A Reliable Solution For Extending Legacy Analog Systems

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March 2018

Code Blue®

WHITE PAPER

SL-335-C

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Introduction

As quickly as technology continues to advance, legacy systems still have a significant role in the security landscape, which is why many locations are seeking out ways to extend the life of their analog phone systems. Making the switch to VoIP can be a costly investment, but options are available that can serve as a gateway for IP-to-analog communication. These solutions allow existing cabling infrastructure to remain in place without needing to make expensive changes, while also giving organizations the opportunity to invest in technology upgrades on the timeline of their choosing. When it comes to emergency communication solutions, this is vital to ensuring that people continue to have the opportunity to request assistance in a reliable manner.

Background

Recent years have seen a large migration from analog to IP communication, with many locations no longer using Plain Old Telephone System (POTS) lines and instead looking for ways to switch to fiber cabling. However, analog lines still can be dependable and this, along with the significant costs associated with upgrading, motivates locations to find ways to extend the life of their legacy devices.

An IP-to-analog gateway is a networking device that converts a traditional legacy phone signal - analog or digital - into an IP communication stream. The gateway serves as the conversion point between a Time-Division Multiplexing (TDM) telephone network and an IP-based network, such as the Internet or private corporate LAN or WAN connections. This gives an organization the flexibility to choose how it wants to approach the timeline for an upgrade project.

Challenge

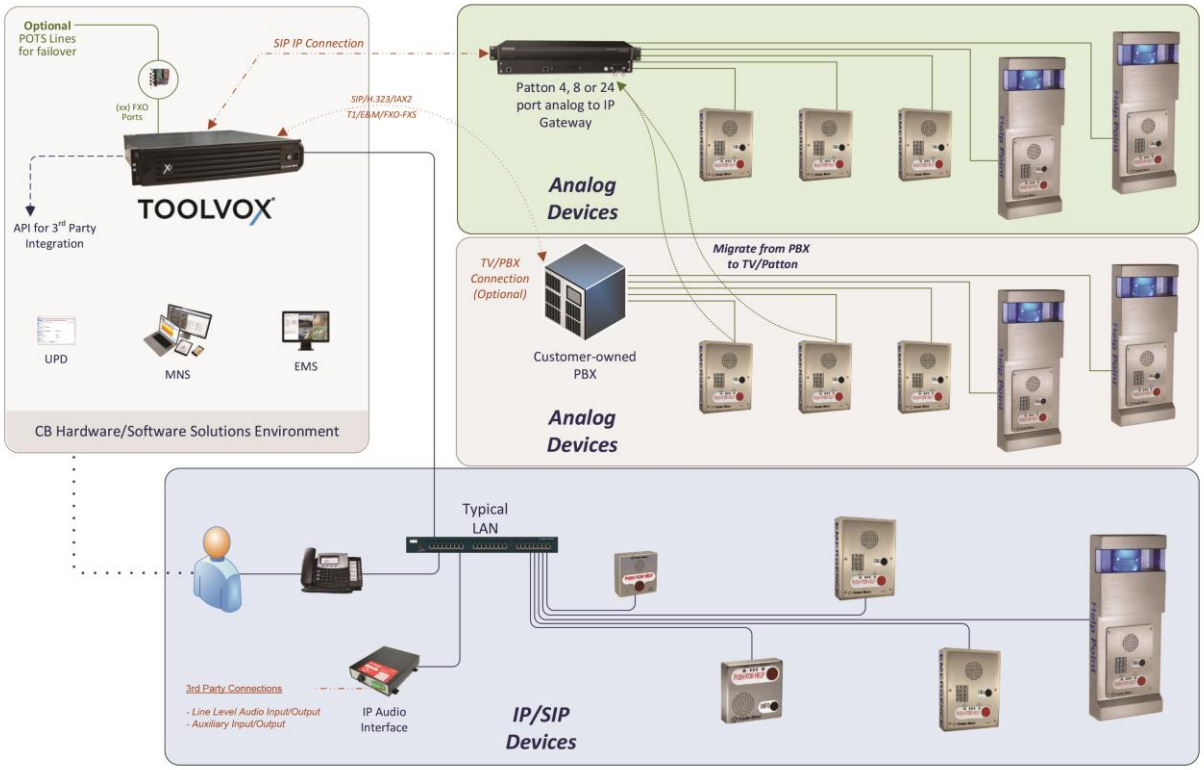
Analog phones essentially have been around since the days of Alexander Graham Bell, shifting and surviving the evolving technological landscape. In recent years, however, the popularity of IP devices have made organizations examine their status and look for ways to either adapt or upgrade their current analog communication.

