

Headquarters U.S. Air Force

Integrity - Service - Excellence

HOW We Will “Fix Our Computers”



**Colt Whittall
Chief Experience Officer
SAF/CN**

Aug 14, 2022

What is user experience and why do we care?



User Experience to Airmen and Guardians

Information
technology
that powers
our work

⊕ Optimized *with*
users for how *they*
use it in the real
world

⊕ Responsive,
reliable &
supported

≡ **Warfighter Effectiveness**



So How Are We Doing?



Me: I have so much work to do today

My Air Force laptop:



I paid for the whole PC, I'm gonna use the whole PC...



CPU
100% 8.00GHz



Memory
15.9/15.9GB (100%)



GPU 0
NVIDIA GeForce R...
100% (65°C)



Information Security: preventing both unauthorized users and authorized users.

Cyber Commander stands up task force on how to open this PDF

China's fingerprints are all over this.



Duffel Blog

Jul 1



By Cat Astronaut

With cyber threats from nation-state actors like China and Russia on the rise, the commanding general of U.S. Cyber Command has created a special task force to figure out how to open this PDF.

“I’ve been trying to open this thing for like 30 minutes, but the farthest I’ve gotten is that screen where it says ‘Please wait.’” Gen. Paul



Elon Musk ✓

@elonmusk



I am buying computers for the United States Air Force, they'll actually be able to login to Outlook in less than 28 minutes.

17:13 · 27 Apr 22 · [Twitter for iPhone](#)

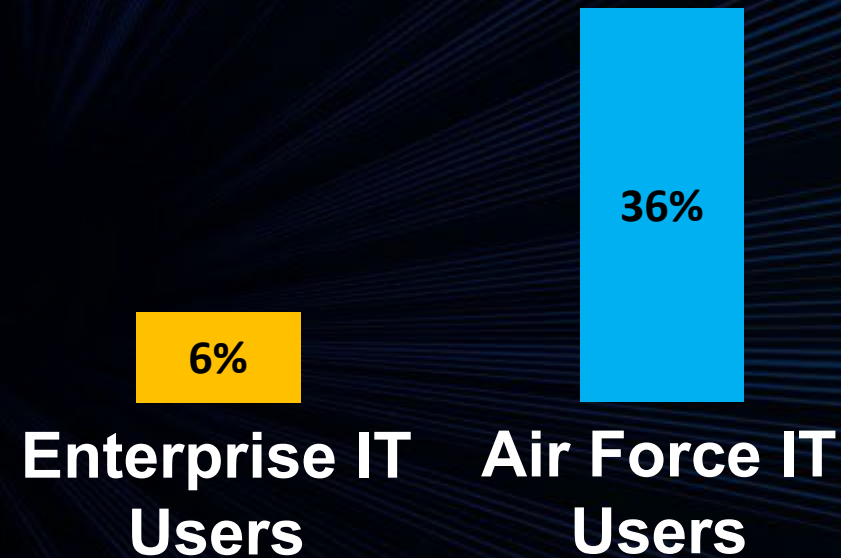
112K Retweets **17.3K** Quote Tweets **1.4M** Likes

Posted in [r/AirForce](#) by [u/Mookie_Merkk](#)



“I have the right technology/equipment needed to do my job.”

Percentage Who Disagree



Sources:

AF IT Pulse, daily survey of 300-500 random Airmen on perception of IT service, approx. 7,000 responses, from Aug 18 to Sept 18, 2020
Forrester Analytics, Business Technographics Workforce Study, approx. 15,000 responses, from May 5 to July 2, 2020



What are we doing to
solve it?



This is the way...

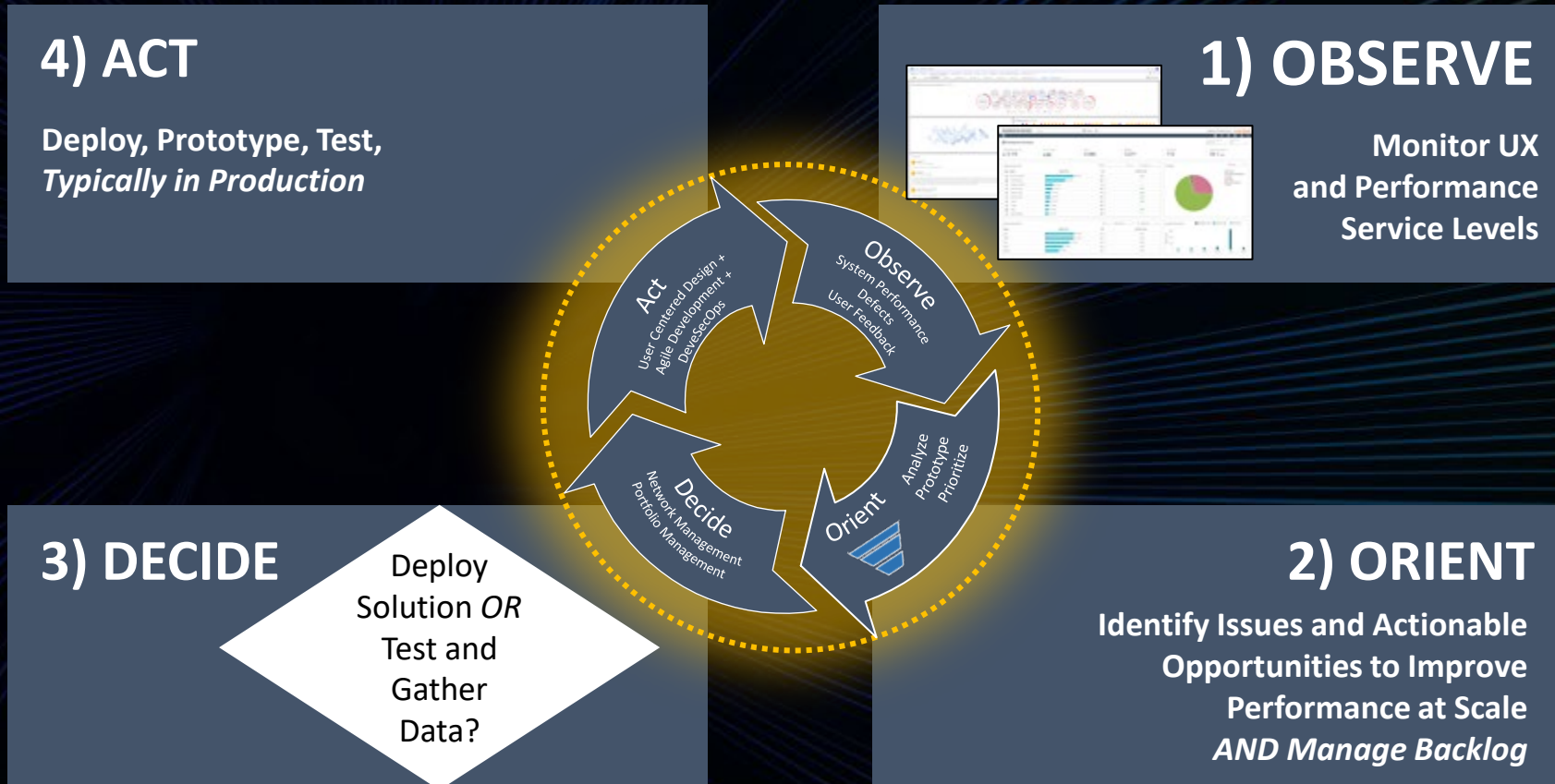
- Close Gaps in Roles/Responsibilities, Skills, Processes and Tools
- Continue Operational/Tactical Improvements to Existing Systems
- Address Technical Debt
- Improve UX of the Most Widely Used Systems
- Address the “Mega User Journeys”
- Apply Policy and Guidance to Reinforce all of the Above



