



Enhance school safety with Safety OneClick™

CrisisGo Case Study: AWS IoT Core for LoRaWAN



CrisisGo™ has developed Safety OneClick to address the growing need for schools to quickly communicate, particularly during emergencies. The system makes it easy and fast to share notifications and allow recipients to understand mission-critical information from an urgent safety event to network failures and more.

Mobile and desktop applications share urgent and informational communications with designated staff. Communications can be extended to automatically inform first responders during select events, saving precious time.

Safety OneClick is part of the CrisisGo suite of products, designed with facility safety and security in mind. CrisisGo provides school staff with a comprehensive crisis management system from prevention, preparation, response, management, and recovery to integration.



Prevent

Stop emergencies before they can occur with a system for reporting risks, assessing student threats, and managing facility audits.



Prepare

Give everyone immediate, digital access to your emergency plans and practice your protocols via safety drills.



Respond

Notify everyone in harm's way with the ability to escalate the situation to first responders, if needed.



Manage

Access digital safety resources like maps and checklists all while getting the right information to the right people.



Recover

Keep track of your staff with digital rosters for accounting for your stakeholders and maintaining a clear line of communication.



Integrate

Connect all your existing and future safety systems to preserve safety investments and ensure seamless crisis response.

Communicate reliably throughout a crisis

The growing number of school emergencies (weather, medical, or safety) has increased the need for quick and efficient communication between internal staff and first responders. CrisisGo Safety OneClick was developed to address these communication needs by delivering information quickly and privately to safety stakeholders.

Safety OneClick is more than a panic alert system. It delivers a wide range of benefits that continue to be useful for information dissemination, provide staff with a sense of being in the know, and ensure people feel safe and know how to respond:

- Rapid response to significant and frequent incidents or events that occur
- Covering day-to-day incidents (such as bullying)
- Compliance with the Alyssa's Law safety mandate
- Distribution of weather alerts such as tornadoes, snow, air quality, and hurricanes
- System testing notifications such as fire alarm, power, HVAC, and security
- Event logging with support for Freedom of Information Act (FOIA) requests
- Network server down notifications

Who manages Safety OneClick in the facilities?

- School safety director
- Administrators
- Superintendent of operations
- Superintendent (small schools)
- IT Department
- Facilities
- Risk management

The wireless Safety OneClick system is based on the wireless LoRaWAN® standard and operates independently of Wi-Fi networks. Before today, management of systems reliant on Wi-Fi lacked the technical reliability and battery-power management methods for school districts to trust.

The LoRaWAN specification is a Low Power, Wide Area (LPWA) networking protocol designed to wirelessly connect battery-operated devices such as the Safety OneClick Button to the Internet and enables bi-directional communication, end-to-end security, mobility, and localization services.

Amazon Web Services (AWS) IoT Core for LoRaWAN was selected as a fully managed LoRaWAN Network Server (LNS) that enables customers to connect wireless devices using the LoRaWAN protocol with the AWS cloud. It frees customers from the need to develop or operate an LNS, simplifies gateway and device onboarding, and reduces the cost of connecting and managing LoRaWAN device fleets at scale. CrisisGo Safety OneClick relies on AWS IoT Core for LoRaWAN to manage device/gateway connections to the cloud and provide reliable long range wireless device connectivity independent of cellular or Wi-Fi networks, while using LoRaWAN compliant off-the-shelf gateways and sensors.

The easy setup and management offered by AWS IoT Core for LoRaWAN makes it a cost-effective connectivity solution reducing installation and maintenance costs for customers. Relying on the performance and reliability of AWS helps delivering the consistent and reliable operation that is required for CrisisGo OneClick.

CrisisGo technology partners provide reliable hardware and software collaboration

Combining hardware and software into a single solution, CrisisGo Safety OneClick collaborates with technology partners who provide valuable components to the solution's success. CrisisGo and its hardware technology partners have developed Safety OneClick, an affordable and straightforward physical, wireless panic button solution for building and facility safety while addressing school leadership's significant safety concerns, including compliance with Alyssa's Law.

