

Real Time Network Simulation Of A Commercial VoIP Network

QualNet World 2003
Boston, MA

Bob Decker

GoLinx

Dallas, Texas

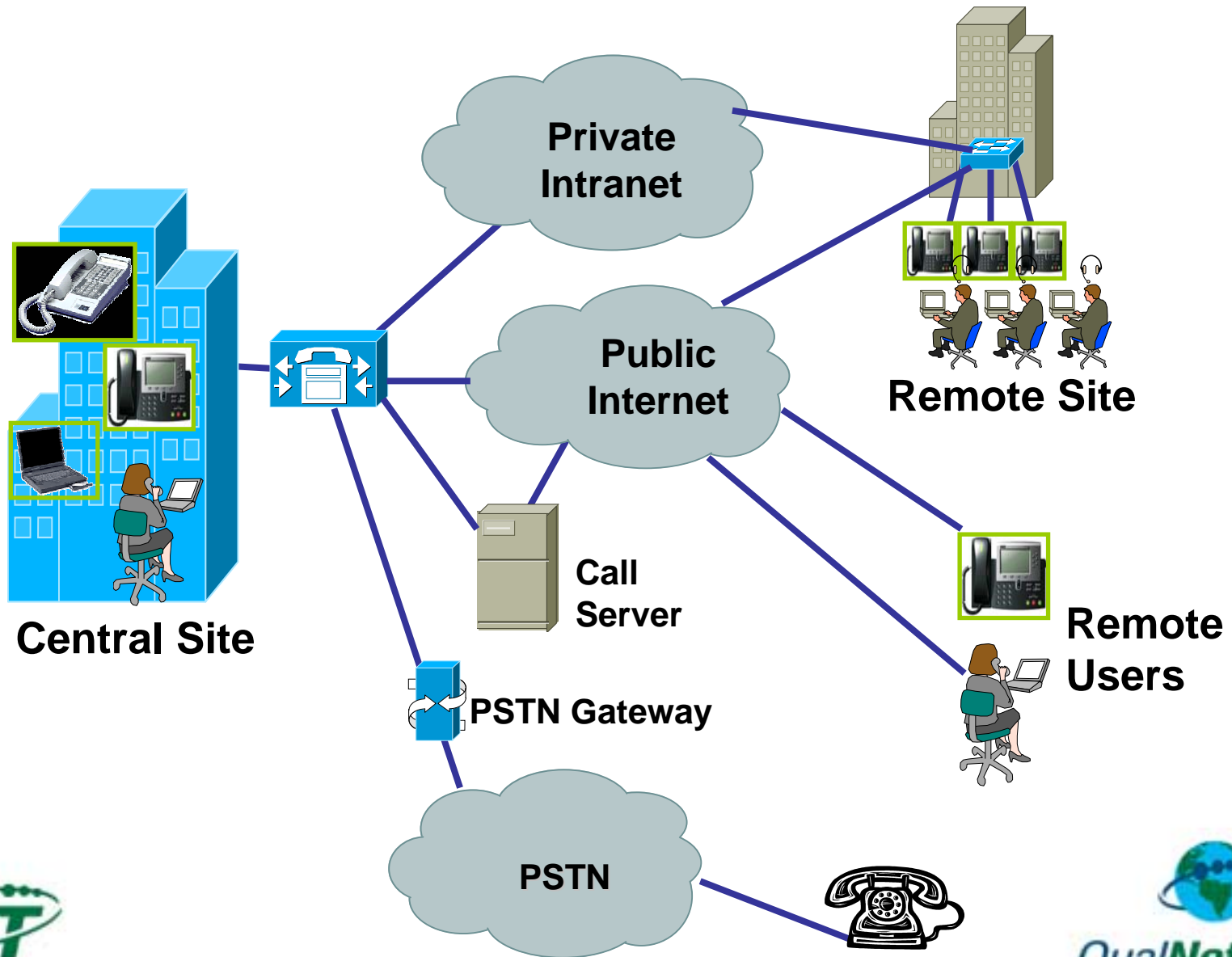
bob.decker@ieee.org

(918)640-4232



QualNet World
2003

Voice Over IP



Some Current VoIP Applications

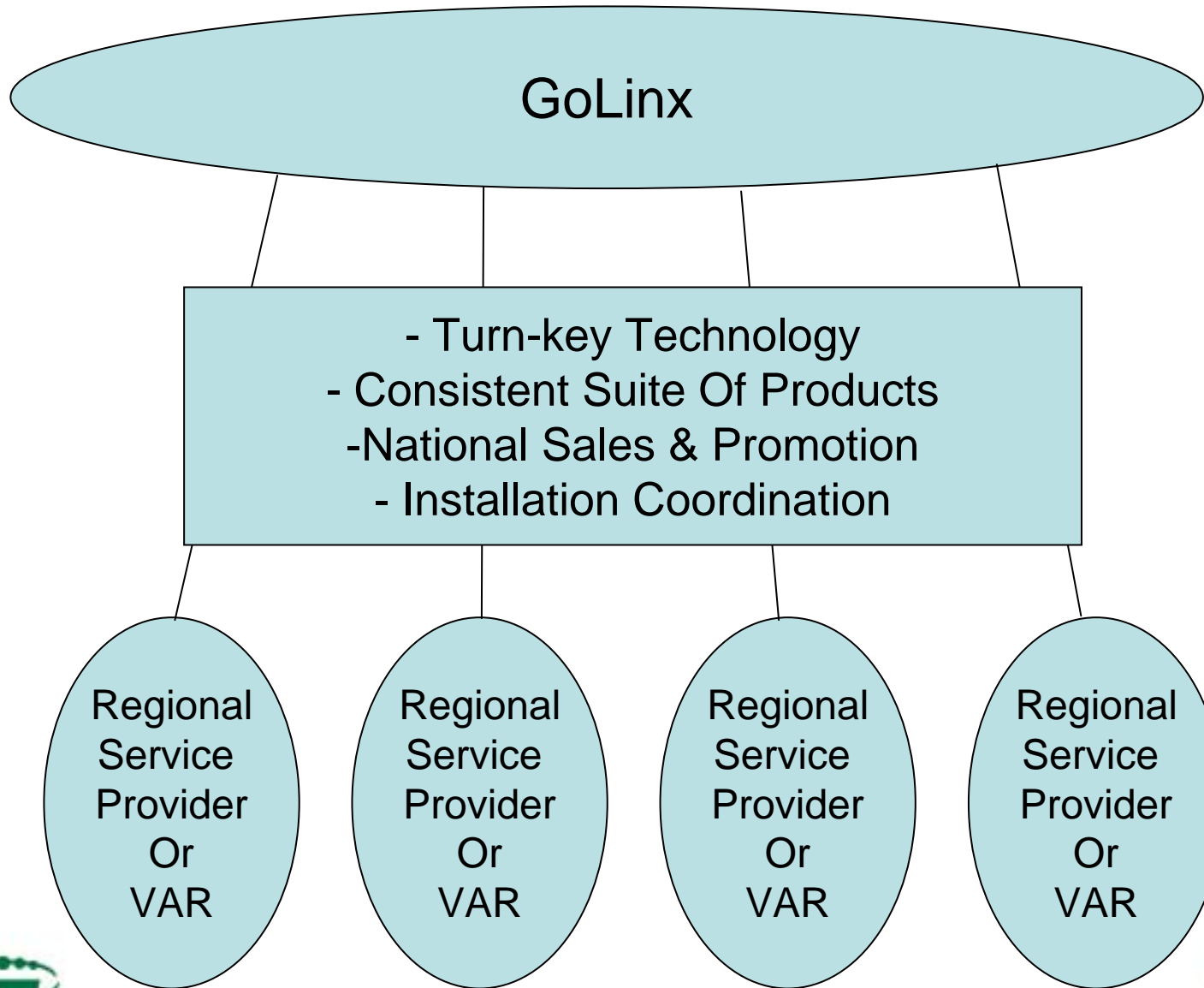
- Corporate-Wide Legacy Voice Elimination
- Greenfield & Replacement PBX
- Toll Bypass
- Remote Office
- Campuses
- Metropolitan Area Consolidation
- Unified Communications

Major Drivers

- Save telco costs
- Reduce administration costs (moves, adds & changes)
- Improve worker productivity

Some VoIP Challenges

- Integration of VoIP Application To Existing Data Network
 - Firewalls & NATs
 - QoS Management Strategy
- Phone Deployment Logistics
 - Two phones on a desk
 - Dialing plans
 - Power to the phone
- Quality of Service
 - Call completion
 - Dropped calls
 - Voice quality
 - Mean Opinion Score (MOS)
 - Delay, jitter, error rate
 - Impact to other applications



GoLinx

- GoLinx Customers Are Regional Service Providers and VARs
- Target End Customer is:

Mid-Sized Multi-Location Enterprises

- Suite Of Products:
 - Office-to-Office Toll Bypass
 - Remote Worker
 - Remote Small Office

