

# AVNW 2017

MATT WENTZ

AUDIO SYSTEMS ENGINEER

WILLOW CREEK COMMUNITY CHURCH

# Willow Creek Community Church

- Started in 1975 in a movie theater
- Moved to a permanent location in 1980
- Started with one building (Lakeside)
- Has grown steadily over the past 35 years to an 810,000 sq ft building
- There are 4 major venues and around 20 small to mid sized classrooms

# Original Infrastructure

- All analog
- Copper tie lines
- Analog consoles

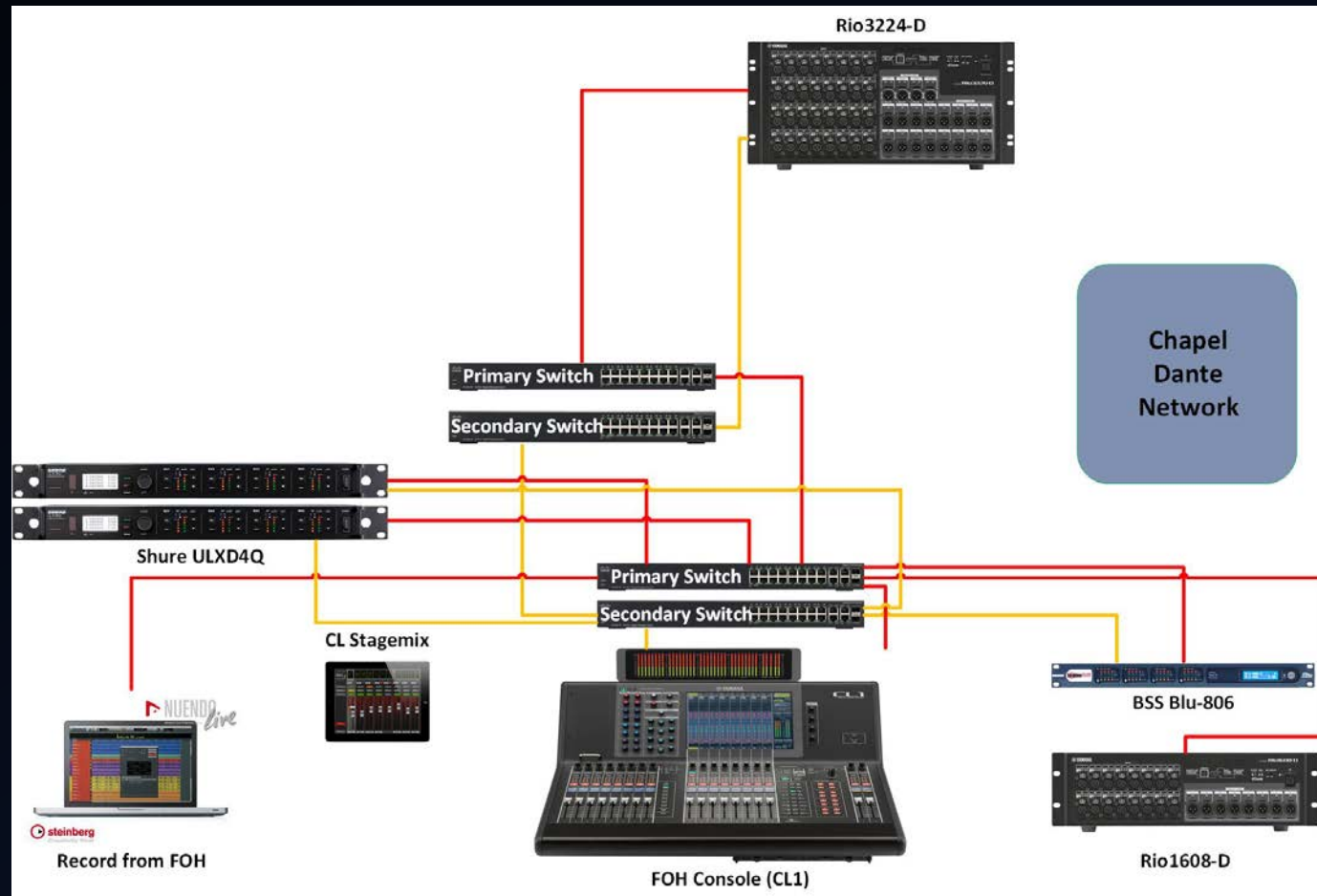
# The Need for Dante

- Major upgrades/overhauls
- Gear was failing
- Dante seemed the perfect solution
- Yamaha rep conversation
- Creativity

# Building a Dante Network

- Consoles
- Mic Preamps
- DSPs
- Microphones/IEMs

# What do you want to get on to the network?



# Building a Dante Network

- Network switches
- Cabling
- Redundancy
- VLANs

# Benefits to Dante

- High Channel count
- No analog issues (hums, buzzes)
- Distance without audio degradation
- Ease of setup
- Monitoring capabilities
- Routing
- Scalability and Creativity



