



**Agency Priority Goal | Action Plan | FY 2022 – Q4**

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# Cybersecurity Agency Priority Goal (APG)

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**Goal Leader(s):**

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Bruce Begnell, Principal Deputy Chief Information Officer  
Donna S. Bennett, Enterprise Chief Information Security Officer

## Goal Overview

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### The U.S. Department of State aims to ...

Through implementation of the Federal Zero Trust Strategy, the Department will improve its security posture by fully securing its infrastructure, networks, and data against internal and external cyber threats. By September 30, 2023, the Department will improve the maturity of all five Zero Trust pillars to the Advanced level as defined by the CISA Zero Trust Maturity Model.

# Goal Overview

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## Problem to Be Solved

- As noted in the newly released Federal Zero Trust Strategy, the Federal Government can no longer depend on conventional perimeter-based defenses to protect critical IT systems and data.
- The Department must address the increased frequency and potential severity of cyber-attacks by modernizing the underpinnings of our IT resource access mechanisms.

## What Success Looks Like

- By building maturity in all five pillars, the Department will develop a capacity to authenticate/protect users, and to dynamically control which devices can access resources. It will ensure all data is encrypted and is managed according to sensitivity and treat all applications as if they are public facing.

## Goal target(s)

In the table below, please repeat the key metrics included in the goal statement (previous slide) that will be used to track progress.

**Please update this column each quarter.**

Achievement statement Repeat the achievement statement from the goal statement on the previous slide		Key indicator(s) A "key performance indicator" measures progress toward a goal target	Quantify progress These values enable us (and you!) to calculate % complete for <u>any</u> type of target*			Frequency When is there new data?
By...	We will...	Name of indicator	Target value	Starting value**	Current value	Update cycle
09/30/23	Improve the maturity level to the "advanced" level in all five zero trust pillars.	Number of pillars* at the "advanced" level**  *The 5 pillars are Identity, Device, Network/Environment, Application Workload, Data  **The 3 maturity levels are Traditional, Advanced, and Optimal	5 pillars	0	0*	Quarterly

\*\* As of 10/1/2021

# Goal Team

## Preliminary Maturity Baseline Assessment

- Senior Leader: IRM/OPS
- Contributing IRM partners: E-CISO, FO
- Contributing Outside Partners: S/ES, CA, DS, CIO Council

## Implementation Plan

- Senior Leader: E-CISO
- Contributing IRM partners: CO, FO, OPS
- Contributing Outside Partners: S/ES, CA, DS, CIO Council, CISA

## Non-.gov hostnames

- Senior Leader: IRM/OPS
- Contributing partners: BMP, CO, FO, OCA
- Contributing Outside Partners: All DOS System Owners

## Categorizations for sensitive electronic documents

- Senior Leader: CDO
- Contributing partners: BMP, CO, E-CISO, FO, OCA, OPS
- Contributing Outside Partners: CISO Council

## Password/Authentication Policies

- Senior Leader: E-CISO
- Contributing partners: E-CISO, FO, OCA, OPS
- Contributing Outside Partners: CISO Council

## Operate FISMA moderate application on the internet

- Senior Leader: OPS
- Contributing partners: CO, FO
- Contributing Outside Partners: All Bureau IT POCs

Legend: CDO – Chief Data Officer; CO – Cyber Operations;  
E-CISO – Enterprise Chief Information Security Office; FO – Foreign Operations;  
OCA – Office of the Chief Architect; OPS – Operations

# Goal Strategies

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Multiple organizations across the Department will work under the guidance of the E-CISO to contribute to the implementation of the [Federal Zero Trust Strategy](#), starting with the FY 2022 Q2 issuance of a Zero Trust Implementation Plan. Progress is achieved by advancing the maturity of activities within each pillar, with the goal of each pillar achieving optimal maturity. Maturity assessments will use the rubric defined in the [CISA Maturity Model](#). A long-term effort, full implementation of a Zero Trust framework will exceed the period of this APG but should be achieved by the end of FY 2024.

