

CJIS Security Policy Use Cases:

CSP Section 5.6.2.2 Advanced Authentication

A Local Police Department Authentication Control Scenario

During the course of an investigation, a detective attempts to access Criminal Justice Information (CJI) from a hotel room using an agency issued mobile broadband card. To gain access, the detective first establishes the remote session via a secure virtual private network (VPN) tunnel (satisfying the requirement for encryption). Upon connecting to the agency network, the detective is challenged for a username (identification), password (“something you know”), and a one-time password OTP (“something you have”) from a hardware token to satisfy the requirement for advanced authentication. Once the detective’s credentials are validated, his identity is asserted by the infrastructure to all authorized applications needed to complete his queries.

Use of a Smart Card

A user is issued a smart card that is loaded with user-specific digital certificates from a terminal within a controlled area. The user selects an application that will provide access to Criminal Justice Information (CJI) then enters the proper username (identification) and password (“something you know”). Once prompted, the user connects the smart card (“something you have”) to the terminal. The user is prompted to enter a personal identification number (PIN) to unlock the smart card. Once unlocked, the smart card sends the certificates to the authentication management server at the local agency where the combined username, password, and digital user certificates are validated. The user has satisfied the requirement for AA and is granted access to CJI.

Out of Band One-Time-Password (OTP) – Mobile phone-based

Using an agency- issued laptop, a user connects to the agency network via an agency-issued mobile broadband card and an encrypted virtual private network (VPN) tunnel. As part of an on-going investigation, the user initiates an application that will permit access to Criminal Justice Information (CJI). The user is prompted to enter a username (identification) and a password (“something you know”). Once that has been completed, a text message containing a one-time password (OTP) is sent via text message (out of band) to the user’s agency-issued cell phone. The user is challenged via the CJI application for that OTP. The user enters the OTP (“something you have”) then the username, password, and OTP are validated. The user has satisfied the requirement for AA and is granted access to CJI.

Improper Use of a One-Time-Password (OTP) – Laptop

Using an agency- issued laptop, a user connects to the agency network via an agency-issued mobile broadband card and an encrypted virtual private network (VPN) tunnel. As part of an on-going investigation, the user initiates an application that will permit access to Criminal Justice Information (CJI). The user is prompted to enter a username (identification) and a password (“something you know”). Once that has been completed, a one-time password (OTP) is sent to the user’s agency-issued

laptop (in band) via pop-up message. The user is challenged via the CJI application for that OTP; however, the delivery of the OTP to the device that is being used to access CJI (in band) defeats the purpose of the second factor. This method does not satisfy the requirement for AA, and therefore the user should not be granted access to CJI. See the below explanation:

This method of receiving the necessary OTP (in band) does not guarantee the authenticity of the user's identity because anyone launching the CJI application and entering a valid username/password combination is presented the OTP via a pop-up which is intended to be the second factor of authentication. This method makes the application accessible to anyone with knowledge of the valid username and password. Potentially, this is no more secure than using only a single factor of authentication.

Risk-based Authentication (RBA) Implementation

A user has moved office locations and requires email access (containing Criminal Justice Information) via an Outlook Web Access (OWA) client utilizing a risk-based authentication (RBA) solution. The user launches the OWA client and is prompted to enter a username (identification) and a password ("something you know"). The RBA detects this computer has not previously been used by the user, is not listed under the user's profile, and then presents high-risk challenge/response question(s) which the user is prompted to answer. Once the questions have been verified as correct, the user is authenticated and granted access to the email. Meanwhile, the RBA logs and collects a number of device forensic information and captures the user pattern analysis to update the user's profile. The CJIS Security Policy requirements for RBA have been satisfied.

Improper Risk-based Authentication (RBA) Implementation

A user has moved office locations and requires access to email containing Criminal Justice Information (CJI) via an Outlook Web Access (OWA) client utilizing a risk-based authentication (RBA) solution. The user launches the OWA client and is prompted to enter a username (identification) and a password ("something you know"). The RBA detects this computer has not previously been used by the user and is not listed under the user's profile. The user is prompted to answer high-risk challenge/response questions for verification and authorization to access to the email; however, if the second authentication factor is to answer additional questions presented every time the user logs on, then this solution is referred to as a knowledge-based authentic on (KBA) solution. A KBA solution does not satisfy the requirement for AA, and therefore the user should not be granted access to CJI. See the below explanation:

A KBA solution is not a viable advanced authentication (AA) solution per the CJIS Security Policy (CSP). The KBA asks questions and compares the answers to those stored within the user's profile. A KBA is neither a CSP compliant two factor authentication solution, nor does it meet the CSP criteria of a risk-based authentication (RBA) solution which logs and collects a number of device forensic information and captures the user pattern analysis to update the user's profile. Using this collected data, the RBA presents challenge/response questions when changes to the user's profile are noted versus every time the user logs in.

Use of Biometrics (fingerprint)

A user requires access to Criminal Justice Information (CJI) from an agency-issued laptop while in the field. The user initiates a remote session to the local agency, enters a username (identification) and password (“something you know”), then swipes his/her fingerprint (“something you are”) using an attached fingerprint reader. The fingerprint attributes, username, and password are asserted to the authentication solution at the local agency, CJIS Systems Agency, State Identification Bureau, or Channeler. The authentication solution accepts the asserted attributes and interrogates the database to verify the asserted attributes matches. The username, password, and asserted fingerprint attribute are validated. The user has satisfied the requirement for AA and is granted access to CJI.

Use of a Hardware Token OTP – Blackberry Mobile Device

A user has been issued a Blackberry and a hardware token that displays a one-time password (OTP) and generates a new OTP every 60 seconds. The user initiates an application that connects to the CJIS Systems Agency and will allow Criminal Justice Information (CJI) processing from the Blackberry. The user is challenged for a username (identification), password (“something you know”), and the OTP (“something you have”) from the hardware token. The username, password, and OTP are validated. The user has satisfied the requirement for AA and is granted access to CJI.