Defense Business Board Meeting

February 1 - 2, 2023

Predecisional

Meeting Agenda

WEDNESDAY, FEBRUARY 1, 2023, Pentagon Room 1E840

9:15 – 9:20 AM	Designated Federal Officer (DFO) Welcome – Ms. Jennifer Hill
9:20 – 9:25 AM	Chair's Welcome – Hon. Deborah James
9:25 – 9:40 AM	Study Recommendations Update

CLOSED SESSION

9:40 – 9:45 AM	Open Closed Session – Ms. Jennifer Hill, DFO
9:45 – 10:30 AM	Classified Brief on What the Department is Doing to Speed the Transition of Cutting-edge Technology to the Battlefield and Avoid the "Valley of Death" – Hon. Kathleen Hicks
10:30 – 10:45 AM	Break
10:45 – 11:30 AM	Classified Brief on Building the Fleet of the Future Despite the Industrial Challenges of The Present – Hon. Carlos Del Toro, Secretary of the Navy
11:30 AM	Adjourn Closed Session – Ms. Jennifer Hill, DFO

CLOSED SESSION

12:25 – 12:30 PM	Open Closed Session – Ms. Jennifer Hill, DFO
12:30 – 1:25 PM	Classified Brief on Current Events in National Security – GEN Mark Milley, Chairman of the Joint Chiefs of Staff
1:25 – 1:30 PM	Adjourn Closed Session – Ms. Jennifer Hill, DFO

CLOSED SESSION

2:10 – 2:15 PM	Open Closed Session – Ms. Jennifer Hill, DFO
2:15 – 3:40 PM	Classified Discussion on Current Challenges Impacting DoD Supply Chains, VADM, Michelle Skubic, USN, Director, Defense Logistics Agency (DLA) or Mr. Brad Bunn, Vice Director, DLA
3:40 – 3:45 PM	Adjourn Closed Session – Ms. Jennifer Hill, DFO

CLOSED SESSION

5:30 – 5:35 PM	Open Closed Session – Ms. Jennifer Hill, DFO
5:35 – 5:45 PM	Chair's Remarks – Hon. Deborah James
5:45 – 5:55 PM	Deputy Secretary Remarks – Hon. Kathleen Hicks
5:55 – 7:30 PM	Classified Brief on Key Challenges to Recruiting, Retention, and Readiness – Hon. Christine Wormuth, Secretary of the Army
7:30 –7:35 PM	Adjourn Closed Session – Ms. Jennifer Hill, DFO

Meeting Agenda

THURSDAY, FEBRUARY 2, 2023, Pentagon Room 1E840

OPEN SESSION

9:00 – 9:05 AM	Open Public Session – Ms. Jennifer Hill, DFO
9:05 – 9:10 AM	Chair's Welcome to Members and Guests – Hon. Deborah James
9:10 – 11:00 AM	Presentation, Deliberation, and Vote on IT User Experience Study – Mr. David Beitel, Chair, Business Operations Advisory Subcommittee
11:00 – 11:05 AM	Adjourn Public Session – Ms. Jennifer Hill, DFO

WELCOME

Ms. Jennifer Hill
Designated Federal Officer

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Chair's Opening Remarks

Hon. Deborah James
Chair, Defense Business Board

Study Recommendations Update

Ms. Jennifer Hill
Designated Federal Officer

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Open Closed Session

Ms. Jennifer Hill
Designated Federal Officer

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Classified Brief
What the Department is Doing to Speed the Transition of Cutting- edge Technology to the Battlefield and Avoid the "Valley of Death"

Hon. Kathleen Hicks
Deputy Secretary of Defense

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Break

Classified Brief
Building the Fleet of the Future Despite the Industrial Challenges of the Present

Hon. Carlos Del Toro

Secretary of the Navy

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Adjourn Closed Session

Ms. Jennifer Hill
Designated Federal Officer

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Open Closed Session

Ms. Jennifer Hill
Designated Federal Officer

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Classified Brief
Current Events in National Security