# Things to pay attention to

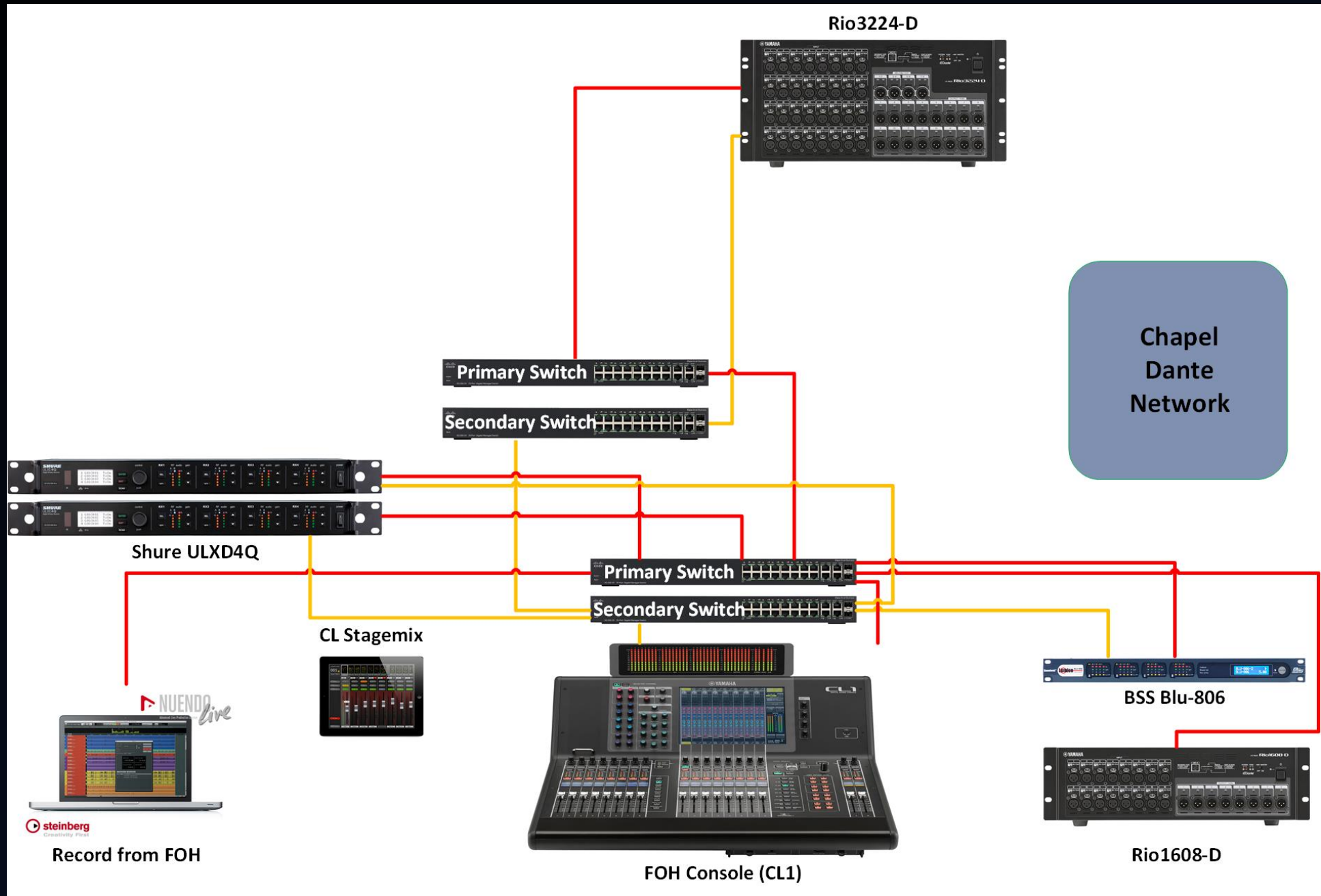
- We now are network engineers
- Network switch configuration
- Cabling
  - Fiber – keeping it clean
  - Copper – terminated correctly
- Integration with larger IT network

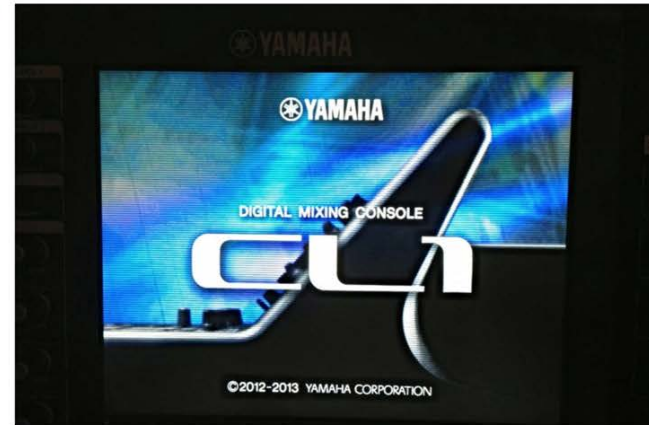
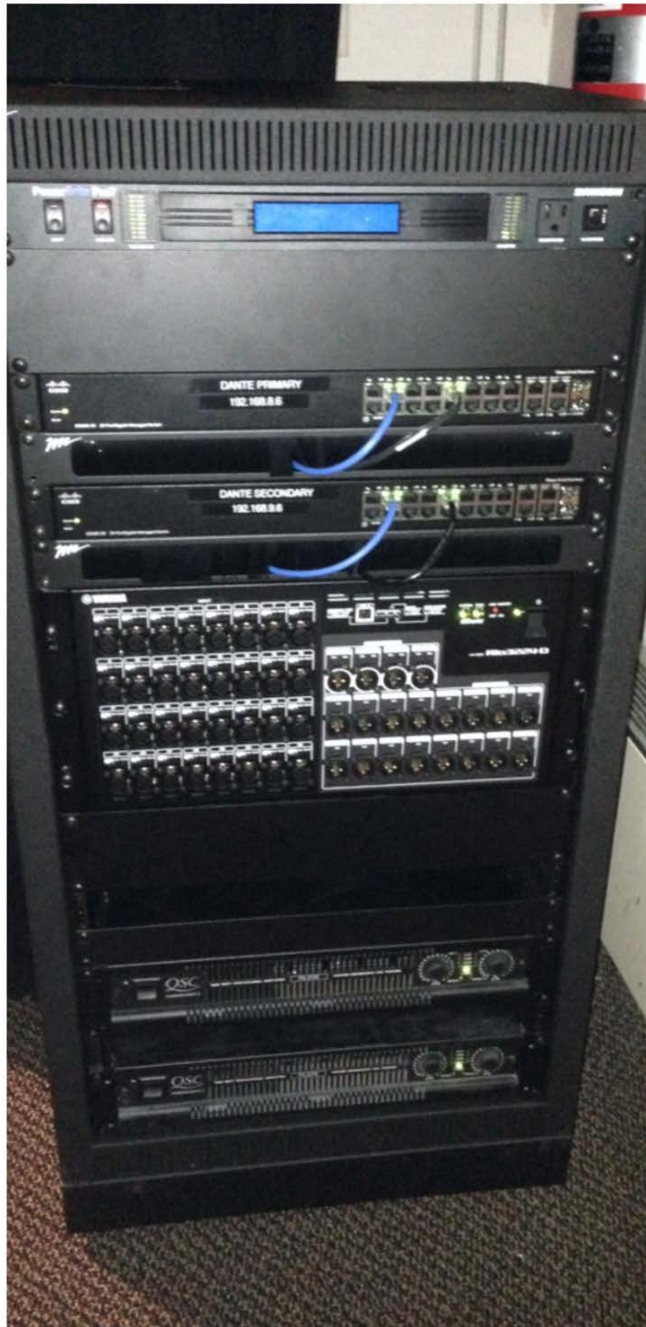
# System Examples