# Zero Trust Pillars

As noted in the [Federal Zero Trust Strategy](#), the five Zero Trust pillars envision the following:

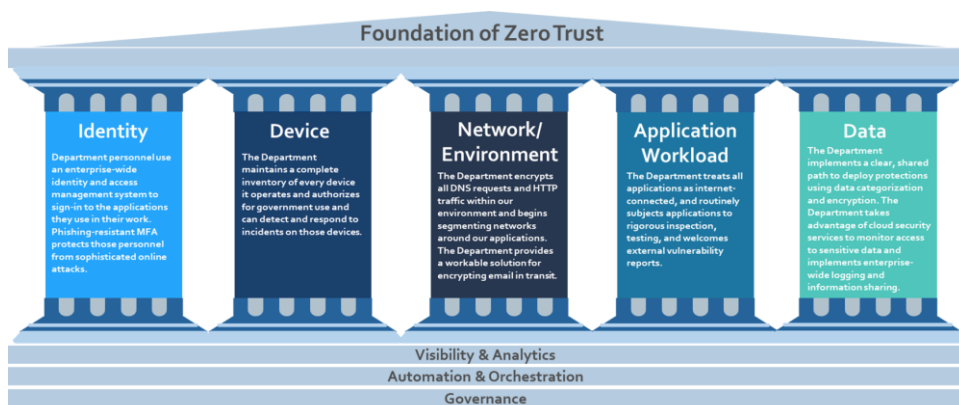
**Identity:** Use enterprise-managed identities to access the applications in our work. Phishing-resistant MFA protects personnel from sophisticated online attacks.

**Device:** Maintain a complete inventory of every device authorized and operated for official business that can prevent, detect, and respond to incidents on those devices.

**Network:** Encrypt all DNS requests and HTTP traffic within our environment and begin executing a plan to break down perimeters into isolated environments.

**Applications and Workloads:** Treat all applications as internet-connected, routinely subjecting applications to rigorous empirical testing, and welcoming external vulnerability reports.

**Data:** Embark on a clear, shared path to deploy protections that make use of thorough data categorization. Take advantage of cloud security services and tools to discover, classify, and protect sensitive data, and implement enterprise-wide logging and information sharing.



# Zero Trust Pillar Maturity Levels

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**Traditional** – manual configurations and assignment of attributes, static security policies, pillar-level solutions with coarse dependencies on external systems, least-function established at provisioning, proprietary and inflexible pillars of policy enforcement, manual incident response and mitigation deployment.



**Advanced** – some cross-pillar coordination, centralized visibility, centralized identity control, policy enforcement based on cross-pillar inputs and outputs, some incident response to pre-defined mitigations, increased detail in dependencies with external systems, some least-privilege changes based on posture assessments.



**Optimal** – fully automated assigning of attributes to assets and resources, dynamic policies based on automated/observed triggers, assets have self-enumerating dependencies for dynamic least-privilege access (within thresholds), alignment with open standards for cross-pillar interoperability, centralized visibility with historian functionality for point-in-time recollection of state.





# Key indicators

Indicator Title	Current Value	FY 2022 Target	FY 2023 Target
<b>Zero Trust Maturity</b>			
Number of individual pillars advancing to the “Advanced” maturity level each year. (Traditional, Advanced, Optimal)**	0	2	5
<b>Zero Trust Maturity</b>			
Number of activities advanced within Pillar 1 – Identity	3	3	12
Number of activities advanced within Pillar 2 – Device	3	3	12
Number of activities advanced within Pillar 3 – Network/Environment	3	3	12
Number of activities advanced within Pillar 4 – Application Workload	1	4	14
Number of activities advanced within Pillar 5 – Data	3	3	12

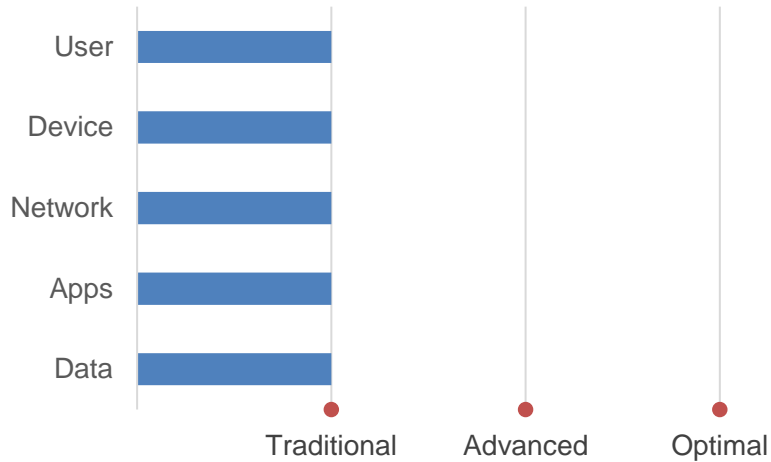
\*After completing the CISA Baseline Assessment one activity in the Identity column was already completed. The targets, however, remain the same because the targets are based on reaching an “Advanced” maturity by September 30, 2023.