GEN Mark Milley
Chairman of the Joint Chiefs of Staff

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Adjourn Closed Session

Ms. Jennifer Hill
Designated Federal Officer

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February 2

Open Public Session

Ms. Jennifer Hill
Designated Federal Officer

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Chair's Remarks

Hon. Deborah James
Chair, Defense Business Board

Presentation, Deliberation, and Vote on IT User Experience Study

Mr. David Beitel
Chair, Business Operations Advisory Subcommittee

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DEFENSE BUSINESS BOARD

EVALUATION OF DOD IT USER EXPERIENCE

February 02, 2023

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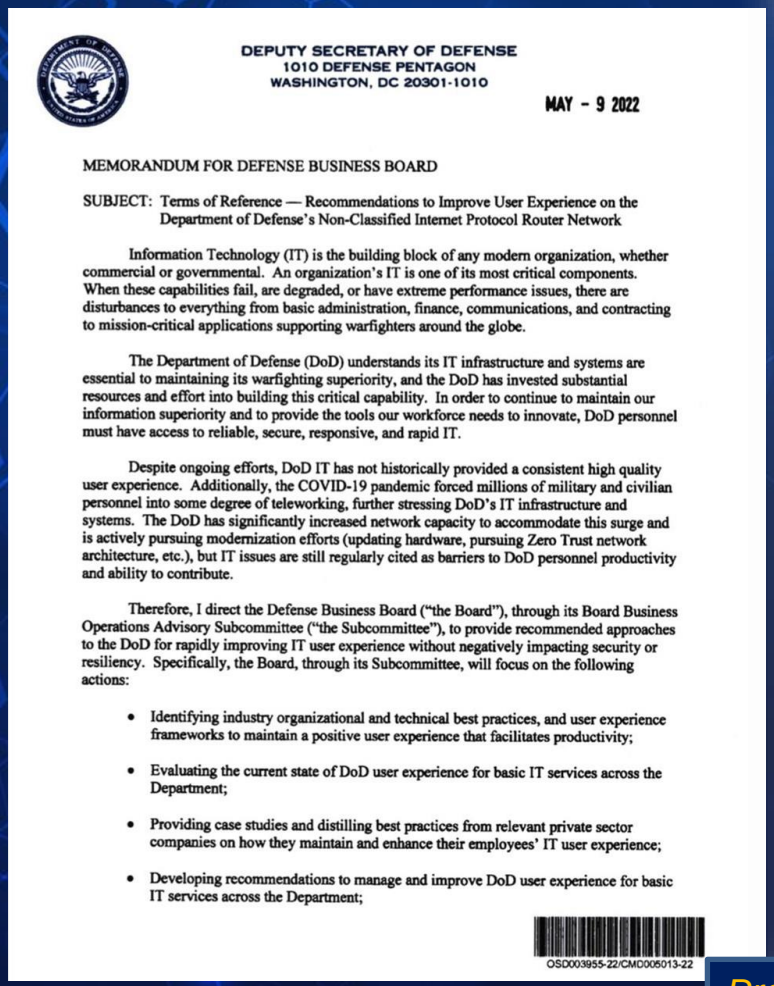
FY-23-02



DEPUTY SECRETARY OF DEFENSE
1010 DEFENSE PENTAGON
WASHINGTON, DC 20301-1010

MAY - 9 2022

MEMORANDUM FOR DEFENSE BUSINESS BOARD

SUBJECT: Terms of Reference — Recommendations to Improve User Experience on the Department of Defense's Non-Classified Internet Protocol Router Network

Information Technology (IT) is the building block of any modern organization, whether commercial or governmental. An organization's IT is one of its most critical components. When these capabilities fail, are degraded, or have extreme performance issues, there are disturbances to everything from basic administration, finance, communications, and contracting to mission-critical applications supporting warfighters around the globe.

The Department of Defense (DoD) understands its IT infrastructure and systems are essential to maintaining its warfighting superiority, and the DoD has invested substantial resources and effort into building this critical capability. In order to continue to maintain our information superiority and to provide the tools our workforce needs to innovate, DoD personnel must have access to reliable, secure, responsive, and rapid IT.

Despite ongoing efforts, DoD IT has not historically provided a consistent high quality user experience. Additionally, the COVID-19 pandemic forced millions of military and civilian personnel into some degree of teleworking, further stressing DoD's IT infrastructure and systems. The DoD has significantly increased network capacity to accommodate this surge and is actively pursuing modernization efforts (updating hardware, pursuing Zero Trust network architecture, etc.), but IT issues are still regularly cited as barriers to DoD personnel productivity and ability to contribute.

