



Integrating All Hazards Emergency Communications During Initial Attack With Genasys Protect®

in-i-tial at-tack
noun

- 1 The strategy and tactics deployed by firefighters, law enforcement, and emergency teams to manage and mitigate an emergency event, assess resources, communicate with the public, and implement an evacuation if necessary.
- 2 The immediate response and first set of actions taken by emergency services to control and contain an emergency event at its onset.

An initial attack by fire or police departments refers to the action taken by responders who arrive first at the scene. In the first minutes, these responders must evaluate the situation, monitor the area to determine the extent of involvement, the surrounding environment, and the resources needed juxtaposed against the resources that are available.

The goal of an initial attack is to mitigate an emergency as quickly and efficiently as possible. The Incident Command (IC) does this through rapid assessment of the situation, strategic deployment of on-scene/enroute personnel, and by requesting sufficient resources to sustain and support the attack

Camp Fire, Paradise, CA, 2018

Using the Camp Fire, California's deadliest and most destructive wildfire in history, as a real-world example, we show how Genasys Protect*** can support fire, law enforcement, and emergency responders.

November 8, 2018, Butte County, CA, a downed powerline ignites a fire in the Feather River Canyon. With unprecedented winds, an ongoing drought, and massive dry vegetation, the fire quickly overtook the small mountain communities of Concow, Pulga, and Magalia—within an hour, the fire reached Paradise, a community of 26,000.

***It should be noted that in 2018, evacuation management technology was limited. However, today, Genasys Protect is being utilized in 36 counties in California, including Los Angeles, Santa Mateo, and San Diego counties.

Communication Quickly Becomes Key

Proper communication and teamwork between firefighters, law enforcement, and other emergency personnel are critical to laying a successful foundation during initial attack. The ability to act quickly makes first responders and emergency managers far more effective. Deploying emergency and evacuation management tools that facilitate decision making, collaboration across agencies, and public notification are critical to a quick response.

The Protect Platform is a Critical Ally During Initial Attack Situations

The Protect Platform is a collection of protective communication tools designed to enhance public safety and emergency management by making advanced warning and communication systems easier to use. Whether you're using the entire Protect Platform, or one of its components, these state-of-the-art solutions facilitate full-spectrum communications throughout the entire lifecycle of an incident.

From initial attack, all the way through repopulation and demobilization, Genasys will be there to help you keep everyone informed and safe.

6:44 am

(19 Minutes after Ignition)

Incident Command is established and takes charge of the initial attack phase. Aircra are unable to fly due to high winds. Fire "has the potential to become a major incident," with no way for the fire crews to get in front of the blaze.

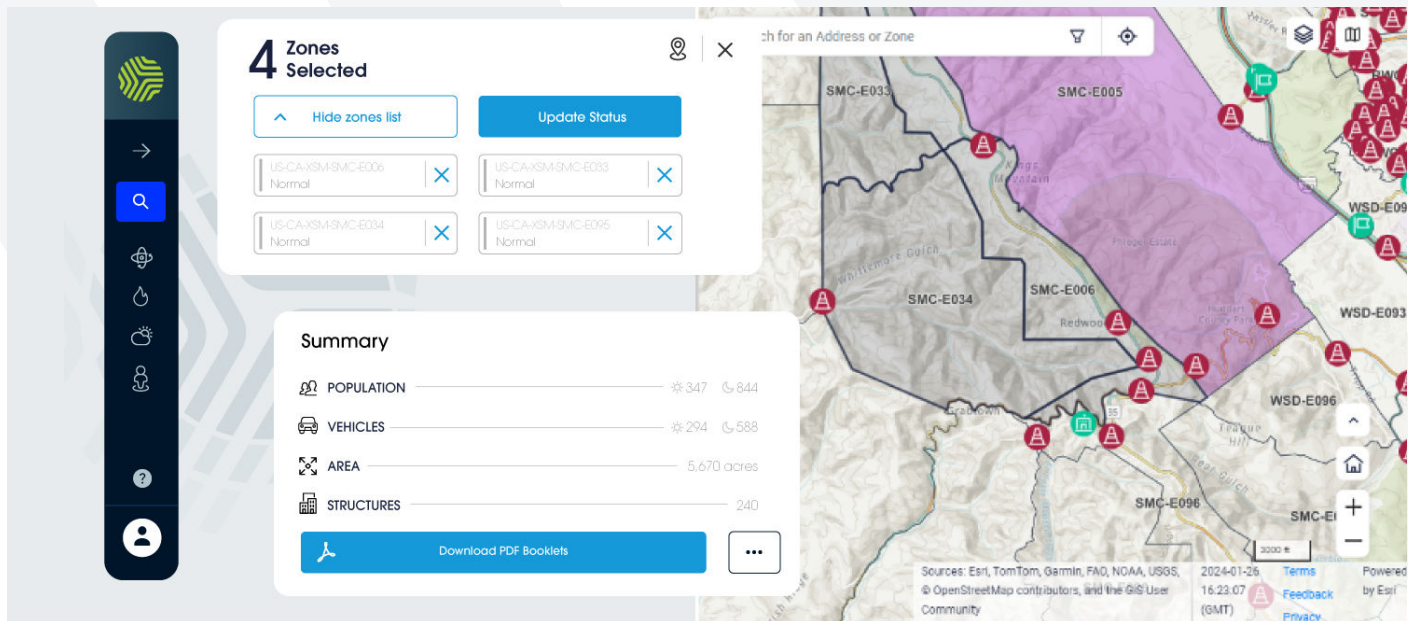
With the Genasys Protect, a common operating picture can be communicated from Incident Command to all public safety agencies within minutes. Evacuation orders can reach impacted areas in real time. Any qualified person can update zone statuses giving "boots on the ground" the ability to push critical intelligence upstream as conditions change.