Close Gaps in Roles/Responsibilities, Skills, Processes and Tools

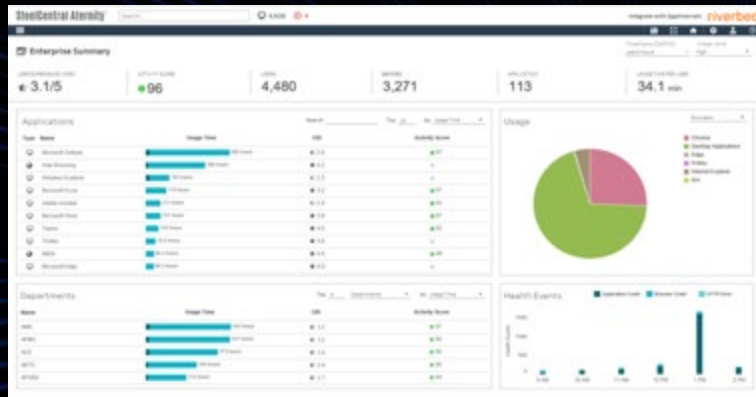


The UX/Performance OODA Loop



Tools: How We “Observe”

Digital Experience Monitoring (DM)



Monitors performance and reliability of user experience “at the glass” as Airmen interact with our applications

- Helps identify issues, root causes and more
- Identifies problem areas to analyze with diagnostic tools
- Tracks the impact of efforts to improve performance and reliability
- Tests efficacy of solutions/improvements

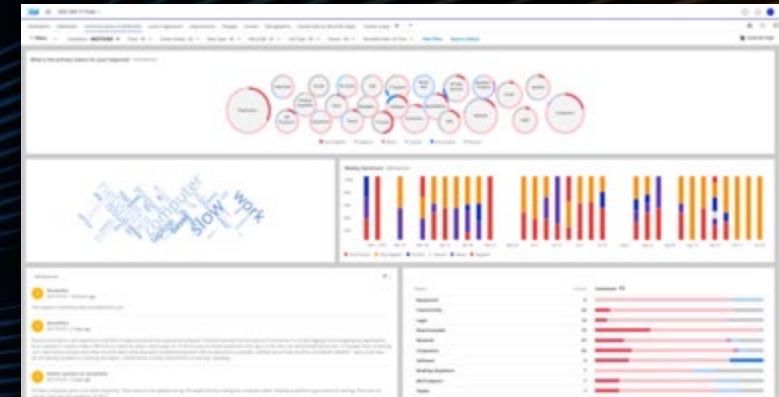
Enterprise Performance Management System (EPMS)



Monitors performance of the Wide Area Network (WAN), Base Area Network (BAN) and Key Dependencies

- Identifies degraded (or improved) service that can impact user experience / performance of applications
- Helps determine what UX/Performance conditions are in the WAN, BAN or Boundary, vs the application or the computer

Experience Management (XM)

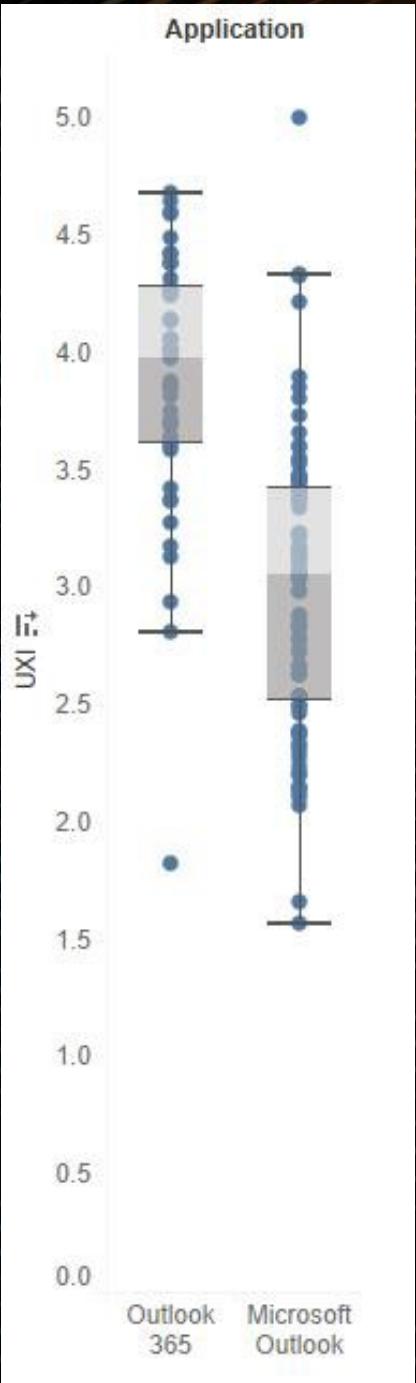
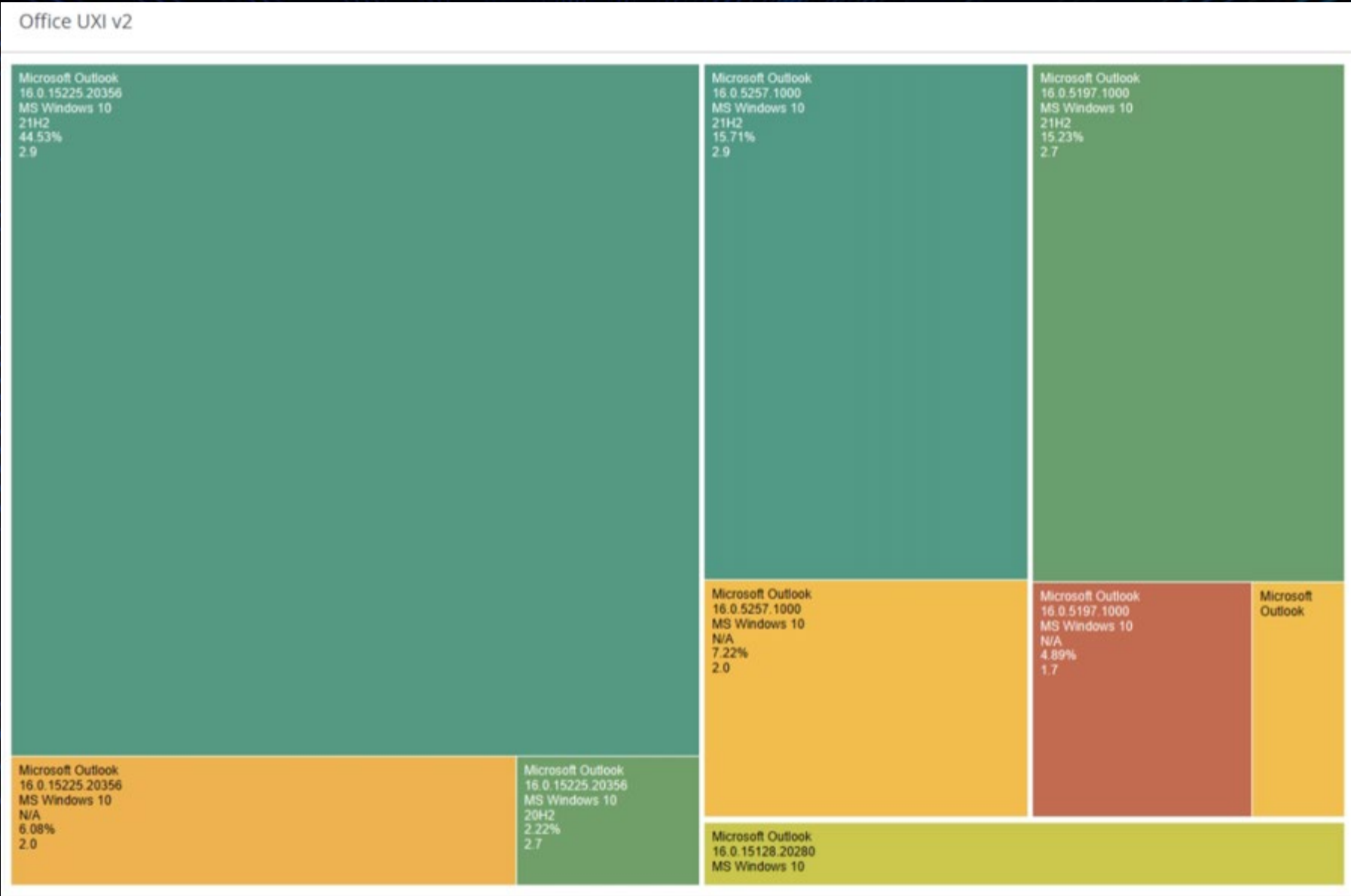


