

Sharing Resources for Network Operations and Deployment

Risks and Opportunities



Introduction – Layer1 NOC Support

- 24x7x365, on-site L1 NOC support - 3 shifts
- (19) network engineers + (5) senior engineers
- Supporting NLR WaveNet since 2003
 - Network Deployments
 - Network Operations
 - Special Projects
- Currently Supporting ~300 Network Elements
- Actively Supporting ~200 Layer1 Services

We like the recent WaveNet availability numbers!



What Are These Shared Resources?

- Time

- Delivery Dates
- Work Schedules
- Network Availability
- Timezones
- Reporting and Metrics

- Tools

- Dbs for Network Services and their Status
- Ticket Systems and Vendor Portals
- Documentation Repository
- Asset and Inventory Tracking
- Reports



More of These Shared Resources

■ Humans

- NLR Technical Support Teams
- Network Engineers
- Field Techs / Remote Hands
- Support from Vendors /TACs

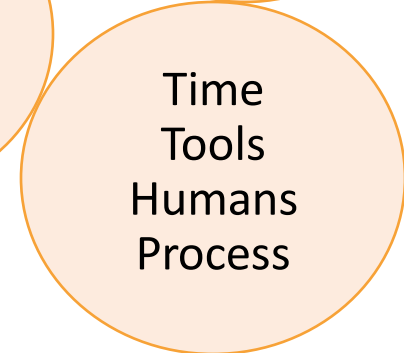
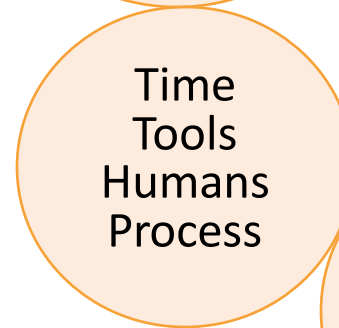
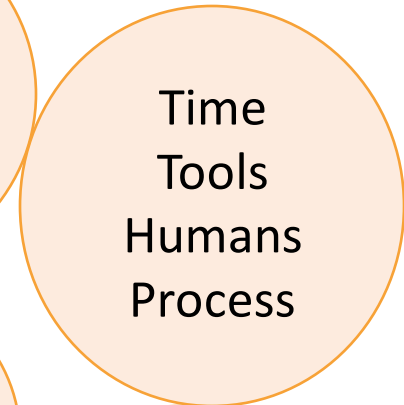
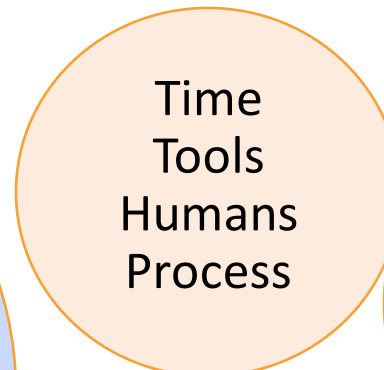
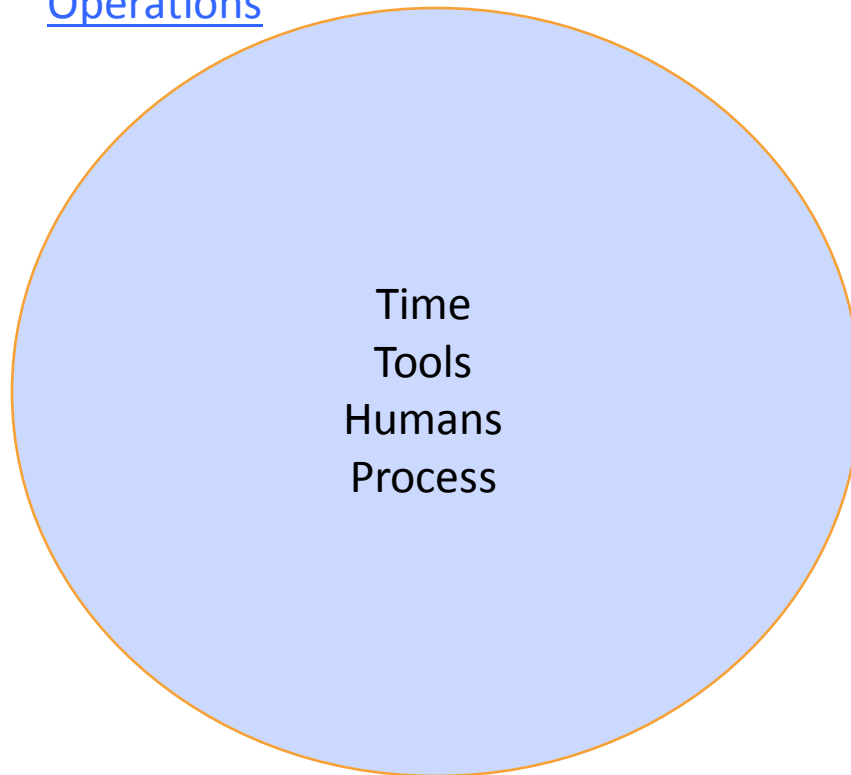
■ Process

