CONDUCTOR DEPLOYMENT GUIDE

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Contents

Guidelines for a successful FrontRow Conductor deployment

Conductor plays an important role in any school's day-to-day communications. When used to help meet a school's Emergency Preparedness Plan for situations such as weather emergencies, lockdown, lockout, or general evacuation, it is even more important that the system be implemented as robustly as possible, as student and faculty safety may depend on the system.

The following are suggested best practices and recommendations from FrontRow in order to ensure a successful deployment of Conductor.

Through these guidelines you may also learn what is possible with the powerful and customizable FrontRow technology and how it can help develop communication or emergency response scenarios for your school.

IMPORTANT

This document is not a legal or building standards document. It is not intended to replace local building codes, federal or state laws, emergency first responder policy, or other government requirements. It is beyond the scope of this document to advise on specific threats or on your school's overall Emergency Preparedness processes.

FrontRow does not design the implementation of actions and controls in Conductor. While defaults and templates may be provided, it is the responsibility of the school to properly configure Conductor hardware and software in accordance with the school's needs. Failure to do so could impair Conductor's functionality, including emergency communications.

The FrontRow alert notification feature is not intended to nor can it prevent emergencies. FrontRow Calypso LLC, its agents, employees, subsidiaries, affiliates and parent companies are not responsible for individual applications of the alert notification feature or related equipment, and shall be exempt from liability for any loss, damage, injury or other consequence arising directly or indirectly from said application. In the event of misuse or malfunction of the equipment or any of its components or features, FrontRow Calypso LLC, its agents, employees, subsidiaries, affiliates and parent companies shall be exempt from liability for any loss, damage, injury or other consequence arising directly or indirectly therefrom.

Network

Conductor is a network based system, and while it does not require much network bandwidth, network reliability and uptime are important considerations if the system will be used for emergency communication.

Data

The Conductor server pings all end points every 30 seconds to make sure they are still online. Device status can be seen in the Devices tab in Conductor. Check regularly to ensure that Conductor can see all your devices.

Media

When streaming music, bells, or announcements (PA), Conductor uses broadcast network messaging, which is why it requires all endpoints to be on the same subnet (a dedicated VLAN is highly advised and a subnet of 255.255.255.0 is required). The fact that it is broadcast means that the message is sent only once, regardless of the number of endpoints you are streaming to. The audio stream is 8kHz, 16-bit stereo PCM data, for a bandwidth of 256kbps, a very low network utilization that occurs only during the bells or announcements.

Intercom

Intercom calls are handled using unicast network communication. Two data streams are involved, one in each direction.

Topology

For design efficiency and to simplify analog wiring, locate the analog PA amplifiers in the MDF or IDFs along with the FrontRow stream decoders (CM800), as close as possible to the PA amplifiers they will be driving.

Performance

Ensure everyone understands the network uptime expectations, and design for network redundancy, failover, and ease of device replacement if necessary. Monitor the system health of all components involved in communication.

Server placement

The FrontRow server (DRS-5000) is a 1 rack unit server with sliding rack rails for easy servicing. It should be in a location that is accessible for servicing or replacement. The FrontRow virtual server (DRS-VM) may be deployed on a variety of virtual machines.

Server Backup

All of the important Conductor data is stored on the FrontRow server. By default, daily backups are configured to be written to the included USB Flashback drive, once inserted and mounted. It is a good idea to keep at least 1 copy of this backup offsite after making any significant changes to your configuration, in case of fire or water damage in the MDF (server room). Alternatively, you may backup the data to any virtually mounted directory in order to use offsite storage. (This requires familiarity with Ubuntu Linux.)

Process

In your EPP (Emergency Preparedness Plan) define your fallback processes if a switch goes down, or there's a fire in the MDF. How fast get you acquire a new router, or re-route traffic as needed? As with any communication system, analog or digital, have a process in place in the event of system failure, whether this is mass text notification, plugging an analog mic directly into analog amplifiers, or using megaphones to coordinate action.

Power

Plan for communication in the event of a power outage.

Admin Station

The Conductor Admin station includes a UPS Battery Backup (US only) to provide power for at least 1 hour to the master audio device and the computer running Conductor software in the event of a power failure. If you design your office station using a separately purchased PC or an existing school PC, make sure it is plugged into a UPS, or, if it is a notebook computer, that the battery has sufficient life.