Monitors user feedback on enterprise IT with a very short survey sent to 10-15K users/ week (about 1.5x per year/user)

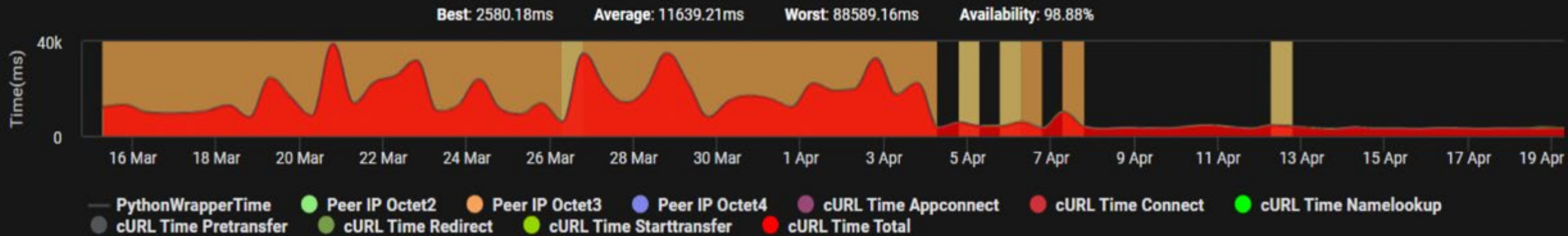
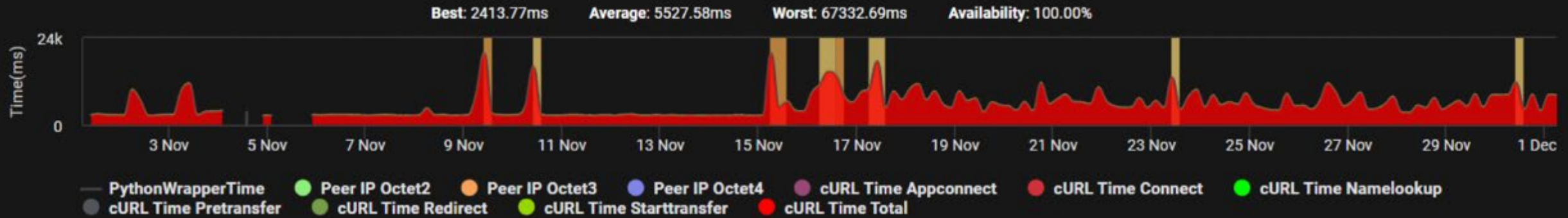
- Helps identify user perception of IT performance, reliability, value, usability, support/service, etc.
- Connects Performance/UX to mission value. About 1/3 of dissatisfied users comment regarding impact to mission and/or productivity



Digital Experience Monitoring



Enterprise Performance Management System



Continue Operational/Tactical Improvements to Existing Systems



Operational and Tactical Improvements

- Resolving UX/Performance issues before users necessarily notice them, using Digital Experience Monitoring and EPMS (Enterprise Performance Monitoring System)
- Addressing stability of cloud-based services and stable connectivity to those services
- "Operationalizing" all of the above by assigning ownership of UX/Performance to the 38th, coordinating data collection, engineering and other fires from CCC, HNI, 688th, etc.
- Clarifying that ACC's mission to secure the AFNet also includes securing it's performance and stability

More specifically, our teams are focused on reducing CPU, Disk I/O, Startup Time, App Load Time, etc. by...

- Continued optimization of endpoint security and cyber operations that affect UX/Performance
- Turning off features, services, tools that aren't absolutely necessary, particularly on the older, slower machines, pending their replacement
- Looking for crashing software, services, etc and ensuring we are patching
- Upgrading OS, Office 365
- Monitoring all of the above change so we can verify the before/after affect and make sure the change sticks