\*\* The Department’s starting point in the CISA model is “Traditional.” During the CISA assessment phase, we determined that our investments in Identity, Credential, and Access Management (ICAM) contributed toward an advancement in the Identity Pillar. For the remaining pillars, we reset our cybersecurity baseline at Traditional during the assessment.

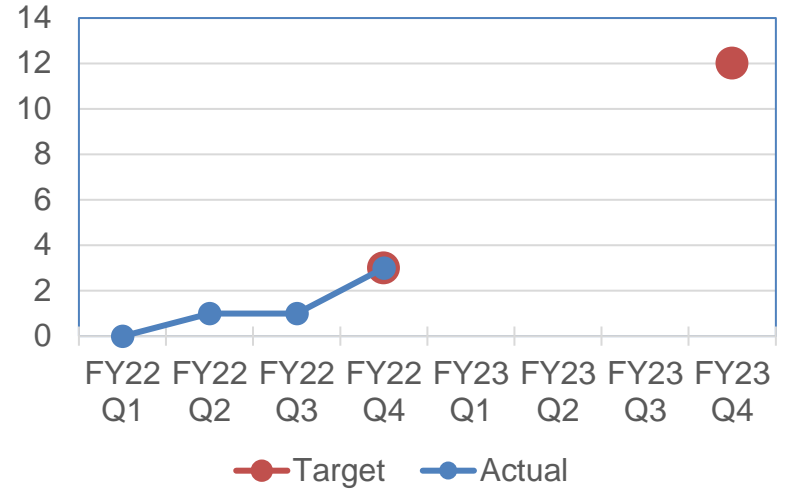
<sup>1</sup> Adjusted FY 2023 Target number to include all shared functions from the CISA Trust Maturity Model.

# Key indicators

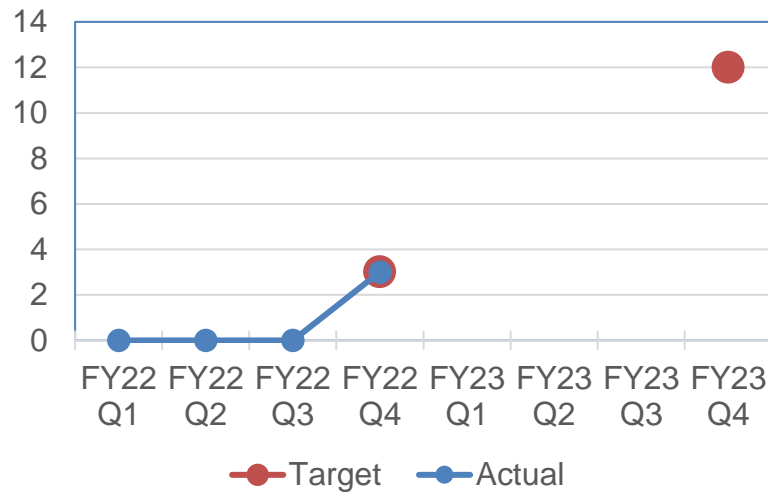
### Maturity Level of Each Zero Trust Pillar



