



STATE OF THE ENTERPRISE ADDRESS

LAUREN KNAUSENBERGER, DAF CIO
29 AUG 2022

WELCOME TO DAFITC



COMING ATTRACTIONS



Don't forget to visit the vendor floor!

KEYNOTES

- SecAF, Dr. Frank Kendall
- CSAF, Gen C.Q. Brown
- DISA Director, Lt Gen Bob Skinner
- 16 AF Commander, Lt Gen Kevin Kennedy
- USSF CTIO, Dr. Lisa Costa
- Director, UX, Google, Dr. Elizabeth Churchill
- Senior Vice President, Palo Alto Networks, Dr. Wendi Whitmore
- Maj Gen John Olson (CDAO)
- Mr. Jay Bonci (CTO) – Roadmap and Beyond
- Mr. Colt Whittall (CXO) – Fix My Computer
- Col Peter “Stix” Chiou (CAO) – IWN

PANELS AND EVENTS

- Enlisted Town Hall - CMSAF, CMSgt JoAnne Bass
- Wine About It
- MAJCOM/A6 Panel
- IT/Cyber Senior Leader Panel with Lt Gen Lauderback, Maj Gen Genatempo, and Brig Gen (S) Blackwell
- All DoD CISOs Talk
- All Services Principal Cyber Advisor Panel
- Intentional Workforce and Career Development

FOUNDATION BUILDING



ENTERPRISE YEAR IN REVIEW – MAJOR ACCOMPLISHMENTS



EITAAS

Moved from Risk Reduction Effort (RRE) to Wave deployment

ZERO TRUST

Established a DAF Zero Trust Task Force and Pathfinders. PACAF and USAFE architecture buildout on target in FY23

PLATFORM ONE & KESSEL RUN

Supported Afghanistan evacuation powered through Platform One and Kessel Run

DATA FABRIC

Established DAF Data Fabric identifying the six Big Data Platforms across the DAF to form the DAF "BIG-6"

O365

Upgrades eliminated DSET. Availability of low code automation tools. New IL-5 capabilities added periodically

EDC & END POINTS

Replaced and upgraded over 200k endpoints. Updated GPO policies from 1900 down to 42. Automated patching

USER EXPERIENCE

Improved UX by 19 points and IT productivity by 50%

IWN

Integrated Warfighting Network proved resilient agile comms capability for integrated fires during Valiant Shield

UNIFIED PLATFORM

Delivered Unified Platform Distant Rook capability for Hunt Forward Cyber Ops teams

SUCCESS STORY 1 – MYPCS MOBILE APP

Transforming a complicated, manual process into a user-friendly mobile app



ISSUE

The Permanent Change of Station (PCS) process is a cumbersome, redundant, and manual process, creating a frustrating and unsatisfactory experience for a very important life event for many Airmen/Guardians.

By the Numbers:

400K

number of service members that relocate annually, many with dependents

44%

of service members and 45% of spouses indicate relocation stress as top five career stressor

325

average number of people that each Air Force HR specialist manages

SOLUTION

MyPCS automates the PCS process like filing taxes, checking in for a flight, or submitting an insurance claim. The app enables orders on demand, auto-populated data, one-click signatures, and simplified vouchers.

UX Considerations:



CONVENIENCE

Everything you need all in one easy-to-use tool.



CONSISTENCY

Similar process every time you PCS.



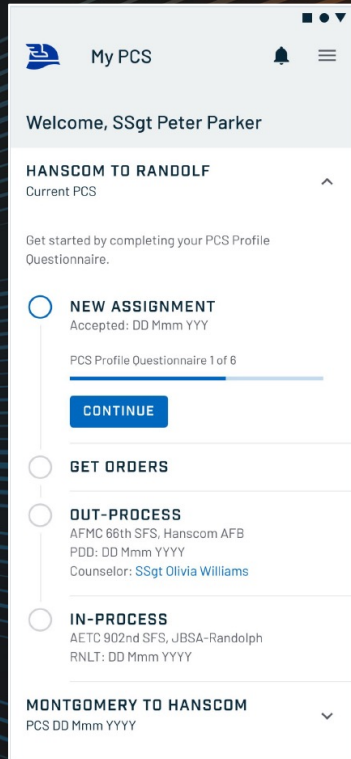
TRANSPARENCY

Track your progress along the way.