Therefore, I direct the Defense Business Board ("the Board"), through its Board Business Operations Advisory Subcommittee ("the Subcommittee"), to provide recommended approaches to the DoD for rapidly improving IT user experience without negatively impacting security or resiliency. Specifically, the Board, through its Subcommittee, will focus on the following actions:

- Identifying industry organizational and technical best practices, and user experience frameworks to maintain a positive user experience that facilitates productivity;
- Evaluating the current state of DoD user experience for basic IT services across the Department;
- Providing case studies and distilling best practices from relevant private sector companies on how they maintain and enhance their employees' IT user experience;
- Developing recommendations to manage and improve DoD user experience for basic IT services across the Department;

OSD003955-22/CMD005013-22

On May 9,2022, the Deputy Secretary of Defense tasked the DBB to provide recommendations to improve IT End-user Experience:

- The current state of DoD user experience for basic Non-Classified Internet Protocol Router Network (NIPR) IT services across the Department
- Best practices from relevant private sector companies on how they maintain and enhance their employees' IT user experience
- Industry organizational and technical best practices and user experience frameworks to maintain a positive user experience that facilitates productivity
- Recommendations to manage and to improve DoD user experience for basic IT services across the Department

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SUBCOMITTEE MEMBERS

- David Beitel, **Chair**
- Safroadu Yeboah-Amankwah, **Co-Chair**
- General Joseph L. Votel
- Sally Donnelly
- Anand Bahl
- Colonel Gregory Bowman
- Marachel Knight
- Brigadier General Bernard Skoch
- Stan Soloway

ITSC EXPERTISE

- **Industry Tech**: Anand Bahl, David Beitel, Marachel Knight, Safroadu Yeboah-Amankwah, General Joseph L. Votel, Brig. Gen. Bernard Skoch, COL Greg Bowman
- **Military**: General Joseph L. Votel, COL Greg Bowman, Brig. Gen. Bernard Skoch
- **DoD & Federal Policy Advisors**: Sally Donnelly, Stan Soloway

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Approach& Methodology

- Six Month Study
- Interviewed 29+ DoD Leaders and IT Industry Professionals
- Conducted Survey w/ Results from ~20,000 Participants
- Received Quantitative and Qualitative IT user Experience Feedback from JSP Users
- Analyzed Data from a Literature Review Grounding Assumptions to Provide Context for Findings

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OFFICE OF THE SECRETARY OF DEFENSE

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Background

The Department of Defense:

America's Largest Government Agency

- 3.4 million military and civilian personnel
- $816 billion annual budget

Organization of this Magnitude Must Provide

- The requisite IT infrastructure
- Fully equipped DoD's mission personnel to accomplish jobs and execute

IT Networks Need to be Mobile Enough to Support

- Missions around the world
- Collaboration with any partners as mission requires, 24/7/365

IT infrastructure and services must address

- Frustration with the state of IT and work-stoppage issues
- Poorly-rated customer experience

Invested resources and improvements in building critical IT capabilities have yet to provide a consistent high-quality user experience across the enterprise

Key Findings

- Lack of actionable performance metrics for enterprise-wide IT user experiences
- 80% of survey respondents rate user experience average or below
- Insufficient infrastructure to proactively isolate performance Issues
- Broad end-point disparities in and among user groups
- Varying and siloed IT policies cause inefficiencies across the DoD
- Redundant deployment of security and cybersecurity tools
- Insufficient IT funding & lagging acquisition implementation
- MILDEPs approach IT user experience & effectiveness differently

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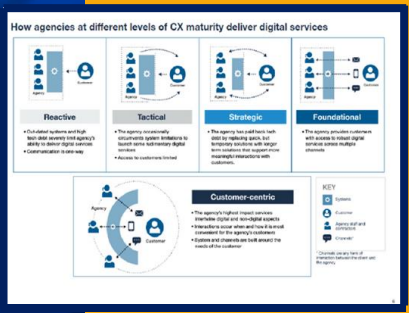
Lack of Actionable Performance Metrics for Enterprise IT User Experiences

- Successful IT services must have:
  - Complete set of metrics to measure the successful delivery and usefulness of service
  - Clear understanding of the needs of those being served and who is providing the service
- Customer experience maturity model
  - Each federal agency fits into one of five levels of user/customer experience maturity
    - Reactive, Tactical, Strategic, Foundational, Customer-Centric
      - DoD is currently in the Reactive Stage, a rudimentary understanding of customer experiences
- Industry Best Practice: Net Promoter Score (NPS) Metric
  - 2/3 of Fortune 1000 companies utilize NPS to measure customer sentiment