End points

It is highly advisable that all communication end points (classrooms, common areas) be able to receive power during an outage. Use Power Over Ethernet to drive DC power to the FrontRow devices. Using PoE extractors at each end point, the FrontRow devices will switch from AC power to PoE during an outage. During this time, some FrontRow devices such as the Smart Receiver direct power to the audio subsystem, and may drop power being supplied to other non-critical systems, such as the HDMI extender.

Infrastructure

Make sure that network switches, PoE network switches, PoE midspan injectors, PA amplifiers, the FrontRow

server (DRS-5000, DRS-VM), the universal telephone adapter (CMP-500), and any FrontRow stream decoders (CM800) are all connected to UPS systems. Make sure you have enough capacity to ensure communication for a duration that meets your emergency preparedness requirements.

Speaker Expansion

If using a Speaker Expansion module on an ezRoom Smart Receiver it will not receive power when the unit switches to PoE, so only the primary speakers will be covered. Using the Juno speaker expansion with PoE is not supported.

Audio Intelligibility

During an emergency it is critical that announcements are heard clearly by everyone on campus.

Standards

Modern standards such as the US NFPA (National Fire Prevention Association), and standards for the IBC (International Building Code) and IFC (International Fire Code) also include language around audio intelligibility. It is important to note that Conductor DOES NOT REPLACE your life safety system for fire. There are other non-fire emergencies that are not described by local standards where Conductor can play a role, as well as complementing the fire alarm system when additional alerts or communication is required. In general, campus communication intelligibility should be modeled after the standards and requirements for life safety where possible.

Page Override

FrontRow network classroom audio systems automatically mute local voice or media being played through the system when an announcement or bell is streamed from Conductor. The volume level of the audio stream is configured in the classroom device (Juno Connect, Smart Receiver, CM900, CM3000) and will play at that level regardless of the current volume level or mute status of the local audio, even if the device is in sleep mode. Be sure to test the announcement level in each classroom and common area to ensure it can be heard.

Hearing impaired

Many students have assistive listening devices (ALD) due to impaired hearing. FrontRow network classroom audio systems will pass the streamed audio bells and announcements through the ALD line output of the system. Connect this line output to a line input on ALD transmitter. In this way, the hearing impaired student will hear not only the teacher's voice and media playback, but also the bells and announcements through their ALD.

Stream Priority

Conductor supports multiple priority levels for pre-recorded sounds and announcements. Be sure to assign any emergency alert audio sequences as High Priority so that they override any other pre-recorded streams that are being played back. Live announcements will automatically override any pre-recorded streams to allow administrators to intervene with critical information as necessary. As this allows for a scenario where a live non-emergency announcement may be in progress while an emergency sequence is triggered remotely (for example, from a school phone), it is recommended that a strobe light be installed in the main office so that the speaker can see that an emergency has been triggered, and end their non-emergency broadcast. The emergency audio sequence will then be heard in progress.

Background noise

Make sure the Conductor announcement audio level is high enough to be heard over other background noise such as air conditioners, traffic, landscaping machines, etc. Today's classrooms also have many audio playback devices with student tablets, phones, and computers. Have a plan for easily muting all these devices during an important announcement using classroom management software, or if performing this manually, ensure each student knows how to mute their device and have them practice this.

Audio Coverage

While Conductor allows the option for bells, announcements, and alerts to be played in any desired zone or location, it is important that the system be designed for complete campus audio coverage.

Classrooms

Classrooms can be covered with FrontRow classroom audio systems, or with PA/Intercom only configurations.

Outside and hallways

Most common areas will be covered by PA amplifiers driving 25V/70V/100V speakers. Ensure adequate volume and placement for all speakers and horns. Audio levels should be high enough to play over student voice levels in these common areas.

Lunchroom

The lunchroom can be especially noisy. For smaller rooms, FrontRow IP speakers plus additional 8 Ohm speakers may be sufficient. For larger rooms, use the Smart Receiver with speaker expansion for up to 80 Watts and 8 speakers. For rooms of 2500 ft^2 / 230 m^2 or more, consider driving a dedicated PA amplifier with the FrontRow stream decoder (CM800).

