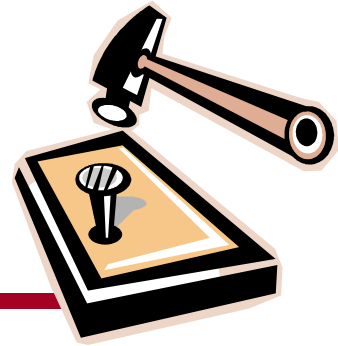


# **MPLS in MCI**

**- By Dave McDysan**

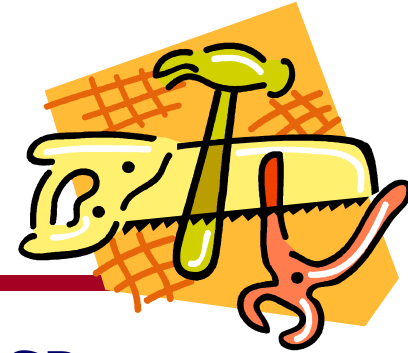


# MPLS – 21<sup>st</sup> Century Hammer



- Have Deployed
  - Traffic Engineering for IP networks
  - L3 Virtual Private Networks
  - L2 Virtual Private Networks
  - Pseudowires
- Have not Deployed
  - Inter-AS L2 Connectivity
  - Legacy L2 interworking
  - Voice trunking
  - etc.

# Improving the MPLS Toolkit



- Scalable, hierarchical traffic engineered LSPs
- Inter-area and inter-AS traffic engineered and fast restorable LSPs
- Coordinating admission control and resource allocation in implementations
- LSP liveness checks and troubleshooting tools
- Refinements of PW, L2 VPNs, FRR, MIBs based upon operational experience
- Ensuring precise standards and interoperability

# Challenges for MPLS



- Scope and deployment extent impact on
  - Scaling of message processing
  - Scaling of routing information exchange
  - Separation/ isolation paradigm of only trusted interfaces supporting labels
- Difficulty of multi-criteria and constraint-based optimization and routing implementations
- Applicability of effectively connection-oriented MPLS signaling paradigm to applications