SPEED

Automate as much as possible to give time back.



SUCCESS STORY 2 – 561 NOS VAO DATA MIGRATION

Accelerating the data migration process to enhance mission readiness and support operations



ISSUE

The initial method to transfer the vulnerability data from Assured Compliance Assessment Solution (ACAS) to ELICSAR was monotonous, time-consuming, and laborious.

By the Numbers:

60K

mission hours of manual efforts every year across the entirety of the AF to download data and send from DoD Safe

8K

mission hours in manual efforts of the 561 NOS VAO team, specifically, to employ the old method

238GB

of vulnerability data per week needed to be stored, correlated, and analyzed

SOLUTION

The 561 NOS VAO Team authored an application to pull data directly from the ACAS servers and ingest into ELICSAR. The script recently completed testing and will be rolled out to 101 servers across both NIPR and SIPR, allowing for the automated transfer of 12 TB of data.

DAF Benefits:



AUTOMATION

Saving time and resources.



RELIABILITY

Minimizing potential points of failure.



CONVENIENCE

Removing tedious tasks.



SPEED

Drastically expediting data ingestion into ELICSAR.



SUCCESS STORY 3 – ROBOTIC PROCESS AUTOMATION



50,000+

Hours of manual data entry saved



1,000+

Airmen trained as citizen developers



150+

Automations actively running



14,000+

Installations completed



>\$20M

Est. ROI across AFPC, SAF/FM, AFICC



75%

Reduction in staff hours (of the ~900 participants) dedicated to manual tasks, **freeing people up to drive greater impact**



260

Working days per year refocused to security tasks



23

AF bases actively using robots

ENABLED AND UPSKILLED TO SOLVE THEIR OWN PROBLEMS

CITIZEN DEVELOPERS CREATE MISSION IMPACT



MS. ANDREA VICKERS

Air Force Personnel Center

BOT: ARMS BOT

Pushes Military Evals to ARMS

1,500 Automation hours repurposed to other tasks



MS. JESSICA FRINDT

Contracting Specialist
21 CONS, US Space Force

BOT: KT FILE SHARE

Speeds Contract Workflow and Coordination

Saves 1-5 hours a week per Contracting Officer



TECHNICAL SGT MADELINE HURBST

927 Aircraft Maintenance Squadron MacDill AFB, FL

BOT: ReadyTO - Over 90% reduction in Master TO library download time. Identifies Master eTool synch errors and superseded material

Updates reduced from 8hrs to under 45 mins



CAPT JON BORAH

Director Combat Development Team
Space Delta 8, US Space Force

BOT: MCMBOT

Transforms the MOR (Satellite Maintenance Form) into Scheduled form

Affects all operational crews at 4 SOPS and the engineering crews meaning about 130 people

STRATEGIC ENVIRONMENT



CURRENT REALITY

The digital environment in which we live is increasingly complex. This strategy aims to provide unity of effort for the enterprise and decomplicate governance.

WIDE CYBER EXPOSURE DUE TO MASSIVE ATTACK SURFACE

CAPABLE AND WELL-ROUNDED FORCE LACKS THE TOOLS IT NEEDS

STOVE-PIPED SYSTEMS THAT CAN'T SHARE DATA

CHANGES TO THE SECURITY ENVIRONMENT & DAF'S FORCE POSTURE

LACK OF CLOUD AT THE TACTICAL EDGE

ADAPTIVE AND CROSS-DOMAIN ADVERSARY THREATS

INSUFFICIENT AND UNRELIABLE FUNDING

INCREASING PACE OF TECHNOLOGICAL CHANGE

COMMUNICATIONS DISRUPTIONS

The future digital environment must be interoperable and collaborative, with data-sharing and convergence across domains.