Intercom

Some common areas such as the teacher lounge or administration offices may require intercom for two-way communication. Use the stream amplifier with intercom (CM800Si) or Juno Connect to reach these locations. Test audio levels so that the person speaking in the room can be heard when talking back to the office, whether they are wearing the FrontRow microphone or not.

Gymnasium, Theatre, Multi-purpose

Many larger rooms may have their own PA systems for sporting events, presentations, and performances. The stream amplifier (CM800Si) can detect an incoming audio stream and use this as a trigger action to control a professional amplifier over serial RS-232 communication, muting the system so that a separate, dedicated audio amplification system can be heard. For smaller rooms this could be a FrontRow networked amplifier, and for larger halls a 25V/70V/100V amplifier and speakers. If the professional PA system itself will be used for the announcements, it must be on at all times, and have UPS battery backup.

Miscellaneous

Don't forget locker rooms, maintenance buildings, library, storage rooms, and even server rooms. Anywhere a person can be, they must hear the announcement.

Audio message content

Language

The Conductor system includes several built-in audio files that you can sequence for your pre-recorded announcements. However, these are in US English and may or may not meet your school's EPP requirements. Add your own recordings as needed to address the scenarios you are planning and drilling for.

Scenario specific

Different emergency scenarios usually require different instructions. Make sure instructions are brief and clear. Conductor allows different messages to be sent to different zones. Consider whether you want to accommodate situations where one area of the school receives different instructions than another section of the school.

Repetition

It is recommended that emergency audio sequences be repeated at least once to allow for everyone time to hear them, in the event that some students or faculty miss the first part of alert because of headphones, a live announcement, or other background noise.

Tones

Several alert tones are built-in, and you can add your own from WAV or MP3 files. Alert tones are helpful in getting the attention of students and staff before the emergency message.

Drills

For each alert type, it is recommended that there be an equivalent drill button, allowing for practice runs as appropriate for your school.

All Clear

After an emergency is over, it is useful to provide an All Clear message to students and staff, as well as normalizing all digital signage, strobe lights, Smart Receiver Beacons, and any other control actions that reset the school system to the normal state.

Alert from the Classroom

Conductor allows teachers to send an alert to administrators in the event of a crisis or issue in the classroom.

Redundancy

FrontRow provides myriad ways for the teacher to trigger an alert, including:

- Holding down the primary button on the FrontRow microphone

- One or more buttons on the wall mount FrontRow keypad or touch controller

- Contact closure buttons such as wall (CB-50) or under the desk push buttons (available from third parties)

- Mobile application soft buttons (using FrontRow for iOS in combination with the touch controller)

- Computer keyboard shortcuts (using Encore)

- PC/Mac application soft buttons (using Encore or Teacher Edition)

- Classroom phone

Make sure that your emergency procedures consider all these options and what would work best for your teachers. Have at least 3 ways to trigger an alert for redundancy, as the teacher may be in different areas of the room when an issue arises.

Consider whether students should be informed of any of these alerting methods and allowed to trigger them in the event a teacher is incapacitated. For example, you may want one dedicated button on the touch controller that is for students to press.

Alert messages

Each classroom alert button can send its own message to the Conductor system, so the office manager knows the nature of the alert. This ability can be used to provide multiple alert buttons in the classroom. For example, one button may be for urgent situations ("intruder"), while another may simply be to let the office know that the

teacher is sending a student to the office for a minor injury ("sending student"). A dedicated student alert button may indicate "teacher in distress" or similar message. Consider this messaging flexibility in your emergency scenario planning.

Notifier

The way administrators receive intercom call requests and alerts is through a program called Conductor Notifier. This program runs on Mac and PC and can be installed on any number of computers. Typically it is installed on the primary office Admin Station plus a few administrators' computers. It can be configured to receive just calls, or just alerts, or both. Make sure to install Notifier on several computers so that if there is a problem in the main office or no one is there to see the alert, other administrators will get the notice and can take action.

Full campus alert

While a full campus alert can be initiated from Conductor directly by the office staff, it may also be desirable to allow teachers to trigger full scale lockdowns or emergency alerts from their classroom in some situations. Consider this possibility in your emergency preparedness planning. An emergency alert sequence can include audio announcements as well as any of the other control actions described in this document. That sequence can be also triggered remotely using any of the above alerting methods in the classroom.

