



# Credential Authentication Technology Procurement and Deployment

*September 7, 2021*

Fiscal Year 2021 Report to Congress



**Homeland  
Security**

*Transportation Security Administration*

# Message from the Administrator

September 7, 2021

I am pleased to present the following report, “Credential Authentication Technology Procurement and Deployment,” which was prepared by the Transportation Security Administration (TSA).

This report was compiled in response to direction in the Joint Explanatory Statement accompanying the Fiscal Year (FY) 2021 Department of Homeland Security Appropriations Act (P.L. 116-260). It discusses TSA’s accomplishments to date in deploying the credential authentication capability at our Nation’s airports and provides TSA’s plan for the deployment of additional Credential Authentication Technology (CAT) systems. TSA appreciates the additional funding that Congress provided in FY 2021 for the procurement of CAT systems, which will provide added security and broader distribution of this capability.



Pursuant to congressional requirements, this report is being provided to the following Members of Congress:

The Honorable Lucille Roybal-Allard  
Chairwoman, House Appropriations Subcommittee on Homeland Security

The Honorable Chuck Fleischmann  
Ranking Member, House Appropriations Subcommittee on Homeland Security

The Honorable Chris Murphy  
Chair, Senate Appropriations Subcommittee on Homeland Security

The Honorable Shelley Moore Capito  
Ranking Member, Senate Appropriations Subcommittee on Homeland Security

Inquiries relating to this report may be directed to me at (571) 227-2801 or to TSA’s Legislative Affairs office at (571) 227-2771.

Sincerely,

David P. Pekoske  
Administrator

# Executive Summary

TSA has made tremendous strides in advancing aviation security through innovative technology investments and continuous evaluation of workforce productivity. By developing new technologies and process improvements, TSA is screening passengers and their baggage more effectively and efficiently.

TSA continues to assess and evaluate additional checkpoint technologies and capabilities to maximize threat detection and efficiency. One emerging checkpoint technology is CAT. This system is used to verify the authenticity of a passenger's identification document while verifying in near real-time the passenger's flight reservation and prescreening status through a network connection to Secure Flight. TSA began deploying CAT systems in 2019 with two incremental procurements in FY 2019 and FY 2020. The total quantity of deployed CAT systems is 1,053 across 119 airports, plus training and testing facilities.

TSA will use FY 2021 funds to procure the remaining 467 CAT systems to achieve the full operational capability (FOC) quantity of 1,520 units. This Phase 3 deployment will start in the summer of 2021. TSA will obligate the remaining funding on the basis of the congressional direction in the Joint Explanatory Statement accompanying P.L. 116-260.

The key areas to which the funding will be directed are:

- Continuing remediation efforts to ensure that the necessary infrastructure (for example, data connectivity capability and power) is available to support deployment of CAT systems to all security screening lanes at federalized airports,
- Procurement of CAT systems above the current FOC, and
- Deployment of CAT systems to small and rural airports.



# Credential Authentication Technology Procurement and Deployment

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# I. Legislative Language

This report is submitted in response to direction in the Joint Explanatory Statement accompanying the Fiscal Year (FY) 2021 Department of Homeland Security (DHS) Appropriations Act (P.L. 116-260).

The Joint Explanatory Statement states:

*CAT*.—Within 90 days of the date of enactment of this Act, TSA shall provide a report to the Committees detailing airports at which CAT is currently deployed; airports at which CAT is not currently deployed; and a plan for the full procurement and deployment of CAT systems at all of the Nation’s airports.

## II. Background

The Transportation Security Administration (TSA) seeks to ensure that TSA employs a risk-based approach to all checkpoint operations. The goal is to identify, manage, and mitigate risk in all TSA lines of business. TSA transportation security officers (TSO) routinely encounter individuals who attempt to use fraudulent travel documents—or documents belonging to someone else—when they present themselves for checkpoint screening. To address this vulnerability, TSA has made a number of improvements to its Credential Authentication Technology (CAT) systems.