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80% of Survey Respondents Rate User Experience Average or Below

- Survey results of 20,000 Joint Services Provider customers reveal
  - Consistent problems with log-on times, ticket frequency, IT-driven work stoppages, and re-authentication frequency, independent of onsite vs remote work
- Missing user experience common metrics
  - No enterprise-wide readily identifiable, consistent, transparent, and comprehensive user-satisfaction assessments across the DoD
- Sub-optimal IT services
  - Work-stoppages negatively impact productivity & morale
  - JSP Survey indicates sizeable productivity losses
  - DoD employees and uniformed service members appear to accept sub-optimal IT services as the norm;
  - In industry, this would be recognized as a significant recruitment and retention challenge

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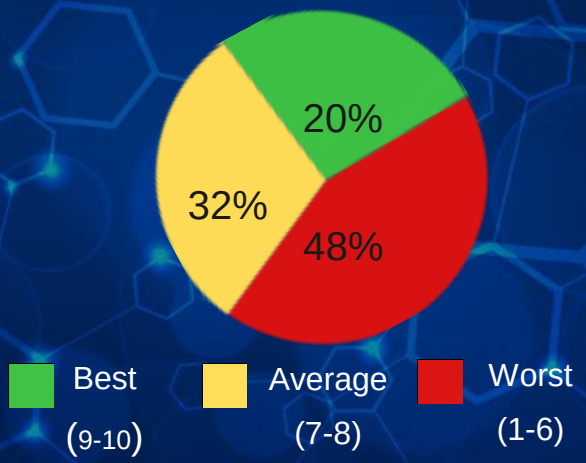
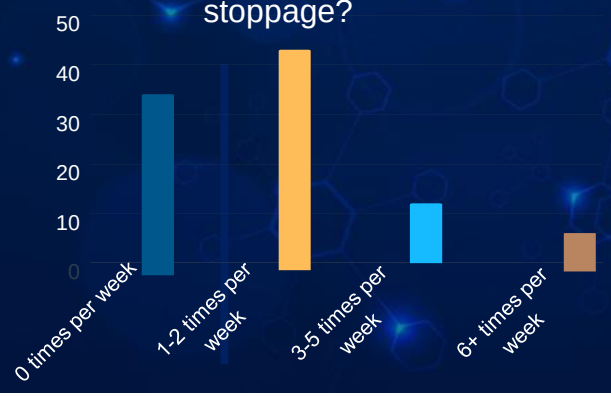
Rate your overall IT Experience from 1-10



How many times per week do you experience work stoppage?

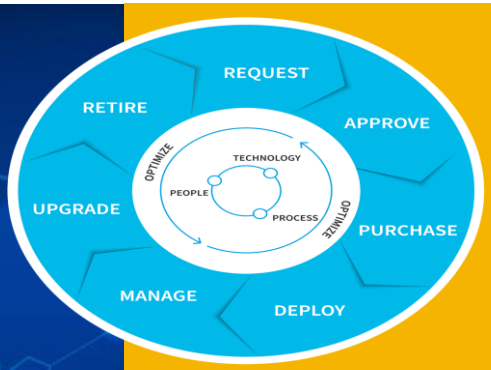


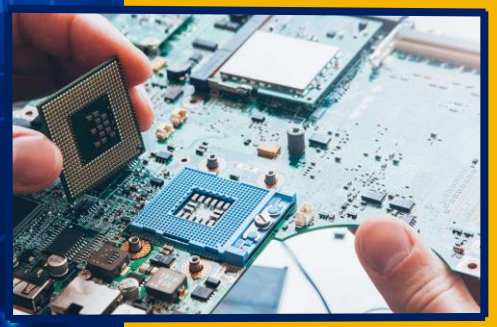
Insufficient Infrastructure to Proactively Isolate and Resolve Performance Issues

- Inconsistent or lack of Endpoint Monitoring on devices
  - Monitoring software deployed inconsistently across end user devices, or in many cases not at all due to budget constraints
  - Lack of data on actual user endpoint experience: System crashes, application crashes, slow performance due to excessive CPU or memory utilization
  - Lack of real-time data makes it challenging for helpdesks to troubleshoot user issues
- Siloed Help Desks/Cumbersome DISA JSP Ticketing Process
  - Service not managed end to end from endpoint, through the network, and out to the internet
  - Multiple help desks that each own their portion of the user experience
  - Inefficient and costly to staff, operate, and maintain multiple helpdesks
- Lack of Standard Images/configurations
  - Multitude of images/configuration make every issue resolution a unique investigation

