#### Multiservice Networks Panel

Moderator: Nina Bargisen, TDC NANOG48 22 february 2010

# The panelists and their networks

 Who are you and in what respect do consider your network "multiservice"?

- Ted Seely, Sprint
- Joe Provo, ITA Software
- Chris Luke, Easynet
- Walt Magnussen, Texas A&M University

# Multiservice Keywords

- Mobile Voice
- Mobile Signalling
- VolP
- Video streaming
- Multicast
- Video Conference services
- TDM
- Telemetry

# What challenges does operating a Multi service Network introduce?

### **Network Tuning**

- What additional demands do multiple services put on your network?
- What measures do you take to meet the additional demands if there are any?

# Requirements keywords

- Lower convergence times
- Lower BER thresholds
- Large Buffers
- Low jitter
- Low Latency (no timeouts allowed)

#### Tools of the trade

- QoS
- MPLS FRR
- Buffersizing
- BGP timers
- Over subscription
- BFD
- Physical Segmentation
- Logical Overlays

- Addressing Tricks
- IGP Fast Convergence
- Spanning Tree Optimization
- Session Border Controller

## Monitoring

- Have the demands for network monitoring changed with the introduction of these new services?
  - What are acceptable detection times for Operations intervention and resolution for real time services?
- How does performance monitoring of the services work....
- …and network monitoring….
- ...and do they work together or not?

# Change Management and Day to Day Operation

- Have operational procedures been changed, and if so where?
  - Core?
  - Edge?
- Is there still such thing as a maintenance evolution with no customer impact?

# Day to Day Operations Keywords

- Change management methodology
- Automation
- Planned work outside public events
- Certifications
- Audits

#### The Future

- Traffic volume is still growing, and projected to continue growing at a significant rate.
- Can low volume real time sensitive traffic mixes co-exist with high volume best effort traffic on the same infrastructure peacefully?

# **Q & A**