- New Service Test, Turn-up, Acceptance
- Planned Maintenance
- Managing and Resolving Outages
- Escalations and Communications
- Asset Tracking and Sparing

How Do Telcos Manage These Functions and Related Resources?

TAC, Technical Support,
Help Desk Network
Operations

Design, Provisioning,
Deployment, Service Delivery





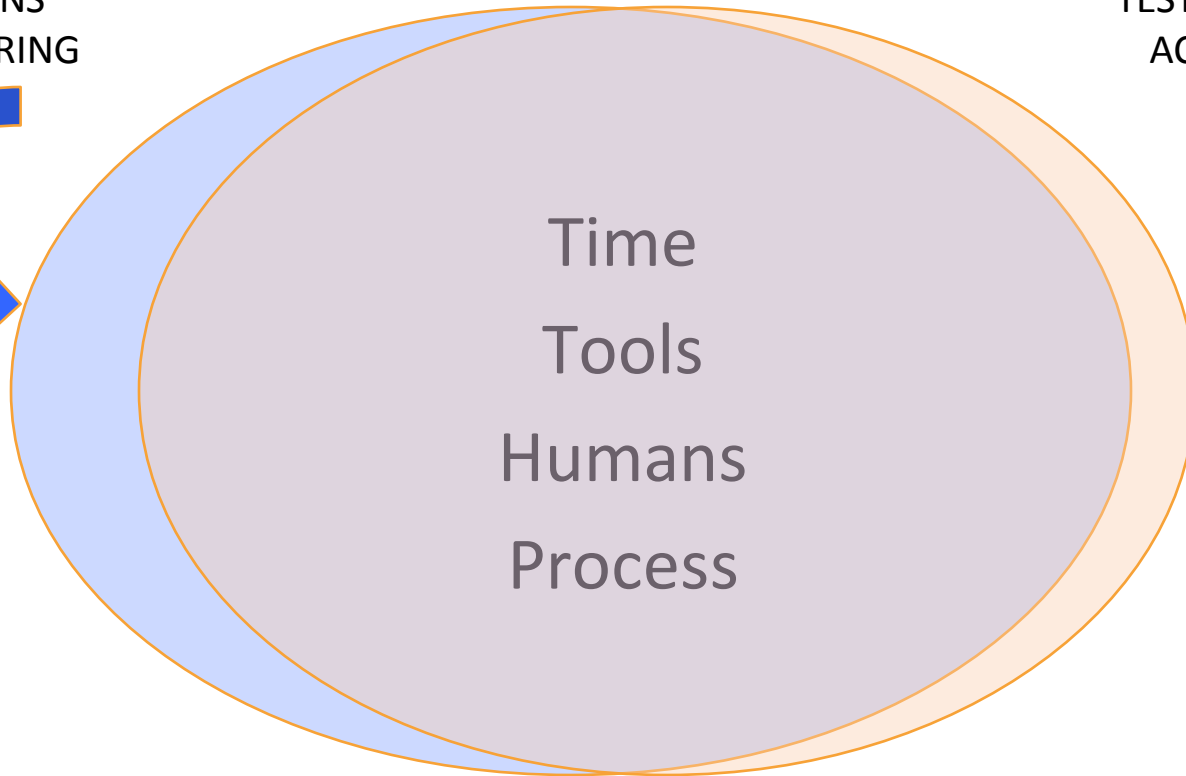
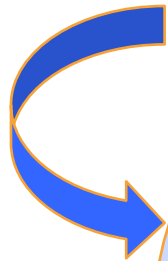
We Organize and Practice with Some Good Separation

Network Operations

Deployment

CRITICAL FAILURE
ESCALATIONS
ON-SITE SPARING

ESS
TEST & TURN-UP
ACCEPTANCE





OPPORTUNITIES WE EXPERIENCE

- **Deployment/Activation**
 - Keen Interest in Supportability and Stability
 - Conservativeness with Operating Thresholds
 - Mindful of Delays at Remote Locations
 - Building Familiarity with Problematic Infrastructure
 - Consistently Faster Vendor Support and Response Times
 - Field Work Lead Times
 - DOAs at Install are not delayed
 - Quick Turn-Ups
 - Practice with Expeditious Handling of Parts and Field Services
- **Network Operations/Outage Response**
 - Awareness of Spares, that are NOT Planned for On-site Spares
 - Utilization of Knowledge with Problematic Infrastructure



