

RFID in Data Centers

- ConTech's core business is Managing Data Center Hardware. (Duel and ConTech are Divisions of Methode Corporation.)
- About 2 years ago they integrated their first Data Center with RFID.
- The System they use includes the Management Software as well as the RFID enabled hardware to automatically track and integrate equipment in Data Centers. This includes interconnections as well as asset management of equipment.
- The Business case is favorable as they have gone on to add more centers.

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Duel Systems provides electro-mechanical packaging for small electronics devices such as active RFID tags.

The RFID “Pitch” for Data Centers

The Data Center Of The Future
Enabling RFID* Technology To:

Manage Your Assets

Manage Your Connections

Manage Your Change

Manage Your Documentation

Manage Your Planning

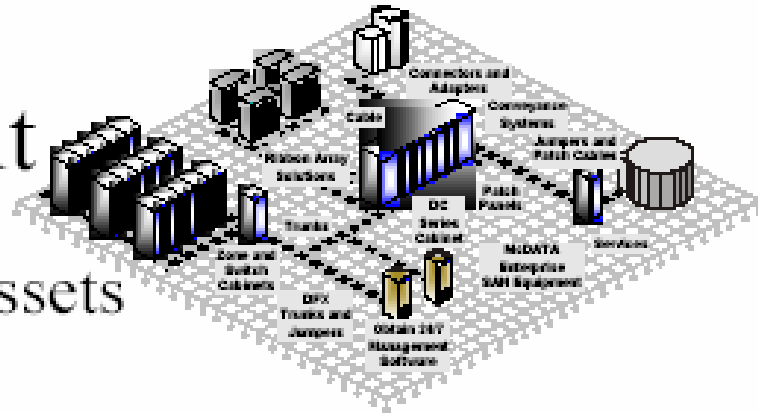
Manage Your Security

* Radio Frequency Identification

The Data Center Environment

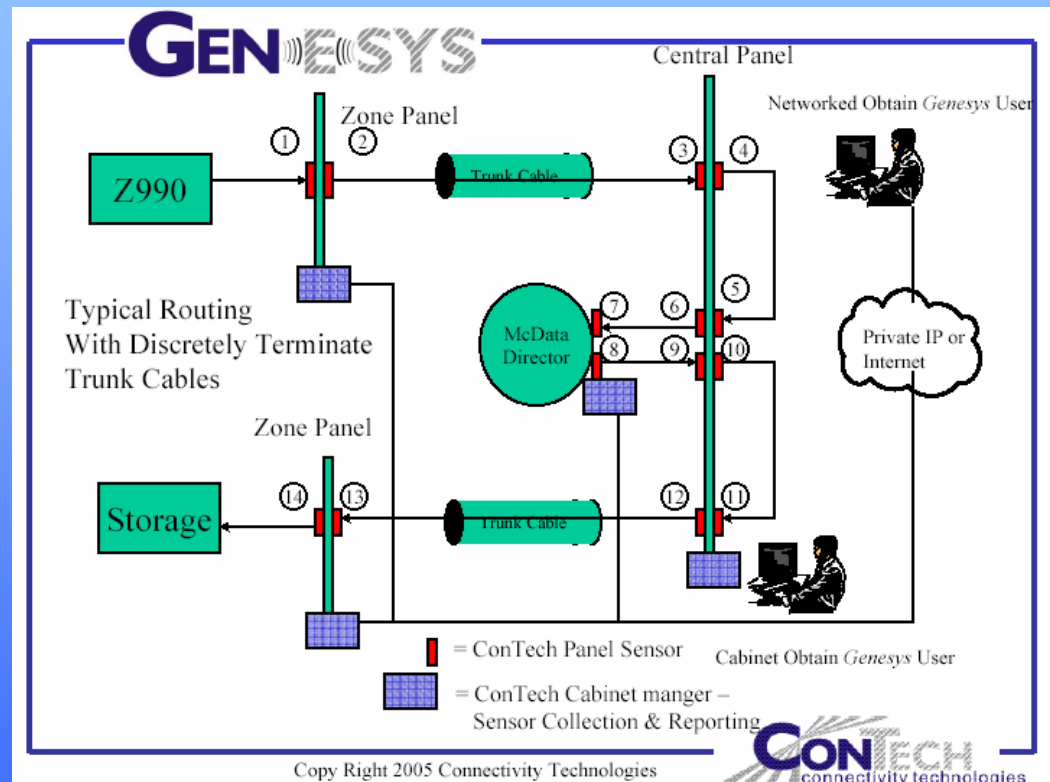
The Environment

- 100's Or 1000's Of Assets
 - Processors,
 - Directors, Switches, Routers
 - Tape
 - Storage Area Networks
 - Etc.
- 100's Or 1000's Of Connections Between Assets - Fiber & Copper



Three Components to the Solution:

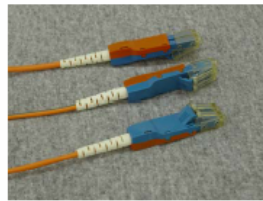
- Management Software
- RFID Connection Hardware
- RFID Asset Management



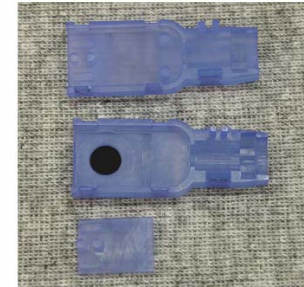
RFID Hardware

RFID In Every Connection

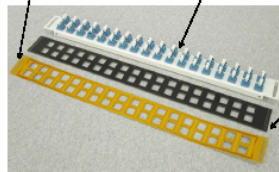
- Fiber Connections
- Copper Connections
- Power Connections
- Plug Cables In And System Automatically “Learns” And Documents Connectivity



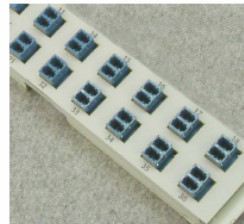
Example of a RFID Tag placed inside a fiber optic connector



36 PORT RFID ANTENNA OVERLAY MASK, PATCH PANEL FRONT AND SPACER BOARD

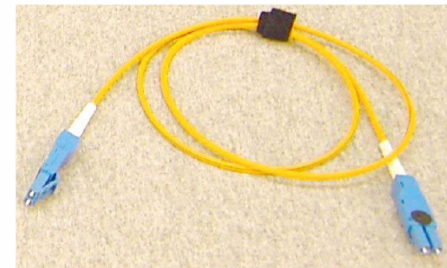


SIDE VIEW OF RFID PATCH PANEL ASSEMBLY



FRONT VIEW OF RFID PATCH PANEL ASSEMBLY

EXAMPLE OF RFID TAG EXTERNALLY MOUNTED ON A FIBER OPTIC CONNECTOR



Lessons Learned to Date

- Proprietary Closed Systems won't Survive. Interoperability Between Vendors Key to the Future.
- In The Data Center: Data Center Markup Language is a must.
- Design your system around Speed, Accuracy and Distance but you can realistically only obtain 2 of the 3 for an optimized system.
- RFID is not an out of the box technology and it must be Customized for each Environment.
- There is no Universal tag, rather tags are application specific.
- Frequency is affected by the materials in the environment.

Lessons Learned to Date

- If you have global locations note that ISO standards differ from EPC. ISO only addresses the Interface as to how tags and readers talk to each other while the EPC addresses other components of the system.
- Start off with Gen 2 Tags. EPC Gen 2 is key to Interoperability.
- RFID will **NOT** replace bar codes just yet.
- RFID **IS** resulting in a competitive edge as it is integrated into a Complete Business but **NOT** if only integrated in a single area.