The CrisisGo products and services allow schools to maintain a reliable wireless connection and maintain viable signal strength, penetration, and range. All components in the design help to ensure system reliability when organizations need it most.

Using AWS as the backbone of the CrisisGo Safety OneClick solution, schools, businesses, industrial complexes, public buildings, and other highly populated spaces now have a cloud-based system that quickly dispatches urgent event knowledge to designated safety teams.

CrisisGo hardware technology partners



Radio Bridge designs and manufactures long-range wireless sensors for the IoT industry supporting the LoRaWAN standard. They manufacture the long-lasting battery-powered Safety OneClick button.



Laird Connectivity provides the LoRaWAN gateway that operates as the system's central receiving hardware for the Safety OneClick button.



CalChip Connect is a value-added distributor of IoT devices creating and delivering pre-provisioned Safety OneClick kits to CrisisGo customers for easy installation/setup.

How does the CrisisGo Safety OneClick work?

Pressing the CrisisGo Safety OneClick physical wireless panic button triggers the gateway to transmit an alarm to CrisisGo service within seconds, which immediately activates an alert, allowing organizations to respond appropriately. The signal is communicated over a LoRaWAN system for reliable, low-power communication, ensuring the wireless panic buttons remain operational for long periods between battery changes.

In addition to the hardware, the software managing the system provides many valuable features:

- Leverages AWS to manage the data and compliance logs
- Compliant with Alyssa's Law requirements to address law enforcement response time during a life-threatening emergency at a school
- Cloud-based system status monitoring
- Cloud-based programming and firmware updates

Who receives the notifications? A system administrator determines the notification recipients in advance, preparing the system for when a button is activated. This list can include site staff, external staff such as district personnel, and first responders.

Installation of the Safety OneClick hardware is simple. The hardware arrives pre-configured for each installation. Unpack the hardware, apply power, and connect to a wired or Wi-Fi network. Next, configure the wireless panic button for its intended use and determine the notification recipients. The options for trigger events are Evacuate, Lockdown, Hold, Lockout, or Shelter in place.



How Safety OneClick works

Watch and learn how easy CrisisGo Safety OneClick is to use

Simple setup



CrisisGo Management Software

Emergencies are not confined to offices; today's workforce is mobile. With the CrisisGo platform, safety staff, first responders, and personnel can use the CrisisGo app to manage and respond quickly to alarms. Use the app to access critical emergency plans, exchange specific communication from the organization's safety personnel or first responders and submit a quick incident report or tip to the administration or management team.

With CrisisGo, organizations can monitor all the safety activities for the facility through an online console or mobile app. The dashboard makes it easy to observe, track, and coordinate safety efforts, and you can easily compile all relevant communications and actions taken during specific incidents for post-incident review.

Safety OneClick hardware

Each Safety OneClick gateway can receive event notifications from Safety OneClick wireless panic buttons up to three walls away (when dense building materials are in the structure), or further away through unobstructed space. For expanded range, simply add additional gateways.

