

---

# Building an Area of Refuge Solution with Code Blue

*By Michael Zuidema*

September 2016



## Contents

Introduction .....	3
Background.....	4
Challenge.....	5
Solution.....	6
Benefits.....	7
Conclusion .....	8
References .....	9
About Code Blue Corporation .....	10

© 2016 Code Blue Corporation. All rights reserved.

*The information contained in this document represents the current view of Code Blue Corporation on the issues discussed as of the date of publication. Because Code Blue must respond to changing market conditions, it should not be interpreted to be a commitment on the part of Code Blue, and Code Blue cannot guarantee the accuracy of any information presented after the date of publication.*

*This White Paper is for informational purposes only. CODE BLUE MAKES NO WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, AS TO THE INFORMATION IN THIS DOCUMENT.*

*Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Code Blue Corporation.*

*Code Blue may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from Code Blue, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.*

*Code Blue<sup>®</sup>, Blue Alert<sup>®</sup>, help at the touch of a button<sup>®</sup>, Help Point<sup>®</sup>, NightCharge<sup>®</sup> and ToolVox<sup>®</sup> are either registered trademarks or trademarks of Code Blue Corporation in the United States and/or other countries.*

*The names of actual companies and products mentioned herein may be the trademarks of their respective owners.*

## Introduction

Determining the best way to evacuate buildings and keep people safe during emergency situations has been a major focal point for architects and engineers since humans first decided to add a second story to structures. That's why most people know they need to use the stairs and not an elevator during a fire. The prominence of Areas of Refuge, however, rose significantly when the American with Disabilities Act (ADA) was passed into law in 1990. The need to provide safe assistance to individuals who are unable to use the stairs or may be trapped during potentially dangerous situations is vital for multistory buildings, which is why Code Blue Corporation has a solution designed to provide people with help when they need it most.

## Background

An Area of Refuge, or Area of Rescue as it is also known, is defined as a location in a building that has direct access to an exit where people can safely wait for help or instructions during emergency incidents or when elevators are no longer available. Examples of individuals who may need extra assistance during an evacuation can include patients in a hospital, the physically disabled, the elderly, young children and infants, and people who already may be assisting another person. It is also a rallying point for those who are unable to find any path out of the building. Areas of Refuge can be found in apartment buildings, high rises, educational facilities, nursing homes, parking garages, corporations and other places that may be above or below ground level.

In order to provide the best possible help to these individuals, it's imperative to provide two-way communication that not only allows people to request assistance, but gives first responders the opportunity to deliver instructions and updates during and after the incident. Many locations choose to do this with an emergency speakerphone connected to a central base station that is either continuously monitored on site or can be routed to outside personnel like police officers and fire fighters.

Essential components of an Area of Refuge system include:

- **Master Station:** Central location that can identify and respond to requests for help.
- **Call/Base Station:** Two-way communication device that can be used to call for assistance.
- **Battery Backup:** Secondary power supply that ensures contact can be made if the main power goes out.
- **Signage:** A visible reference with raised lettering and braille indicating where special accessibility assistance can be found. These also may be illuminated.

It is essential to provide this direct lifeline to ensure the safety and security of every individual on every floor in buildings, especially large towers and complexes that see a high amount of traffic from employees and visitors.

## Challenge

Installing a phone in a wall isn't necessarily an easy solution for creating a suitable Area of Refuge. While it's important to provide an appropriate means of communication, there are a number of codes and additional factors that need to be adhered to in order to provide the right type of help during an emergency.

Key requirements outlined by the International Building Code (IBC), International Fire Code (IFC) and National Fire Protection Agency (NFPA) join the Americans with Disabilities Act (ADA) as important guidelines for locations looking to install Areas of Refuge. According to Title III of the ADA, Section 7.5135, "Areas of rescue assistance (safe areas in which to await help in an emergency) are generally required on each floor, other than the ground floor, of a multistory building." Sections 1007.8.1 and 1007.8.2 of the IBC and NFPA 101 Section 7.2, for example, state that Areas of Refuge shall provide a two-way communication system. While both the IBC and IFC also make frequent mentions regarding egress issues, Section A.24.31 of NFPA 72 Chapter 24 outlines the importance of intelligibility in guaranteeing that information is both heard and understood: "In certain situations, it is important to provide a distributed sound level with minimal sound intensity variations to achieve and intelligible voice message." The ADA, meanwhile, references the need for "tactile and visible signs" to provide guidance during events. The California Building Code also requires visible communication solutions to include, "a button at the central control point shall activate both a light at the central control point and a light in the area of refuge indicating that the request has been received."

