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A Consolidated and Standardized Network for DoD Healthcare

Overview Brief
July 2014



“Medically Ready Force...Ready Medical Force”

“A joint, integrated, premier system of health, supporting those who serve in the defense of our country.”



Learning Objectives



- Understand the vision, scope, and stakeholders for the future consolidated standardized network
- Describe requirements and notional challenges
- Learn about the benefits and challenges of network consolidation (WAN, LAN/WLAN)

- Consolidated Network Infrastructure Vision
- Military Health System Infrastructure Scope and Stakeholders
- Network Consolidation Challenges, Drivers and Requirements
- Network Specifics
 - WAN (Med-COI)
 - LAN/WLAN
- Benefits

Network Consolidation

Problem Statement and Future Vision



Problem Statement

Description: Service Medical and MHS currently field separate network security architectures with unique technologies, capabilities and support functions. Information Assurance policies are oriented toward defining clearer lines of separation as opposed to integration and interoperability.

Mission Impact: These multiple existing Networks constrain access to systems and information within the Military Health medical community and result in duplicative operations and maintenance costs.

Future Vision

Description: Network consolidation will result in a single, enterprise-wide Medical Community of Interest (Med-COI) network that supports the security, confidentiality and priorities of beneficiaries, providers, staff, and mission partners. Med-COI will conform to Department of Defense (DoD) Net-Centric principles through implementation of Single Security Architecture (SSA) and alignment with Joint Information Environment (JIE) standards.

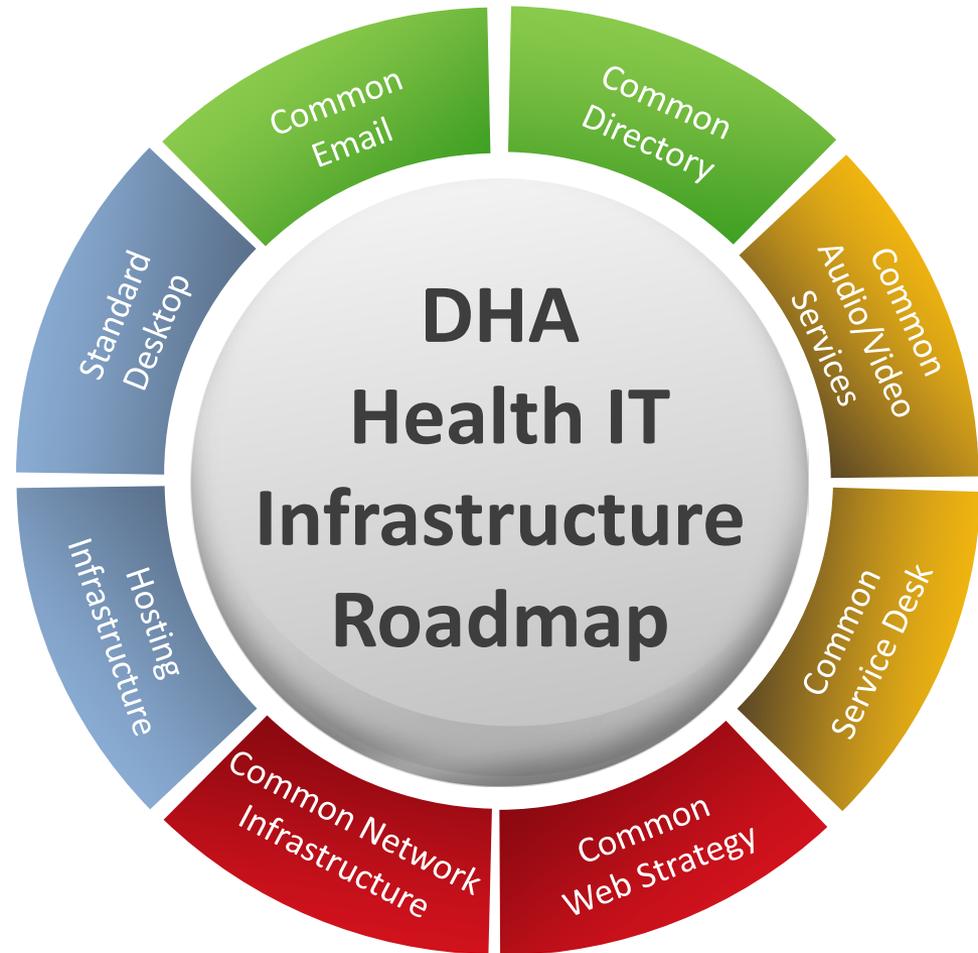
Mission Impact: A common network infrastructure and Single Security Architecture (SSA) will eliminate communication obstacles between DHA entities, business and mission partners and strategically align information sharing between DoD and Veterans Affairs (VA). Fewer network service providers and consolidation of supported network gateways along with centralized management and monitoring results in cost savings related to network infrastructure and provisions comprehensive situational awareness and response across the entire network.