CAT has a high-detection capability for the following security vulnerabilities of longstanding concern to TSA:

- Fraudulent self-reported data for Secure Flight passenger prescreening,
- Out-of-state boarding passes,
- Fraudulent boarding passes,
- Misidentification of individuals on watch lists who require enhanced screening or denial of boarding, and
- Identification of fraudulent identification documents (ID).

CAT closes security gaps and enhances the passenger screening process at the checkpoint by improving the inspection of IDs and by confirming the passenger's Secure Flight prescreening status. Through the integration of various technologies, CAT authenticates acceptable forms of IDs and compares a passenger's information contained on the ID to information submitted to Secure Flight during the flight reservation process. This integration allows TSA to confirm that a passenger has an appropriate flight reservation to proceed through security screening.

In addition, CAT improvements support TSA's Coronavirus Disease 2019 (COVID-19) protocols by facilitating procedural, operational, and technological changes that support social distancing, limit cross-contamination scenarios, and reduce physical interaction between the TSO and the passenger. For example, the current process of verifying a passenger's identity requires the passenger to hand his or her ID to the TSO at the Traveler Document Checker station. In response to the COVID-19 pandemic, TSA began orienting the systems physically to allow passengers to insert their own IDs.

### CAT Deployments to Date

- **Phase 1 Deployment:** TSA's first deployment consisted of 505 CAT systems procured in FY 2019, in addition to 47 low-rate initial production systems procured for testing and evaluation purposes. The systems were distributed between the end of September 2019 and early March 2020. At the conclusion of this phase, 552 CAT systems were deployed at 47 airports, the TSA Academy (located at the Federal Law Enforcement Training Center in Georgia), the TSA Systems Integration Facility (TSIF), and vendor facilities.

- **Phase 2 Deployment:** TSA’s second deployment, which occurred between July 2020 and mid-January 2021, consisted of 501 CAT systems procured in FY 2020. At the conclusion of this phase, a total of 1,053 systems was deployed at 119 airports (Categories X, I, II, and III), the TSA Academy, and the TSIF.
- **Remediation:** Remediation work ensures that airports have electrical and data ports to connect and support CAT systems. The CAT program has completed remediation at 15 airports: Atlanta, Austin, Nashville, Boston, Baltimore/Washington Thurgood Marshall, Charlotte Douglas, Ronald Reagan Washington National, Fort Lauderdale-Hollywood, Indianapolis, McCarran (Las Vegas), Los Angeles, Raleigh-Durham, Portland, Miami, and Seattle-Tacoma.

### III. Current Status of CAT

In FY 2020 and FY 2021, TSA primarily focused on the expansion of the CAT capability in the field to achieve full operational capability (FOC) over system enhancements and site remediation. As of January 2021, 1,053 CAT systems are operational at 119 airports (Categories X, I, II, and III), the TSA Academy, and the TSIF, as shown in **Figures 1 and 2**. The program is funded and is on schedule to achieve FOC of 1,520 systems by the first quarter of FY 2022, as documented in the DHS-approved Acquisition Program Baseline.