Alert Delivered

When sending an alert to the office from a classroom using Juno Connect or the ezRoom Smart Receiver, Conductor will automatically send an "alert delivered" back to the classroom. The teacher will know that their alert was sent and delivered by looking at the LED Beacon on the Smart Receiver, or at the LCD screen on the Juno. The default confirmation is flashing orange, but this can be changed to one of several available flashing or solid colors, and the system can optionally emit a short beep tone as well. Whichever settings are used, employ training to make sure teachers understand the confirmation message.

Alert Acknowledged

When a teacher sends an alert, it is important that they get confirmation that someone has actually seen their message. In different scenarios, you may want this to be an audible confirmation (a short beep), or a silent confirmation (color change on an LED light). Any administrator running Notifier on their Windows computer can acknowledge an alert. As with the Alert Delivered, train teachers so that they understand when someone has acknowledged their alert.

Campus Attention

For some alert situations, you may want to put the rest of the classrooms on standby, letting them know that someone has triggered an alert and there is a possible situation. The

FrontRow Smart Receiver provides a built-in strobe light that can briefly flash, providing a visual cue to teachers to be on alert, ready for instruction, and aware of their surroundings. If the event turns out to be a valid emergency, a full Campus Alert may be executed. If the event is resolved, school administrators can close the issue with an announcement or a brief tone played over the classroom audio systems. Consider whether a Campus Attention scenario is right for your school's preparedness plan. The Campus Attention indicator is customizable, and can be configured on a room-to-room basis.

Listen In

Any Windows computer running Notifier and equipped with a nearby master audio device (CM-3000 network amplifier) may also call the classroom that initiated an alert. This may be useful to get more details from the teacher on the nature of the event. To protect teachers' privacy, Conductor is typically configured to play an "annunciator" tone before any two-way intercom call is started, to let the teacher know that the administrator can hear them. If the scenario requires that the office listen in quietly in order to assess the situation, this annunciator must be turned off manually before initiating the call. If this step is undesirable, you may permanently turn off the annunciator tone, but this will affect all intercom calls. Develop a policy and process for both alerts and intercom calls. Note that in order to listen into a classroom it is

recommended that the intercom in the classroom be configured for "hands free" and not "push-to-talk." If configured as push-to-talk, the office will not be able to listen in until a teacher is physically pressing a button on the wall, which may not be possible for the teacher.

Admin station

FrontRow offers a dedicated Admin Station for use with Conductor. Typically this is installed in the office and is used by the office manager.

Touch screen

The FrontRow Admin station utilizes a touch screen PC, and Conductor software is designed for touch. The included keyboard and mouse do not even need to be used once the system is configured. A touch PC makes it easy to tap alert buttons or click map locations to make announcements. Make sure administration staff know about the touch capability.

Dedicated PC

If you decide not to use the available FrontRow Admin station, it is still recommended that you use a dedicated Windows computer for running the Conductor software, and that the application is running in full screen mode to provide a "kiosk" like experience, ensuring that the application cannot be minimized or other applications run on top of it.

While the Conductor software can also be installed on the office manager's existing computer, this is best used as a backup. In an emergency communication scenario, seconds matter, and no time should be wasted launching or finding the Conductor application.

Maintenance

Ensure that the computer is maintained with the latest Windows security updates. Backup the computer regularly per your normal device management policies. By default the system is configured so that the screen does not turn off, and the system does not sleep, so that it is available 24/7. You may adjust this to sleep during off hours, but make sure the screen is always visible and available when people are on campus.

Network

By default, the wireless connection on the Admin station is turned off, as an Ethernet connection is recommended for reliability. However, if the school wireless is reliable, even in a power outage and under high utilization, you may switch to wireless. An internet connection to the Admin station is not necessary.

Backup locations

Install Conductor on one or two additional machines and configure a connection to the server, in case the main Admin station is inaccessible,

down for maintenance, or otherwise disabled.

Permissions

The Conductor user permissions allow you to set up the software so that specific users only see specific functions. Typically, IT will see all functions, office managers will see all functions except setup and configuration, and principals may see paging, intercom, and alerts. Use the permissions to provide an appropriate (simple) interface to each role. Conductor is not designed to support making system configuration changes from multiple locations simultaneously, but the ability to use alert buttons from multiple computers provides more redundancy, and more safety.