Genasys Protect Communication Zones

As the cornerstone of the Protect Platform, Genasys Protect communication zones facilitate decision-making, cross-agency collaboration, and public notification, leading to accelerated emergency response and evacuation management. Geographically tailored zones and a common operating picture allow public safety personnel to make quicker, more informed decisions and easily communicate critical information.

Genasys Protect reduces the time from incident recognition to community notification by 90%.



Genasys Protect provides a common operating picture to accelerate information sharing among first responders and emergency managers during a disaster's initial attack phase and beyond. First responders in both law enforcement and fire can easily relay affected areas by naming zones on the map without the need for lengthy descriptions (e.g., north of... and west of...).

The Genasys Protect mobile app and website improves civilian awareness of safety information and instructions, reducing the emergency call volume by extending selective parts of the common operating picture to the public.

With Genasys Protect, greater speed does not mean a loss of accuracy or information. Genasys Protect makes key data including road closures, egress and ingress points, shelters, critical facilities, and more easily accessible on the map. Zones provide population density, vehicle and structure counts, and other relevant information giving incident command an instant snapshot of what they are dealing with. Additionally, disaster and evacuation simulations enable highly accurate planning based on current or custom weather conditions to address any scenario.

Genasys Protect introduces groundbreaking capabilities for real-time, collaborative interagency decision-making and rapid public message formation. Easily prepare targeted IPAWS-ready polygons and alert messages.

Genasys Protect equips fire, law enforcement, and emergency services with a direct integration to third-party solutions including Waze, Esri, Tablet Command, First Due, and Intterra. As a result, first responders can make data-driven decisions more swifly during emergency events and communicate vital information to the public promptly.



Key Genasys Protect Features:

- » **Flexible Zones:** Intelligent zones of neighborhoods to improve evacuation planning and communication. Build, edit, and act upon geographical location data, including shelters, facilities, traffic and road closures.
- » **Accelerated Decisions:** Reduce decision-making times by 90% with a common operating picture across agencies and mutual aid partners. Provide situational awareness with hyperlocal information on a map.
- » **Multi-threat Planning & Modeling:** Model behaviors to plan for effective responses and/or evacuation scenarios based on real-time data covering emergencies like wildfires, floods, active shooters, hurricanes, and more. This allows incident command to communicate potential changes during a critical event.
- » **Actionable Communication:** Genasys Protect keeps your community and/or teams in the know. Communicate effectively to reach your audience before, during, and after an event.
- » **Convenient Mobile App:** Empower citizens with an intuitive self-service, always-available app or website that shares key information directly from the EOC with your constituents.



7:17 am **(52 Minutes after first Ignition)**

Moving 7.5 miles in just over an hour, the fire quickly grows as the wind carries softball-sized embers to the north toward Magalia and into Butte Creek Canyon to the west. Incident Command is moved to Yankee Hill, a small community of 333, as they prepare to defend Concow.



Genasys Protect's Mobile App

Additionally, Genasys Protect includes the public-facing mobile app and website. The app and website make information-sharing with the public incredibly fast, potentially saving lives during emergencies such as wildfires, floods, and other natural and manmade disasters.

During initial attack, the app's functionality is pivotal in ensuring that individuals and communities receive timely information about imminent threats, allowing them to take necessary precautions and evacuate hazardous areas promptly. By integrating location-based services, the app sends targeted alerts to users within a specific geographical area, maximizing the relevance and urgency of the messages.