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Scope of Infrastructure Consolidation

Each of these areas are critical components to:

- Clinical integration across the Military Health System
- Clinical integration with external partners (VA and Commercial)
- Cost Savings
- EHR Solution Delivery
- They're all related



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Consolidated Network Stakeholders

Stakeholder: a group, organization, member or system who affects or can be affected by an organization's actions

DHA must balance the **sum** of its benefits, costs, risks and capabilities it provides across multiple stakeholders.



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Consolidated Network Infrastructure

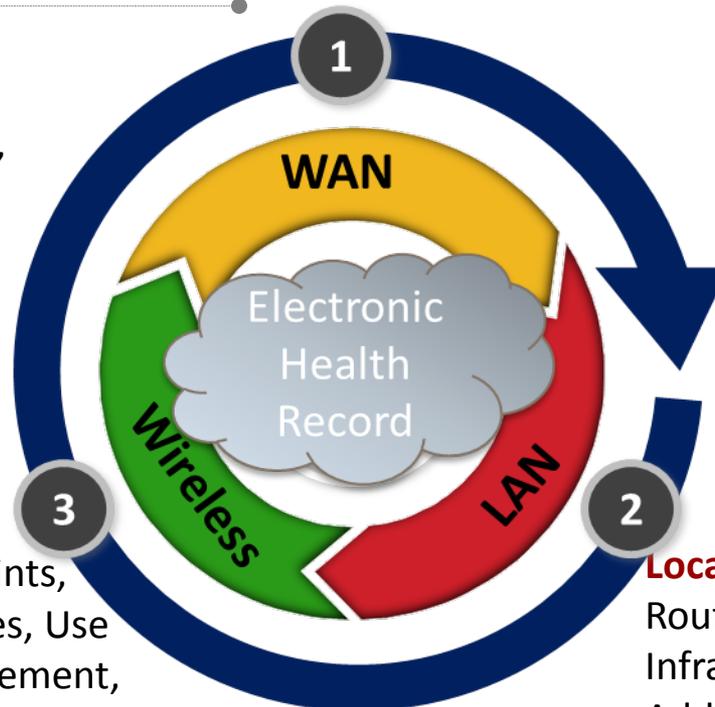
Example of Technologies, Capabilities and Common Network Infrastructure Components

Med-COI

Wide Area Network, Circuit Management, Routers, *Latency*, VPN, Inspection, Public Key Infrastructure, MPLS, Firewalls, Load-Balancing, Bandwidth, QoS, Network Defense, Cloud Services, Public Key Infrastructure, DNS...

Wireless Infrastructure

Wireless Controllers, Access Points, Clients, *Latency*, Wireless Modes, Use Cases, IP Address Space Management, IPv6, Roaming, Coverage, RFID, RTLS, VoIP, Access Controls, Mobile Devices, Public Key Enablement...



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Local Area Network Infrastructure

Routers, Switches, *Latency*, Converged Infrastructure, Cable Plant, Storage, IP Address Space Management, IPv6, DHCP Services, VoIP, AD DNS, Directory Services, Access Controls, Public Key Enablement...

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Network Consolidation Challenges

- Financial Challenges – DHA mandate to save money
 - Target savings goals: 25% Annual Savings
 - Requirement to spend money to save the money
- How do we do this over time?
 - Consolidation of Common W/L/WL Technologies
 - Consolidation of Common W/L/WL Functions
 - Alignment of IT resources
 - Align refresh strategies and opportunities
- Disparate and evolving network requirements
- Reduction of funding which is impacting WLAN and LAN cable plant upgrades
- Connect Air Force Medical to the Medical COI to support integration under DHA