Placement

The Admin station should be placed in a location that is accessible to administrators, with the screen visible (do not dim or sleep) during school hours. The office manager should be able to hear incoming call requests and alerts as well. Install the included computer lock, providing attachment to furniture or the structure, so that the computer cannot be easily stolen. The Admin computer can also be mounted to the furniture or structure using a VESA mount, for an even more secure physical installation. Consider disability requirements for ease of access of the computer and the gooseneck microphone.

Call-only stations

You may wish to have dedicated locations for announcements to the entire campus, or to specific zones, that require no software interaction at all. Using one of the FrontRow mic options (gooseneck or wall plate) it is possible to initiate a call simply by pressing the mic button and holding it down. This is useful for an easy back-up location for an all-call, or for calling a specific area such as the bus loading zone or outside areas.

Student announcements

A second location that allows students to make announcements can be installed (using the CM-3000 master audio streamer and gooseneck microphone). From the main Admin station, the office manager can initiate the PA announcement, then the student can speak from the second location. In this way, students do not have access to the Conductor software but may still participate in school communication.

Visual alerting

In addition to the auditory announcements played by Conductor, consider the visual communication methods you will use in tandem. These provide additional ways to get attention or information across, helping not only those with hearing impairment, but all students and faculty.

Smart Receiver Beacon

A multi-color LED array plus high power strobe on the ezRoom Smart Receiver makes it possible to show constant colors, flashing colors, alternating colors, and/or a strobe light in the classroom during an emergency announcement. This beacon is not intended to meet fire alarm Life Safety codes per the NFPA or IFC. Use appropriate equipment for fire prevention and evacuation. It can be used for any other alerting scenarios as allowed by local and federal laws. There are 5 different high priority alerts that the beacon can be configured for, providing a different color or behavior for each alert type (i.e: lockdown, lockout, weather, etc). If utilizing the strobe light, follow building codes for disability requirements and avoid scenarios where multiple strobe lights can be seen from a single location, as this may cause epileptic seizures in some individuals (the strobes are not synchronized).

Juno Connect LCD

Similar to the Beacon, the Juno LCD screen can be configured to provide those same visual cues in an emergency. There is no strobe light however.

PC Pop-up

On any Mac or Windows PC, FrontRow Encore software can be configured to provide PC pop-up messages, informing the teacher of the emergency, or displaying an emergency exit map. This display can even be interactive, providing buttons that the teacher can press to initiate additional actions such as triggering a text message script on Conductor, locking doors, or any other functions described in the document that can be programmed into the software.

Projector control

Most modern projectors can store a number of images that can be recalled and displayed using commands sent to the projector. As part of an emergency action sequence, Conductor could be programmed to freeze all projectors and/or display an emergency graphic specific to each room.

Digital signage

Most newer digital signage systems provide a means to be controlled remotely using network, IR, or serial commands. FrontRow has tested this functionality with the BrightSign products (specifically the HD222, however this should work on any number of models) and the BrightAuthor software. Using this feature any hallway, lunchroom, or front office signage could be switched to display emergency messaging in place of the running program material. Consider how digital signage could be incorporated into your Emergency Preparedness Plan.

LED display

Some schools incorporate scrolling LED displays along with their clock systems. Some models support the ability to receive text strings as part of serial commands. If this is the case with your LED displays, Conductor can be configured to send the device a string in the event of an emergency action. The command would be routed through a FrontRow network device such as the stream decoder (CM800).

Strobe lights

Dedicated relay-controlled or PoE strobe lights can be installed in hallways, in the office, and other locations to provide additional emergency visual indication. Use FrontRow network devices (CM800) to trigger these strobe lights.

Touch controller

The FrontRow touch controller can be configured to store up to 3 graphic images which can be displayed in an emergency, providing another visual indicator for the classroom.

Phone System

Connect Conductor to the phone system to allow administrators to make announcements from any school or mobile phone, or to initiate a campus alert.

Phone interface

Using an ATA bridge adapter and the FrontRow Phone Adapter (CMP-500), give the Conductor system its own extension on your school network. In this way, it can be dialed just as with any other 4-digit extension (or whatever your internal dialing protocol is).

