Virtual Environments in Radio Automation

A look at the future of broadcast IT specifically applied to radio automation and audio play out by Patrick Campion

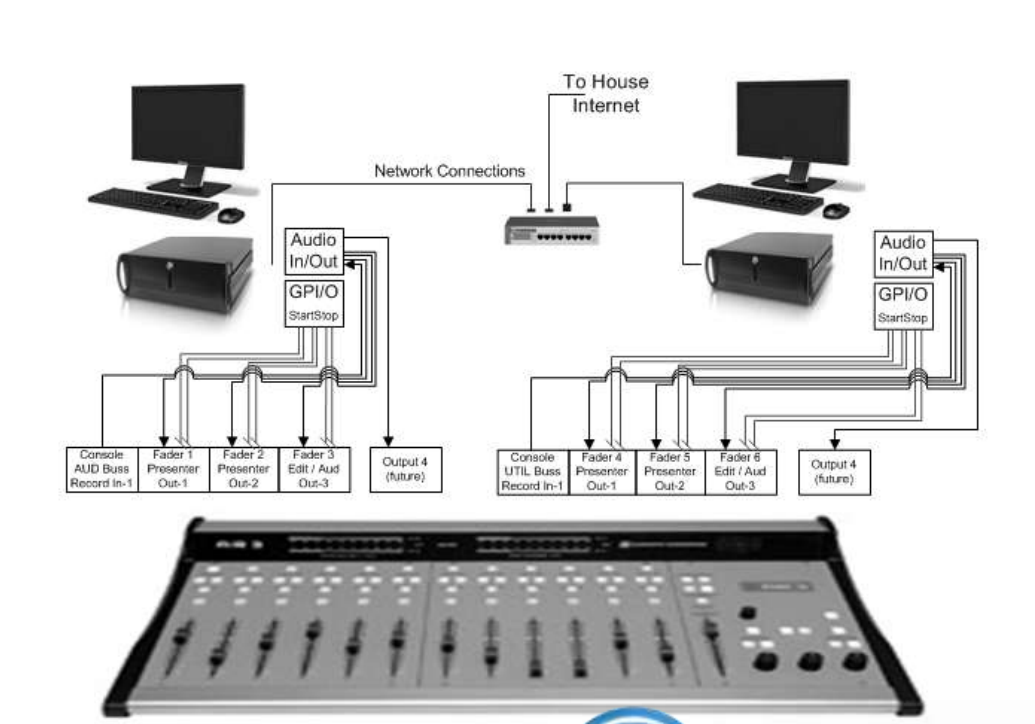
Traditional Automation Environment

- 1:1 architecture - Workstations
  - 4U rack mount case with lots of components
    - Power
    - Motherboard
    - RAM
    - Processor
    - Audio
    - GPI/O
    - Serial

Traditional Automation Environment

- 1:1 architecture - Integration
  - Rack Room or Studio install?
  - KVM
  - Audio wiring
  - Power
  - AC
  - Relay wiring
  - Network wiring

Traditional Automation Environment



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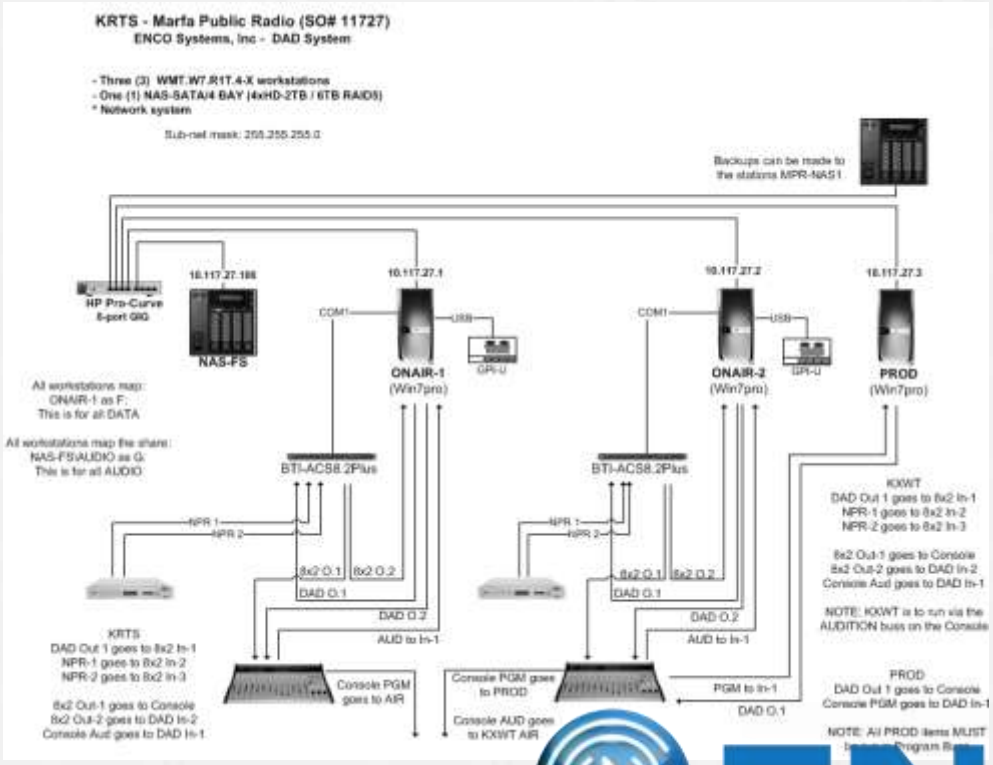
Traditional Automation Environment