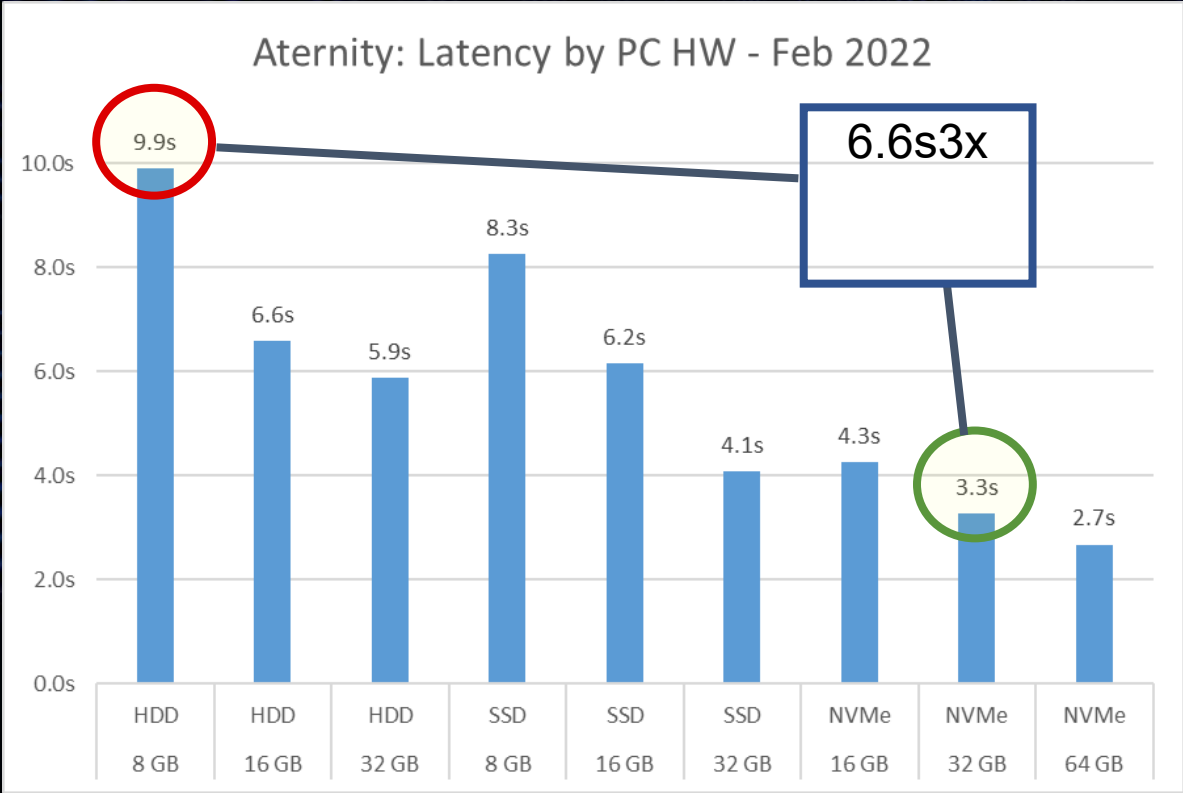


Address Technical Debt

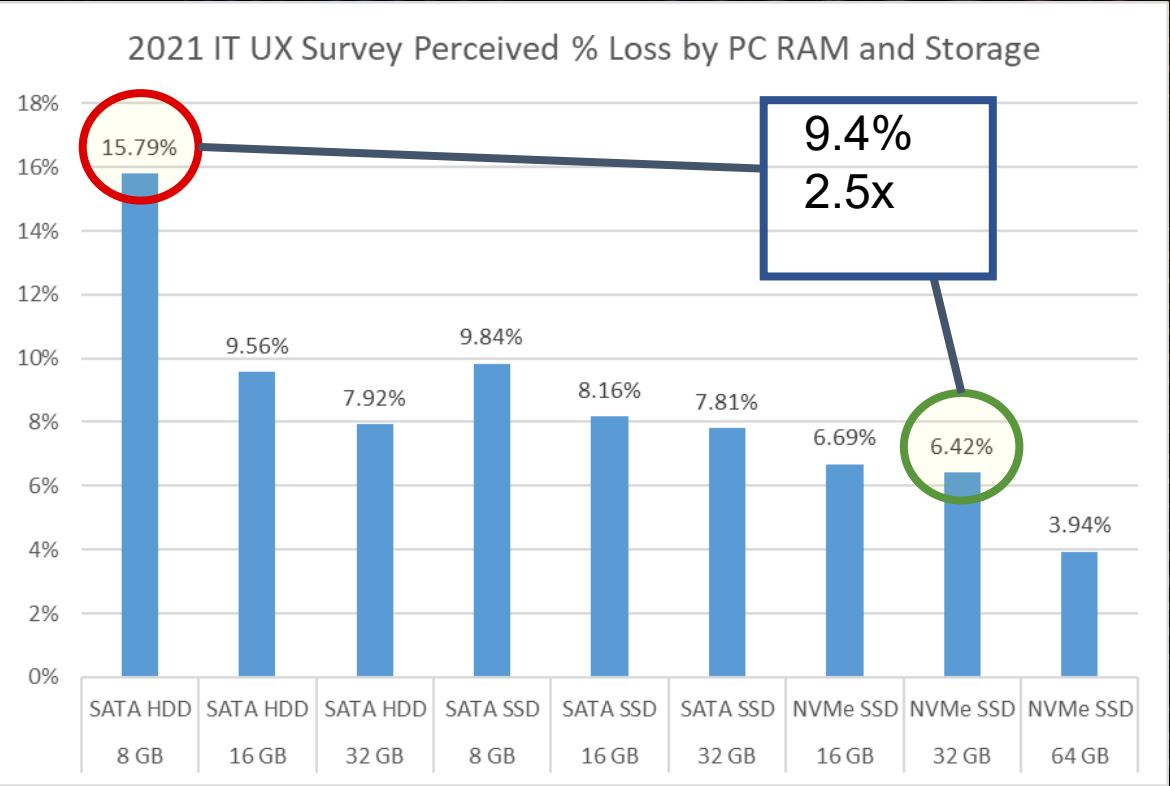


Faster PCs Make Airmen More Productive

PC Latency, As Measured by Aternity



User Perceived Loss in Productivity



As tracked in actual DAF operation on the AFNet, running the DAF's Standard Desktop Configuration



SECAF Frank Kendall

"In the last year, we've made a lot of progress in determining how we can stay ahead of our pacing challenge. We've focused our work on seven "operational initiatives," areas where there are current or emerging gaps in capability. For several months, expert teams have worked to define the best concepts and investments to close these gaps. Their work will be reflected in next year's budget request, but in many cases, we have already started efforts to move both the Air and Space Force in the right direction. ... **As a result, we have been able to make a significant down payment to improve our IT and cyber posture – in other words, to fix our computers.**"

- Sec Frank Kendall, Aug 1 memo to the DAF



Improve UX of the Most Widely Used Systems





Welcome/Notification
Page

Fitness Tools

[Fitness Calculator](#)

[Fitness Questionnaire](#)

[Fitness Documentation](#)

Welcome to Fitness Management System II (AFFMS II)

ate Airmen to participate in year-round physical conditioning activities that
ing, and healthy eating. Health
enteeism while maintaining a higher

[USAF Links](#)

[AFI 36-2905](#)

[AFFMS II FAQ](#)

[External Fitness Links](#)

[American College of
Sports Medicine](#)

[American Heart
Association](#)

[Runners World](#)

[Spark People](#)

[External Health Links](#)

[Association of Nutrition
and Dietetics](#)

[Fruits and Vegetables
More Matters](#)

[Dispute/Appeal Process
\(BCMR\)](#)

[Fitness Charts](#)

[Reports](#)

[My Reports](#)

[Help](#)

[About AFFMS II](#)

The Air Force Fitness
emphasize total fitne
benefits from an active
level of readiness.

It is every Airman's responsibility to maintain the standards set forth
physically fit allows you to properly support the Air Force mission. C
AF culture by establishing an environment for members to maintain physical fitness and hea
requirements. The Fitness Assessment provides commanders with a tool to assist in the dete
military personnel.

Click on the 'Reports/My Report' menu above to access the 'Fitness Tracker' report. By clickin
AFFMS II will present your current fitness information/status.

Notifications	
Description	
If the age of previous FAs are reporting incorrectly, the FAC must make an edit to the FA history by resubmitting the FA data. The FAC will reenter the run time and click save.	31-Dec-2019 01:
If you are unable to update a FA score, please contact the MPF and have them verify that the member was gained in MilPDS properly (Func Cat, DAS, & DDLDS) should be reflected correctly on their SURF.	01-Dec-2020 01:
As of 20 March 2019 AFFMS II is no longer degraded. Please contact your Installation FAC for Access.	01-Dec-2019 01:
AFFMS II is only campatibile with Internet Explorer. If you are using another Internet Browser, you will not be able to see the Menu Options.	31-Dec-2020 01:

The CXO's 10 Most Wanted

System	Owner	Function	Users	Plan / Direction
AFFIMS II (Fitness Management System)	A1	Record and manage fitness test scores	500K+	Replaced summer 2021 by MyFitness. Improved usability score 21 points.
vPSC (Virtual Personnel Service Center)		Various HR activities	325K+	Being replaced incrementally by MyVector, PCS Mobile App, MyFSS
vMPF (Virtual Military Personnel Flight)		Various HR activities	325K+	
AMS (Assignment Management System)		Assignment matching	325K+	Being replaced by MyVector
LeaveWeb (Schedule and Manage Leave)		Leave requests and approvals for Airmen	325K+	Being replaced by AFIPPS and potentially MyFSS (pending decision)
ADLS (Air Force Distributed Learning System)	AETC	Hub for online training, inc. annual digital security class	600K+	Replaced by MyLearning
AROWS-R (Reserve Order Writing System)	AFRC	Reserves to get orders and travel for duty	70K+	Continuing to use for now
UTAAPS		Reserves schedule/track duty and time	70K+	Replacement in development
ATAAPS (Time, Attendance, Leave, etc.)	DISA	Civilians request leave, record and verify time	165K+	Continuing to use for now
vESD (Virtual Enterprise Service Desk)	ACC/CCC	Tool on PCs to log tickets and access support	550K+	To be replaced by EITaaS as it rolls out



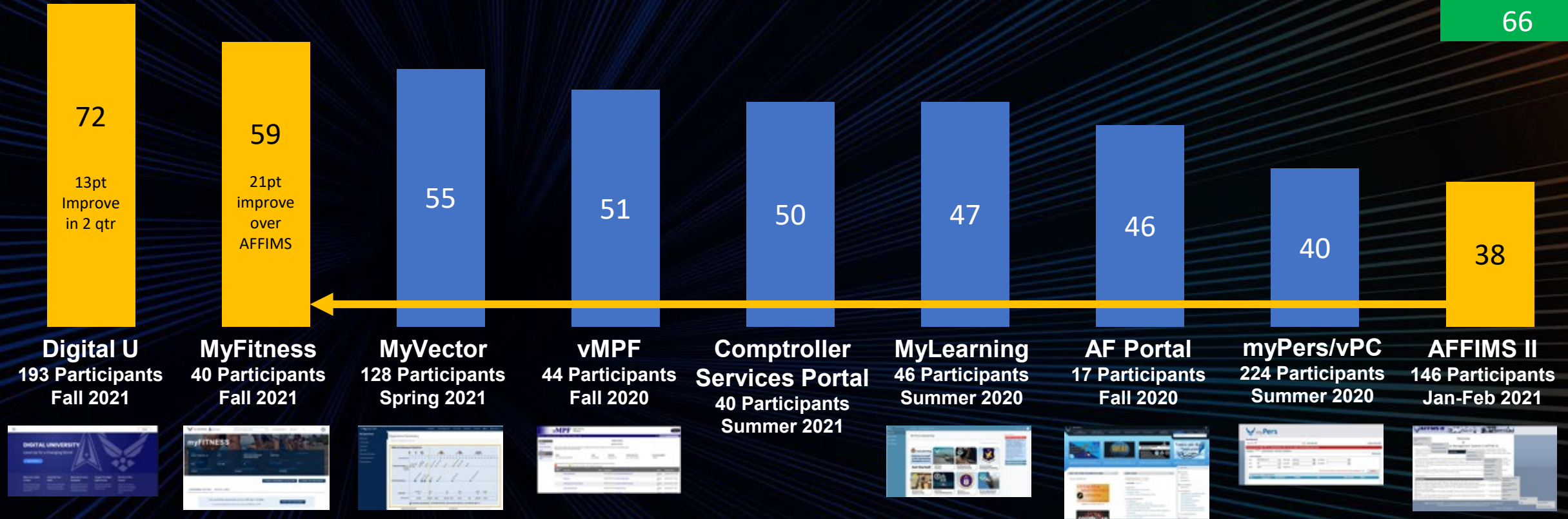
System Usability

The Very Best
Commerce Sites

85 to 95

Average of 100s of
Studied Sites

66



System Usability Score of Widely Used Apps



Address the “Mega User Journeys”



The PCSing Challenge

Current in/out processing experiences are inefficient, lack standardization, are prone to delays that waste time and money and add unnecessary stress on Airman and Guardians.

