



New Hampshire
Department of Information Technology

State of NH Executive Branch Critical IT Infrastructure Modernization Plan

April 2021

IT INFRASTRUCTURE MODERNIZATION PROPOSAL



- Utilize \$23.6M in One Time Funds for:
 - Network Continuity
 - Replace All End of Life Core Network Infrastructure and Agency Equipment (\$16.6M)
 - DoIT Disaster Recovery (DR)/ Continuity of Operations Planning (COOP)
 - Implement DoIT Core Infrastructure DR/COOP Solution (\$4M both items)
 - Replace Critical Infrastructure at 27 Hazen Data Center
 - Data Backup/Storage
 - Modernize Backup Architecture Solution (\$2M)
 - Consolidate and Modernize Storage Environment (\$1M)



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Network Continuity Proposal

April 2021

NETWORK CONTINUITY CURRENT STATE



- Core Network Budgeted in DoIT Telecommunications Revolving Fund
- Agency Network Budgeted in Agency Direct IT Budgets

Results in



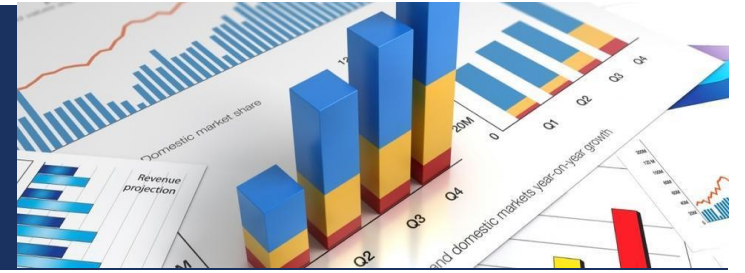
- High % of End of Life Equipment
- Unpredictable Agency Funding
- Equipment Failures
- Growing Security & Compliance Risks
- Operational Complexities

NETWORK CONTINUITY PROPOSAL



- Partner with Key Technology Vendors
- Replace All End of Life Equipment (80-85% of Infrastructure)
 - Routers, Switches, Wireless, Firewalls, Spares, Maintenance
- DoIT Core Infrastructure and Agency Equipment
- Extend Wireless Capabilities
- Upgrade to Software Defined Technology
- Complete Refresh in 12-18 Months

NETWORK CONTINUITY FINANCIALS



- \$16.6M for Agreed Bill of Materials
 - 16% Additional Discount vs. Current Negotiated Rates
- Discounts Apply to Additional Network Equipment Purchased during Term
- Includes 12,000 Hours of Design Services, Installation & Training

NETWORK CONTINUITY BENEFITS



- Develop Additional Rates for DoIT Telecommunications Revolving Fund for Next Refresh Cycle and Additional Requests
- DoIT Assumes Ownership of Agency Network Environments

Benefits



- Replaces End of Life Equipment
- Upgrades Network to Next Generation Technology
- Provides Predictable Funding & Refresh Schedule
- Enhances Security Compliance



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Disaster Recovery (DR) and Continuity of Operations Plan (COOP) Proposal

April 2021

DR/COOP CURRENT STATE



- Minimal Redundancy Exists for Core Infrastructure
- Limited Power & Aged HVAC Units in Hazen Data Center
- Current Plan Covers DoIT Components (5-6 years):
 - FY20-FY21: Capital Funds (\$235K) to Develop DR and COOP Plan (in progress)
 - FY22-FY23: Capital Request Pending to Implement DR/COOP Plan Solution (\$872K)
 - FY24-FY25: Capital Request for Upgrades to Hazen Data Center (\$2M)

DR/COOP PROPOSAL



- Utilize One Time Funds (\$4M) to Accelerate Plan (2-3 years)
 - Quickly Implement DoIT Core Infrastructure DR/COOP Solution Including Professional Services to Assist in Implementation
 - Perform Required Building Upgrades to Hazen Data Center Including Professional Services to Assist in Implementation
 - Replace Critical Infrastructure at 27 Hazen, including:
 - Transformers, Aged HVAC Units, Replace UPS
 - Distribution Panels, Add Secondary Power Source

DR/COOP PROPOSAL BENEFITS



- Accelerates Plan by 2-3 Years
- Eliminates Need for FY22-FY23 Capital Request (\$872K)
- Provides Solid Data Center Operations for Next 15+ Years
- Shifts Critical Systems to Hardened Data Center(s) with Built in Redundancy
- Addresses Required Upgrades to Hazen Data Center
- Allows for Further Consolidation of On Campus Data Centers
- Provides State with Improved Disaster Recovery Resiliency



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Backup and Data Storage Proposal

April 2021

DATA BACKUP CURRENT STATE



- Critical Backup Infrastructure:
 - Three Locations (Tobey/45 Fruit St, DoIT/27 Hazen, DOS/33 Hazen)
 - Expanded Multiple Times, Nearing Capacity
 - Already End of Life
 - End of Support in FY 23

BACKUP PROPOSAL



- Utilize One Time Funds (\$2M) to Implement a New Backup Solution
 - Modernize Backup Architecture Solution
 - On Premise Backup Appliance to Store Current Data Backups (30-45 days)
 - Eliminate Current Backup Infrastructure in 3 Data Centers

BACKUP BENEFITS



- Provides Secure, Encrypted Architecture including Ransomware Recovery
- Reduces Footprint and Energy/Cooling Costs
- Positions SONH to More Fully Leverage DR/COOP Investments
- Reduces Downstream Budget to Replace End of Life Backup System
- Provides Faster Backup/Recovery Times
- Accelerates the Elimination of Tapes

DATA STORAGE CURRENT STATE



- 9 Storage Arrays Located at Tobey and Hazen Data Centers
 - 4 at End of Support, 5 End of Support by Jan, 2023
- Varying Levels of Administration Complexity Due to Differing Ages and Technology Levels of Arrays
- Requires 3rd Party due to Manufacturer End of Support
 - Introduces Security and Maintenance Risk

DATA STORAGE PROPOSAL



- Utilize One Time Funds (\$1M) to Implement Storage Solution
 - Single Consolidated Storage System
 - Includes Implementation Services
 - Eliminates 9 Existing Storage Arrays Across Multiple Data Centers

DATA STORAGE BENEFITS



- Reduces Footprint and Energy/Cooling Costs
- Positions SONH to More Fully Leverage DR/COOP Investments
- Reduces Downstream Budget Requests to Replace 9 Arrays
- Eliminates Maintenance Costs and Mitigates Security & Support Risks
- Allows for Further Consolidation of On Campus Data Centers