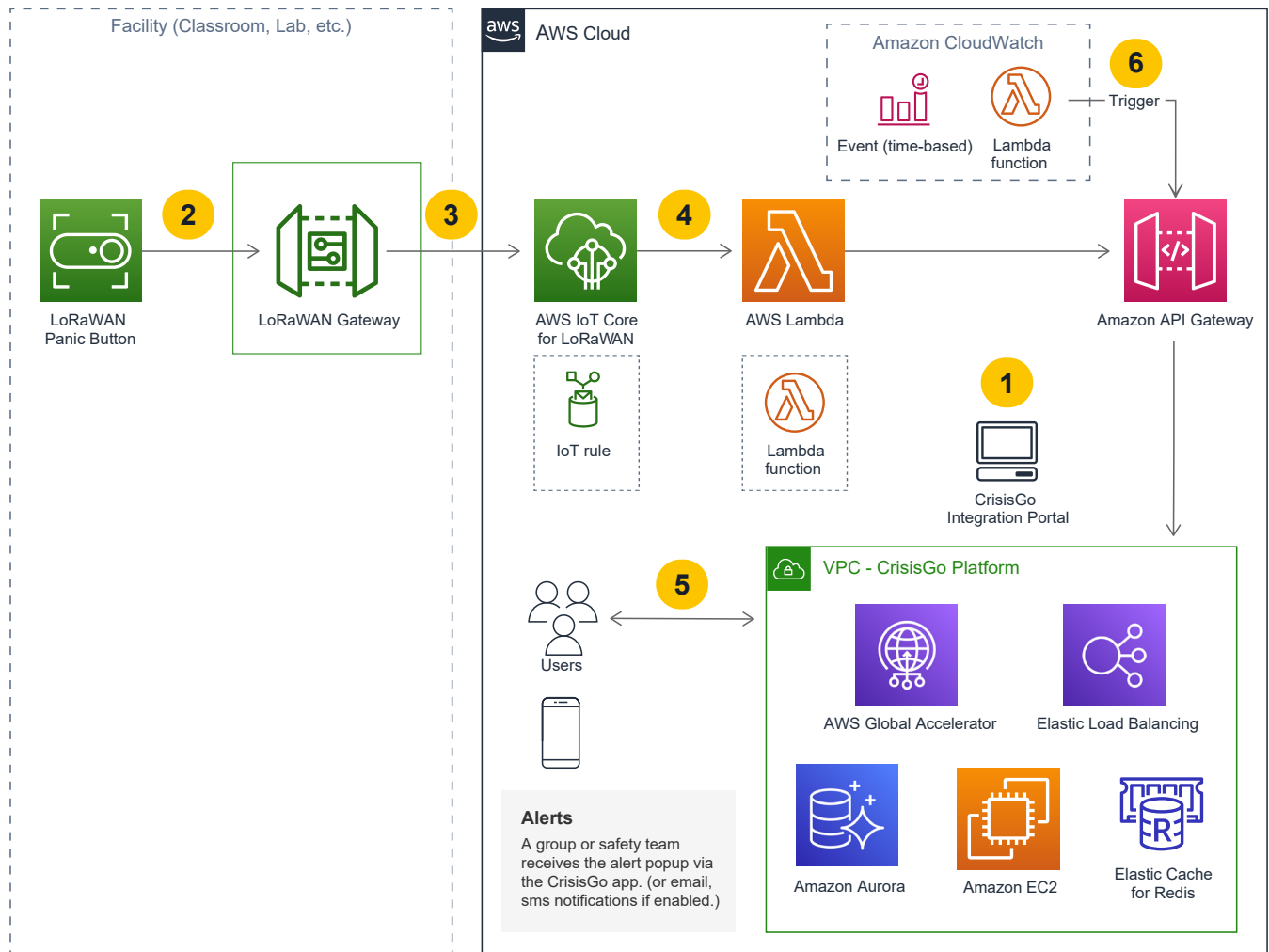
CrisisGo selected AWS for reliability and ease of integration

When the Safety OneClick concept was conceived, it was clear that it required specialized services to meet customer and conformance requirements. AWS delivers the cloud services and scalability while providing the security needs to protect critical data. Safety OneClick utilizes AWS IoT services such as AWS IoT Core for LoRaWAN, AWS Lambda, and IoT Rules. Using AWS IoT Core for LoRaWAN, CrisisGo was able to introduce the Safety OneClick feature to their existing digital safety platform from ideation to implementation in just two months.

Safety OneClick runs on AWS to perform a suite of monitoring and storage functions. It also monitors the customer's installed hardware by sending status requests to the system hardware every hour and logs the response. In the event a gateway or button does not respond, the CrisisGo platform sends a notice to the customer informing them to check the status of their hardware.

This two-way communication process also incorporates additional cost-saving and operational reliability benefits such as low battery level indications as well as remote programming and firmware update capabilities, including security updates. Additional AWS services are used to manage critical functions such as retention of event logs, system and performance analytics, regulatory compliance, and other customer data.