400K

Number of service members that PCS annually. Many with families.

44%

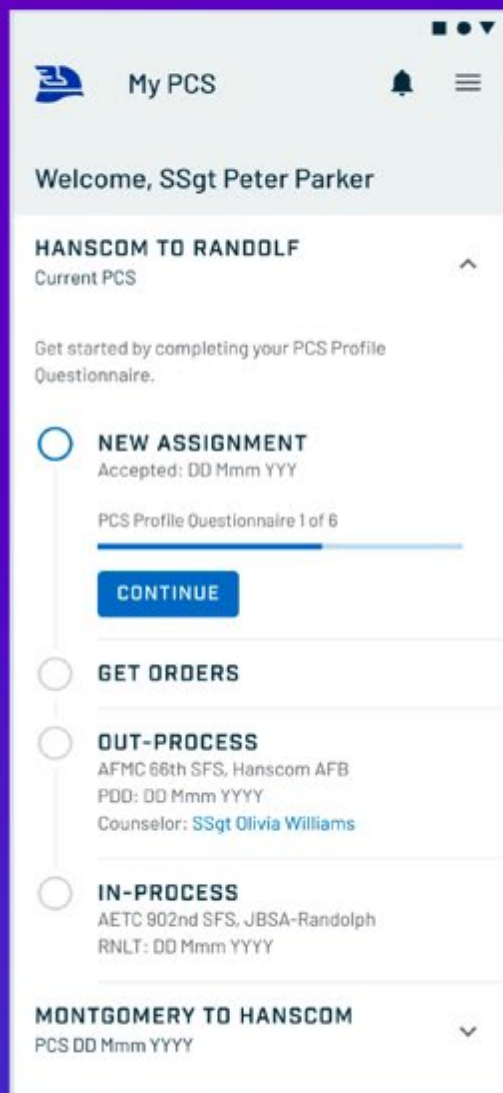
Of service members and 45% of spouses indicate relocation stress as top 5 career stressor.

325

Avg number of members that each DAF HR specialist supports



Receiving & Accepting A New Assignment



My PCS

Welcome, SSgt Peter Parker

HANSCOM TO RANDOLF
Current PCS

Get started by completing your PCS Profile Questionnaire.

NEW ASSIGNMENT
Accepted: DD Mmm YYY

PCS Profile Questionnaire 1 of 6

CONTINUE

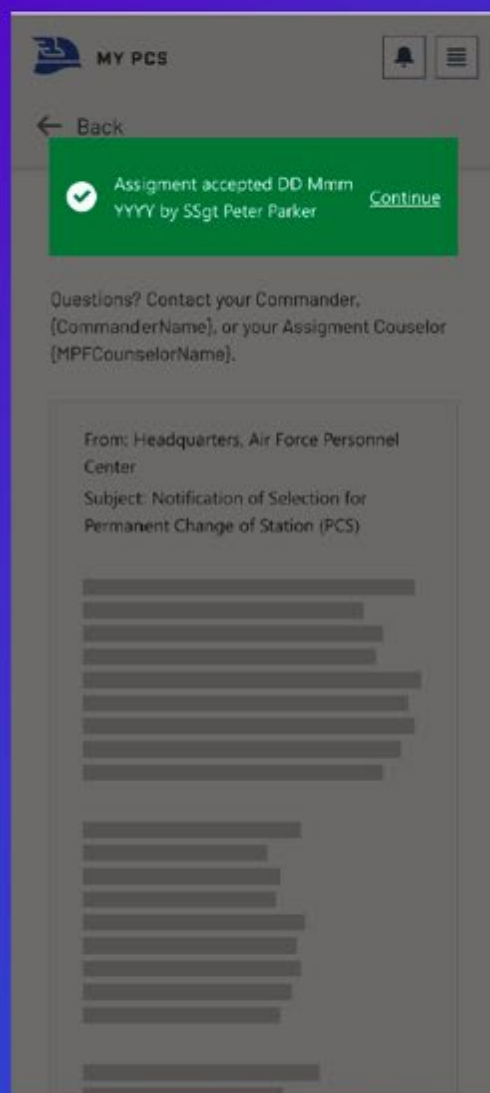
GET ORDERS

OUT-PROCESS
AFMC 66th SFS, Hanscom AFB
PDD: DD Mmm YYYY
Counselor: [SSgt Olivia Williams](#)

IN-PROCESS
AETC 902nd SFS, JBSA-Randolph
RNL: DD Mmm YYYY

MONTGOMERY TO HANSCOM
PCS DD Mmm YYYY

Dashboard



MY PCS

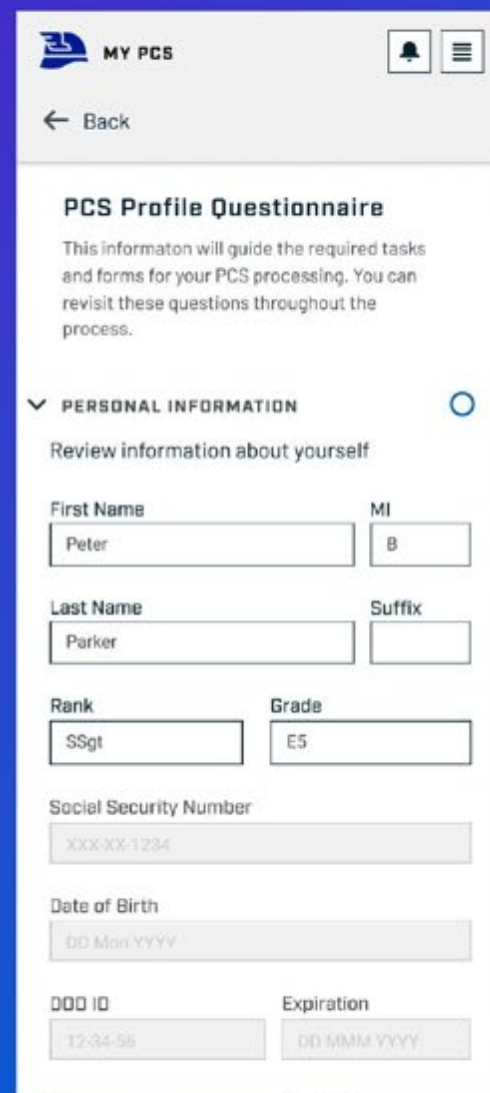
Back

Assignment accepted DD Mmm YYYY by SSgt Peter Parker [Continue](#)

Questions? Contact your Commander, {CommanderName}, or your Assignment Counselor {MPFCounselorName}.

From: Headquarters, Air Force Personnel Center
Subject: Notification of Selection for Permanent Change of Station (PCS)

Accept & Sign Assignment



MY PCS

Back

PCS Profile Questionnaire

This information will guide the required tasks and forms for your PCS processing. You can revisit these questions throughout the process.

