

# *Implementing Cost-Effective Mission Critical Networks (MCN)*

*Mike Vine, Director of MCN Programs*

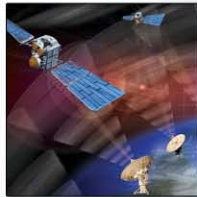
**NON-EXPORT CONTROLLED**

THESE ITEM(S) / DATA HAVE BEEN REVIEWED IN ACCORDANCE WITH THE INTERNATIONAL TRAFFIC IN ARMS REGULATIONS (ITAR), 22 CFR PART 120.11, AND THE EXPORT ADMINISTRATION REGULATIONS (EAR), 15 CFR 734(3)(b)(3), AND MAY BE RELEASED WITHOUT EXPORT RESTRICTIONS.

DEFENSE



ISR



GOVERNMENT NETWORKS



PUBLIC SAFETY



HEALTHCARE



BROADCAST



ENERGY



## ***assuredcommunications***<sup>®</sup>

**PROTECTED**

WIRELESS • MOBILE • SATELLITE • ENTERPRISE

CAPTURE • AGGREGATE • DISTRIBUTE • ANALYZE

**TRUSTED**

VOICE • VIDEO • DATA • IMAGING

SECURE COMMUNICATIONS NETWORKS  
MISSION-CRITICAL SITUATIONAL AWARENESS

## Overview

### **Mission Critical Communications and Information Solutions**

Provide mission critical, assured communication products, systems, networks and services to meet our customers' mission critical requirements through design, development, integration, and installation.

**Critical communication systems**

**Network infrastructure weather systems**

**Secure enterprise network services**

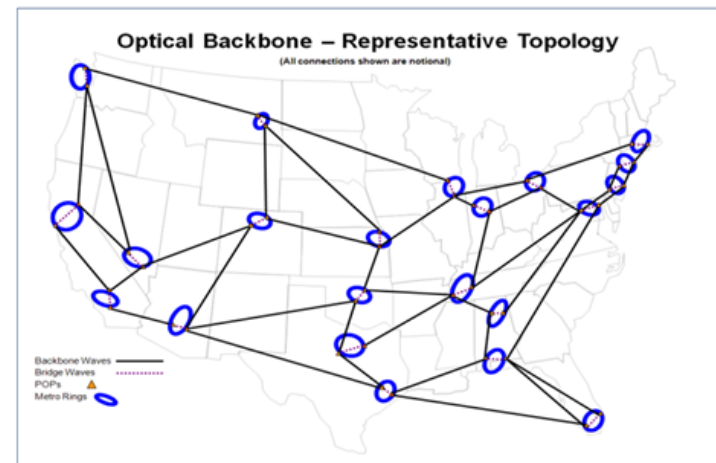
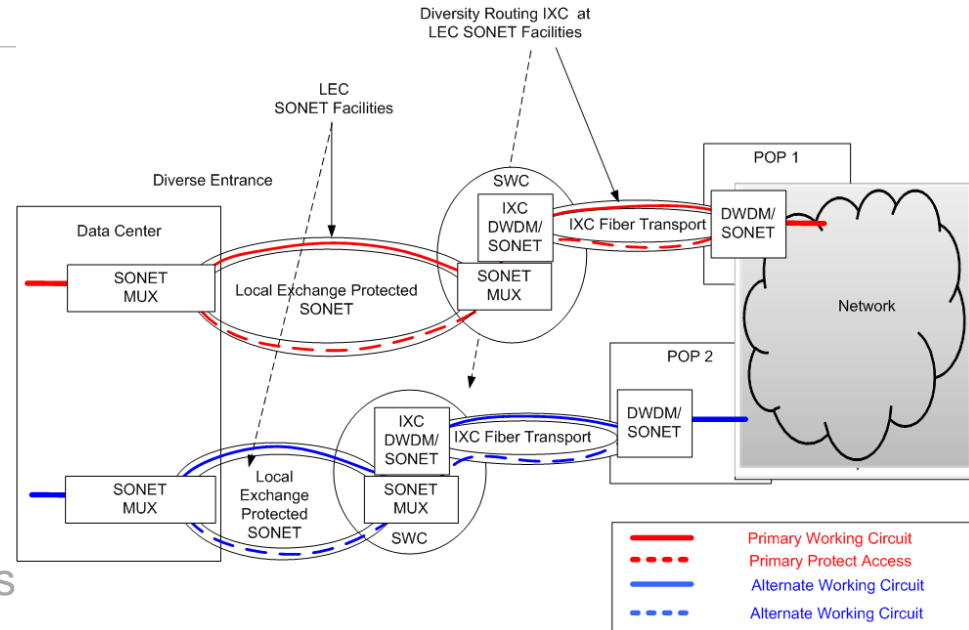
**Situational awareness systems**