CrisisGo Safety OneClick with AWS IoT Core for LoRaWAN



- 1** Hardware installation: Customer receives the Gateway and wireless panic button(s) and applies power and connects to Ethernet (wired or Wi-Fi). Then, configures the wireless panic button(s) to "Lockdown" or "Staff Assist" alerts, and the targeted group/recipients, in the CrisisGo integration portal.
- 2** Wireless panic buttons connect to the customer's Gateway(s) over LoRaWAN communications protocol.
- 3** LoRaWAN Gateway connects to AWS IoT Core using LoRa Basic Station protocol over Secure WebSockets.
- 4** Messages received from the wireless panic button are passed to the AWS IoT Core Rule Engine as part of the built-in AWS IoT Core for LoRaWAN integration so device data can be automatically routed and transformed according to preset rules. This invokes the AWS Lambda function, which extracts payload data from the messages. Then data will be processed according to pre-configured button alert rules.
- 5** A group or safety team received the alert popup via the CrisisGo app, emails, or SMS messages.
- 6** Amazon CloudWatch Event Rule regularly invokes AWS Lambda to check device status (last uplink time, battery levels, etc.) and triggers an alert to the maintenance team about the devices needing attention.

Typical installations of CrisisGo Safety OneClick

Below are examples of installation sizes. Every installation is unique depending on building design, layout, and building materials used. Use these examples to understand how a CrisisGo Safety OneClick system may be applied in similar-sized facilities, campuses, or districts.

Small size installation

A single building private school district is using CrisisGo Safety OneClick. The installation monitors the front entrances and safety hotspots within the building with multiple wireless panic buttons.

Monitored buildings	Gateways	Panic buttons	Safety team
1	2	6	designated staff

Medium size installation

A medium-sized school district of 60 buildings wants to add another layer to its school safety plan. The solution implements the silent wireless panic button functionality of CrisisGo Safety OneClick to their existing safety platform. The system meets states' requirements for Alyssa's law.

Monitored buildings	Gateways	Panic buttons	Safety team
60	70	120	designated staff

Large size installation

A large 130-building school district able to apply CrisisGo Safety OneClick for a complete E911 emergency response solution. The installation uses wireless panic buttons set to quickly escalate events to law enforcement.

Monitored buildings	Gateways	Panic buttons	Safety team
130	150	200	staff, law enforcement

"In 2020, 486,000 alerts and over 48 million critical messages were sent out by schools across the country using CrisisGo to prevent, prepare, respond, and recover from over 400 types of school safety threats,"

Jim Spicuzza

Co-Founder, and Chief Product Officer at CrisisGo

Safety OneClick is ready to protect your facilities

Safety OneClick is available from CrisisGo. For an initial consultation and learn how Safety OneClick can be implemented in your school, visit [Safety OneClick \(crisisgo.com\)](https://crisisgo.com).

Once you receive your Safety OneClick system, preconfigured, installation is straightforward and can be completed by site staff. It is delivered ready to plug in and operate.

[Purchase device »](#)

CrisisGo technology partners



Radio Bridge

Component: Safety OneClick button (LoRaWAN)

Designs and manufactures long-range wireless sensors for the Internet of Things (IoT) industry using the LoRaWAN wireless standard. The portfolio of sensors supports very long-range, low-cost, and extended battery life applications.



Laird Connectivity

Component: Sentiurium™ RG1xx LoRaWAN Gateway

The Sentiurium™ RG1xx LoRaWAN Gateway offers secure, scalable, robust LoRaWAN connectivity. It can gather data from as far as 10 miles via LoRaWAN and connect to AWS IoT core for LoRaWAN using integrated Wi-Fi, Ethernet, or LTE options. The RG1xx gives you ownership over your network and sensors to help create actionable IoT intelligence.



CalChip Connect (CCC)

Component: System provisioning, certification, and fulfillment

Value-added distributor of IoT devices. Our leadership team's knowledge of the IoT supply chain and market, and passion for an incredible end-customer experience, position us to link customers around the globe with the highest performing devices available on the market today in a never-before-seen buying experience. CCC creates a means for scalability and value-add to the IoT industry through our global distribution infrastructure and high-tech sourcing and service competencies.



LoRaWAN is a mark used under license from the LoRa Alliance.

© 2021, Amazon Web Services, Inc. or its affiliates. All rights reserved.

© 2021, CrisisGo Inc. All rights reserved.