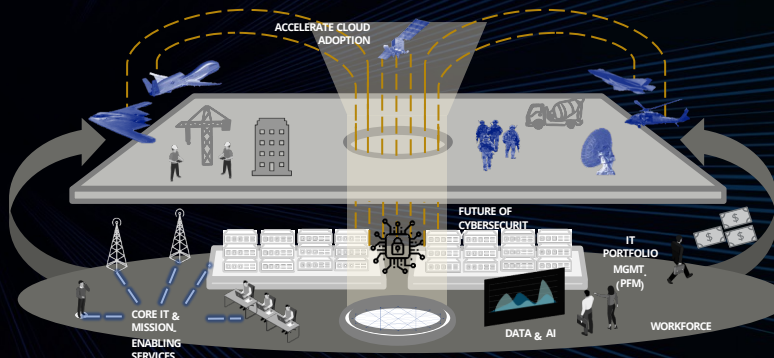


Figure 1: Future DAF Environment supported by DAF CIO Lines of Effort (LOEs)

STRATEGIC NEEDS TO SUSTAIN FUTURE ADVANTAGE

In the decades ahead, combat will depend less on individual capabilities than the adaptive, integrated strengths of a robust network of weapons, sensors, and analytic tools applied across warfighting domains.

ROBUST INTERNET OPERATIONS PLATFORMS

REIMAGINED APPLICATION AND DATA DEFENSE

INCREASED MISSION READINESS

SURVIVABLE C2 & LPI/LPD COMMUNICATIONS

INTEGRATED DAF SYSTEMS THAT COMMUNICATE WITH EACH OTHER

SEAMLESS INTEROPERABILITY WITH THE JOINT FORCE COALITION

AGGREGATE DATA TO PROVIDE TIMELY RELEVANT INFORMATION TO DECISION MAKERS

DAF CIO PRIORITIES



In order to meet the demands of the future digital fight, we must enable seamless JADC2 and AI-Human teaming, speed our OODA loop and maintain consistent agility to adapt to an ever-changing battle space. Our mission is to deliver the rock-solid digital foundation on which our future competitive advantage relies, and to equip our Airmen and Guardians with the knowledge, tools, and data they need to fight.

CONSISTENT AGILITY = CONSISTENT ADVANTAGE.
ACCELERATE CHANGE OR LOSE!

 ROCK SOLID DIGITAL FOUNDATION	 USER EXPERIENCE FOR WARFIGHTING EFFECT	 ENABLING DIGITAL TALENT	 RUTHLESSLY ATTACK MANUAL PROCESSES, OUTDATED POLICY, & REDUNDANT IT
• 21st Century Network • Cloud-based services • DevSecOps platform • Zero-trust framework • Cybersecurity that works • Data Fabric	• Tools & data warfighters need • Improve user experience • Measure and improve performance and experience data • IT driven capability insertion	• Digital U • Incentives for retention • Right warrior Right mission • Diversity and Inclusion • Recruit, manage, and develop the civilian workforce	• Sunset legacy systems • Operation FLAMETHROWER • FY23 budget that works • Find our IT spend • Policy for the 21st century • Automate where possible • Disrupt ourselves

Proactively provide infrastructure, data, tools, and AI-enabled systems to compete in the digital fight through JADC2 and machine-driven insights

ADDRESSING FUTURE PACING THREATS THROUGH CYBER & EIT



Below outlines how cyber and EIT capabilities can shape the battlefield to win the war of tomorrow

PACING THREATS

Increasing competition on the global stage forces us into potential conflict against adversaries which have broadly different capabilities, goals, and geographies than ones we have faced over the previous two decades.