There are a number of factors that are forcing locations to consider their technology infrastructure. IP PBXs are increasingly making the transition to the cloud. Many others are also moving to onsite virtualized networks. This creates a problem for analog phones and devices operating on the public switched telephone network (PSTN), driving the need for IP-to-analog gateways. Locations also may want to remove their old legacy PBXs and put in new IP PBXs and they need to offload all of their analog devices onto something, but their current infrastructure may only have legacy phone cable available. Utilizing a gateway is an effective and economic way to get the most of your previous spending while still providing an opportunity for future investments.

Solution

Code Blue previously used Adtran networking equipment to extend legacy analog systems, but chose to seek out an alternate solution that is more economical and could be accomplished without analog or digital cards. Code Blue sought out a device that could meet the analog specifications needed to run our phones and use SIP for communication so it could utilize existing IP networks and eliminate the need for Adtran equipment and the T1 cards needed to connect to them.

One way Code Blue now can help locations maximize their current analog system is with the Patton SmartNode 4300. After extensive testing, Code Blue discovered that this multiport FXS or FXO gateway provides a way for analog phones and PSTN trunk lines to connect to an IP network. The Patton SmartNode can provide dial tone to both Code Blue analog units and non-Code Blue analog units and connect to an IP PBX using Session Initiation Protocol (SIP). The SmartNode devices can be placed anywhere that has network and copper connections to analog phones. Locations can then use ToolVox®, Code Blue's sophisticated systems management platform, to run all phones across a campus setting using the Ethernet network already in place. The Patton SmartNode uses individual SIP accounts for each extension to communicate with the IP network back to the ToolVox. Code Blue analog phones – like the IA4100, IA500 and even the IA3100 legacy models - could be registered in the ToolVox.



The main reason why customers may still want to use analog phones is due to infrastructure and cost. With this solution, they can keep analog speakerphones in place and have the option to install new devices without sacrificing security or functionality. SmartNode devices should be placed near the analog phone patch panels, but they can be located far from the physical ToolVox Media Gateway since it only needs the network to communicate between the Patton and the ToolVox.

Benefits

By taking advantage of this solution, locations will be able to enjoy many benefits that come with utilizing Code Blue products.

- Extend current system: Locations that want to keep their analog phones can use the ToolVox to generate dial tone and retire their legacy PBX system.
- Monitoring and testing: The Patton SmartNode devices provide individual SIP accounts mapped to FXS ports. This allows ToolVox to run its UPD software and utilize full programming and diagnostic capabilities.
- Customizable line options: This includes loop current up to 30ma, ring voltage and talk battery to simulate POTS lines.
- Redundancy: Each analog extension can be registered to up to three different SIP servers.
- Future expansion: Elevator phones and other devices that may need a dial tone can be updated without additional expenses.
- Flexible bridge: Locations can upgrade their analog devices to IP one at a time by embracing a mixed IP and analog deployment.
- Extend communication: Analog phones can use single pair cables and extend communication capabilities up to 3,600’ runs at 3 REN (ringer equivalence number).

Several locations are already enjoying the benefits of having Code Blue products combined with Patton. Michigan State University recently deployed 23 24-port SmartNode devices across its East Lansing campus that are then linked back to five ToolVox hubs connected to an Avaya PBX. Additionally, Adventura Mall in Miami is using Patton FXS devices to run existing analog phones while simultaneously planning an upgrade to Code Blue’s IP5000 VoIP speakerphones. And Pacific Corporate Towers in El Segundo, California, is taking advantage of the Patton’s ability to produce more than the minimum-required 27ma loop current required for Code Blue’s IA500 line-powered speakerphones to extend communication lines greater distances.

All three of these examples illustrate how legacy analog systems can be bolstered utilizing Code Blue and Patton.

Conclusion

The prevalence of IP technology will continue to over the next few years, but legacy analog systems can still provide value and usefulness, especially when it comes to emergency communication. The combination of Code Blue speakerphones and systems management platform with Patton devices can help locations avoid making potentially large infrastructure investments while still providing people with access to help when it's needed.

About Code Blue Corporation

Safety has always been the No. 1 priority for Code Blue Corporation. Located in Holland, Michigan, the industry pioneering manufacturer of emergency communication solutions provides assistance to people by handcrafting products that are reliable and accessible. From our iconic blue light phone pedestals to our award-winning software, we help people feel safe by offering durable and visible security solutions that provide help at the touch of a button, while assisting first responders before, during and after an incident with a complete end-to-end system that utilizes alerting, managing, archiving and responding technology.