Announcements

The principal or any authorized personnel can be empowered to make an announcement to the entire school, or to any specific zone, from a school phone or mobile phone. To prevent unauthorized usage, enable the 4-digit passcode on the FrontRow Phone Adapter, or keep the phone number secure for administrators only and disable the passcode.

Alerts

This feature is important for principals to be able initiate an emergency alert from anywhere on campus. By calling the FrontRow Phone Adapter from a school or mobile phone, they can then press a 3-digit code and the # button to initiate any of your school's emergency response scenarios, just as they could from a Conductor station. Memorizing codes can be tricky, so keep the number of possible alerts to a minimum to ensure the wrong alerts are not initiated.

Two-way communication

Two-way communication from a school phone or mobile phone to a FrontRow classroom audio system is not possible at this time. If you require two-way communication, dial the classroom phone or teacher's phone directly (if available), or use a Conductor admin station to make an intercom call to the classroom.

Email & Text

Use email and text to provide additional communication among key administrators in the event of an emergency situation.

Mail servers

While many schools have their own mail servers, others do not. If you are using Gmail or other web-based systems for your school email, Conductor will not be able to utilize the outgoing mail server (SMTP) unless the email account that Conductor will be using is authorized to "allow less secure applications" in the Google settings. Conductor fully supports TLS/SSL email encryption, but Google only recognizes a handful of popular email applications, and Conductor is not a typical email client.

Campus-wide Alerts

For each emergency response type, create an email message and mail list that goes out when anyone initiates an emergency alert. For example, during a

lockdown email and text messages can go out to administrators notifying them of the situation.

Alert from the Classroom

When a teacher sends an alert from the classroom, FrontRow Notifier will receive and alert administrators, but if no one is at their desk or if they are pre-occupied with other aspects of the emergency, you can add another layer of redundancy and use that same alert to send off emails and text to key administrators.

Text messages

While Conductor does not support text messaging directly, it is fairly simple to use email addresses to send text messages. Every mobile phone number also has a corresponding email address that forwards email as a SMS text message.

Mobile & office alert

Add redundancy by allowing administrators to use their mobile phone and FrontRow control panels for initiating emergency response.

Control panels

Typically used in the classroom, the FrontRow control panels can also be used in administrator offices to provide a dedicated alert button panel. While administrators can also use Conductor

software on their PC, a dedicated control panel is recommended for redundancy.

FrontRow app

If the administrator has a FrontRow touch controller in their office, they can also use the FrontRow iOS app to initiate those same emergency alerts. As long as they are on the school network from their mobile device, they can perform this function from anywhere on campus.

Access control

In the event of a lockdown, automatically lock doors using Conductor control actions.

Door locks

If your school will be using a door locking system to lock external or internal doors in an emergency, the system may be able to be triggered from Conductor. Many systems provide a GPI (general purpose input) connection for initiating the lock sequence. Several of the FrontRow network audio devices provide built-in relays that can be opened or closed remotely from Conductor. By connecting a FrontRow relay to the GPI of the access control system, the door locks can be added to the "Lockdown" emergency action in Conductor. Newer systems might use network interfaces to perform the same function, in which case Conductor can be programmed to send network (UDP or TCP) commands.

Cameras

Security cameras are sometimes part of a school security upgrade. These may be useful for situations ranging from monitoring a classroom situation unfolding in real-time, to after-hours theft deterrence. Consider what level of integration, if any, your EPP requires.

Closed Circuit (CCTV) cameras

Any integration with Conductor is likely only to be in the procedures and policies you will use to respond to a threat on campus. As most of these devices simply transmit video as long as they are powered (or if they detect motion) and are connected to video displays, the system would be used in parallel with a Conductor system. Conductor could be used to trigger any external analog or digital video recording equipment via IR, RS-232, or network commands, if those devices support it.

IP Cameras

Network cameras have an associated IP address, and depending on the manufacturer may be able to receive network commands to initiate recording or begin streaming. Consult with the manufacturer of the IP camera as to whether or not their devices accept network (TCP/UDP) commands from other network devices. In general, the IP Camera "dashboard" software is used in tandem with Conductor to manage an emergency response.