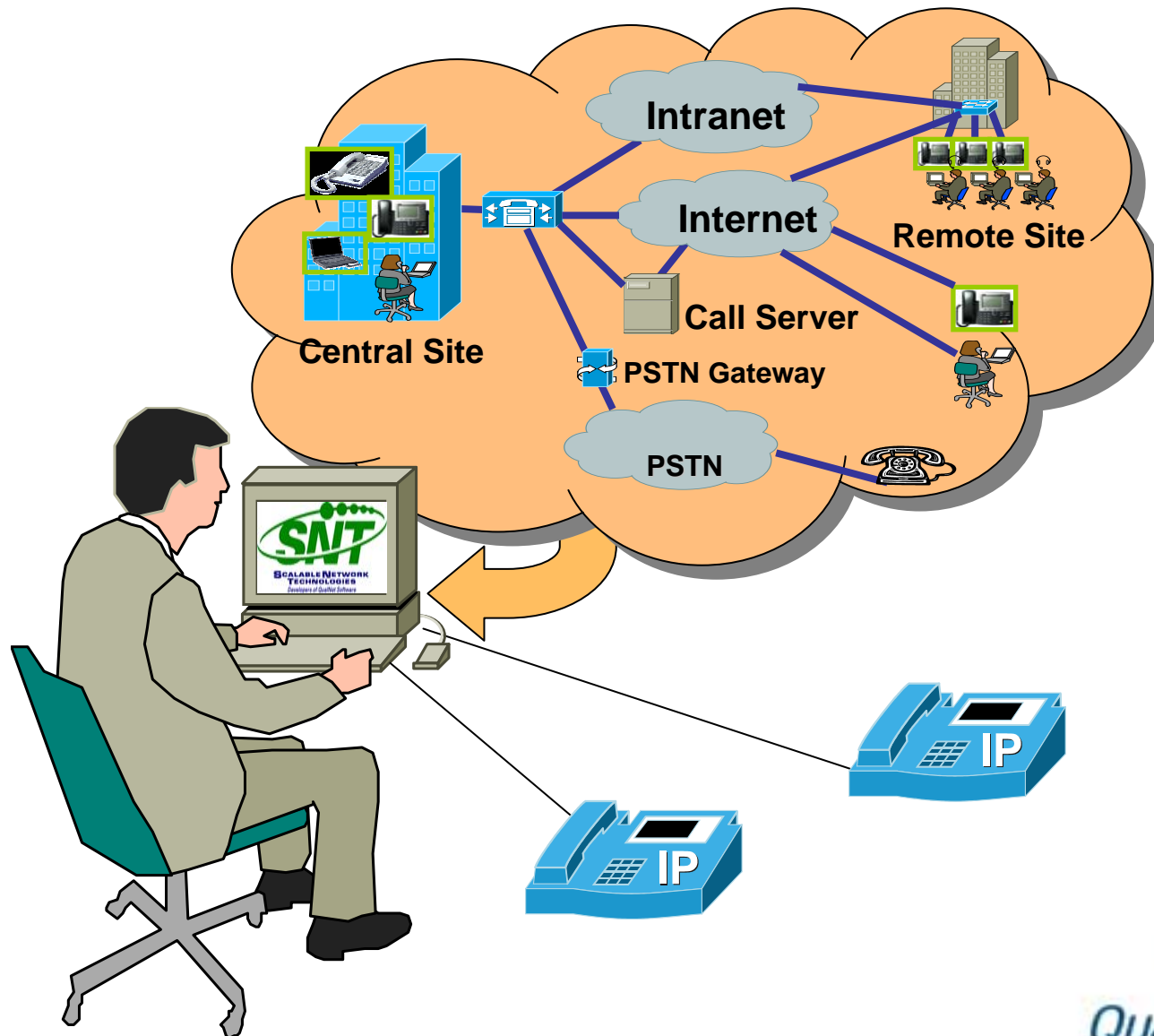
GoLinx VoIP Deployment Strategy

- Standardized Equipment and Set-up
- Pre-Deployment Analysis
- Pre-Deployment Evaluation
- Pro-Actively Manage Installation & Acceptance

Application Of QualNet

- VoIP Planning & Analysis
- Voice Quality Demonstration
- Operations Tool

Evaluation Of Actual Voice Quality



VoIP Scenario Evaluation

- Heavy Background Traffic
- Faults
- Assess
 - Packet Loss, Jitter & Delay
 - Calculate Mean Opinion Score (MOS)
- Customers Can Hear Impact To Call Quality

Real Time Operation Tool

- Reactive Troubleshooting
- Periodic Pro-Active Evaluation Of Voice Quality
 - Snap-Shot Of Customer's Network
 - Current Network Configuration
 - Simulated Traffic Load