Incoming calls to 911 dispatch centers are greatly reduced by putting actionable communications in citizens' hands during all phases of an incident.

Genasys Protect's mobile app provides:

- » Evacuation warnings and orders
- » Road closures and traffic updates
- » Changes taking place in real time
- » Shelter locations and closures
- » Pet and livestock shelter information
- » Changes in hazardous conditions resulting
- » Updates on return information
- » Repopulation instructions

Communication Challenges During Emergencies

Establishing key communications strategies before an incident significantly enhances the management of emergency events. Common communication challenges often exist between first responders and the public during critical operational phases of an incident.

Fire Reaches Paradise

Within an hour, Paradise is hit from three sides by massive walls of fire. All police, county sheriffs, fire agencies, and dispatch centers quickly become task saturated and the growing 'snowball effect' soon overwhelms capabilities. Evacuation becomes the top priority with fire approaching the Paradise Hospital.

Genasys Protect, based on pre-determined zones, allows real-time emergency communications orders to be sent through a public-facing app. Vital information about evacuation orders, road closures, shelter locations, and more, can reach the public without delay. GenasysEvertel, a compliance-oriented messaging app, allows for impactful messaging communications among first responders.



Common Communication Challenges Faced During Emergencies Like Wildfires, Floods, and Other Large-Scale Events

Wildfires, floods, and similar large-scale emergencies present unique communication hurdles due to their unpredictable nature and rapid expansion. Key challenges include:

- » Interference and Network Overload - High demand on communication networks may lead to system overloads, reducing the reliability of emergency communications.
- » Rapid Changes in Incident Behavior - The swift evolution of emergency situations demands instantaneous updates, which are often hindered by communication gaps and slow decision making.
- » Accessibility of Information - Ensuring that all personnel and affected civilians receive accurate, time-sensitive information is difficult, especially in remote areas or when power goes down.

The Importance of Reliable Communication During Crisis Management

In a crisis, where situations can evolve rapidly and unpredictably, having robust communication channels helps in mitigating confusion and fear. Effective crisis communication strategies are essential in managing both the immediate initial attack phase and the long-term consequences of emergencies.

Genasys Protect provides reliable communication that can prevent the spread of misinformation, which is particularly rampant during emergencies, thereby safeguarding communities and enabling a more resilient recovery.

How Genasys Protect Impacts Initial Attack

Assessment of the Situation

Accurate and timely information is crucial from the onset of an emergency. In the first minutes, Genasys Protect can provide Incident Command with effective emergency communications to assess the initial scope and impact of an event, guiding the deployment of resources and strategies.

Initial Size-Up and Scene Assessment

The first moments at a scene are critical. With Genasys Protect, first responders can communicate findings and assessments clearly and quickly through a robust emergency communications system that ensures all initial reports reach relevant parties without delay.



Determining the Scale and Nature of the Incident

Understanding the magnitude and specific characteristics of a wildfire is vital. Comprehensive incident command tactics supported by real-time communications help to coordinate and disseminate information effectively, ensuring that the data reaches not only first responders but also the at-risk population.

Genasys Protect in Action

Genasys Protect provides a full-spectrum evacuation communication solution designed to deliver critical information and instructions during emergencies and **reducing the time from incident identification to public notification by up to 90%.**

The software can stand alone or integrate seamlessly with various alert systems to provide timely and effective notifications to targeted

Key Features

Here are some key features of Genasys Protect designed for emergency management collaboration and communications during the initial attack phase and beyond:

Real-Time Information - Genasys Protect provides real-time data about evolving emergencies. This feature is crucial for accurate situational awareness, allowing Incident Command to make informed decisions quickly. It integrates data from various sources, including weather conditions, evacuation routes, and traffic patterns.

Interactive Maps - Genasys Protect includes detailed, interactive maps that display custom evacuation zones, safe routes, and current threats with your Esri data. These maps are updated dynamically as the situation changes and are accessible to both emergency personnel and the public, providing clear guidance on where to go and what routes to take.

Public App - The mobile app, integrated directly with Genasys Protect, communicates immediately with the public. This includes the ability to send alerts, updates, and instructions, ensuring that residents receive timely and accurate information.

Evacuation Planning and Management - The platform helps in planning, managing, and training for evacuations. Model or simulate different scenarios and predict the outcomes based on current conditions. This assists in optimizing evacuation orders and routes, potentially reducing traffic congestion and improving safety.

"Spreading at a Rate of 80 Football Fields a Minute"

Fire intelligence from first responders in Concow doesn't reach Incident Command, so they don't know how fast the fire is spreading. Paradise residents calling 911 to report falling ash are told that the fire was north of Concow and not threatening Paradise.