- Chapel
- Lakeside
- Activity Center
- Main Auditorium
- Campus wide audio network router

# Chapel

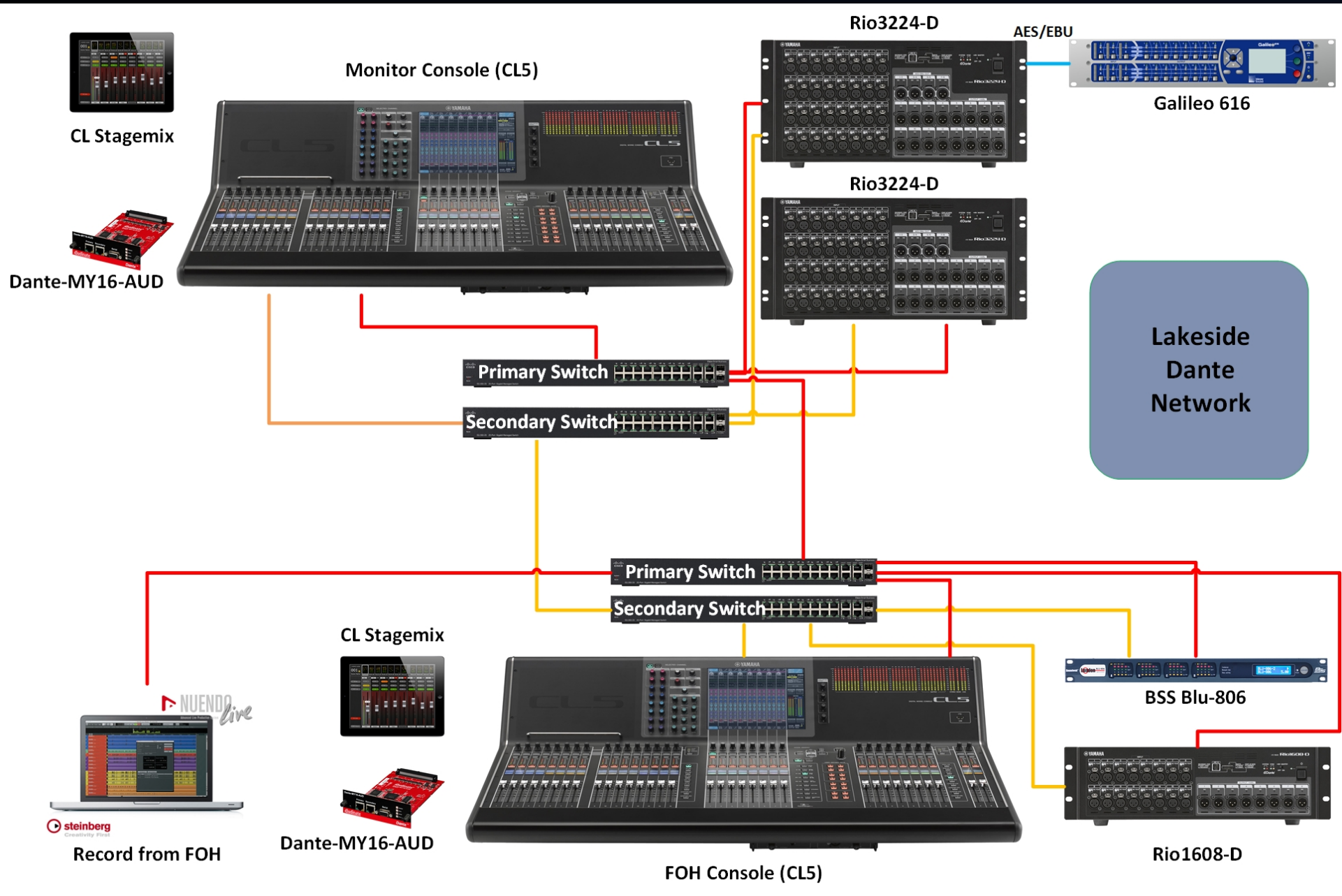
- Failing analog console
- Simple system to jump in to
- Gear installed
- IT network
- Ease of setup