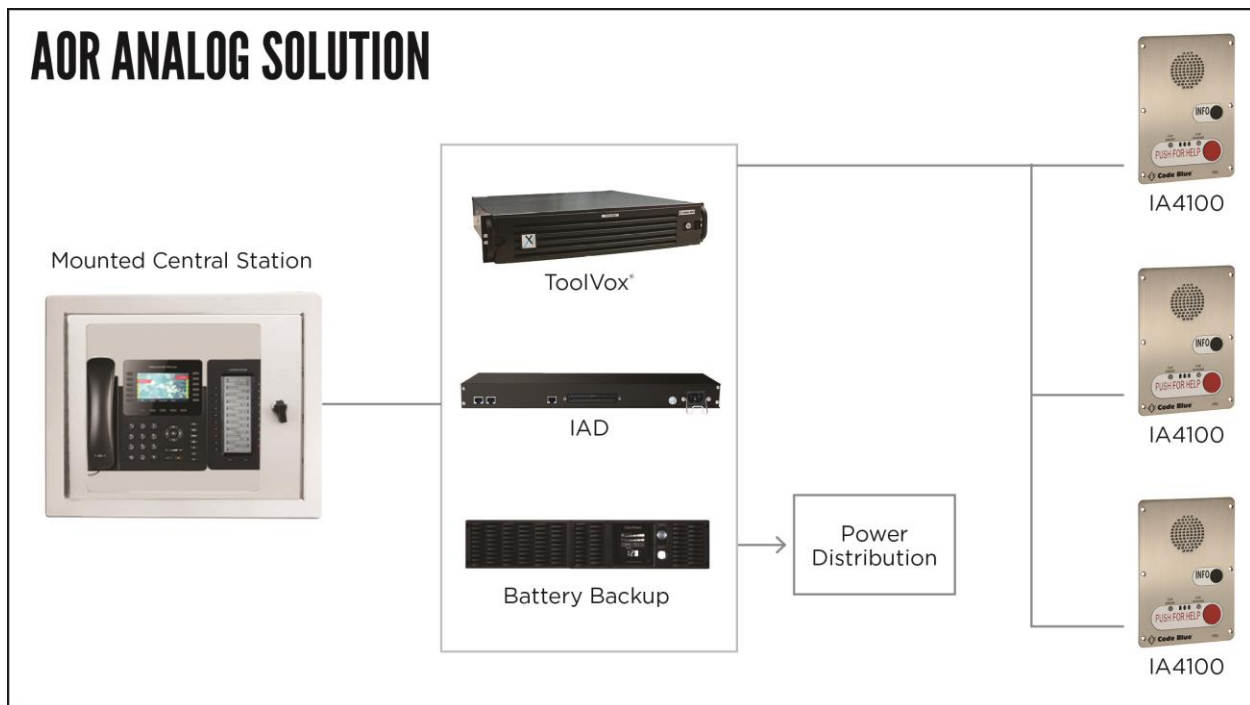
Ensuring that all of these factors are satisfied while still maintaining an adequate means of egress – an unobstructed path to exit buildings, structures and other public places that doesn't hinder the ability of others to safely exit or provide assistance to those who need help – near stairwells, doors and paths can be a complicated juggling act even before an emergency communication solution is installed. But including direct contact with first responders must be given appropriate attention to provide a high level of safety and security for everyone.