Fire Alarm integration

Conductor does not replace your Fire Alarm system, so you will need to define staff procedures in the event of a fire if they are currently using Conductor for announcements.

Fire Alarm Control Panel

Fire control panels typically include an array of relays to control fire suppression, sound alarms, and other equipment. One of these relays may be used to control Conductor and stop any audio streams in progress, and to mute the FrontRow classroom audio systems so that the fire evacuation system is the only campus-wide system heard when a fire alarm is pulled. Determine how you will make announcements if required during a fire emergency, either through the fire voice evac system, or through Conductor. You may also choose to use the fire alarm panel to trigger Conductor to control other campus devices as previously discussed in this document (visual signage, projectors, etc).

First responders

Define any EPP touch points with first responders and consider the role of Conductor in their response.

Notifier

In some communities, you may wish to have first responders monitor Conductor Notifier alerts so that they see an alert at the same time as school administrators. The Notifier application needs only a network route to the FrontRow server, and vice versa. It does not need to be on the same subnet to receive an alert notification.

Listen In

If the campus or district has its own security personnel and a master audio device (CM-3000) can be placed on the same LAN (same subnet) as Conductor, you can provide the ability to listen into the classroom from Notifier (when an alert is received) so that they may monitor an emergency situation.

Remote activation

Should school administrators be unable to trigger a lockdown or other event, consider enabling first responders to trigger this remotely by being trained on how to "call it in" using the universal phone adapter.

Email and text messages

Evaluate if first responders should be added to any Conductor email actions.

Community and Social Media

Enable integration between Conductor and the community.

Auto-dialers

If you currently use an auto-dialer to make calls to the community, check to

see if it supports being triggered using relays, allowing Conductor to add this to an emergency action script.

Web

While not a replacement for a dedicated community outreach service, Facebook and Twitter allow posting updates via emails & text messages if you're familiar with how to do this.

District paging & alerts (US only)

In some scenarios, there may be a need to make a live or recorded announcement across multiple schools at once.

Recorded announcement

Triggering pre-recorded announcements across multiple schools on separate LANs is relatively simple. Using FrontRow Encore, a custom dashboard can be programmed which sends a network message to each school's individual FrontRow server, triggering a local announcement. Note that the computer sending the network message would need to have a network route to each server. If sending over the internet though, NAT port forwarding may be required to accomplish this.

Live announcements (single LAN)

If the total number of audio IP endpoints across all schools is less than 255 and can all be configured on the same subnet, then this can be accomplished by configuring a master

server at the district office which can see all devices. Individual school servers can be configured to prevent district wide announcements from the local school office via the Conductor permissions, and the district server can be configured to halt any local pre-recorded or live streams in progress before the district personnel make the announcement, assuming you want the district announcement to override any local campus audio.

Live announcements (WAN)

If the district office is in the same WAN as all the schools, live announcements can still be accomplished, but requires an "analog jump" to traverse networks, as audio streams do not support multi-cast. Using a pair of stream decoders (CM-800) for each school, located at the district office server room, an announcement will go from the district network to analog then to the local school network, at which point it will trigger an "all call" to that school's campus.

