MPLS: The Ultimate Solution?

For what?

Lucent Technologies
Bell Labs Innovations

Grenville Armitage
Bell Labs Research,
Silicon Valley

gja@lucent.com

We make the things that make communications work
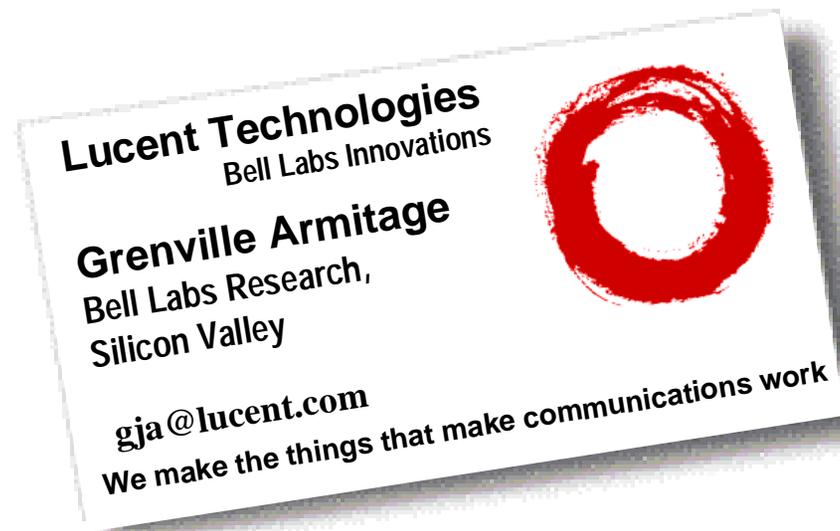
What are we so excited about?

❑ **Nethead-friendly ATM**

❑ **ATM-friendly 'net'**

Connection-oriented forwarding controlled by 'Internet' routing protocols

– **We all get a warm fuzzy feeling**

❑ **Enabler of non-shortest path forwarding**

– **Traffic Engineering / QoS**

Bandwidth saves the day?

- ❑ **Avoid congestion with bigger pipes?**

- ❑ **Oops, forgot about the 'slow' routers**

- ❑ **Oops, someone else owns the facilities**

- ❑ **Traffic Engineering will be valuable when**
    - – **you don't own the latest optical facilities**
        - • **Not enough bandwidth to burn**
    - – **you don't have the best routers/switches**

- ❑ **VPNs need tunnels, not just bandwidth.....**

Traffic Engineering half done

❑ **Being able to signal LSPs is only half the job**

❑ **There's still mathematical and operational 'magic' in deciding what path an LSP ought to take**

  – **MPLS working group is not studying this aspect**

❑ **So how well does your vendor understand the magic?**

  – **This will dictate whether MPLS is the 'ultimate solution' or just another interesting toy…..**