**Air traffic control**



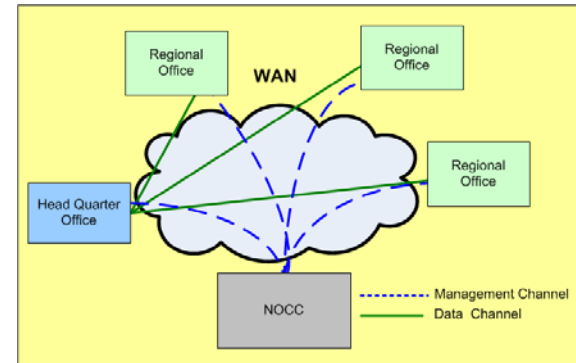
## Reliability and Availability

- Architecture
  - Availability (9's)
  - Latency (network delay)
  - Multi- Path Design
  - Path Diversity Verification
- Controls
  - Controlled Access
  - Separation between
    - Management and Operations Channels
    - Validation/Test and Operational Environments
- Service Operations
  - Network and Security Operation
  - Logistics design
    - Mean time to restore (MTTR)



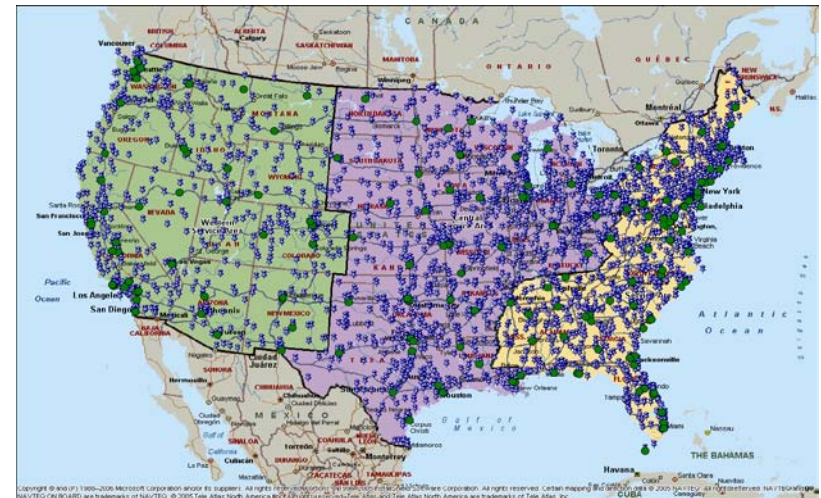
## Reliability and Availability

- Architecture
  - Availability (9's)
  - Latency (network delay)
  - Multi- Path Design
  - Path Diversity Verification
- Controls
  - Controlled Access
  - Separation between
    - Management and Operations Channels
    - Validation/Test and Operational Environments
- Service Operations
  - Network and Security Operation
  - Logistics design
    - Mean time to restore (MTTR)