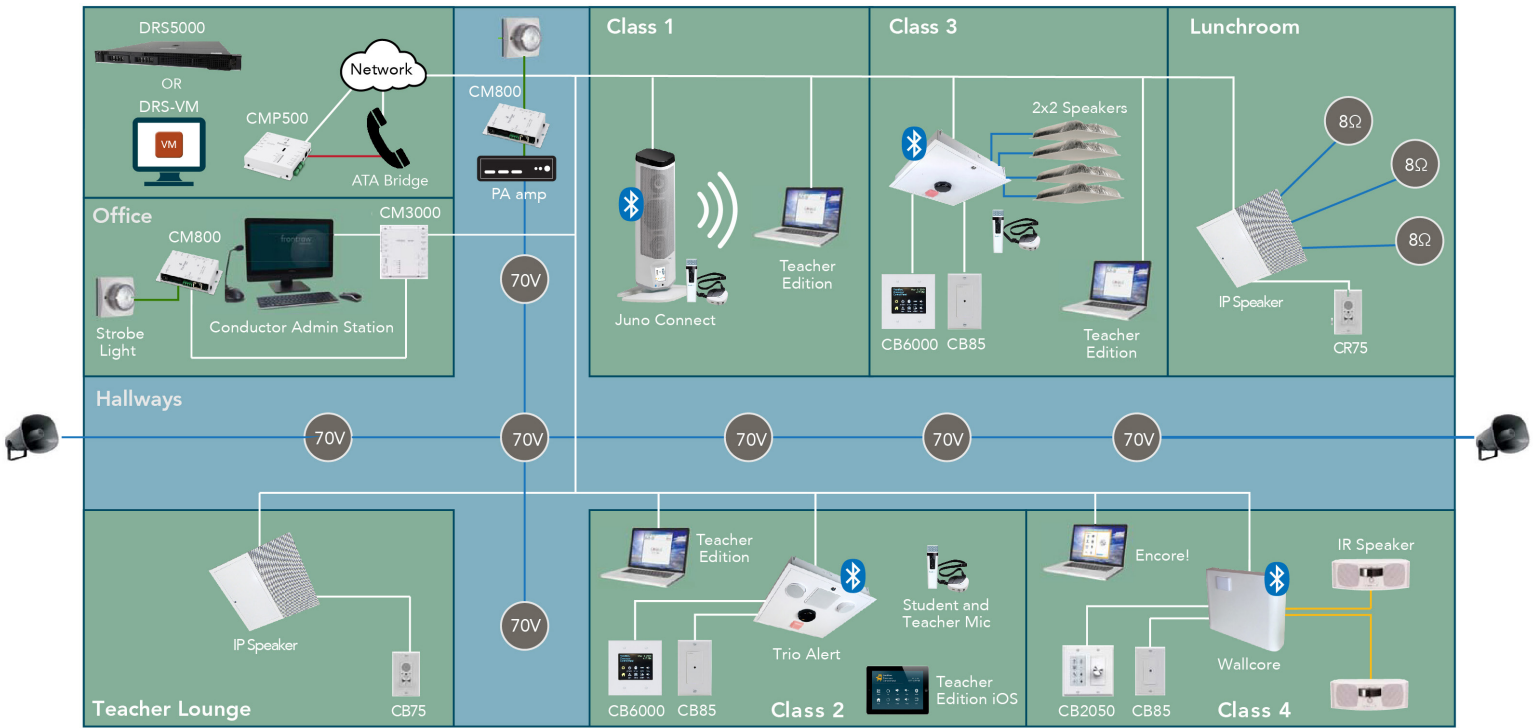## Live announcements (separate LANs)

If the district office is not even on the same WAN as the school, then the stream will need to traverse the internet. Third party products can be used to accomplish this that support streaming through firewalls via approved network ports.

Processes, Training, and Drills

Whatever the processes you define in your Emergency Preparedness Plan, make sure all personnel receive sufficient training on different scenarios and backup plans. Use the Conductor system as part of your plan to safely conduct regular drills as appropriate for your school and students. Ensure that several users are qualified to operate Conductor in an emergency, and always have at least two of those users on site at all times. Train teachers how to send alerts, or to trigger a campus-wide emergency if required. During drills, confirm that all areas of the school heard the alerts clearly.

Appendix: Conductor Installation Example

DRS5000
OR
DRS-VM
VM

Network

CMP500

ATA Bridge

CM800

PA amp

70V

Office

CM800

CM3000

Strobe Light

Conductor Admin Station

Class 1

Juno Connect

Teacher Edition

Class 3

2x2 Speakers

CB6000 CB85

Teacher Edition

Lunchroom

8Ω

8Ω

8Ω

IP Speaker

CR75

Hallways

70V   70V   70V   70V   70V

70V

IP Speaker

Teacher Lounge   CB75

Teacher Edition

CB6000 CB85   **Class 2**

Trio Alert

Student and Teacher Mic

Teacher Edition iOS

Encore!

Wallcore

CB2050 CB85   **Class 4**

IR Speaker

*1x2 and Cut-in speakers also available

Example of a FrontRow Conductor equipped school.
This is not a formal wiring diagram.

—— 2-wire cable
—— Sensor / Speaker combo cable

—— RJ11 phone line
—— Speaker cable
[white] Cat5e/6 cable

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