**EXPLOITATION
OF WIDE CYBER
FOOTPRINT**



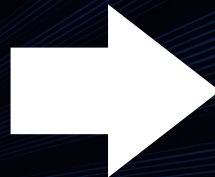
**INCREASINGLY
LETHAL DIGITAL
ATTACKS**



**DISRUPTION OF
CRITICAL C2
NODES**



**OUTDATED DATA
AND INTEL
INTEGRATION**



WARFIGHTER EFFECTS ACHIEVED

Urgent actions are required now to ensure warfighting functions are ready for the battle of tomorrow. Through EIT solutions, the DAF can achieve the necessary warfighter effects outlined below:



**ROBUST INTERNET
OPERATIONS
PLATFORMS**



**REIMAGINED
DIGITAL DEFENSE**



**SURVIVABLE C2 &
COMMUNICATION
S**



**INCREASED
MISSION
READINESS**

CYBER & EIT CAPABILITIES



ZERO TRUST



PATHWAYS TO CLOUD



SD WAN



WORKFORCE AUTOMATION



ICAM



DATA FABRIC



CORE SERVICES



HYBRID & EDGE CLOUD

DAF CIO STRATEGY SNAPSHOT



LOE 1: ACCELERATE CLOUD ADOPTION

Evolve cloud capabilities to support agility, resilience, and quality of mission applications.

CAPABILITIES:

HYBRID AND EDGE

ACCELERATE
ADOPTION

UNIFIED CLOUD
OFFERINGS

MODERNIZE ON-PREM
COMPUTE & STORE

MISSION PARTNER
ENVIRONMENT FOR CLOUD



LOE 2: FUTURE OF CYBERSECURITY

Consolidate, secure and automate IT capabilities and services to streamline warfighter effectiveness.

CAPABILITIES:

AWARENESS &
RESILIENCY

AUTOMATED VISIBILITY &
INSTRUMENTATION

MODERNIZE RISK
MANAGEMENT

INNOVATIVE & MODERN
CAPABILITIES

RESILIENT CYBER
DEFENSE



LOE 3: WORKFORCE

Empower the civilian & military workforce by providing them with the support and resources they need to further their professional knowledge and skills.

CAPABILITIES:

STRATEGY, POLICY
& GOVERNANCE

TALENT MANAGEMENT

E-LEARNING

DCWF ALIGNMENT

WORKFORCE OF
THE FUTURE



LOE 4: IT PFM

Optimized and mission-aligned digital investments providing greater value to the Air Force & Space Force.

CAPABILITIES:

STRATEGIC ALIGNMENT

FINANCIAL STEWARDSHIP

OPTIMIZATION

POLICY & GOVERNANCE



LOE 5: EXCELLENCE IN CORE IT & MISSION-ENABLING SERVICES

Provide warfighters with the digital tools to effectively communicate in any environment.

CAPABILITIES:

CONNECTIVITY &
TRANSPORT

VOICE SERVICES

END USER DEVICES

NOC/SOC

DEVSECOPS &
APP SUPPORT



LOE 6: DATA & AI

Leverage data as a strategic asset and shape collaborative data-driven environment.

CAPABILITIES:

DATA DRIVEN OPERATIONS

APPLICATION AND PLATFORM
INTEGRATION

AI/ML READINESS

INNOVATIVE DATA SOLUTIONS

VISION

DELIVER DECISION
ADVANTAGE. SHORTEN
THE KILL CHAIN.

MISSION

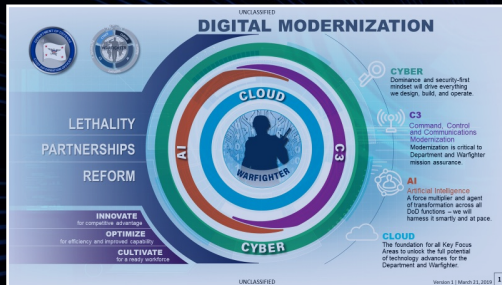
PROVIDE A SECURE,
DIGITAL, AND DATA-
CENTRIC AIR AND
SPACE FORCE ON
WHICH OUR FUTURE
COMPETITIVE
ADVANTAGE RELIES.