### Number of Advancements in Identity Pillar

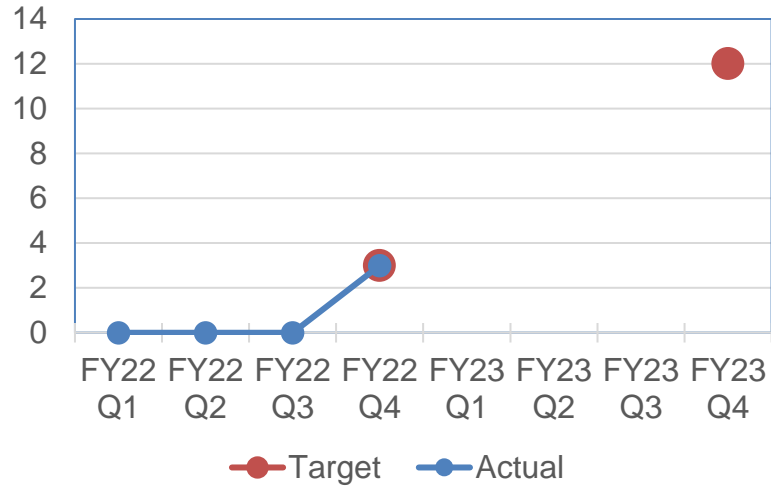


### Number of Advancements in Device Pillar

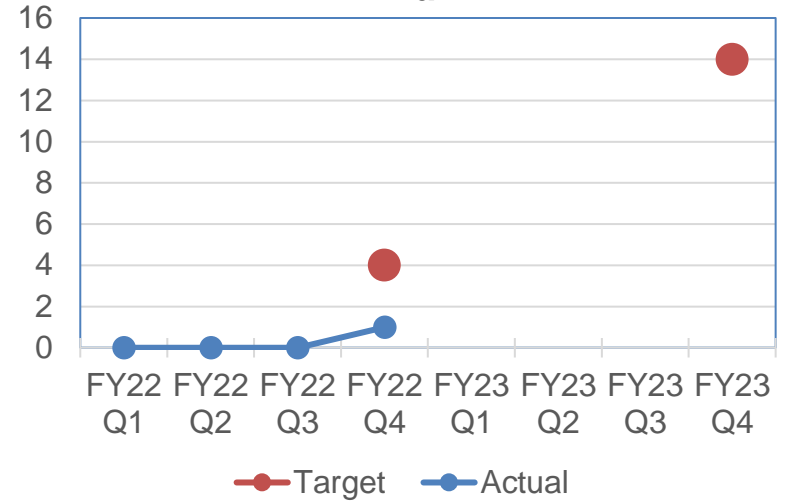


# Key indicators

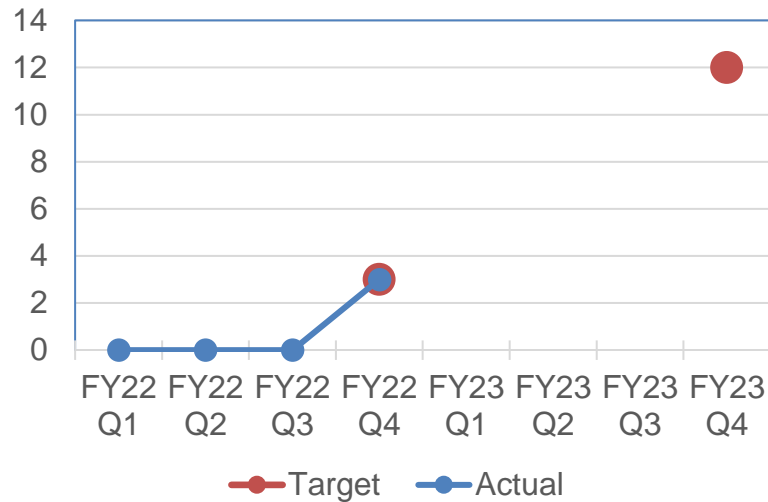
## Number of Advancements in Network Pillar



## Number of Advancements in Application Pillar



## Number of Advancements in Data Pillar



# Key milestones

Milestone Summary			
Key Milestone*	Milestone Due Date <i>[e.g., Q2, FY 2017]</i>	Milestone Status <i>[e.g., Complete, On-Track, Missed, Ongoing]</i>	Comments <i>[Provide discussion of Progress, changes from last update, Anticipated Barriers or other Issues Related to Milestone Completion]</i>
Complete a Preliminary Zero Trust Maturity Baseline Assessment.	Q1, FY 2022	Complete	We completed an assessment of three target systems. The results will help us identify maturity gaps and develop a Zero Trust architecture.
Submit to OMB and CISA an implementation plan for FY 2022-FY 2024 for OMB concurrence, and an implementation budget estimate for FY 2023-2024.	Q2, FY 2022	Complete	The CIO submitted the Zero Trust Implementation Plan for the Department on March 29, 2022.
Build and submit to CISA and GSA a list of internet accessible systems utilizing domains other than “.gov”.	Q2, FY 2022	Ongoing	The Department is continuing to identify a complete list of DNS names that are in use and do not end in .gov. An official delivery date has not been confirmed, however, this information will be reported to CISA and GSA as it is identified.  IRM continues to discover through research that all Department websites are tracked and reported in the iMatrix system tool, a request was made to update the necessary fields to create the other than ".gov" list. . E-CISO receives weekly reports for non.gov websites.
Develop a set of initial categorizations for sensitive electronic documents.	Q3, FY 2022	Complete	The Department enables information protection within Azure Information Protection (AIP) Office 365 and MS Office Product suite.
Deploy phishing-resistant authentication mechanism for all multi-factor enabled public-facing Department systems.	Q2, FY 2023	On Track	The Department has deploying KnowB4 as an enterprise solution. An authority to operate (ATO) has been issued.