## Reliability and Availability

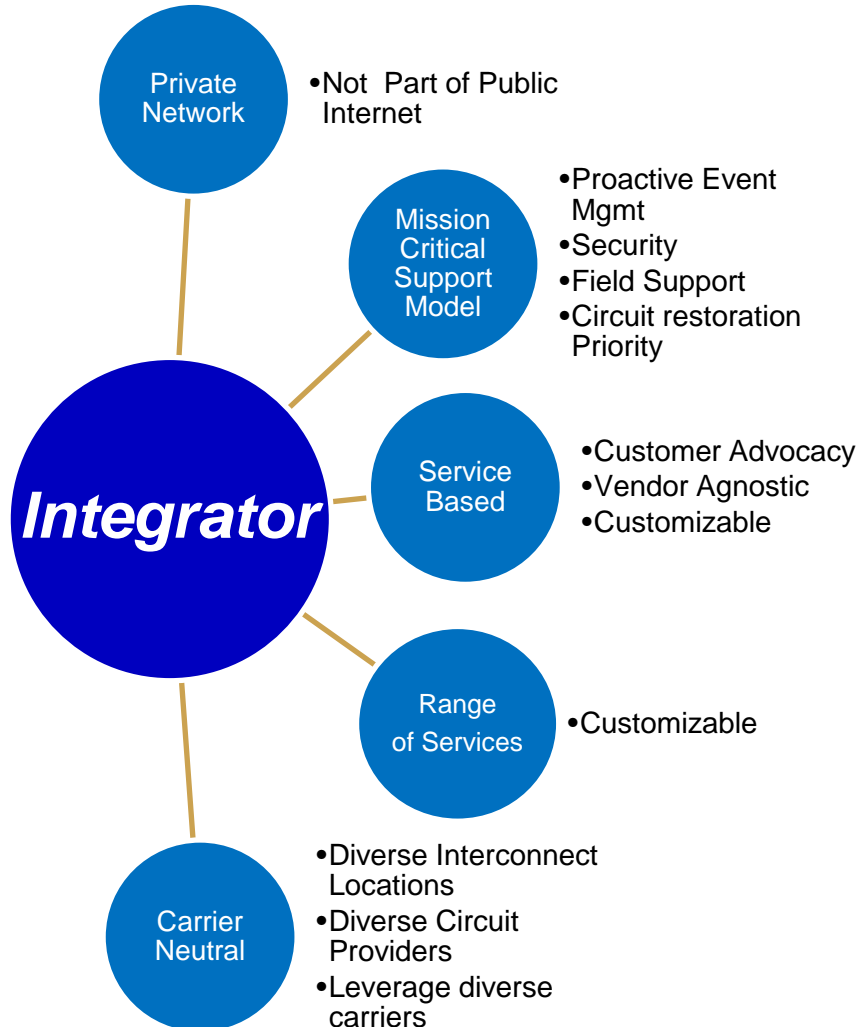
- Architecture
  - Availability (9's)
  - Latency (network delay)
  - Multi- Path Design
  - Path Diversity Verification
- Controls
  - Controlled Access
  - Separation between
    - Management and Operations Channels
    - Validation/Test and Operational Environments
- Service Operations
  - Network and Security Operation
  - Logistics design
    - Mean time to restore (MTTR)



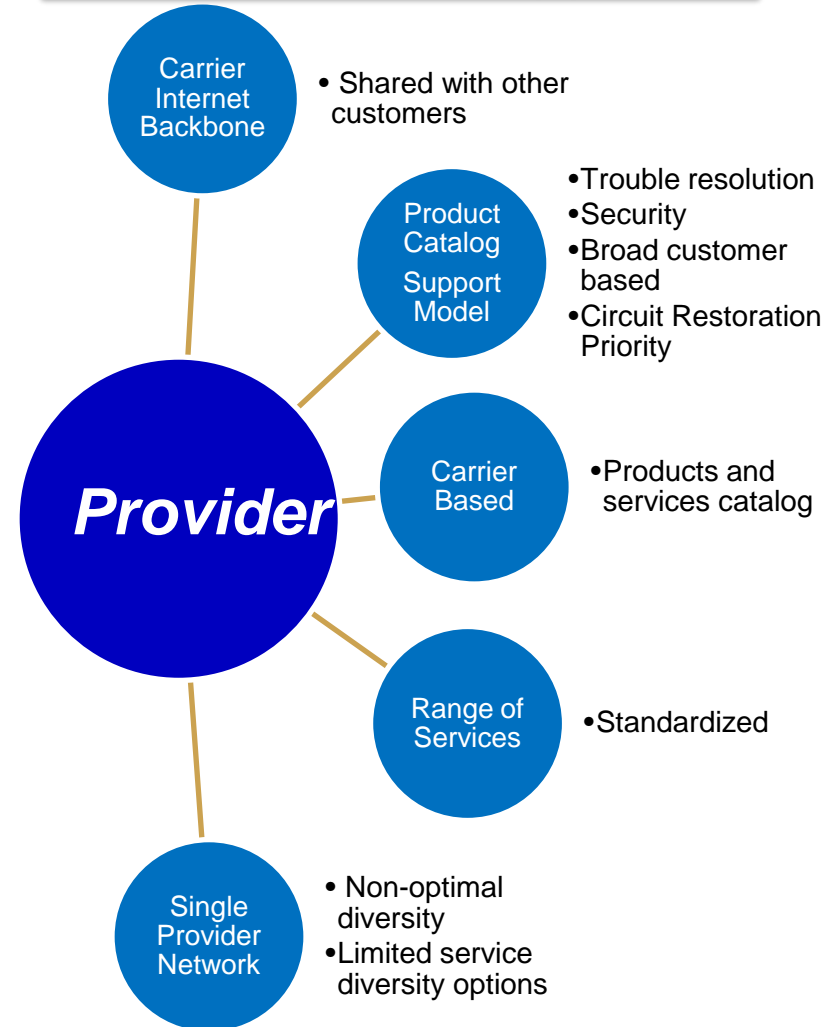
## Security Continuum

	Low	RISK Continuum	High
Architecture Choices	Private Network ( Total Control )	Managed System Risk Mitigation ( Some Control )	Public Network ( SLA dependent )
Depth of Monitoring Capability	Total Situational Awareness	Deep Visibility Some sub-component blindspots	Significant Reliance on Service Provider for Visibility
Variability of Infrastructure	Purpose built system Known Traffic Behaviors		“Multi-Tenant” variability Constant Grooming Required