Genasys Protect allows real-time fire intelligence to reach Incident Command with crucial details about a fire's behavior, as well as to create a common operating picture for emergency personnel, including dispatch operations.



Resource Allocation - Genasys Protect helps coordinate the deployment of resources such as emergency personnel, shelters, and traffic management. It ensures that resources are utilized efficiently and sent where they are most needed.

Community Preparedness - Beyond real-time emergency response, Genasys Protect also supports community preparedness. It is used for public education on evacuation plans and safety measures, helping communities be better prepared for future emergencies.

Benefits

- » **Enhanced Safety** - By ensuring that incident command can send critical alerts and instructions that reach the right people at the right time, Genasys Protect significantly enhances first responder and public safety.
- » **Efficiency** - The ability to quickly disseminate information across multiple platforms and to targeted audiences reduces response times and increases the efficiency of emergency management efforts.
- » **Compliance** - For organizations, using such a system helps comply with local and international safety regulations, which often mandate effective communication systems for emergencies.
- » **Scalability** - Whether for a small town or a large city, Genasys Protect can scale to meet the needs of any size operation, making it versatile for different contexts and user bases.

Logging and Feedback

After an emergency event, it's crucial for organizations to conduct thorough reviews and analyses to improve future response strategies. Genasys Protect offers detailed logs for post-incident analysis, helping organizations learn from experiences and enhance their emergency preparedness.

8:02 am

(97 Minutes After Ignition Report)

Paradise police dispatcher officially sends out the evacuation order by radio. Responders go door to door to notify residents to evacuate. Residents report there were "no sirens, no warnings" and, due to the mountainous terrain, traffic quickly made the limited number of major roads impassable with fire on both sides.

The Genasys Protect app can communicate evacuation orders to the public based on zones. Residents and visitors can learn about traffic routes, human, pet and livestock shelters, and much more. Additionally, ACOUSTICS and LRADs can be leveraged to communicate instructions over long distances to reach people without access to devices or the internet.



Logging and Documentation for Future Reference

Genasys Protect has detailed logs available of actions taken, resources used, and communication efforts. Logs serve not only as official records for accountability and compliance with regulations but also as valuable educational tools for training new team members and refining emergency plans.

The logs allow for detailed visualization and analysis of the timeline of events, response actions taken by teams, and the sequence of communications. This enables incident commanders and managers to pinpoint success areas and aspects that require improvement.

Genasys Protect is designed to be intuitive and user-friendly, ensuring that creating, accessing, and sharing information is straightforward. This ease of use encourages regular documentation, which is essential for maintaining a high standard of preparedness and response readiness.

Feedback Mechanisms for Improvement

Improvement after incidents is crucial, and Genasys Protect is designed with built-in feedback for product enhancements. These tools allow stakeholders, from emergency responders to the affected population, to provide their input on the response effectiveness and suggest areas for enhancement.

This feedback is integrated into the system and is critical to growing a user- and application-focused solution. By offering access to a continuous feedback loop, Genasys Protect ensures that each response effort builds on the lessons learned, progressively enhancing the system's efficiency and effectiveness.

Training and Improvement

Training is vital for first responders and emergency personnel and Genasys Protect can provide insights that enhance skills, create or update protocols, and incorporate technological advancements.

9:23 am - "Maintaining Evacuation and Civilian Rescue is Our Only Objective"

With community warning systems overwhelmed, hundreds of people remained at home not knowing they were under an evacuation order. Police attempt to go door-to-door, but the fire is spreading too quickly to be effective.

Genasys Protect and Evertel can be instrumental during a wildfire or other emergency event when Incident Command is organizing its attack. Each can also benefit first responders and the public during the Extended Attack Phase through repopulation coordination.

10:45 am

By late morning, 20K acres had been consumed in an area visible from space. In four hours, the Town of Paradise was destroyed. A week later, the Extended Attack Phase had 5K firefighters still tackling the blaze that would ultimately kill 85 people, destroy 153K acres, 18K homes, and displace over 30K residents. After five years, less than 10,000 people have returned to rebuild.



Continuous Training on Genasys Protect for First Responders

Continuous training ensures that first responders remain proficient in the use of Genasys Protect. This ongoing education provides comprehensive training followed by regular refresher courses. These sessions focus on practical exercises that simulate real-life emergencies, allowing responders to practice deploying the software under controlled, yet challenging conditions.

The aim is to keep their skills sharp and their decision-making swift, ensuring they can effectively manage actual evacuation scenarios.

Updating Protocols Based on Lessons Learned

Each emergency provides new insights and data that are automatically added to the system and help improve future responses. Additionally, training sessions commonly provide additional data and insights that continuously improve the platform.

