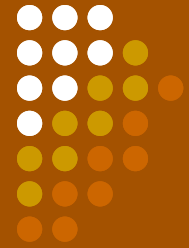
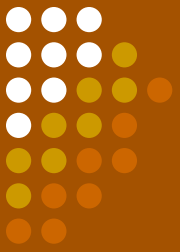




Communication Room: Cable Management, Design & Implementation



Presented by
Mike Martinez and
Fabian Guerrero



Introduction

- Cable management is the process of supporting cables routed between two points and the products installed to aid this process.
- The purpose of cable management is to provide a pathway, increase cable organization and increase network “uptime.”



Introduction Cont.

- Everyone in NETS is a “Cable Manager” and should benefit from understanding how cable is managed in our communications rooms.
- Combined 25+ years of installing cable, we work daily on design, installation, documentation, verification, M.A.C. work and the challenges associated with each.



Training Outline



- Design overview:
 - Considerations when designing a communication room; factors simplifying or complicating design.
- Product:
 - Past, present and propose overhead tray, rack infrastructure, and consumables.
- Implementation – *The act of accomplishing some aim or executing some order; carrying into effect.

*Institute of Electrical and Electronics Engineers (IEEE):

Dictionary.com, "implementation," in *WordNet*® 3.0. Source location: Princeton University. <http://dictionary.reference.com/browse/implementation>. Available: <http://dictionary.reference.com>. Accessed: January 12, 2009.



Design Overview



Simplifications:

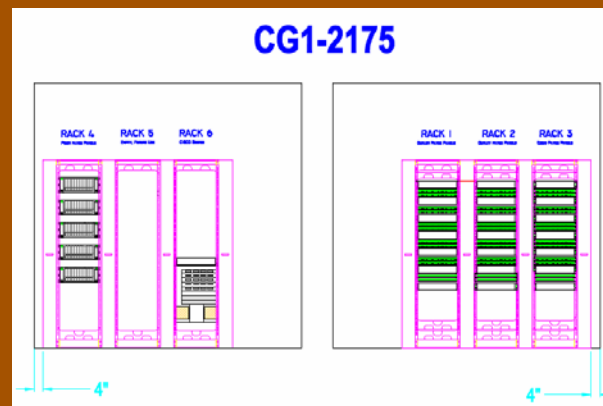
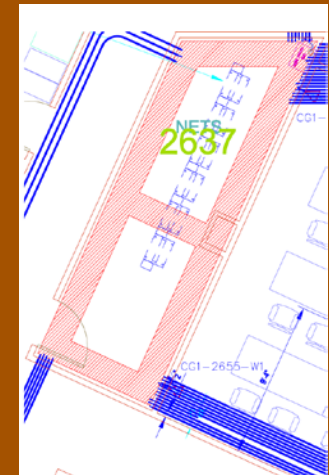
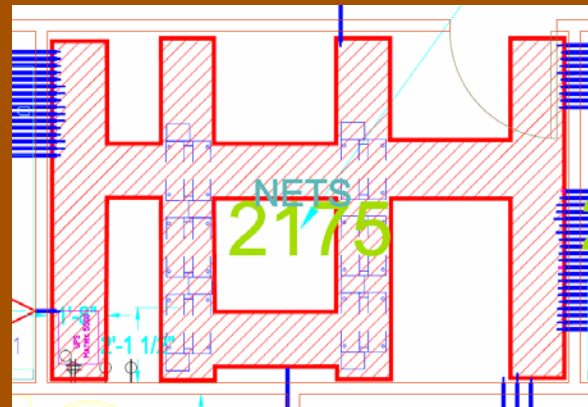
- Ground-zero builds.
- Having adequate space
- Building codes, standards, and specs.
- New products.

Complications:

- Retrofit installations.
- Inadequate space.
- Building codes, standards, and specs.
- Cable type and size.
- Neighboring services (HVAC).
- Financial constraints

Design: Simplifications

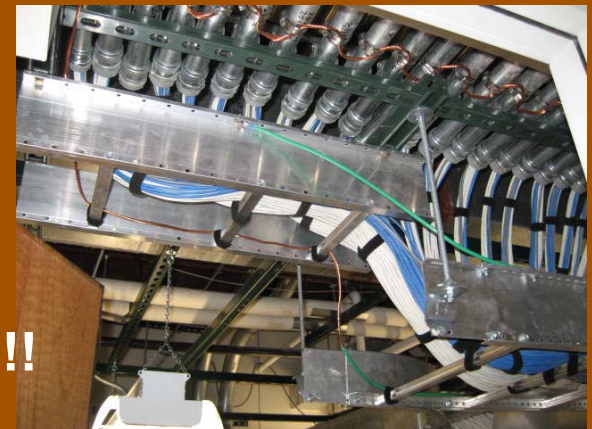
- Ground-zero builds
- Having adequate space
- Building codes, standards and *specs.
 - Section 27 05 26: Grounding and Bonding for Comm. Systems
 - Section 27 05 28: Pathways for Comm. Systems
 - Section 27 11 16: Cabinets Racks, Frames and Enclosures
 - Section 27 11 23: Cable Management and Ladder Rack
- New products.