# Lakeside

- Lakeside
  - Yamaha M7CL and Whirlwind snakes
- New Dante system

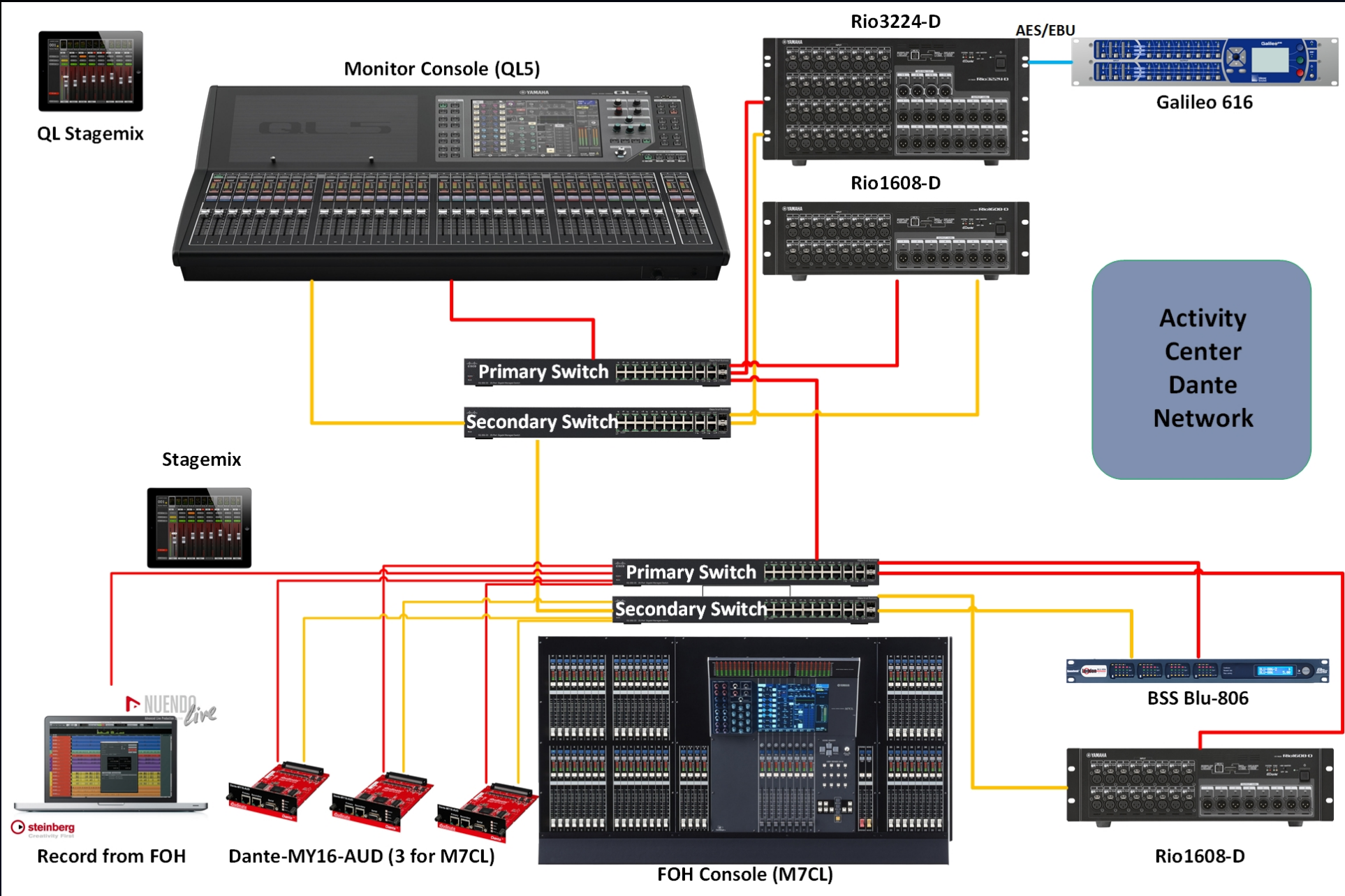






# Activity Center

- Activity Center
  - Yamaha M7CL and no monitor desk
- New Dante system





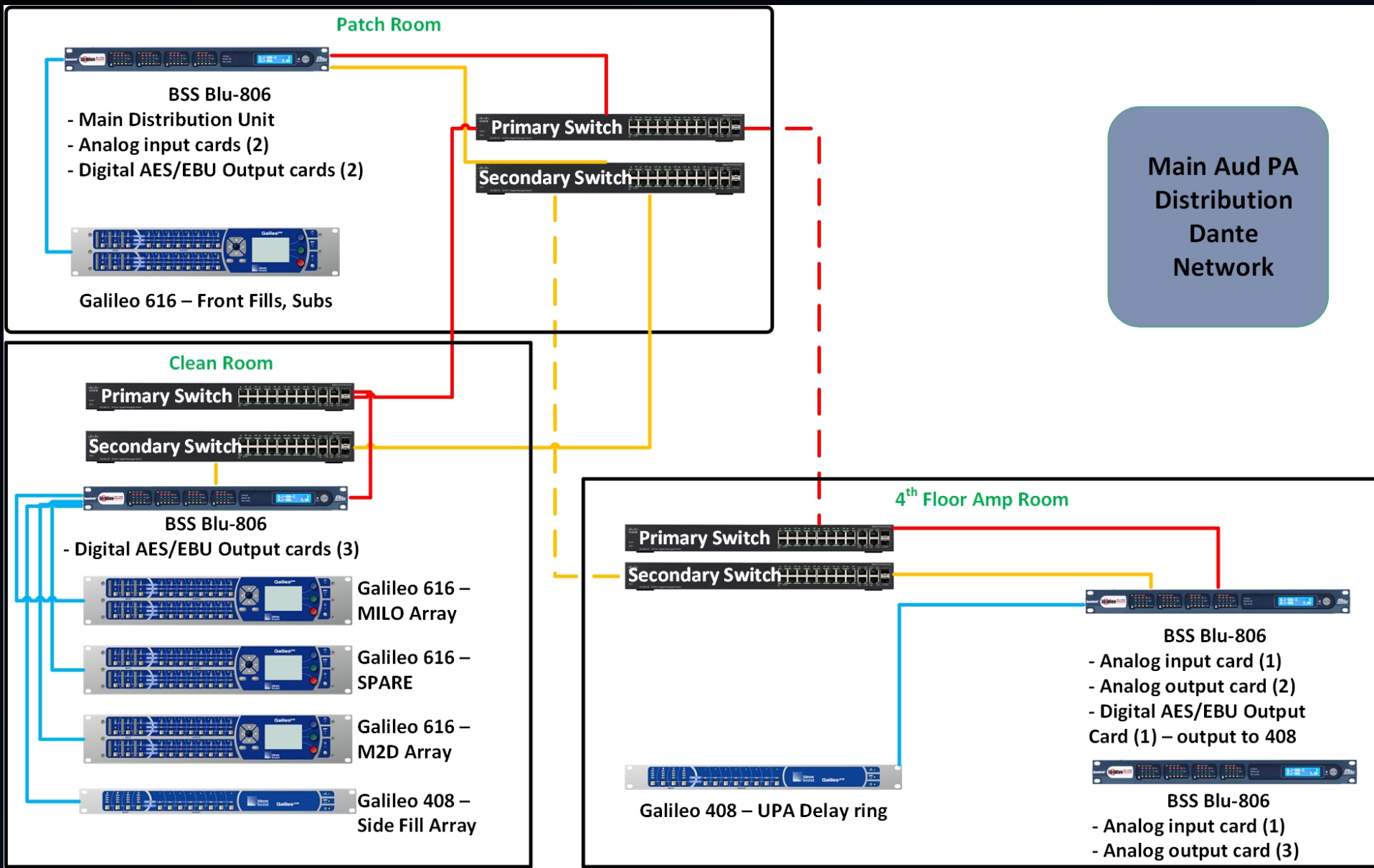
# WILLIAMS SOUND PPA-T45-NET-D

New addition for language  
interpretation



# Main Auditorium

- Started out small
- PA distribution was failing
- Rock solid solution
- Fiber backbone
- Management - VLAN