Changes might include adjustments to evacuation routes, new shelter locations, communication strategies, or integration of new data sources. After-action training helps ensure Genasys Protect and its users adapt based on real-world experiences and feedback.

EPILOGUE

Wildfires continue to devastate communities. In 2023, Lahaina, Maui experienced a tragic loss of 101 lives due to natural and human-made factors, including delays in the emergency warning system. Similarly, the Marshall Fire in Boulder County, Colorado, in late 2021, witnessed a grass fire escalating into a suburban firestorm, claiming two lives and over 1K homes within two hours.

As a leader in Protective Communications, Genasys is ready when it matters, covering over 70 million people worldwide. Contact Genasys to learn more about the Genasys Protect Platform and keep your community safe and informed.

Incorporating Technological Advancements in Emergency Response

As technology evolves, so do the tools available for emergency management. Training sessions regularly include updates on new features and capabilities integrated into Genasys Protect.

This might involve the introduction of more sophisticated data analytics, enhanced real-time mapping, improved interfaces for mobile devices, or integration with additional critical systems. By staying abreast of these advancements, first responders can use innovative technology to enhance their efficiency and effectiveness in crisis situations.



Genasys Protect Multi-Channel Alerting

Genasys Protect transforms mass communication, ensuring individuals stay alert, knowledgeable, and secure during crises. It integrates real-time and predictive data, smart zoning, diverse alerting channels, external sensor integrations for automated alert broadcasts, and extended-range acoustic systems for external warnings.

It can reach people through IPAWS and Wi-Fi auto-discovery regardless of their registration status. Genasys Protect effectively communicates with individuals and groups enabling precise multi-channel communication and enhancing the safety of first responders, emergency personnel, and the general public.

Additional Products in the Protect Platform

Together with Genasys Protect, the additional components of the Protect Platform deliver an integrated ecosystem for emergency and protective communication, allowing for effective alerting, warning, and coordination during various types of critical incidents and disasters. The Protect Platform solutions are used independently to supplement existing systems or together for a powerful protective communications solution.



Genasys Evertel®

Evertel is a critical event management messaging platform that facilitates communication and coordination among different agencies and first responders during emergencies and for daily duties.

Similar to personal messaging apps, like Signal, WhatsApp, and Facebook Messenger, but compliant with state and federal laws, Evertel provides messaging for incident management, resource allocation, and inter-agency collaboration. Evertel ensures that all parties involved in the emergency response are on the same page and can act as a unified and effective team.

Evertel's real-time chat messaging combines exceedingly well with Genasys Protect's common operating picture and together greatly facilitates real-time collaboration and coordination. In addition, all communications are preserved in the cloud, making after-incident reporting more informed and effective.



Genasys Acoustics

ACOUSTICS are used to communicate with large populations or targeted areas, especially in situations where conventional communication methods are ineffective. ACOUSTICS speakers provide redundancy through highly audible messaging and are instrumental in directing crowds, issuing warnings, and conveying critical information during large-scale emergencies.

These physically mounted or mobile speaker systems are solar powered and have satellite connectivity for times when power and networks go down. They are instrumental in notifying those without internet availability, including the unhoused, visually impaired, seniors, and those living in RV parks and campgrounds.



Long Range Acoustic Devices (LRADs)

Long Range Acoustic Devices (LRADs), often used by incident command during emergency situations such as wildfires or floods, provide a highly effective means of communication with both the public and emergency response teams. These devices can broadcast clear, audible messages over vast distances and through environmental noise into vehicles and buildings, ensuring critical information reaches everyone affected.

During an emergency event, LRADs are used as an alternative to deliver evacuation orders, safety instructions, or updates about incident behavior and road closures. When infrastructure damage makes other channels unavailable, vehicle mounted LRADs can broadcast alerts and instructions as they pass through populated areas. This real-time communication is vital for guiding residents to safety swiftly and efficiently, helping to prevent panic and ensure compliance with emergency protocols.

Conclusion

The Protect Platform, especially Genasys Protect, represents a vital tool in modern emergency management and public communication strategies. The robust features, interconnected operations, and flexibility make Genasys Protect indispensable for ensuring a common operating picture for responders, as well as a top-tier public communications app.

By adopting such advanced communication technology, agencies can protect their personnel and community stakeholders during critical times, while fulfilling their duty of care and enhancing operational resilience.

Through addressing these communication challenges with structured strategies and advanced technologies, incident command personnel and emergency response teams can enhance their efficiency and effectiveness in managing disasters, ultimately saving lives and minimizing damage.