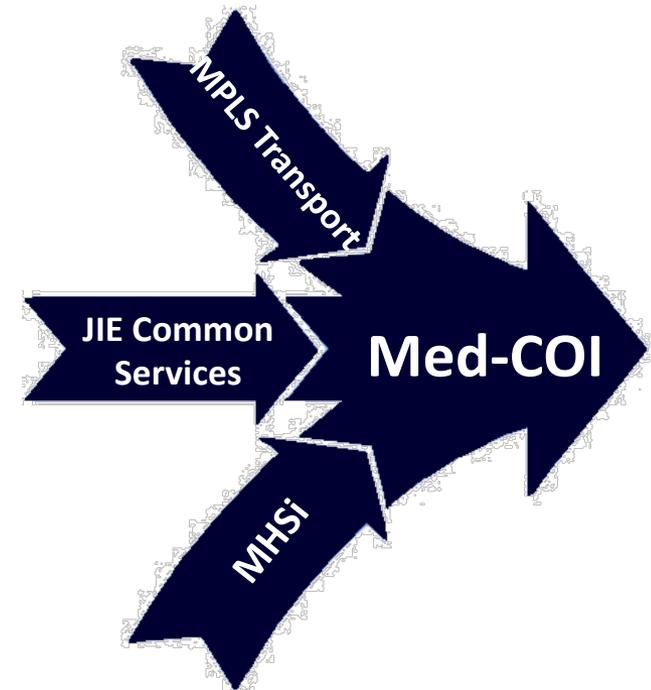


- Minimize the amount of hardware required for the local access gateway (MTF)
- Simplify the architecture and footprint to the greatest extent possible
- Better integrate with DoD, mission and business partners
- Increase performance, security and network reliability
- Streamline and consolidate support desk
- Graduate towards enterprise views, centralized management and common configuration management

Deliver a network that serves the needs of the medical mission

WAN (Med-COI) Bottom Line Up Front

- Med-COI Is the Single Interoperable Network for Medical Mission Requirements
- Med-COI subsumes Military Health System Intranet (MHSi) IT architecture investments and leverages Defense Information Systems Network (DISN) Multiprotocol Label Switching (MPLS) wide area network (WAN) transport to support:
 - ✓ Segregation from Non-classified Internet Protocol (IP) Router Network (NIPRNet) to support seamless interoperability with business and mission partners
 - ✓ Efficiencies through use of **Joint Information Environment (JIE)** Common Services and compliance with JIE **Single Security Architecture (SSA)** to promote Defense Healthcare Management Systems Modernization (DHMSM)