OPERATIONAL IMPACT

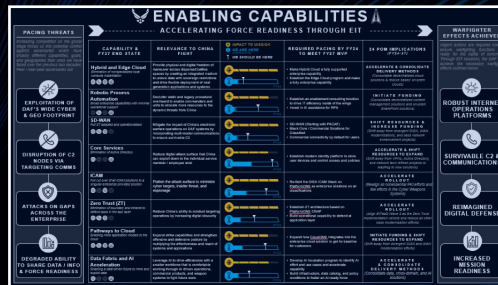


*What does the IT Enterprise need to do for Airmen/Guardians?
What will war look like in the future? Where is industry headed?*

DOD CIO asked us to focus on...



SecAF asked us to focus on...



Here's what our Guiding Principles



The DAF CIO Strategy Lines of Effort (LOEs) guide operations to align to these strategic directives, setting the operational end state

LOEs & OPERATIONAL END STATE

ACCELERATE CLOUD ADOPTION

Rapid deployment & strong performance of business/mission capabilities from the enterprise to the edge

FUTURE OF CYBERSECURITY

Secure & resilient digital environment, equipping operators w/ sensoring & data integration

WORKFORCE

DAF workforce enabled to meet future digital challenges, adapt quickly & operationalize tech to drive competitive advantage

IT PORTFOLIO MGT. (PfM)

Sunsetting expensive redundant capabilities; negotiating enterprise agreements that balance cost, consumability & choice

EXCELLENCE IN CORE IT & MISSION-ENABLING SERVICES

Networks, devices, digital tools & data needed for mission success with 99.99+% consistency for all Airmen & Guardians

DATA & AI

Accessible data that drives decisions and continuous improvements w/ automation, analytics & AI designed into systems



**WHAT'S ON YOUR
MIND?**

WHAT'S ON YOUR MIND?



We've heard IT has been consistently underfunded and that it is starting to affect the warfighter... is the funding getting better? What needs to change in order for IT to be appropriately funded?



ARE WE GOING TO FUND IT?



"We're making a big down payment on cyber and IT"

Dr. Frank Kendall
Secretary of Air Force

WHAT'S ON YOUR MIND?



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How can industry support our efforts?



HOW CAN INDUSTRY SUPPORT OUR EFFORTS



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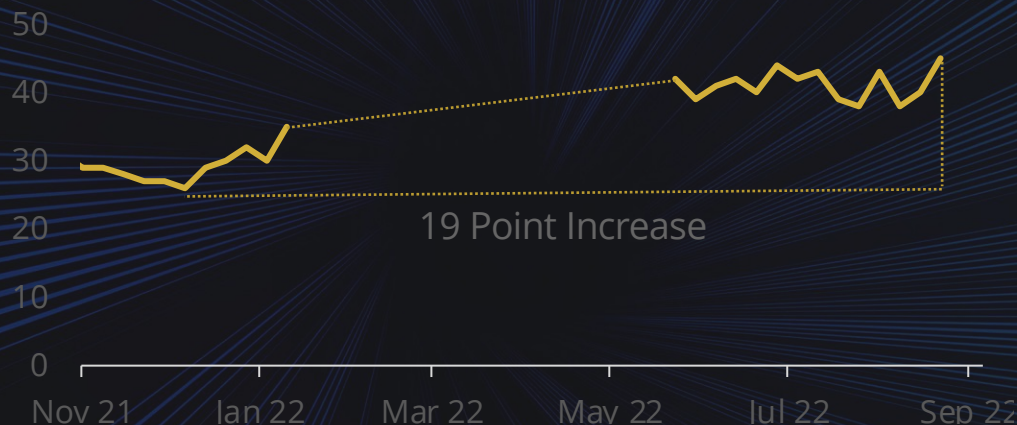
How can industry support our efforts?

We've seen posts on social media platforms that indicate users are still having issues with basic computer activities... can you provide an update on Fix My Computer?

DAF USER SATISFACTION TREND, NOV '21 TO PRESENT



Overall, **how satisfied are you** with DAF IT (including networks, computers / mobile devices, and the IT Service Desk)?



19 Point Increase

Project Phoenix is focused on Operationalizing User Experience and Warfighter Connectivity.