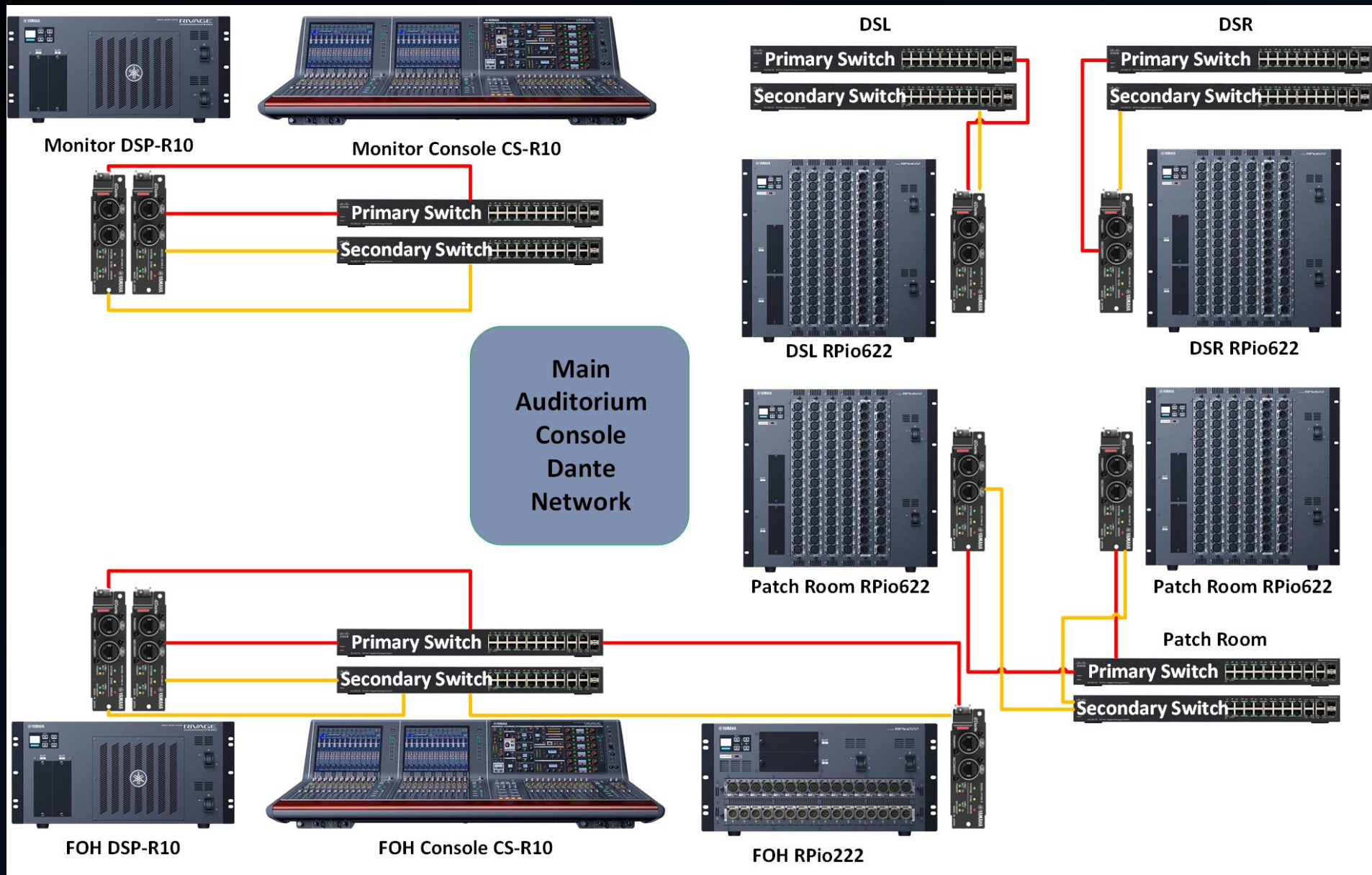




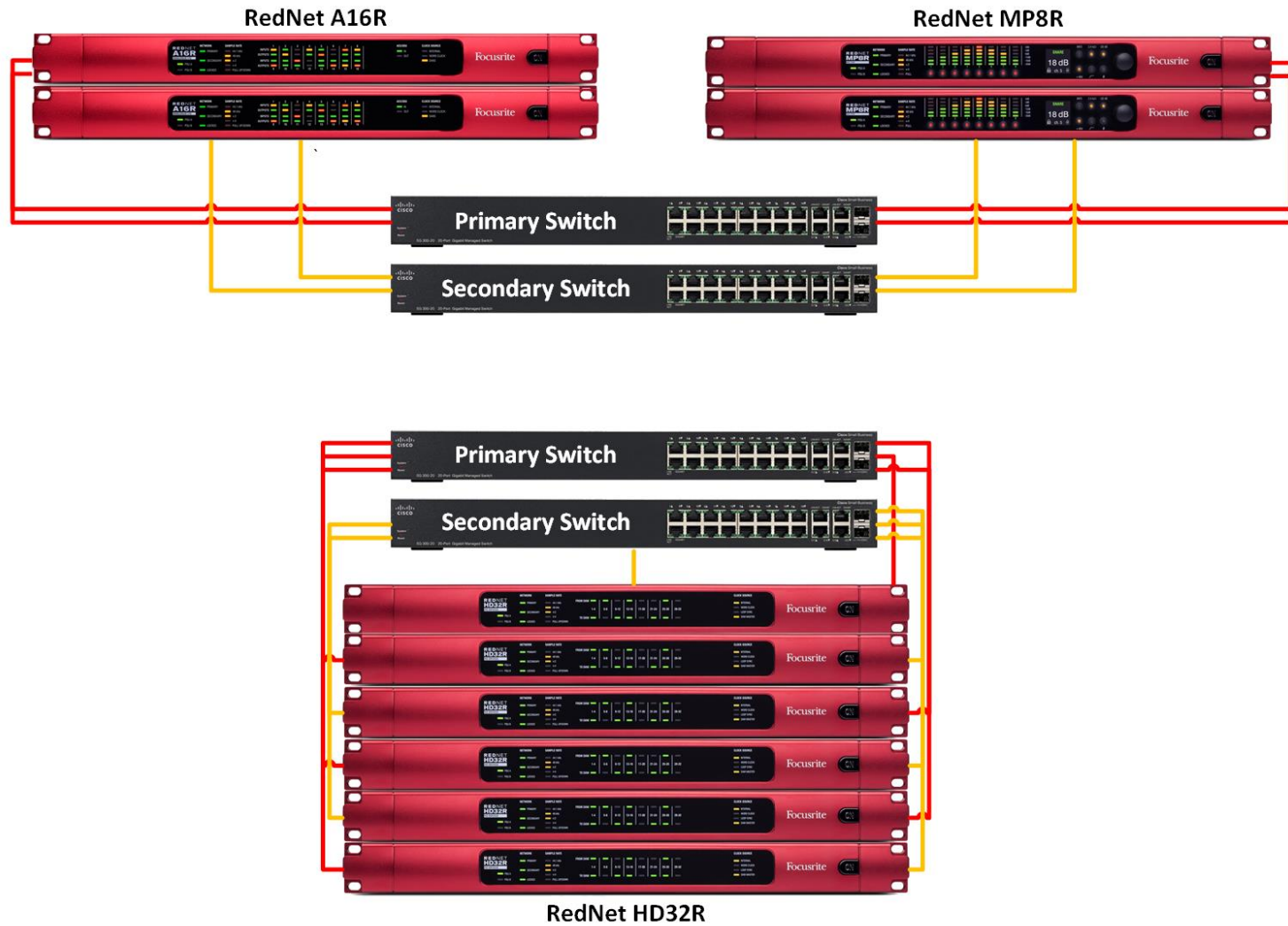
# Main Auditorium

- In 2016 we purchased new audio consoles
- Increased the network switches from 12 to 26
- Add 600 strands of multimode and singlemode fiber
- Started using multicast