\* These Milestones for Zero Trust Implementation originate from M-22-09 “Federal Zero Trust Strategy”

# Key milestones

Milestone Summary			
Key Milestone*	Milestone Due Date <i>[e.g., Q2, FY 2017]</i>	Milestone Status <i>[e.g., Complete, On-Track, Missed]</i>	Comments <i>[Provide discussion of Progress, changes from last update, Anticipated Barriers or other Issues Related to Milestone Completion]</i>
Remove from all systems password policies that require special characters and regular password rotation.	Q2, FY 2023	On Track	Multi-factor authentication is being deployed across the Department. IRM enterprise systems has implemented for enterprise systems. Bureaus continue to implement for their respective system.
Select at least one FISMA Moderate system that requires authentication and is not currently internet-accessible, and securely allow full-featured operation over the internet.	Q3, FY 2023	On Track	IRM identified SAFE as the moderate system. SAFE is also a High Valued Asset (HVA) system.

\* These Milestones for Zero Trust Implementation originate from M-22-09 “Federal Zero Trust Strategy”

## Narrative – FY 2022 Q4

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The Department continues to collaborate with key stakeholders to implement Zero Trust capabilities throughout the enterprise. The Identity, Credential Asset Management (ICAM) Zero Trust working group continues to meet with the goal of maturing and advancing the identity capabilities in a phased approach of reaching an advanced maturity level. In August 2022, working groups were established for the remaining pillars (Data, Network/Environment, Application Workload and Data). The following activities were addressed by the working group to incrementally advance identity capabilities.

- Achieved Initial Operating Capability (IOC) for the Master User Record (MUR) which is a unique representation of a user's accounts, personas (digital identity), attributes, entitlements, and credentials with an organization
- Initiate a FIDO2 Pilot
- Implemented KnowB4 to address the phishing resistant solution
- Continue to implement Multi-Factor Authentication (MFA) throughout the enterprise and bureaus
- Continue to expand Data Loss Prevention (DLP) capabilities
- Completed the Cybersecurity Data Campaign, led by the Chief Data Officer (CDO), to finalize data categorization plan

# Data accuracy & reliability

## Definitions

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### Accuracy

- High – Very few false negatives and few false positives. Data in the system is correct and up to date.
- Medium – Acceptable number of false positives and negatives. The data in the system is useful in aggregate and reliable when combined with other systems.
- Low – Unacceptable false positives and negatives. The data cannot be trusted.

### Reliability

- High – Data includes all enterprise objects of one type in one view. Data does not rely on a trust relationship, for example a software agent or manual data entry.
- Medium – Data is nearly complete. Manual entry or software agents have been verified.
- Low – Partial view of the enterprise.

# Data accuracy & reliability

Data Source on	Accuracy (see definitions slide)	Reliability (see definitions slide)	Notes
Network Management Tools	High	High	These tools monitor network health, security, and configuration across the enterprise.
Configuration Master Data Base (CMDB)	High	Low	Commercial off the shelf software catalogs all assets on the network. Requires trusted connection to an agent. Partial implementation and capture of data on October 1, 2021.
Authority to Operate Tracking (ATO) System	High	Med	Catalog of FISMA applications and their ATO status
Capital planning database	Med	Med	Database of IT investments
FISMA Reporting	High	Med	Department of Homeland Security (DHS) quarterly Cybersecurity Risk Management Assessment report



# Additional information

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## **Contributing Programs**

### *Organizations:*

- Bureau of Information Resource Management (IRM); CIO Council (Leadership Stakeholders across the Department of State)

### *Program Activities:*

- Development of Zero Trust enterprise policies and standards
- Development of Zero Trust enterprise solution architecture

### *Regulations:*

- Executive Order (EO) 14028: *Improving Nation's Cybersecurity*; Executive Order (EO) 13800: *Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure*; Federal Information Security Management Act (FISMA);

### *Policies:*

- 5 FAM and 12 FAM

### *Other Federal Activities:*

- OMB memorandum M-22-09, President's Management Agenda (PMA), CISA's Zero Trust Maturity Model, DOD's Zero Trust Framework

### *Stakeholder / Congressional Consultations*

- IRM regularly reports status to OMB and upon request briefs Senate and House committees.