PERSONAL INFORMATION

Review information about yourself

First Name MI
Peter B

Last Name Suffix
Parker

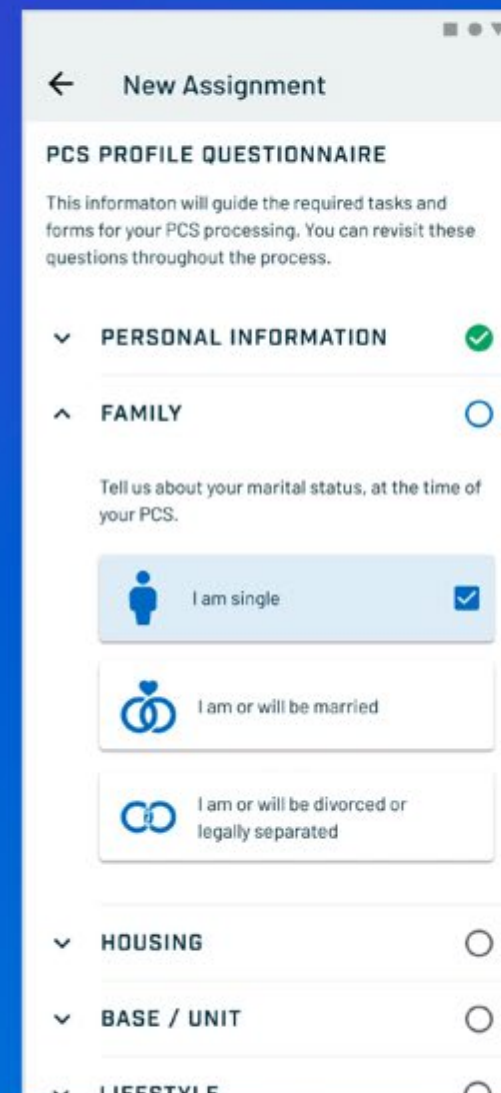
Rank Grade
SSgt E5

Social Security Number
XXX-XX-1234

Date of Birth
DD Mon YYYY

DDO ID Expiration
12-34-56 DD Mmm YYYY

Questionnaire



New Assignment

PCS PROFILE QUESTIONNAIRE

This information will guide the required tasks and forms for your PCS processing. You can revisit these questions throughout the process.

PERSONAL INFORMATION

FAMILY

Tell us about your marital status, at the time of your PCS.

☒ I am single

☐ I am or will be married

☐ I am or will be divorced or legally separated

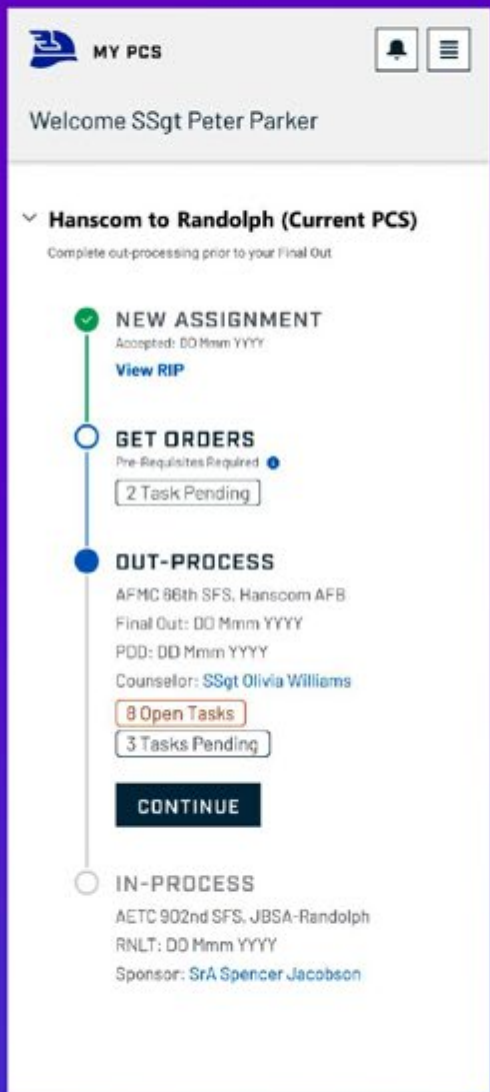
HOUSING

BASE / UNIT

LIFESTYLE

Questionnaire

Managing and Executing Responsibilities



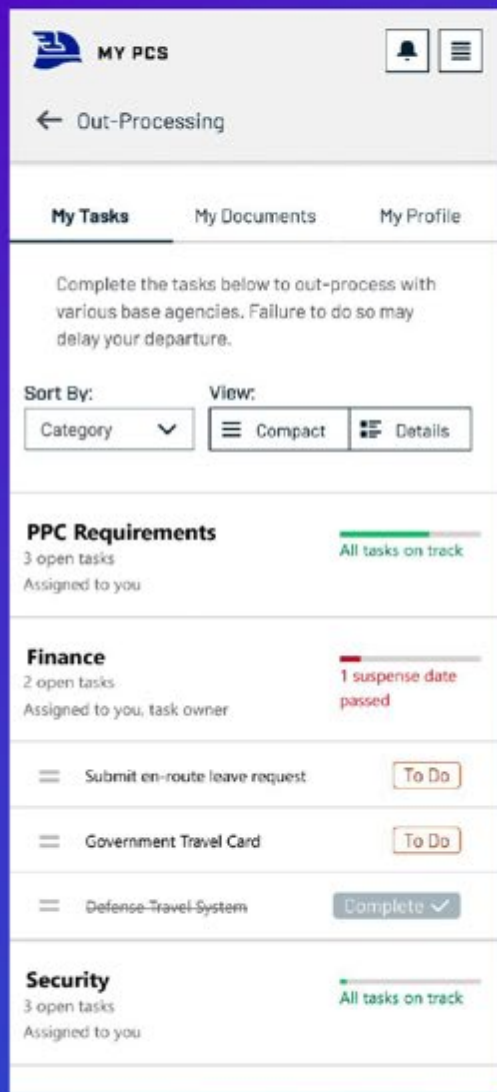
MY PCS

Welcome SSgt Peter Parker

▼ **Hanscom to Randolph (Current PCS)**
Complete out-processing prior to your Final Out

- NEW ASSIGNMENT
Accepted: DD Mmm YYYY
[View RIP](#)
- GET ORDERS
Pre-Requisites Required
2 Task Pending
- OUT-PROCESS
AFMC 86th SFS, Hanscom AFB
Final Out: DD Mmm YYYY
PDD: DD Mmm YYYY
Counselor: SSgt Olivia Williams
8 Open Tasks
3 Tasks Pending
[CONTINUE](#)
- IN-PROCESS
AETC 902nd SFS, JBSA-Randolph
RNLT: DD Mmm YYYY
Sponsor: SRA Spencer Jacobson

Dashboard



MY PCS

← Out-Processing

My Tasks My Documents My Profile

Complete the tasks below to out-process with various base agencies. Failure to do so may delay your departure.

