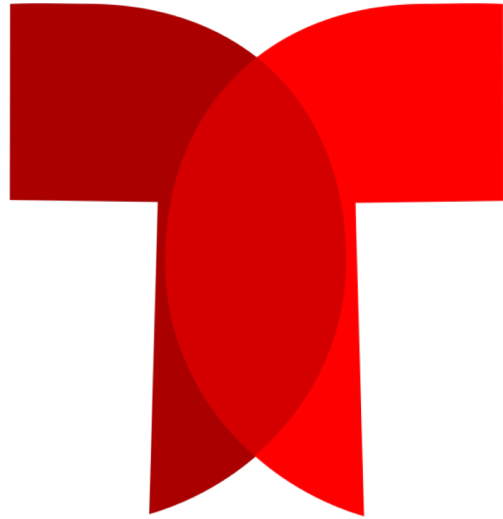# World's Largest ST2110 Facility

Mo Goyal P. Eng, Sr. Director – International Business Development

Evertz

# Objective of facility

- NBC Universal was looking to build a "state of the art" facility for the growing Hispanic consumer market in the U.S.
- The expansive complex would become the hub to produce thousands of hours of content per year
- Required a flexible, future proof technology environment for its 1,400 employees
- Had to be on-air for 2018 FIFA World Cup

# The Facility

- 15 Highly Adaptive Studios
  - 13 Studios + 2 digital production spaces for multimedia content
- 7 Production Control Rooms
- Sports, News, Daytime, and Scripted Productions
- 50+ Edit stations
- Over 3,000 hours of original content per year
- ST 2110 - Currently all HD, built for 3G with limited UHD

NBC Universal

Scott McIntyre for The New York Times

Scott McIntyre for The New York Times

Andrew Grist

AdWeek

Andrew Grist

NewscastStudio

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# The Challenge

- Production requirements were enormous
- If this was SDI, the matrix would need to be:

# 12,658 x 13,341

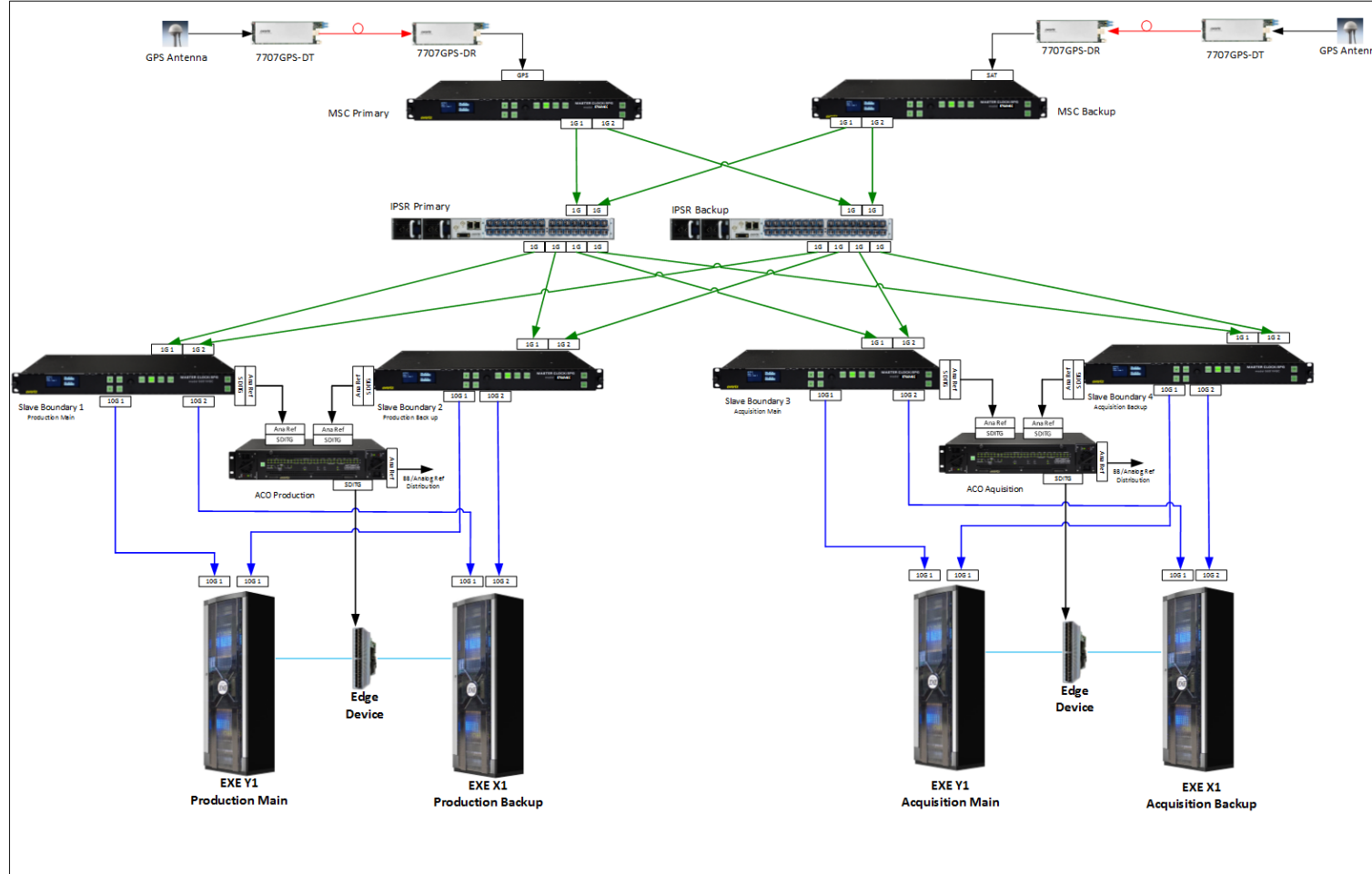- Needed to IP and ST 2110 (early adopter)