Broad End-Point Disparities in and Among User Groups

- Antiquated Hardware for modern applications
  - Personnel conducting critical work on substandard devices
  - Modern applications (e.g. VC, cloud productivity, security) not supported by many end-points
- Sub-standard Life Cycle Replacement (LCR)
  - Accurate/holistic accounting of age/configuration of end-devices unavailable
  - Hardware replacement of approx 48 months vs. industry practice of 36 months
- Significant IT management challenges resulting
  - Lack of standard images and efficient application testing
  - High complexity for help desks
  - Increased security exposure





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Varying and Siloed IT Policies Cause Inefficiencies Across DoD

- DoD CIO
  - Responsible for implementing standards and policy across DoD but has no authority over MILDEP CIOs
  - Ad hoc CIO council not chartered to review user experience metrics and produce performance based results

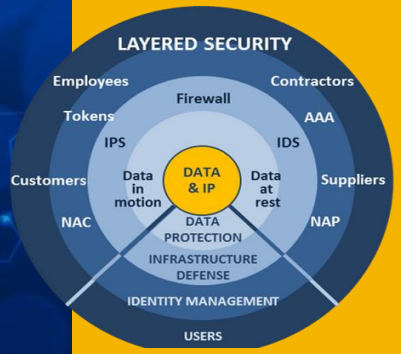
- DoD Governance Structure
  - Siloed and inconsistent DoD IT policies, ownership, and services deployment
  - Current model is highly decentralized with the majority of decision making authority with the MILDEP CIOs
  - Examples of good direction in each of the MILDEPs but no overall alignment on best practices or vision to move to common standards across the MILDEPS

Redundant Deployment of Security and Cybersecurity Tools

- Layered and Redundant Cyber Security
  - Reports of multiple/redundant security applications installed on devices negativity impacting usability by competing for local CPU, memory and disk resources
  - Lack of critical lab testing for interactions of layers, security patches, and software updates results in needlessly high CPU utilization

- Work Stoppage
  - Lengthy login times produced by authentication scripts contribute to widespread loss of productivity within DoD

- Zero Trust Framework
  - Complete user authentication across all work flows to ensure impenetrable security
  - Will not be available to agencies until 2027



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Insufficient IT Funding & Acquisition Implementation

- IT Funding
  - Inadequately funded IT resulting in outdated hardware, software and IT infrastructure
  - IT funding not “fenced;” often used as “bill payer” for other mission-related requirements
  - Advent of IT Modernization fund could help but funding levels fluctuate greatly
- Lagging Behind Industry Best Practices
  - Modernizing current hardware and software across DoD
  - Identifying the future skills needed for cloud-based services
  - Conducting regular evaluations of customer experiences and user needs
- It’s about more than just IT
  - Current DoD IT procurement processes are not clearly or consistently aligned with either end user needs or common standards that enable efficiency, performance, and interoperability
  - Procurement silos exacerbate the ability of components to ensure high UX

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MILDEP Approach the IT User Experience & Effectiveness Differently

- DoD has a “Title 10-driven” IT organizational structure
  - Decentralized budget authority
  - Consent-based governance

- MILDEPs have embarked on separate paths to achieve their organizational goals and user needs
  - Department of the Army
    - Bring Your Own Device (BYOD) using VDI (20,000 users)
    - Moving away from DISA and testing a network concept called “internet as WAN”
    - Deployed a single, world-wide help desk to provide technical support
  - Department of the Air force
    - Created a Chief of User Experience Position
    - Utilizes User Satisfaction Surveys to the entire force
      - Tracks each respondent’s key demographics
      - Understand specific users IT issues
    - Endpoint monitoring for 6500 users with funding for 25K additional users
    - Enterprise performance management system conducting holistic network monitoring across 50 bases
  - Department of the Navy
    - Implementation of a VDI with a cloud-delivered desktop
    - A BYOD program w/o uses of CAC
    - Plans to employ over 200,000 virtual desktops

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Recommendations

"Government must be held accountable for designing and delivering services with a focus on the actual experience of the people whom it is meant to serve"

