Visualization of operations in real-time
- Integrated resource management
- Workload optimization for both the communications officer and first responder
- Improved personnel management by optimizing meal periods, end-of-shift compliance, workload and overall drive times
- Management reporting and tracking for analysis