- Replaced or upgraded over 200,000 laptops/desktops with devices meeting ITCC minimum standards, inc SSD
- At EITaaS bases, users with 30,000 computers running the new desktop configuration show UX is up 2x over prior DAF UX
- Optimized security tool performance and simplified
- Adobe files no longer open in "Protected Mode" when opened from "trusted" locations like the C drive or email
- Replaced EOL equipment and upgraded circuits at 18 AFBs





MAJOR UPDATES

EITAAS WAVE DEPLOYMENTS



*SECURITY

- Leverage commercial tools, automation, and labor to improve response against DoD requirements
- Enable transition to future cybersecurity models required for Zero Trust environment
- Allow DAF improved C2 over entire AFIN

*HYBRID CLOUD

- Increased integration with CTO's cloud imperatives (MVP capabilities)
- Improved data center consolidate for what remains
- Improved disconnected state ops architecture to enable resiliency

NETWORK

- ✓ Transition from BAN to a campus network that more resembles commercial offering
- ✓ Lay the foundations for Zero Trust implementation
- ✓ Improved resiliency over commercial lines
- ✓ Increased Wi-Fi & Cellular access

OPERATIONS

- ✓ Updated, 21st Century ITSM platform to meet the requirements of EITSM 3.0
- ✓ 24/7 enterprise help desk to support customers
- ✓ Improved access to add/change services through the SAF/CIO 21st Century Storefront Initiative

DEVICES \$

- ✓ Improved, modern devices with less cumbersome software
- ✓ Leverage same bulk purchase power from AFWAY, etc. to get the best deal possible
- ✓ Increased presence of mobile devices (tablets, etc.)

MANPOWER \$

- ✓ Ability to contract out local services on a bulk purchase agreement that reduces cost to buyer & enables CSI/MDT effort(s)
- ✓ Increased automation to reduce total number of manhours required to operated EIT services

WAVE 1

BIM/WAVE
2

WAVE X

\$ - Requires MAJCOM-level funding

* - Tentatively identified as new capabilities deployed

BIM - Base Infrastructure Modernization

ZERO TRUST



DIGITAL EXPERIENCE TODAY



Sophisticated Cyber Threat
Swiftly Evolving Cyber Adversaries



Diminishing Warfare Advantage
Capable and Motivated Cyber Adversaries



Technology Constrained
*Disconnected Intelligence Silos
Inadequate Data Sharing*



Zero Trust is a security model, a set of system design principles, and a coordinated cybersecurity and system management strategy based on an acknowledgement that threats exist both inside and outside traditional network boundaries.



ENABLES

ABMS - JADC2

DIGITAL EXPERIENCE TOMORROW



Impose Cost to Adversary
*Disrupt Cyber Adversaries
Enhanced Cyber Readiness &
Lethality*



Cyber Enabled Warfare Advantage
*Adaptable, Resilient, and Secure Data Transport
Fuse Sensor Data, AI/ML Force Multiplier*



Freedom to Operate
*Access Anytime - Anywhere
Synchronize People & Processes
Collapse Warfighting
Environments*

Zero Trust = Application & Workloads + Data + Identity (ICAM) + Device + Network & Environment + Risk-Aware Intelligence

WE NEED YOU IN THE FIGHT...



"EACH AVENGER HAS ITS OWN SUPERPOWER. EACH OF OUR KEY STAKEHOLDERS HAS A VESTED INTEREST. WE NEED TO COME TOGETHER TO USE OUR SUPERPOWERS FOR GOOD."

GEN CHARLES Q. BROWN, JR.

USAF Chief of Staff



"EVEN WITH THE BEST CAPABILITIES AND THE BEST MINDS, WE CAN'T DO THIS ALONE. WE MUST INTEGRATE, BECAUSE WE ARE CLEARLY STRONGER TOGETHER."

GEN JOHN W. RAYMOND

USSF Chief of Space Operations



**LET'S BUILD THE ENTERPRISE
TOGETHER**





**A Resilient Digital
Air and Space Force:**
Enabling Deterrence Through Cyber