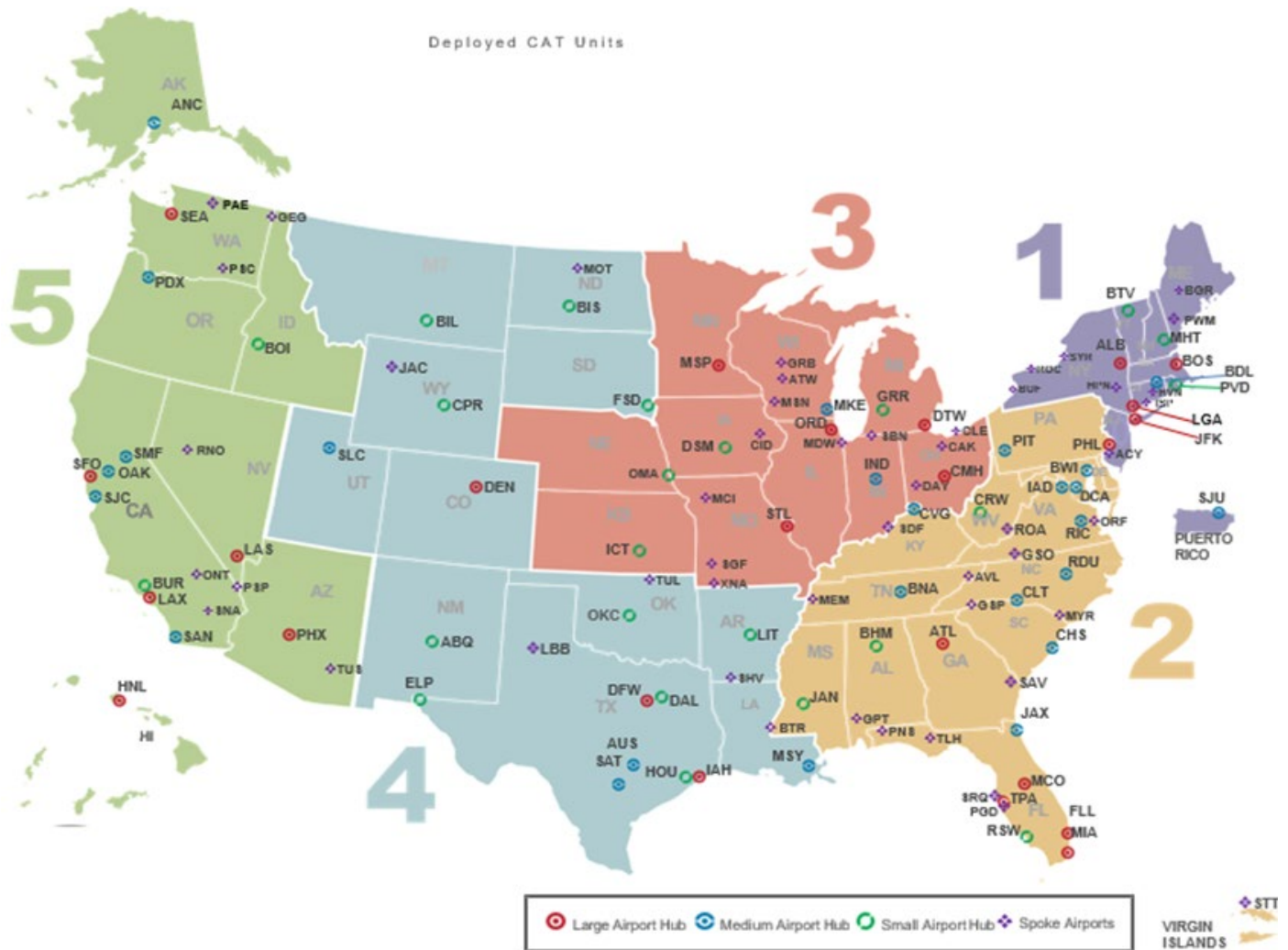
**Figure 1: Deployment Location and Number of CAT Systems Deployed<sup>1</sup>**