- Centralize Reference Architecture, Network and Security Standards Under DoD CIO and Federate Delivery and User Experience Accountability to the MILDEP CIOs
- Establish/Designate Permanent Chief Experience Officer
- Implement End-Point Monitoring across ALL Devices and Prioritize DOD IT Funding to Consistently Monitor and Improve End-User Experience
- Leverage Metrics for IT User Experience to Drive Accountability from Service Providers and Deliver Acceptable Quality of Service
- Redundant deployment of security and cybersecurity tools
- Simplify Security Layers, Move Faster to Zero Trust/Application-Level Security
- Streamline, Standardize, and Consolidate Help Desks Across the DoD
- Clearly Define DISA's Role in the Unclassified User Experience
- Centralize Acquisition and Vendor Negotiations Where Possible

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Centralize Reference Architecture, Network and Security Standards Under DoD CIO and Federate Delivery and User Experience Accountability to the MILDEP CIOs

- Move to a Federated model with the MILDEPs, components, and agency CIOs
  - Create a DoD CIO Council of the above groups to align on common standards and best practices to leverage as a DoD standard
  - Continue to hold the MILDEP CIOs accountable for delivery and give decision making authority within the best practices defined by the Council
  - The DoD CIO should serve as the tie breaking vote and final decision maker

- Centralize the reference architecture, the security stack, and transport layer in an organization with direct line reporting to the DoD CIO

- DoD CIO to evaluate the merits of the different technical approaches of improving user experience across the MILDEPs
  - Establish a single technical standard and approach for the DoD to prevent continued fractured user experience

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Establish/Designate Permanent Chief Experience Officers

- MILDEP to designate a permanent Chief Experience Officer (CXO) who is responsible for:
  - Measuring User Experience
  - Identifying key gaps in delivery of service
  - Counseling senior leadership on improvements, etc.

- CXOs Performance Plans Designed for Specific Targets
  - Service standardization initiatives
  - Customer experience numbers, etc.

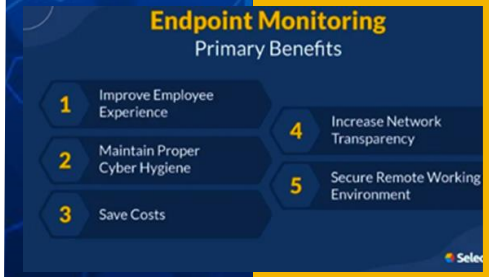
- MILDEPs, components, and agency Chief Experience Officers, in collaboration with their respective CIO leaders, should:
  - Share results and best practices to improve DoD-wide results and to drive transparency and best practices

Implement End-Point Monitoring across ALL devices and prioritize DOD IT funding to consistently monitor and improve End-User Experience

- Consistently and accurately measure end point performance and health
  - Fund and deploy endpoint monitoring solution on **ALL** DoD endpoint devices
  - Provide data for end-to-end user experience metrics
  - Use experience improvement targets as critical objective for annual DoD-level IT investment/budget prioritization

- Recognize and prioritize IT capabilities to ensure productivity and employee engagement

- Establish the structure and expertise to resolve IT-related work stoppage issues
  - Must adopt a culture of continuous improvement in IT service measurement and delivery
  - Establish accountability for resolving issues including cross-enterprise collaboration to address critical issues
  - Mandate and accelerate the adoption of **interoperable** enterprise cloud services



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Leverage Metrics for IT User Experience to Drive Accountability from Service Providers and Deliver Acceptable Quality of Service

- Define, log, report transparently, and measure against appropriate targets
  - Define the critical metrics that capture end user experience
  - Metrics should be reviewed regularly by CIO Council with the MILDEP CIOs, CXOs, and DepSecDef
  - Utilize metrics and end user survey data to drive accountability from internal team and vendor service providers
- CDAO to provide a centralized data warehouse and dashboards for metrics data in ADVANA
- Prioritize User Experience at the same level as Return on Investment(ROI) in determining IT roadmaps and future budget investments decisions
- Conduct IT Experience and Satisfaction surveys across all levels of DoD IT on a regular basis
  - Ensure consistency across survey questions so improvement can be measured

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- Issue policy that mandates an endpoint refresh cycle timeline of 3-4 years
  - Requirements must be in all endpoint contracts
  - Must be specifically defined and protected in departmental and component budgets
- Include specific line items for IT modernization in each budget submission
  - Must define the desired/expected end-state
  - Must define how progress toward the end-state is to be measured and reported
- Review and update DPAS IT requirements to reflect current nature of IT hardware systems