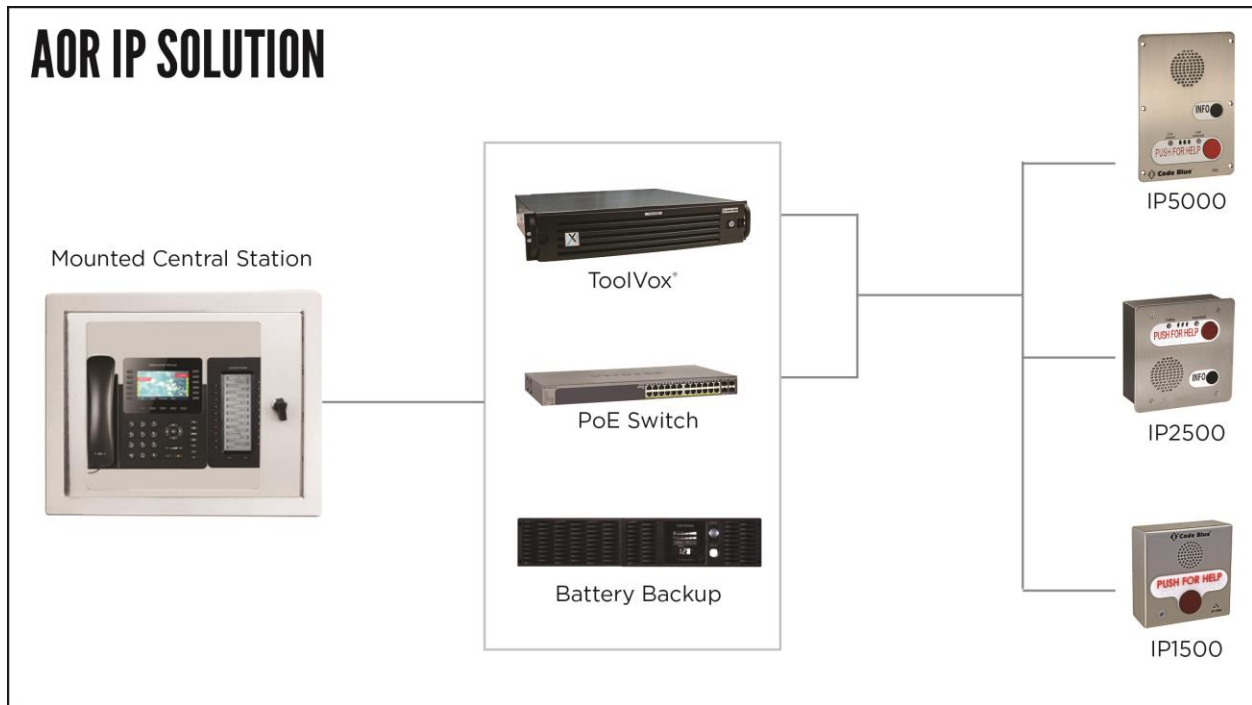
## Solution

In an effort to provide help to those who need it most, Code Blue created an Area of Refuge solution for locations looking to give people an easy and efficient way to contact first responders during emergency situations.

It all starts with Code Blue's industry leading emergency speakerphones. The IP5000, IP2500 or IP1500, SIP compatible VoIP speakerphones, or the IA4100, advanced analog models, can be installed into walls using the CB 6-f flush mounted enclosure to provide help at the touch of a button. These communication devices are then provisioned and monitored by the ToolVox<sup>®</sup> X3, an award-winning systems management platform that acts as a hub for configuring hardware and software systems.

For example, IP5000 VoIP speakerphones can be connected to Power over Ethernet switches and registered to the ToolVox. Additionally, IA4100 analog speakerphones can be connected to a patch panel and powered by a distributed power supply. An IAD will provide dial tone and connect to the ToolVox and central station.





These products are able to fulfill ADA and IBC provisions by providing the type of reliable two-way communication required for Areas of Refuge. Code Blue phones and enclosures also can be equipped to provide audible and visual signals that indicate communication has been established, while simultaneously giving the operator the exact location from which the call originated.

By incorporating additional third party products, including battery backup with at least four hours of operation during a power outage and a mounted central station that can either directly answer requests for help or automatically be routed to an outside service like 911 if it is not being monitored, locations can take advantage of Code Blue's pioneering emergency communication solutions while successfully fulfilling their Area of Refuge needs.

## Benefits

Selecting Code Blue products for an Area of Refuge system carries a number of benefits that can improve the safety and security of virtually any location. Key differentiators include:

- **Flexibility:** The ToolVox can serve as a master station that controls both analog and IP phones, providing flexibility and versatility in both new and old installations.
- **High quality communication:** Almost all of Code Blue's IP and analog speakerphones come with full duplex capabilities with echo cancelling, sometimes known as open duplex, which allows the caller and first responder to communicate simultaneously, while also eliminating buzzing and static.
- **ADA compliance:** From Braille text on the phone's bezels to LED status indicator lights, all Code Blue products are built to meet ADA compliance.
- **Intelligibility:** Code Blue phones and public address systems have maximum intelligibility to help meet NFPA 72 Chapter 24 regulations.
- **Durability:** All Code Blue products are designed to withstand the harshest natural and man-made elements, from hurricanes and tornadoes to vandals and vehicle damage.
- **Self-diagnosing:** Advanced self-monitoring features can schedule and run tests and instantly deliver a notification if there is an issue with the microphone, button or speaker, ensuring that all products are working as they are intended.

By taking advantage of these factors, locations can be assured that their Area of Refuge will be running efficiently and effectively when the time comes to push the button.



## Conclusion

Providing an appropriate Area of Refuge space with the means to request assistance can be a costly and timely project, but it's not only important and vital to potentially saving lives – it's the law. Lawsuits related to ADA violations alone can run anywhere from \$5,000 to \$100,000 per complaint. Code Blue can provide an Area of Refuge solution that is a durable and reliable option specifically designed to meet important codes and provide effective two-way communication, ensuring that occupants have access to help during emergency incidents.

## References

<http://www.iccsafe.org/safety/Documents/MeansofEgressBroch.pdf>

<https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/guide-to-the-ada-standards/chapter-4-accessible-means-of-egress>

<http://www.floridabuilding.org/fbc/thecode/ADA/2003-1007.pdf>

<https://www.ada.gov/taman3.html>

<http://www.securitymagazine.com/articles/77678-rescue-assistance-made-easy-1>



## About Code Blue Corporation

For more than 25 years, Code Blue Corporation has been the industry leading manufacturer of durable emergency communication solutions. The pioneer in developing and producing vandal-resistant Blue Light Emergency Phones at thousands of education, corporate, hospital, airport and municipal locations around the world, Code Blue's expansion includes the innovation of advanced public address and mass notification systems to provide a complete end-to-end solution.

Founded to address the growing need for sophisticated audio security solutions, Code Blue offers American-made Help Point<sup>®</sup>, Emergency Signaling, Incident Response and Systems Management products that are innovative, rugged, powerful and easily integrated.

Code Blue's evolution continues with the engineering of new software and hardware designed to meet the ever-changing needs of customers who require an advanced level of incident deterrence that establishes a safe environment. No matter where you go, you can feel safe knowing that there is help **at the touch of a button<sup>®</sup>**.