Sort By: Category View: Compact Details

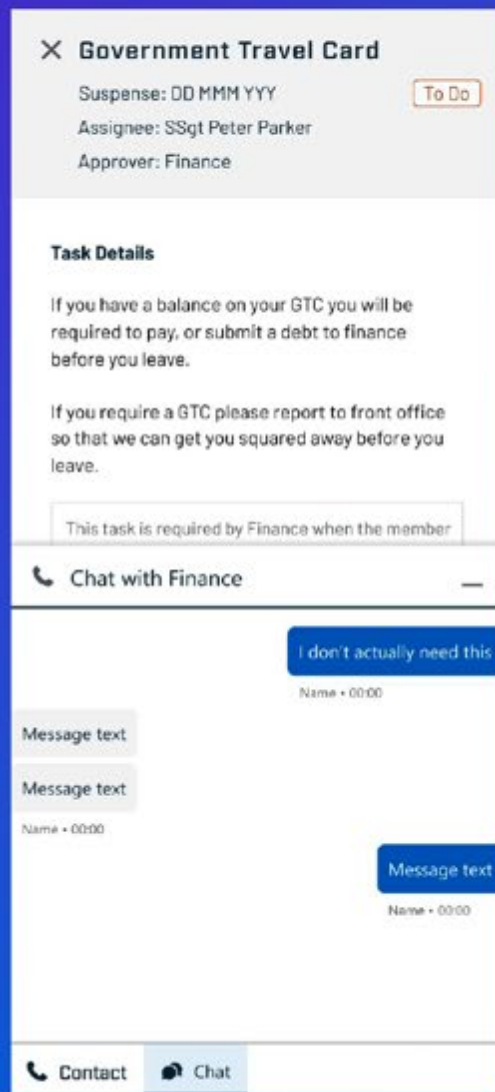
PPC Requirements
3 open tasks
Assigned to you
All tasks on track

Finance
2 open tasks
Assigned to you, task owner
1 suspense date passed

- Submit en-route leave request To Do
- Government Travel Card To Do
- Defense Travel System Complete ✓

Security
3 open tasks
Assigned to you
All tasks on track

Auto-Generated To-Do List



✕ Government Travel Card

Suspense: DD MMM YYYY To Do

Assignee: SSgt Peter Parker
Approver: Finance

Task Details

If you have a balance on your GTC you will be required to pay, or submit a debt to finance before you leave.

If you require a GTC please report to front office so that we can get you squared away before you leave.

This task is required by Finance when the member

Chat with Finance

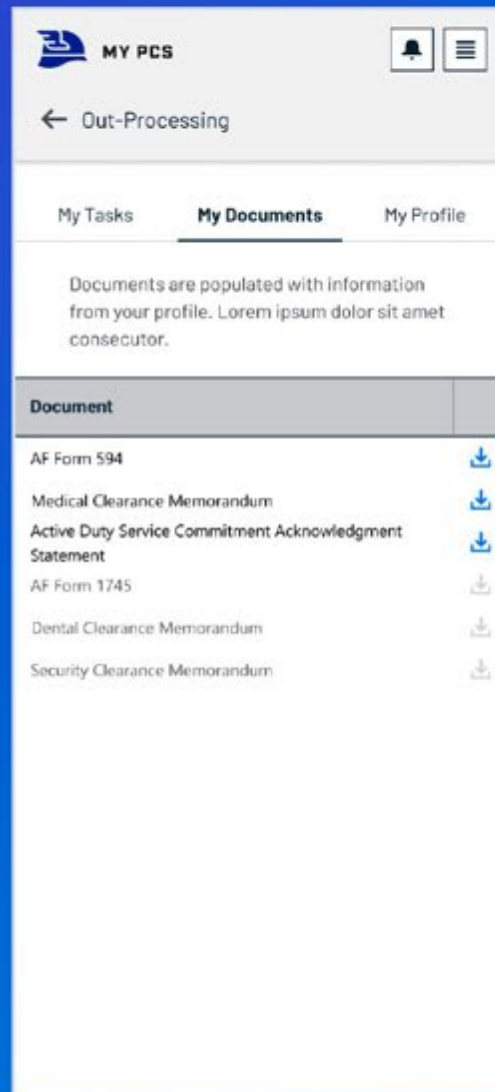
I don't actually need this
Name • 00:00

Message text
Name • 00:00

Message text
Name • 00:00

Contact Chat

Get Details and Direct Chat



MY PCS

← Out-Processing

My Tasks My Documents My Profile

Documents are populated with information from your profile. Lorem ipsum dolor sit amet consectetur.

Document

- AF Form 594
- Medical Clearance Memorandum
- Active Duty Service Commitment Acknowledgment Statement
- AF Form 1745
- Dental Clearance Memorandum
- Security Clearance Memorandum

Auto-populate & Store Docs

Apply Policy and Guidance to Reinforce
all of the Above



UX/Performance Related Policy in Process

UX/Performance Acquisition

- TTPs, for Acquisition Professionals
- Require offerors to include their plan to deliver, measure, track and optimize UX/Performance
- Require evaluation of the offeror's UX plan and factoring it into the overall score
- Other guidance related to source selection
- Goal is to select contractors most capable of delivering the UX/Performance we need

Software/Application User Experience

- Require instrumentation with and use of analytics, using a centralized platform
- Require user feedback, following a standard script, using a centralized platform
- Require use of a Design System that meets a set of minimum requirements
- Require integration of users in the process, augmenting requirements to use DevSecOps

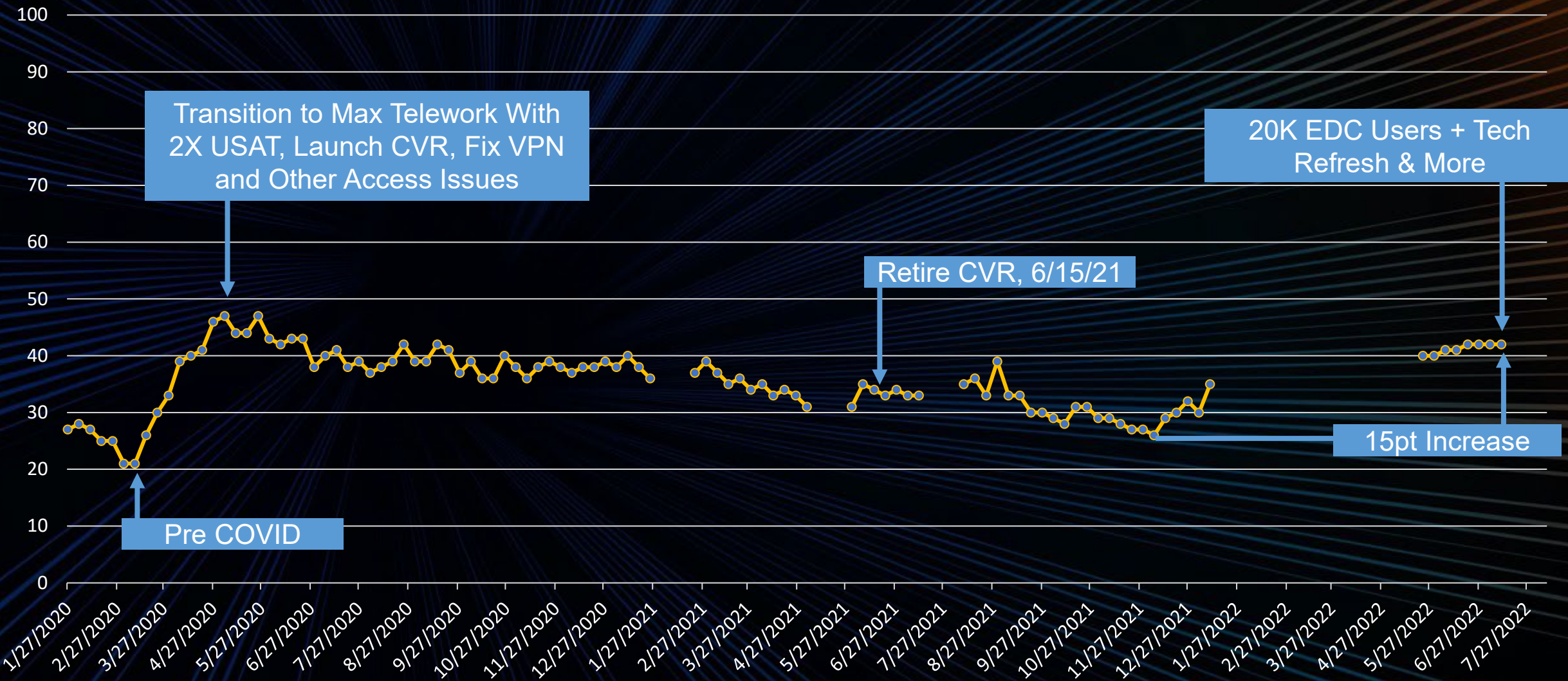
Both of the above augment or build on existing policy related to Human Systems Integration, Human Factors and involving end users in system design/development