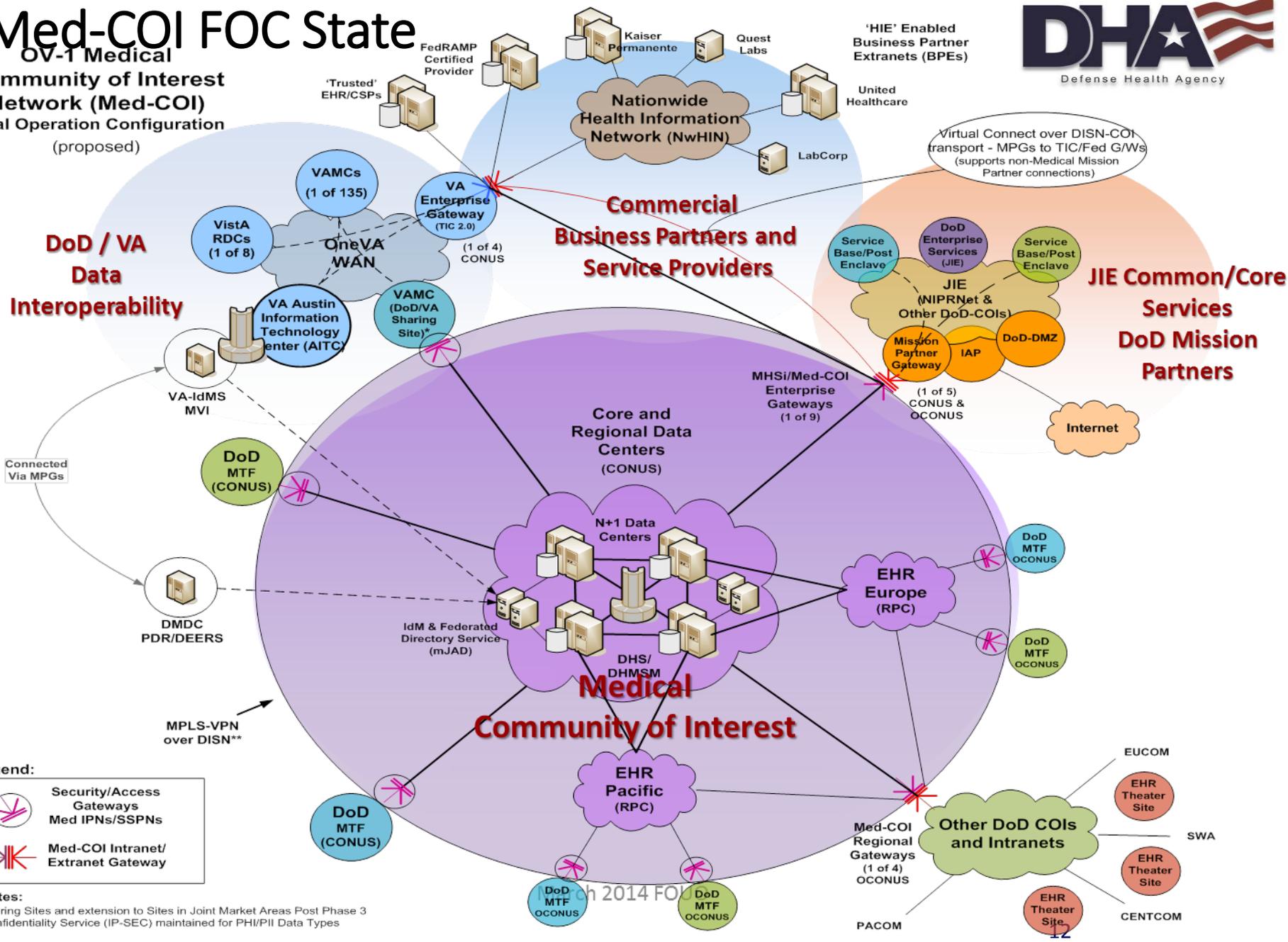


Med-COI FOC State

OV-1 Medical

Community of Interest
Network (Med-COI)

Final Operation Configuration
(proposed)



Legend:

- Security/Access Gateways
Med IPNs/SSPNs
- Med-COI Intranet/
Extranet Gateway

Notes:
 * Sharing Sites and extension to Sites in Joint Market Areas Post Phase 3
 ** Confidentiality Service (IP-SEC) maintained for PHI/PII Data Types

WAN (Med-COI) Requirements



Normalize and consolidate both network and computing infrastructure across the WAN via adoption of common standards and security controls to comply with JIE principles, support DHMSM deployment and DHA consolidation

What	How
Leverage Current Investments	Subsume and extend MHSi security architecture to all medical enclaves providing equal access to current and future health information systems and common services
Create Single Security Architecture (SSA)	Execute cross-service Defense Health Agency (DHA) mission over a common communications and security framework
Create Community of Interest Network	Incorporate DISN Private Internet Protocol (IP) MPLS service; replacing NIPRNet and other DISN transport to achieve required segregation from the DoD enterprise while driving efficiencies, improving availability and agility
Improve how we connect with the Veterans Affairs	Extend Med-COI transport to Veterans Affairs (VA) trusted internet connection (VA-TIC) gateways supporting DoD/VA data interoperability and common business partner connectivity