# The Challenge

- Acquisition requirements were enormous
- If this was SDI, the matrix would need to be:

# 12,658 x 2,270

- Needed to IP and ST 2110 (early adopter)

# The Build

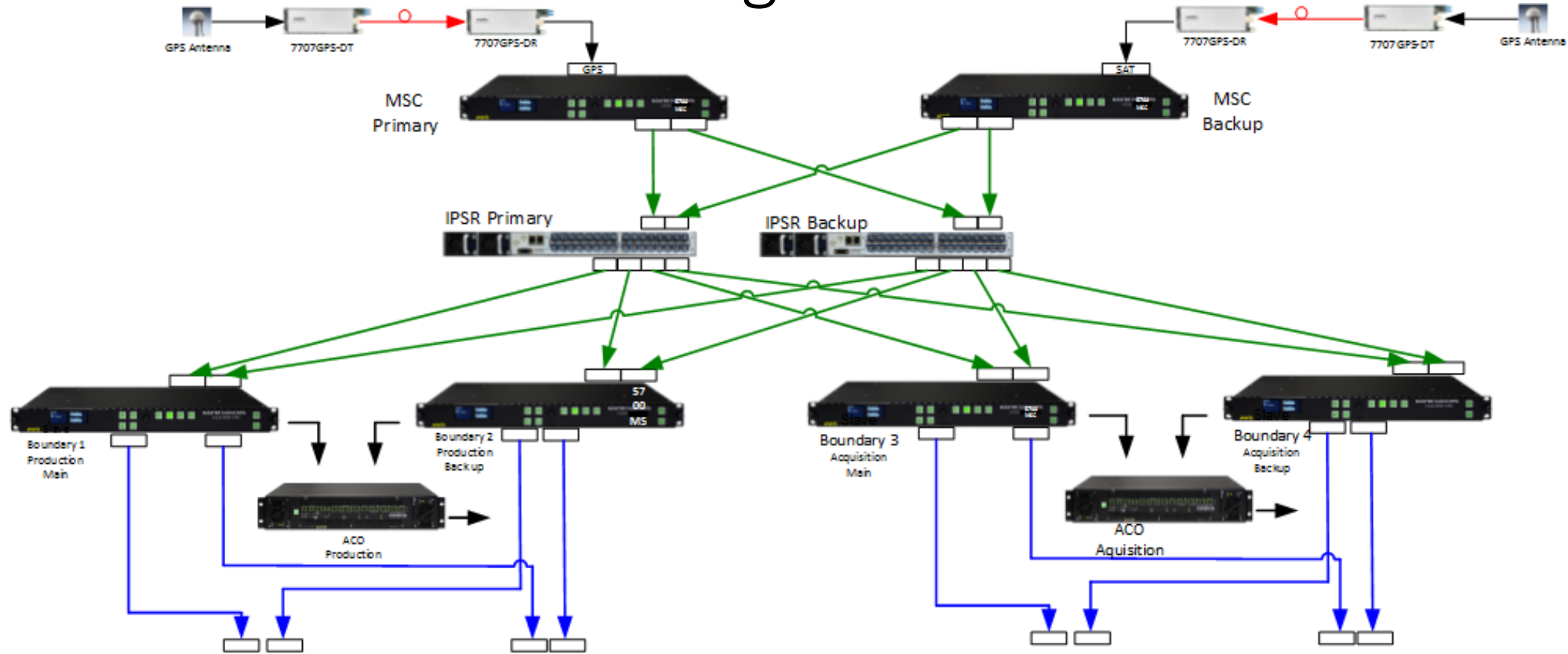- Based on number of streams and devices

- Over **10,000** 10GbE Network Ports

# Centralized Dual Core Matrix



EXE Y1
Production Main

Edge
Device

EXE X1
Production Backup

ACO Production

EXE Y1
Acquisition Main

Edge
Device

EXE X1
Acquisition Backup

# Edge Devices

- Multiviewer
- SDI-IP Gateways
- IP-HDMI Gateways
- ST-2110 / AES67 Gateways
- IP-based Video/Audio Processing
- Graphics, cameras, and production switchers
- **600+** Edge Devices requiring PTP (ST2059-2) Timing

# PTP Timing Distribution

# Flow Management

# 150,000

## ST-2110 Multicast Flows

## Over 1,000 routes per second

# Orchestration Software



Multiviewers

SDI Routing

Transport

IP Switch Fabrics

MAGNUM ORCHESTRATION

IP Edge Devices

3rd Party Devices

Tally (ON AIR)

# More recently (in the past 2 months)

# More recently (in the past 2 months)

# Lessons Learned

- Timeframe of delivery (7 months – from contract to air)

- Maturity of ST-2110

- Interoperability with vendors
  - Workarounds IS-04 and IS-05 development

- Customer knowledge

- New Tools to troubleshoot

- Support for future upgrades as standards progress

# Thank You

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