Location	Region	Category	Deployed
ABQ	4	I	4
ACY	1	II	2
ALB	1	I	2
ANC	5	I	4
ATL	2	X	57
ATW	3	II	2
AUS	4	I	8
AVL	7	II	3
BDL	1	I	5
BGR	1	II	2
BHM	2	I	3
BIL	5	II	2
BIS	3	II	1
BNA	7	I	8
BOI	5	I	5
BOS	1	X	39
BTR	4	II	2
BTV	1	II	2
BUF	1	I	2
BUR	6	I	5
BWI	7	X	36
CAK	3	II	4
CHS	2	I	6
CID	3	II	3
CLE	3	I	6
CLT	7	X	26
CMH	3	I	6
CRW	7	III	1
CVG	7	I	5
DAY	3	II	2
DCA	7	X	9
DEN	5	X	11
DFW	4	X	29
DSM	3	II	3
DTW	3	X	13
ELP	4	I	8
FLL	2	X	43
FSD	3	II	2
GEG	5	I	8
GPT	4	II	2
GRB	3	II	2
GRR	3	I	3
GSO	7	II	4
GSP	2	II	4
HNL	6	X	17
HOU	4	I	4
HPN	1	II	2
IAD	7	X	9
IAH	4	X	11
ICT	3	II	3
IND	3	I	6
ISP	1	II	4
JAC	5	II	3
JAN	4	II	2
JAX	2	I	3
JFK	1	X	22
LAS	6	X	16
LAX	6	X	92
LBB	4	II	2
LGA	1	X	18
LIT	4	II	5
MCI	3	I	5
MCO	2	X	12
MDW	3	I	6
MEM	7	I	4
MHT	1	II	3
MIA	2	X	63
MKE	3	I	7
MOT	3	III	1
MSN	3	II	4
MSP	3	X	16
MSY	4	I	8
MYR	2	II	5
OAK	6	I	5
OMA	3	I	8
ONT	6	I	4
ORD	3	X	19
ORF	7	I	6
PAE	5	II	2
PDX	5	I	7
PGD	2	II	5
PHL	7	X	16
PHX	6	X	17
PIT	7	I	4
PNS	2	II	2
PSC	5	II	2
PSP	6	II	4
PVD	1	I	5
PWM	1	II	3
RDU	7	I	25
RIC	7	I	5
RNO	6	I	3
ROA	7	II	2
ROC	1	II	6
RSW	2	I	6
SAN	6	I	11
SAT	4	I	4
SAV	2	II	4
SBN	3	II	2
SDF	7	I	3
SEA	5	X	13
SFO	6	X	20
SGF	3	II	2
SHV	4	II	2
SJC	6	I	7
SJU	2	X	9
SLC	5	I	15
SMF	6	I	6
SNA	6	I	6
SRQ	2	II	2
STL	3	X	9
STT	2	II	3
SYR	1	II	2
TLH	2	II	2
TPA	2	I	9
TUL	4	I	5
TUS	6	I	5
TYS	7	II	2
XNA	4	II	4
TSIF			2
FLTC			1

<sup>1</sup> As of January 31, 2021.



Figure 2: Deployment Locations of CAT Systems<sup>2</sup>



## Expanding CAT Capability to All Checkpoint Lanes

Given the criticality of airport security, Congress provided additional funding to TSA in FY 2021 to deploy the CAT capability rapidly to additional airports. TSA received approval from the DHS Deputy Under Secretary of Management (DUSM) to procure and deploy an additional 600 systems on March 22, 2021. TSA is evaluating the FOC of the CAT program to incorporate these increased quantities. TSA calculated the original CAT FOC quantity anticipating one system per PreCheck<sup>®</sup> lane and one system per two standard lanes; however, the updated requirement is two systems per PreCheck<sup>®</sup> lane, and one system for each standard lane to meet current passenger throughput needs. This change, combined with airport growth and safety stock, substantially increased the number of CAT units required in the field.

<sup>2</sup> As of January 31, 2021.