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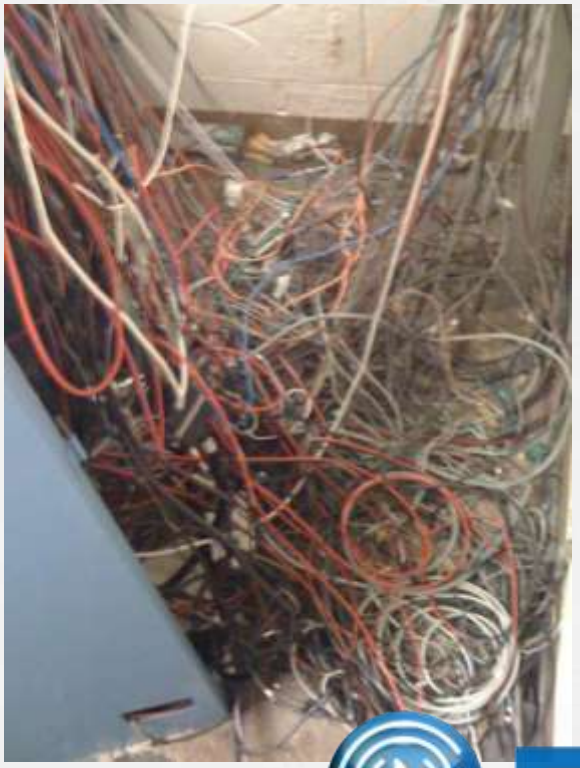

Traditional Automation Environment

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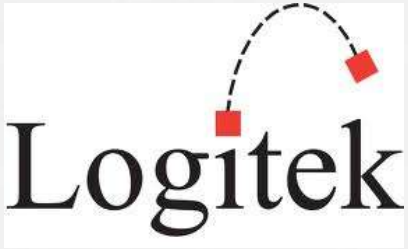
Changes in Design