## System Integrator Approach



## Service Provider Approach



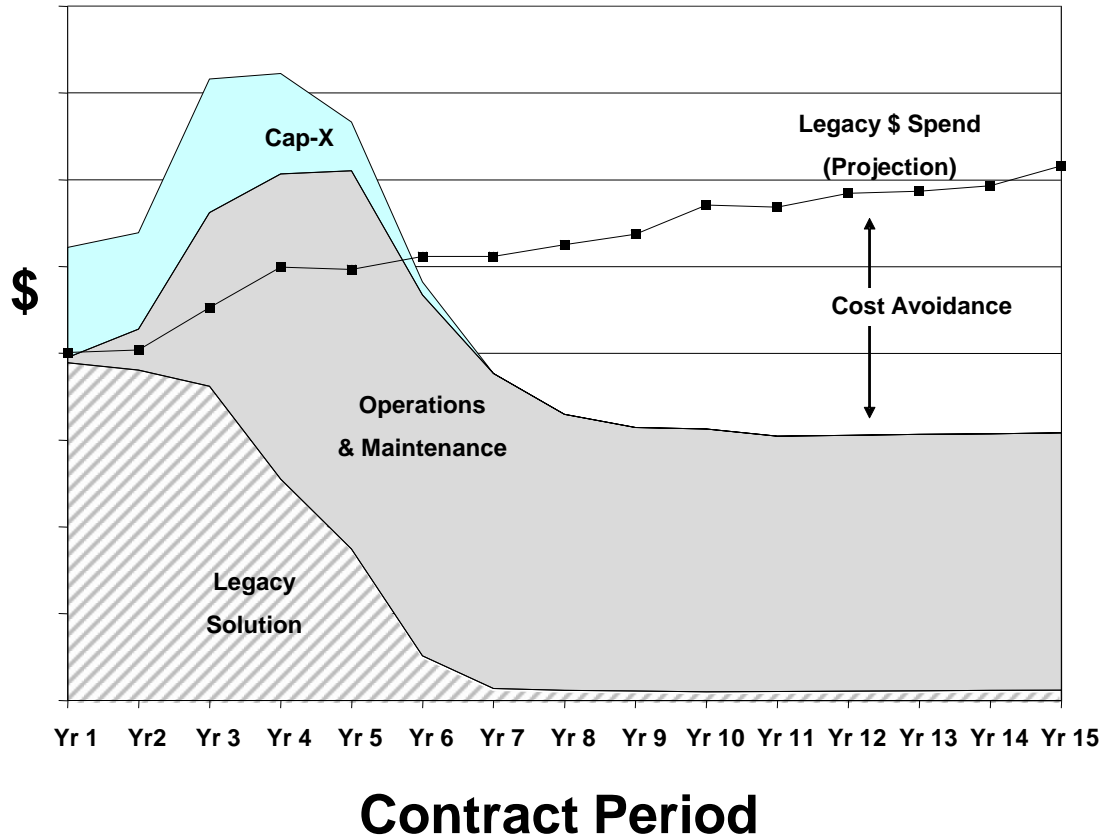


## Total Cost of Ownership

- *Customer procured* networks result in significant investment of capital and staff
- *Managed Services* allow the Customer to focus on their Core Business

Total Cost of Ownership (TCO) Considerations	Make/Buy Options	
	Customer Procured	Managed Service
Dispatch/Break/Fix	Technical Staffing Cost	Managed Service Fee
Technical Refresh	CapEx OH Allocation	Fixed Monthly Recurring Cost
Moves/Adds/Changes	Technical Staffing Cost	Fixed Price
Tools, Software to maintain Network	CapEx OH Allocation	Function of Service Fee
Provider Relationship	Program Management Cost	Program Management Cost
Telco Circuit Provisioning	Achieve Best Value	Achieve Best Value
<b>Customer Focus</b>	<b>Network &amp; Core Business</b>	<b>Core Business</b>

## Cost vs. Performance



## Cost Effectiveness

Consolidation

Buying Power

Optimization

## Performance

SLA Excellence

Secured network

Managed Service

Risk Intolerance



Considerations

Reliability and Availability

Security Continuum

System Integration

Total Cost of Ownership

***A carefully engineered, optimized, and managed mission critical network architecture can be cost-effectively implemented***