Simplify Security Layers, Move Faster to Zero Trust/Application-Level Security

- Establish DoD-wide security standards to be adhered to by all MILDEPs, components, and agencies throughout DoD
  - End-to-end framework, from endpoint through network to perimeter
  - DoD CIO should establish standards centrally
- Establish lab testing to identify performance impacts of applications to endpoints, including layered security packages
- Accelerate deployment of Zero Trust

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Streamline, Standardize, and Consolidate Help Desks Across the DoD

- Well-performing help desks are a critical element
  - Monitoring, delivering, and enabling end-user experience.
- DoD, today, has a multitude of tiered help desks with inconsistent service levels, metrics, tools, and data collection methods
- Streamline and consolidate help desk operations for basic unclassified IT support to:
  - Improve user experience and effectiveness
  - To over time derive spending efficiencies
- Mandate specific and standardized data collection for all help desks
  - Ensure IT leaders across the enterprise have access to all such data
- Ensure seamless interoperability between all help desks to maximize use of available resources across the enterprise

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Clearly Define DISA's Role in the Unclassified User Experience

- DISA's role in user experience must be specifically defined based on its actual capabilities

- DISA, like any large organization, requires consistent review and would benefit from ongoing process improvement and periodic restructure. Accordingly, DoD should
  - Review the use of DISA services to balance the benefits of enterprise-wide oversight against MILDEPs, components, and agency needs (as well as ongoing efforts).
  - Assess the costs, benefits, and potential drawbacks of directing increased use of DISA engineering and system management services
  - Assess DISA-managed acquisition vehicles by MILDEPs, components, and agencies

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Centralize Acquisition and Vendor Negotiations Where Possible

- Conduct an assessment by DBB or a Federally Funded Research and Development Center (FFRDC)
  - Evaluate technical and cost benefits of migrating to a single or reduced number of Office 365 (O365) tenants. This would include both performance implications as well as implications/reality of increasingly centralized procurement
- Data generated by this assessment as well as assessment of device ages, must become a core tool in resource planning and decisions
- Align all hardware/computer/device requirements to a common set of performance and operational standards including:
  - Security protocols
  - Interoperability
  - Other mission critical technical elements

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RECOMMENDATIONS	IMPLEMENTATION	TIMELINE IN MONTHS
Form DoD CIO Council with DoD CIO, MILDEP CIOs, and Charter		
	Draft DoD CIO Council Member List and Charter	3 Months
	First Member List and Charter Approved by DoD CIO and DepSecDef	6 Months
Establish/Designate Permanent Chief Experience Officers and Engage in the Work of the DoD CIO Council		
	All MilDeps and OSD CXOs identified or hired	12 Months
Implement Endpoint Monitoring Across ALL Devices and Prioritize DoD IT Funding to Consistently Monitor and to Improve End-user Experiences		
	10% of end points monitored across DoD	6 Months
	90+ % of devices are monitored across DoD	12 Months
	All devices are monitored across DoD	24 Months
Leverage Metrics for IT User Experience to Drive Accountability		

RECOMMENDATIONS	IMPLEMENTATION	TIMELINE IN MONTHS
Define Common Standards and Policies through DoD CIO Council		
	Define Network Standards	9 Months
	Define Security Stan	9 Months
	Define Standard Endpoint Configuration	12 Months
	Define Reference Architecture	15 Months
Simplify Security Layers, Move Faster to Zero Trust/Application-Level Security		
	Simplify end point anti-malware deployment	12 Months
	Implement new Security standard	14 Months
	Implement Zero Trust for key applications	24 Months
Streamline, Standardize, and lp Desks Across the DoD		
	Timeline for DISA to consolidate to 1 Help Desk	15 Months
	Timeline for all DoD to	24 Months

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Future Studies

- Modernize or replace the Defense Property Accounting System (DPAS) and the process for accounting for IT inventory
- Update current budgeting and planning process for IT capabilities and resources
- Technical and cost benefits of migrating to a single Microsoft O365 tenant across DoD
- Enterprise vendor management to provide transparency and accountability across DoD

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Questions and Discussion

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Adjourn Public Session

Ms. Jennifer Hill
Designated Federal Officer

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