- Audio Engines – Central Audio/Control Data



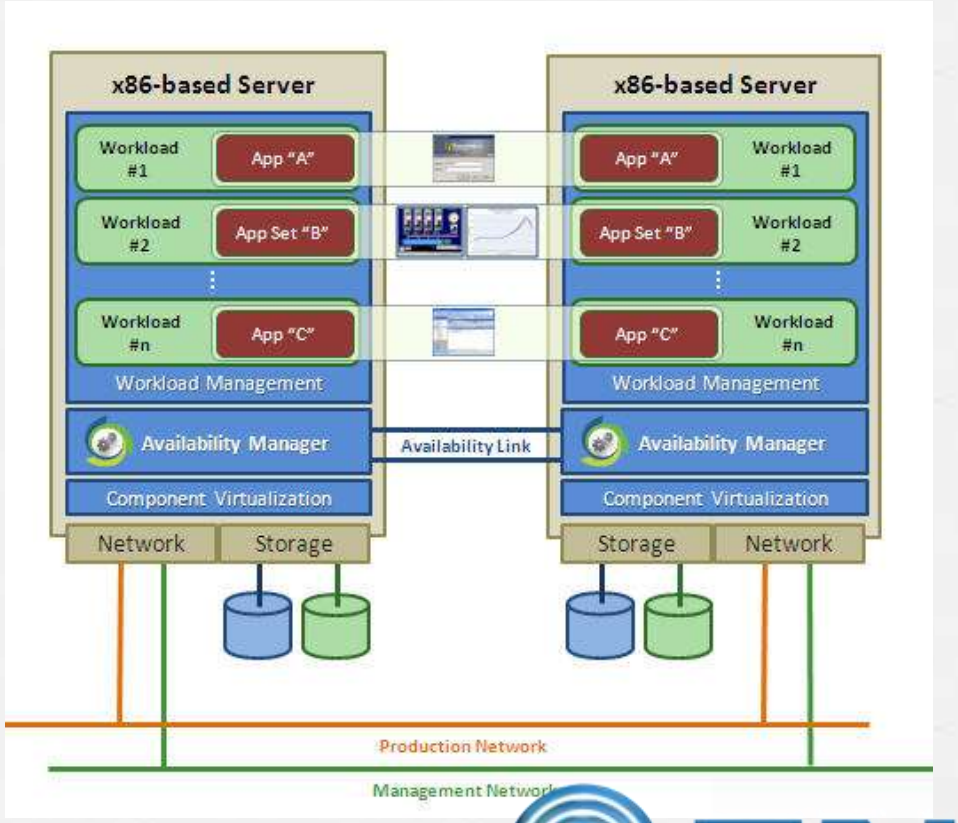
Changes in Design

- Introduction of Layer 3 Audio Over Ethernet protocol (IP Audio Drivers)

Changes in Design

- Virtual Server Environments

How Everrun Works



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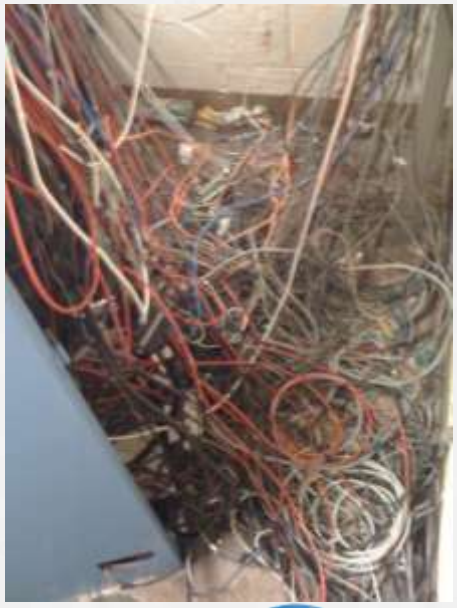
Putting It All Together

- Replace the Mess With Less



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Putting It All Together

- Replace the Mess With Less
- IP Audio + Virtual Environments =

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How It's Built

- Start with a pair of duplicate servers
  - Hardware components depend on size
    - Processors
    - RAM
    - NICs

How It's Built

- Build Drives Into Two Physical Volumes
  - RAID1 – OS and Virtual Environments
  - RAID5 – Shared Storage Volume
- Define Environments
  - Server/Workstation
  - Level Of Redundancy

How It's Built

- Start Installing Software
  - Citrix XenServer
  - Marathon Everrun
  - High Performance Virtual Environments

How It's Built

- Start Installing Software
  - Citrix XenCenter
    - Full virtual machine installation, configuration and lifecycle management.

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How It's Built

- Inside the Virtual Environments
  - RDP Session via Thin Client

Windows 7

Windows Server 2008

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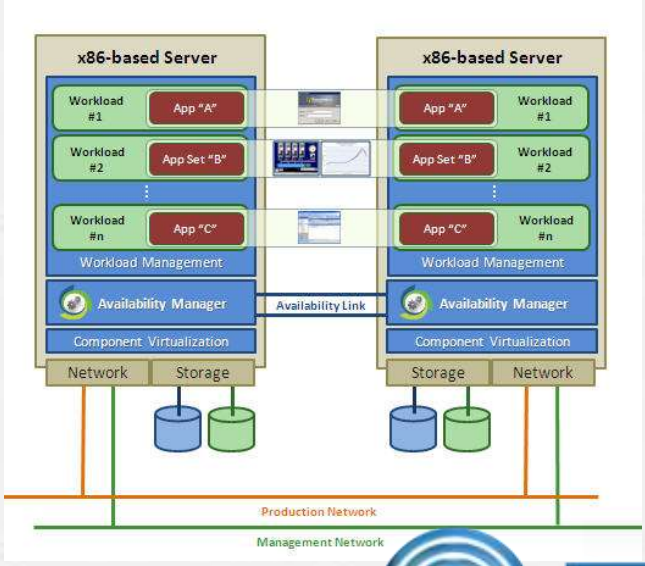
End Result

- Two Servers Running In Lock Step Sync
- Virtual Workstation/Server Environments



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What You Gain

- Much Smaller Footprint
- Lower Power Draw
- Less Power Conditioning
- Lower Cooling Demand
- Easier Integration
- Higher Quality Materials
- Easier Maintanence
- Less Moving Parts
- Easier Scalability
- Better Fault Tolerance
- KVM System Replacement

Extend the Concept Outwards

- Site to Site Interconnect
  - Run Sessions Via LAN
  - Backup Content Across Sites
  - Monitor Sites Centrally Via SNMP
  - Access “Anything” From “Anywhere”

ENCO's Version

- ENCO1 – http://www.enco.com/enco1

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