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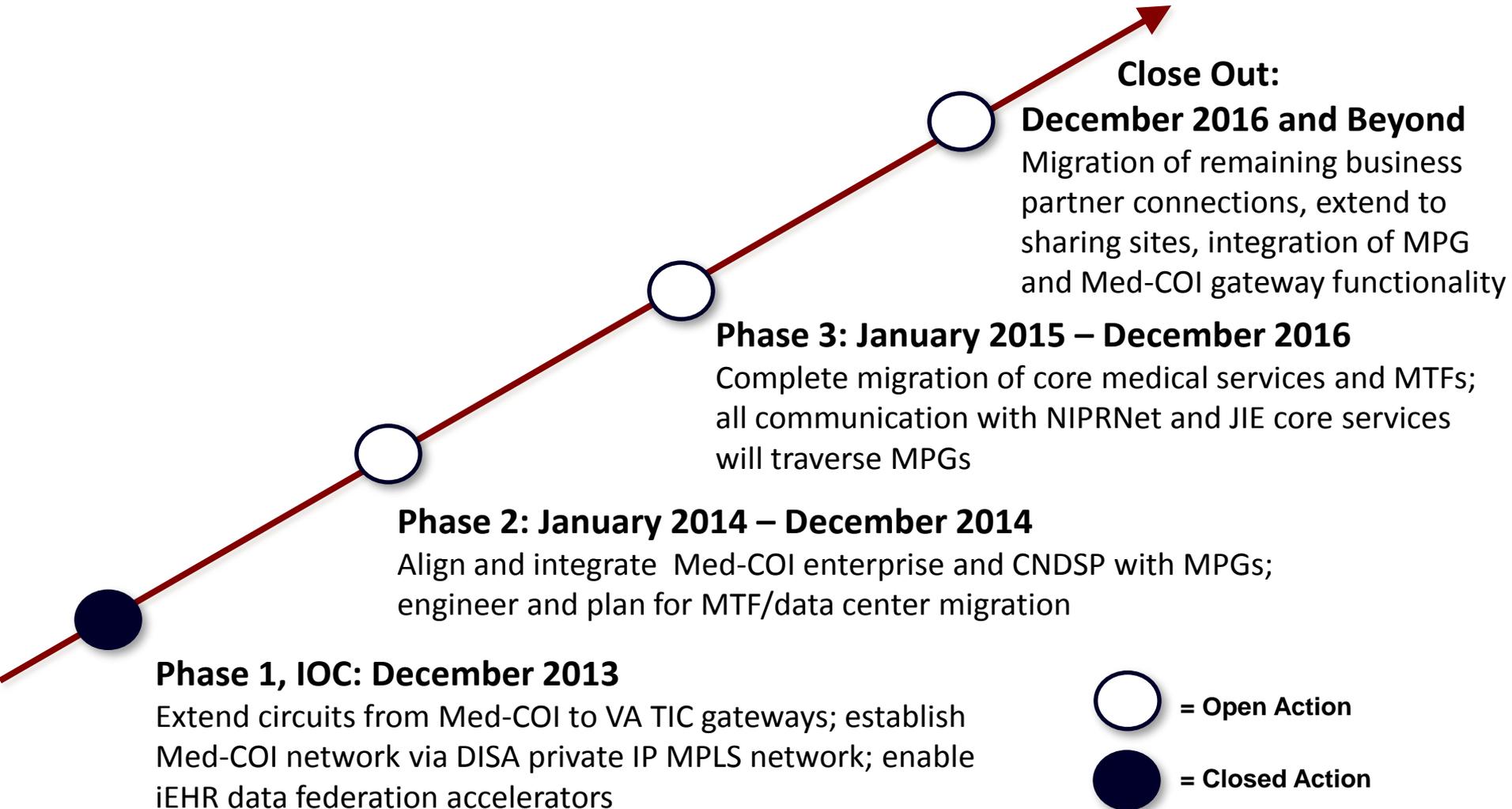
WAN (Med-COI) Requirements (Con't)



What	How
Build an agile network that is mission focused	Enable seamless interoperability with non DoD business partners [other .gov, Nationwide Health Information Network (NwHIN), commercial providers, etc.]
Be responsible to DoD Information Sharing Objectives	Align with JIE-SSA via Defense Information Systems Agency (DISA) Mission Partner Gateways permitting continued use of DoD/JIE Core Services
Reduce Complexity, Eliminate Barriers and Secure Health Information	Eliminate Service medical security suites and enterprise gateways, reducing infrastructure cost and complexity, while maintaining compliance with security and confidentiality requirements
Act now for the future	Support DHMSM with a common network and security infrastructure for the new Electronic Health Record (EHR) system; National Defense Authorization Act (NDAA) requires December 2016 fielding

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WAN (Med-COI) Notional Timeline



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LAN/WLAN Bottom Line Up Front



- DHA will continue to support LAN/WLAN modernization efforts for all DoD MTFs
- Centralize requirements, funding, and LAN/WLAN upgrades
- Ensure end to end visibility across the entire network (W/L/WL)
- Establish configuration control of standardized implementations across the entire network (W/L/WL)
- Increase coordination with DHA Health Facilities on LAN/WLAN requirements and initial outfitting for new facility construction and renovation projects (MILCONs & SRMs)
- Continue to research and evaluate new technologies that serve to improve the medical mission
- Align W/L/WL to support new EHR delivery requirements

- Ensure compliance with applicable DoD and Industry LAN/WLAN standards
- Regulations (NIST FIPS, DoD STIGS, IEEE, ANSI, EIA/TIA,..)
- Provide LAN/WLAN infrastructure to support MHS and Service medical data delivery requirements
- Provide support for consolidated virtualization capabilities
- Address technology improvements and replace end-of-life/end-of-support (EOL/EOS) network electronics

Network Consolidation Benefits

- ✓ Reduces the boundaries that prevent information sharing across the Military Health System
- ✓ Seamless provider access to all network services – truly “Anywhere, Anytime”
- ✓ Single Security Architecture and common terminology
- ✓ Provide End-to-End Visibility and Situational Awareness
- ✓ Mission focused network infrastructure enabling new technologies (QoS, Voice, Video, Social Media) and new capabilities (future EHR)
- ✓ Common 24x7x365 Support Structure
- ✓ Knowledge sharing and experience to improve processes and tactics



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Please complete and submit your evaluations.

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