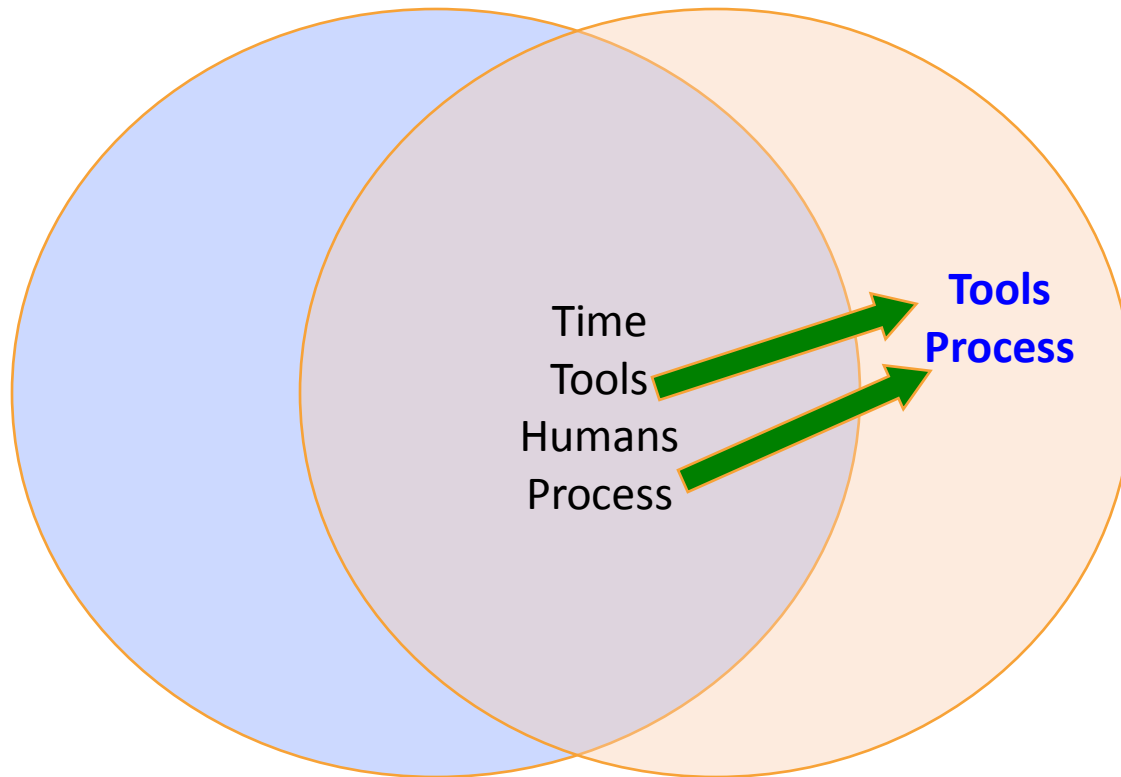
RISKS WE UNDERSTAND

- **Deployment/Activation**
 - Tracking of Deployment History and Events
 - Hardware Allocations
 - Mishandling of Cards or Problematic Hardware
 - Asset Reallocations and Tracking
 - Need for Tools and Process Specific Problematic Infrastructure
 - Address Specific Issues vs. General Clean-up
 - Vendor Support and Response Times
 - Maintaining Relations
 - Competing Priorities
 - Ticket Comments and Questions
- **Network Operations/Outage Response**
 - Competing Priorities

CREATING OUR NEXT OPPOTUNITIES

Network Operations
Outage Response

Deployment
Activation





OPPORTUNITY EXAMPLES

– TOOLS

- Tracking Deployments to Create Metrics to Create Time Estimates
 - How many simultaneously
 - How many per month, quarter, year
 - Time aspect for 2 segments vs. 6 segments
 - Expedited vs. Standard Deployments – Timing?
- Hardware Reallocations and Tracking
- Knowledge and Documentation Repository Built from Post Mortems
- Site Specific Data
 - ETAs and Response Times
 - Details of Problematic Infrastructure
 - Available Hardware Resources

– PROCESS

- Communications Channels, rather than ticket comments
- Expedited vs. Standard Deployments
- Quotes, Contracts Electronically Posted and Tracked

QUESTIONS?

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