Design: Complications

- Retrofit installations.
- Inadequate space.
- Building codes/ standards.
- Cable type and size.
- Neighboring services (HVAC).
- Financial constraints.

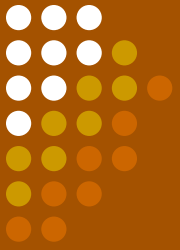


Door!!!



Design: Wrap-up

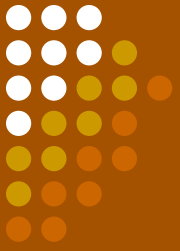
- Proper cable management design is the framework for a quality installed network.
- Early identification and planning is key to saving \$\$\$.
 - Single largest contributor to cable organization.
 - Reduces time for MAC work.
 - Accepts changing media types and sizes.
 - Scaleable.
- Questions?



Product: Objectives

- Be familiar with the products available to manage cable within a communications room.
- Show the dangers of disregarding cable management.
- Visualize product NETS has employed past and present, and the next generation.
 - Communications rack or cabinet structures.
 - Horizontal managers, rings, spools and through-ports.
 - Adjacent vertical managers and slack receptacles.
 - Overhead or underfoot pathway, typically tray or rack.
 - Drop racks for changes in elevation (2 ft. max)
 - Radius supports, consumables and identifiers.

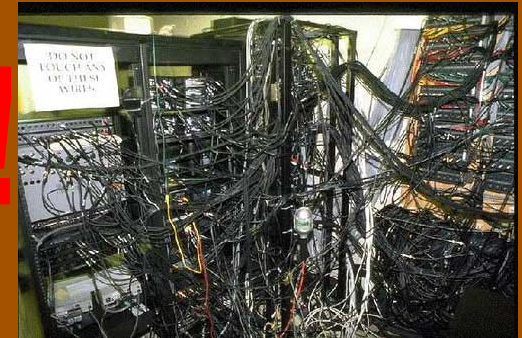
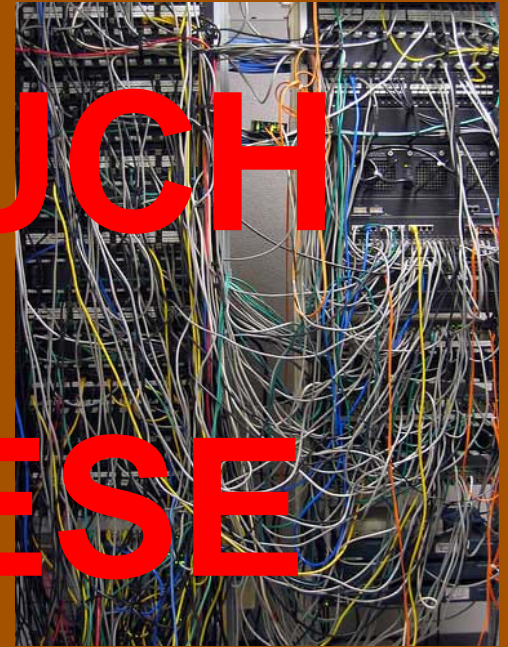
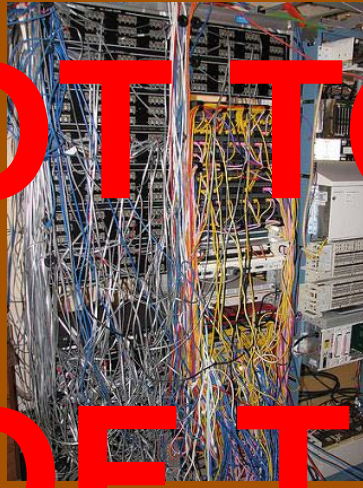
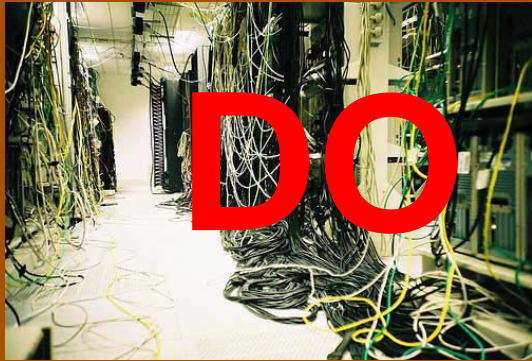
Product: Cable Management Challenged:



DO NOT TOUCH

ANY OF THESE

WIRES!!!!