Main Auditorium Recording Dante Network



Main Auditorium Broadcast Dante Network

Yamaha MY16-AUD-2

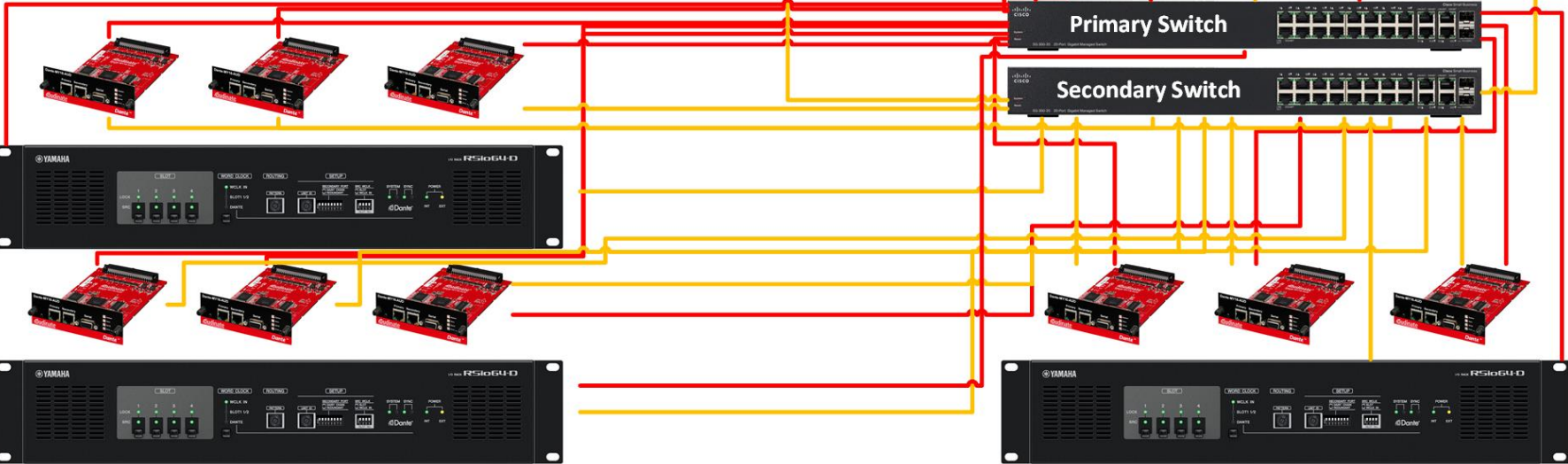


BSS Blu-806



steinberg

Record from CL5



Primary Switch

Secondary Switch

Yamaha Rsi064-D

Yamaha Rsi064-D

## BROADCAST AUDIO

- 72 channels of Dante
- 96kHz to 48kHz SRC
- Only soldered 8 XLR connections
- Before Dante
  - Splitter
  - Hours of soldering
  - Signal degradation
  - Troubleshooting



# BROADCAST AUDIO

- 72 channels of Dante
- 96kHz to 48kHz SRC
- Only soldered 8 XLR connections
- Before Dante
  - Splitter
  - Hours of soldering
  - Signal degradation
  - Troubleshooting