## Planned Activities

- **CAT Procurement FY 2021:** TSA is working on a contract award for the procurement of 467 CAT systems to complete the approved FOC. CAT also received additional Procurement, Construction, and Improvement (PC&I) funding in FY 2021. This additional PC&I and Operations & Support funding is allowing the program to procure, install, and connect an additional 534 CAT systems, with DHS DUSM approval.
- **Phase 3 Deployment:** TSA's third phase of CAT deployment, which starts in the third quarter of FY 2021, will deploy 467 systems and will include smaller airports (Categories III and IV) with the current infrastructure needed to support the CAT operations.
- **Remediation:** Congress provided additional FY 2021 PC&I funding for infrastructure-site remediation work at approximately 150 airports, which is required to prepare airports with power and data connections for CAT installation. Remediation includes planning, permitting, and construction, including drilling, wiring, and post-construction cosmetic repairs. This funding will complete remediation at Category X and I airports and will allow TSA to begin remediation at smaller airports to support future CAT deployments. Remediation is estimated to take up to 1 year to complete, so funding for it generally is required 1 fiscal year ahead of a planned deployment.
- **CAT Rebaseline:** TSA is working to rebaseline the CAT program by the end of FY 2021 as directed by the DHS DUSM on March 22, 2021. The intent is for TSA to be able to deploy CAT systems to cover all security screening lanes at federalized airports. Additionally, the rebaselined program will provide the program office with flexibility to address emerging threats (such as new fraudulent IDs) rapidly, to accelerate the integration of enhanced capabilities (for example, biometrics and mobile driver's licenses), and to accommodate additional ID enhancements (for example, designation on certain IDs that the holder has a communication impairment).
- **CAT-2 Upgrade Kits:** The additional FY 2021 PC&I funding provided by Congress will support the procurement of up to 122 upgrade kits to support the testing and evaluation of enhanced capabilities. The effort will focus on developing and deploying a self-service upgrade to currently deployed CAT units that allows for biometric verification of passenger identity using a camera and 1:1 facial matching (i.e., the face on the passenger to the face on the ID) as part of the ID verification process. This upgrade package will promote social distancing and will reduce TSO contact with passengers by allowing passengers to present their own physical ID to the CAT device. The CAT-2 design will include a Plexiglas™ barrier to maximize the separation between the passenger and the TSO.<sup>3</sup> The upgrade to CAT-2 will reduce greatly the potential for exchange of harmful microbes between the passengers and TSOs while improving security at the checkpoint.

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<sup>3</sup> The system design includes the Plexiglas™ barrier, which was included in the original unit cost.

## IV. Independent Oversight and DHS Response

In January 2012, the DHS Office of Inspector General (OIG) conducted a security audit (OIG-12-26) to address a security vulnerability at the checkpoint. TSA established the CAT program to address the findings of this audit. Although OIG closed out most of the recommendations in this report in 2019, it carried one of them over into a subsequent report (OIG-19-21, February 2019) titled, “Covert Testing of Access Controls to Secure Airport Areas,” as Recommendation #5. Because the deployment of CAT addresses the security vulnerability identified in 2012, OIG will close out Recommendation #5 when 75 percent of the program FOC is reached, or when 1,140 CAT systems are deployed successfully to airports.

## V. Conclusion

TSA expects to complete the third-phase deployment of 467 CAT systems in the first quarter of FY 2022, meeting the approved FOC of 1,520 units. However, the approved FOC does not meet TSA's current operational needs, which require similar levels of security at large and smaller airports. Therefore, TSA will expand the CAT program to include an additional 2,065 CAT systems to cover all lanes at all federalized airports. To deploy additional CAT systems above the existing FOC quantity of 1,520, site remediation is a necessary priority. Site remediation ensures that airports have the requisite power and data to support the operation of additional systems with power and data. Funding for site remediation generally is required 1 year ahead of a planned site deployment. TSA is directing the majority of its CAT funding to the remediation effort.

## Appendix. Abbreviations

<b>Abbreviation</b>	<b>Definition</b>
CAT	Credential Authentication Technology
COVID-19	Coronavirus Disease 2019
DHS	Department of Homeland Security
DUSM	Deputy Under Secretary for Management
FOC	Full Operational Capability
FY	Fiscal Year
ID	Identification Document
OIG	Office of Inspector General
PC&I	Procurement, Construction, and Improvement
TSA	Transportation Security Administration
TSIF	TSA Systems Integration Facility
TSO	Transportation Security Officer