NETS

Cable Management - Past

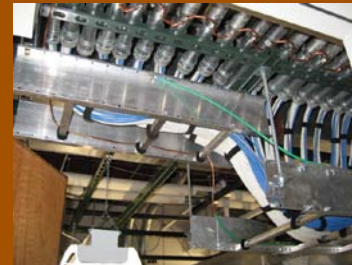


Vertical Cable Support

Overhead Tray:



Changes in elevation:



FL4-2060



Horizontal Cable Managers

NETS

Cable Management - Present



Vertical Cable Support

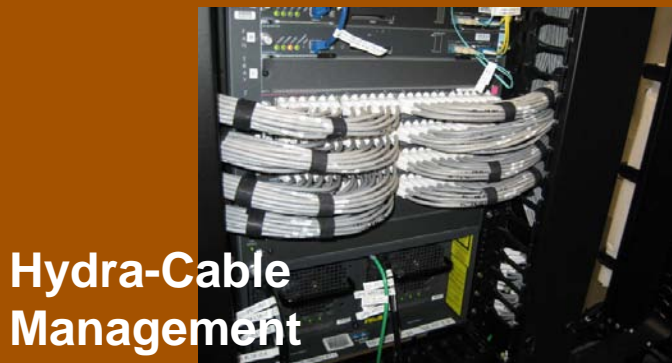


Changes in elevation



Tiered Overhead Tray

Horizontal Cable Managers:



Hydra-Cable Management

FL0-1042



Next Generation Cable Management



F- Upper and Lower Jumper Trays

G- Horizontal Managers

H- Consumables ties and straps

I- Cable spools

J- Radius drops

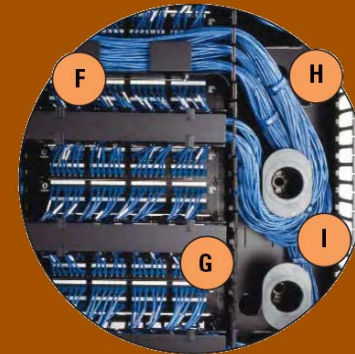
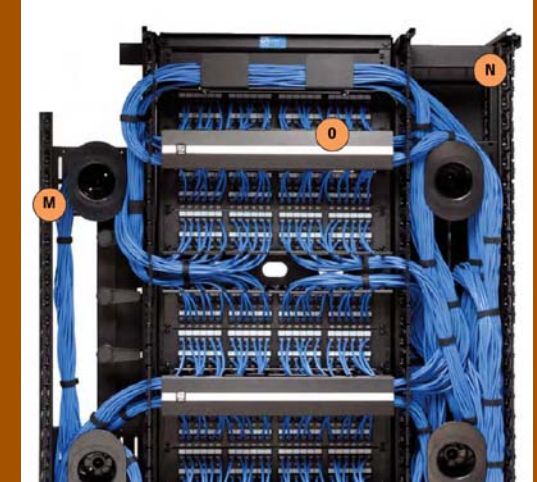
K- Vertical Cable Managers

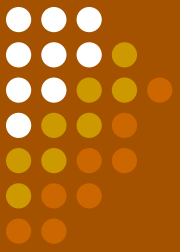
L- Front-to-Back Horiz. Managers

M- Single Side Vertical Managers

N- Double Side Vertical Managers

O- Horizontal Managers



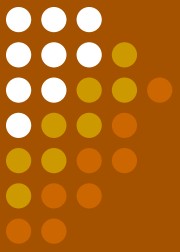


Product: Wrap-up

- Cable management is no longer optional.
- Products are becoming more user friendly.
- Products are getting more readily available.
- Larger number of manufacturers in the cable management arena.

- Questions?

Implementation: Objectives



“How Cable Management Gets Done”

- Be familiar with the steps NETS takes when implementing a cable management system.
 - Create a room drawing.
 - Count or estimate T.O's in comm. Room.
 - Identify conduit entrance locations.
 - Establish rack layout (footprint and equipment).
 - Create a Bill-of- Material (BOM).
 - Create estimate.
 - Install.

Summary of Training



- Proper cable management is key to saving time and money, maintaining uptime and reducing energy cost.
- Dedication to design and implementation of product are the means to establishing proper cable management.
- Diligence to maintaining cable management is the responsibility of everyone touching it!

Questions and/or Comments



Thank You!!