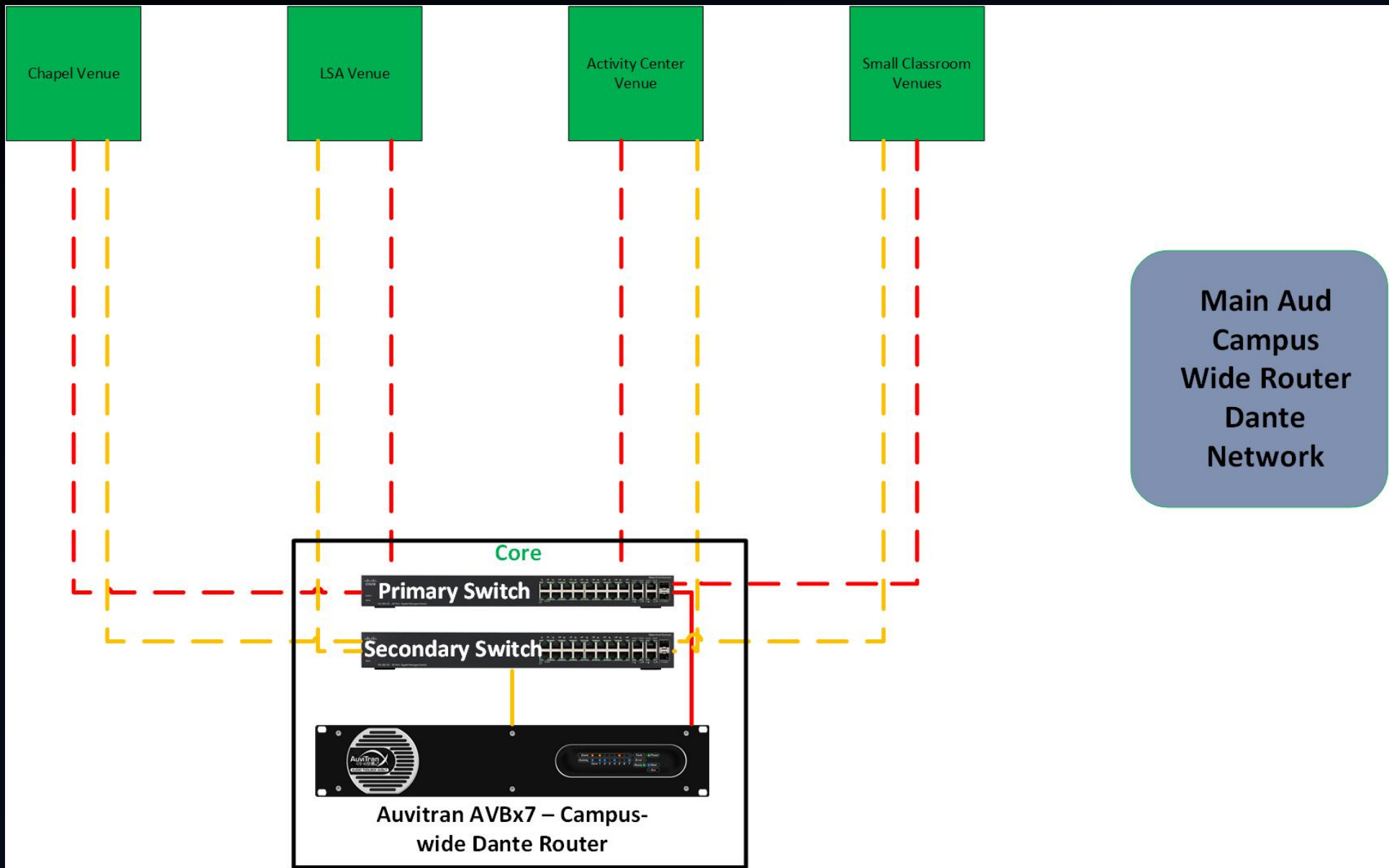
## BROADCAST AUDIO

- 72 channels of Dante
- 96kHz to 48kHz SRC
- Only soldered 8 XLR connections
- Before Dante
  - Splitter
  - Hours of soldering
  - Signal degradation
  - Troubleshooting

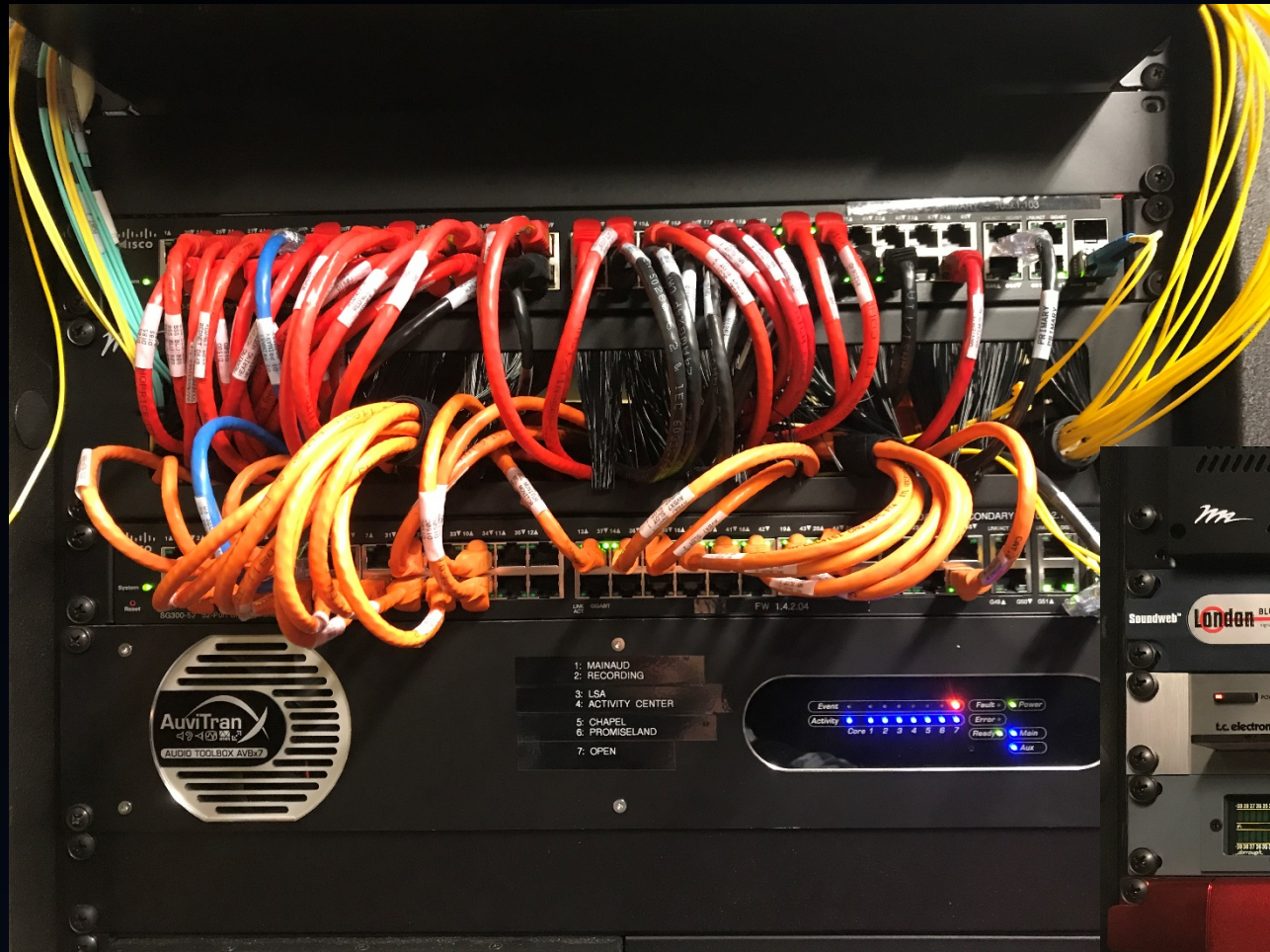


# Campus Wide Dante Router

- How do we connect everything?
- Auvitran AVBx7
- Isolated venues
- Management - VM







- 1: MAINAUD
- 2: RECORDING
- 3: LSA
- 4: ACTIVITY CENTER
- 5: CHAPEL
- 6: PROMISELAND
- 7: OPEN

MUSIC	CTRL-B	INTERPRETATION-D	INTERPRETATION-D100	VID
SEARCH	BENCH	SEARCH	SEARCH	CALL
S	L	R		

# How to Monitor Dante Audio – Bel Digital BM-A1-64DANTE



# Learnings

- Multicast setup
- Secondary ports
- QoS and EEE
- Network topology
- Switch capacity

# AVNW 2017

MATT WENTZ  
@WENTZMATTHEW  
MWENTZ@WILLOWCREEK.ORG