Results/Trends



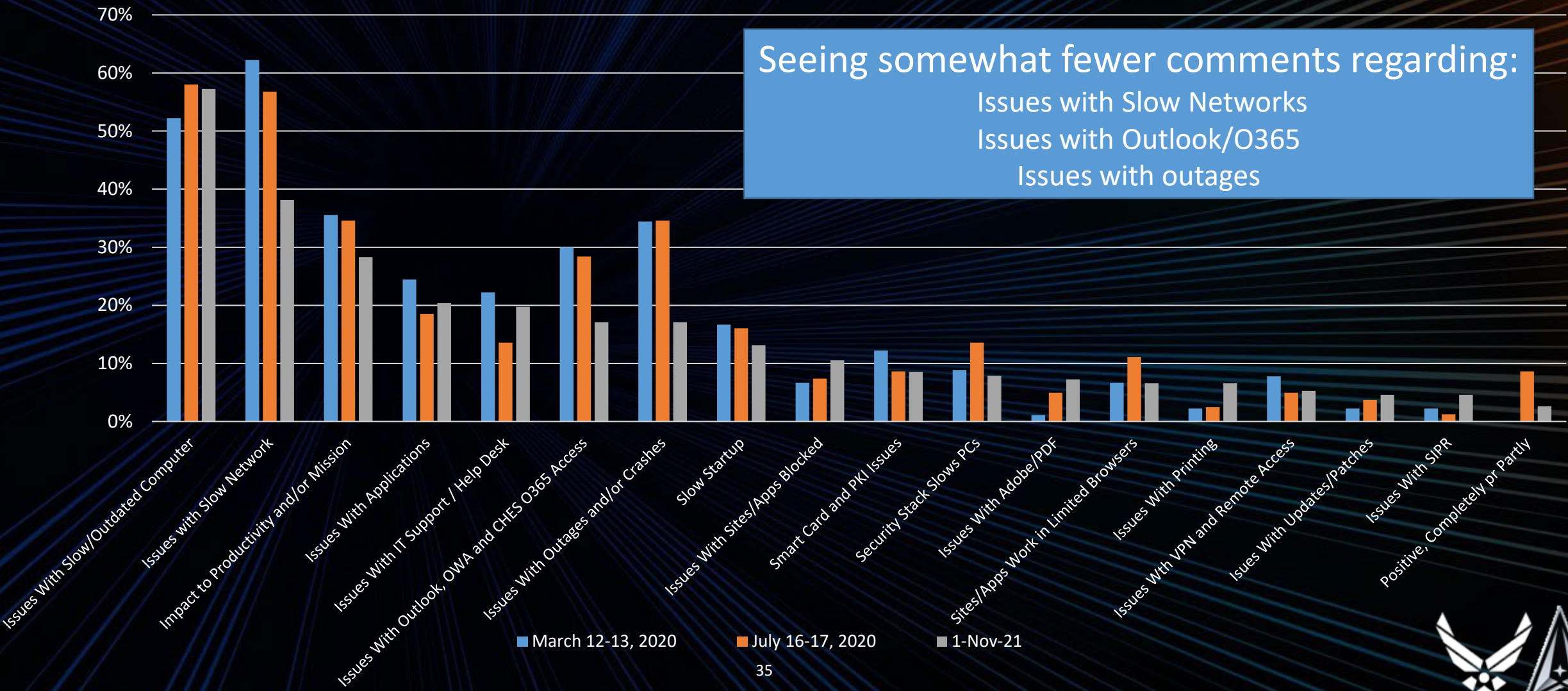
Overall, how satisfied are you with DAF IT (including networks, computers / mobile devices, and the IT Service Desk)?



Source: 2022 AF IT Pulse (AF Survey Office & SAF/CN)
Gaps in data due to staffing constraints at AF Survey Office

Topics of Concern to Dissatisfied Users

Frequency of mentions by topic in comments of respondents to the AF IT Pulse daily survey over three 24-hour periods who answered the first question that they are "Dissatisfied" with Air Force IT service.



EDC User Satisfaction and Performance

MODERN DEVICE IMPACT ON OVERALL IT USER SATISFACTION

(Networks, Computers / Mobile Devices, and the IT Service Desk)

Data Source: IT Pulse Survey during Dec 2020 - Dec 2021 at migrated network bases

 THE EDC DEVICES ARE HELPING
DRIVE OVERALL IT SATISFACTION

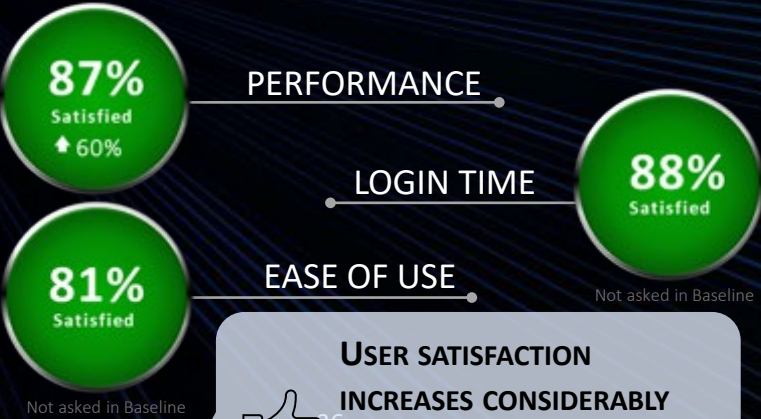


MODERN DEVICE IMPACT ON OVERALL COMPUTER SATISFACTION

Data Source: Device Baseline and Milestone Surveys



NEW LAPTOP SATISFACTION:

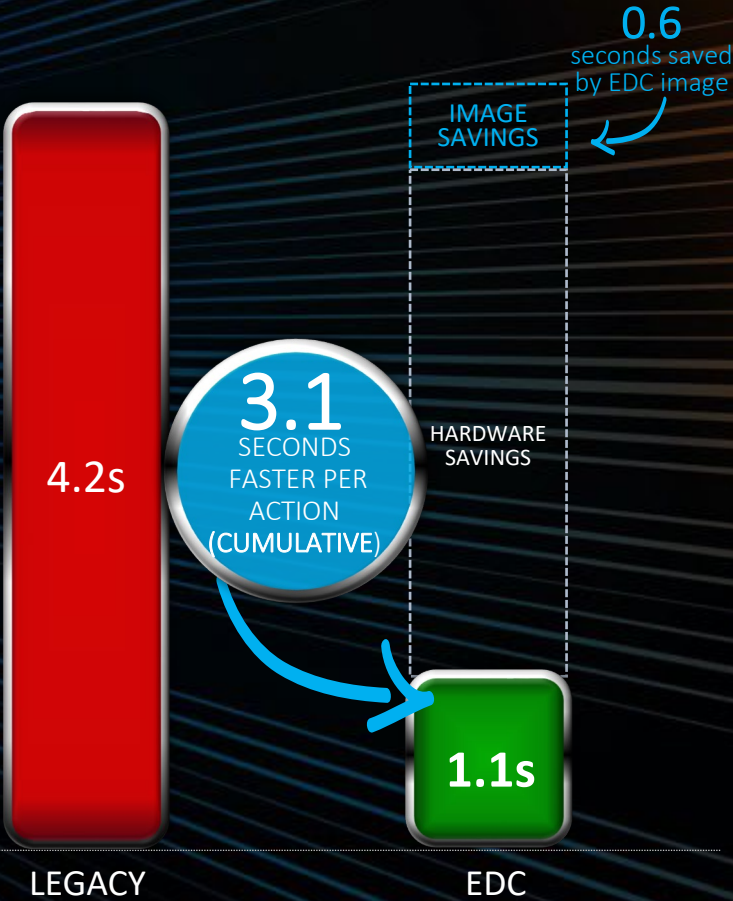


 USER SATISFACTION
INCREASES CONSIDERABLY
WITH THE EDC LAPTOPS

MODERN DEVICE IMPACT ON CUMULATIVE SPEED PER ACTION

Data Source: Aternity

 THE NEW EDC IMAGE ULTIMATELY
BOOSTS PRODUCTIVITY



Other opportunities...



User Satisfaction of IT Support and Help Desk

User Satisfaction With IT Support and Help Desk
Ranges About 3X Across Bases. **Why?**

Q&A

