Key Management Infrastructure (KMI)

The Key Management Infrastructure (KMI) Program Management Office (PMO) began Increment 3 capability development in July 2021. The KMI PMO announced a 6-month schedule delay for Increment 3 in April 2022, due to hardware technical refresh supply chain and configuration problems.

SYSTEM DESCRIPTION

KMI replaces the legacy Electronic Key Management System (EKMS) to provide a means for securely ordering, generating, producing, distributing, managing, and auditing cryptographic products, to include encryption keys, cryptographic applications, and account management tools. KMI consists of core nodes that provide web operations at sites operated by the National Security Agency (NSA), as well as individual client nodes distributed globally, to enable secure key and software provisioning services for the DOD, the Intelligence Community, and other Federal agencies. The KMI Increment 3 delivery will enhance the deployed KMI Increment 2 capabilities with substantial custom software development and commercial off the-shelf computer components, which include a client host computer with monitor and peripherals, printer, and barcode scanner.

MISSION

Combatant Commands, Services, DOD agencies, other Federal agencies, coalition partners, and allies will use KMI to provide secure and interoperable cryptographic key generation, distribution, and management capabilities to support mission-critical systems, the DOD Information Network, and initiatives, such as Cryptographic Modernization.

Service members will use KMI cryptographic products and services to enable security services (confidentiality, non-repudiation, authentication, and source authentication) for diverse systems, such as Identification Friend or Foe, GPS, and the Advanced Extremely High Frequency Satellite System.
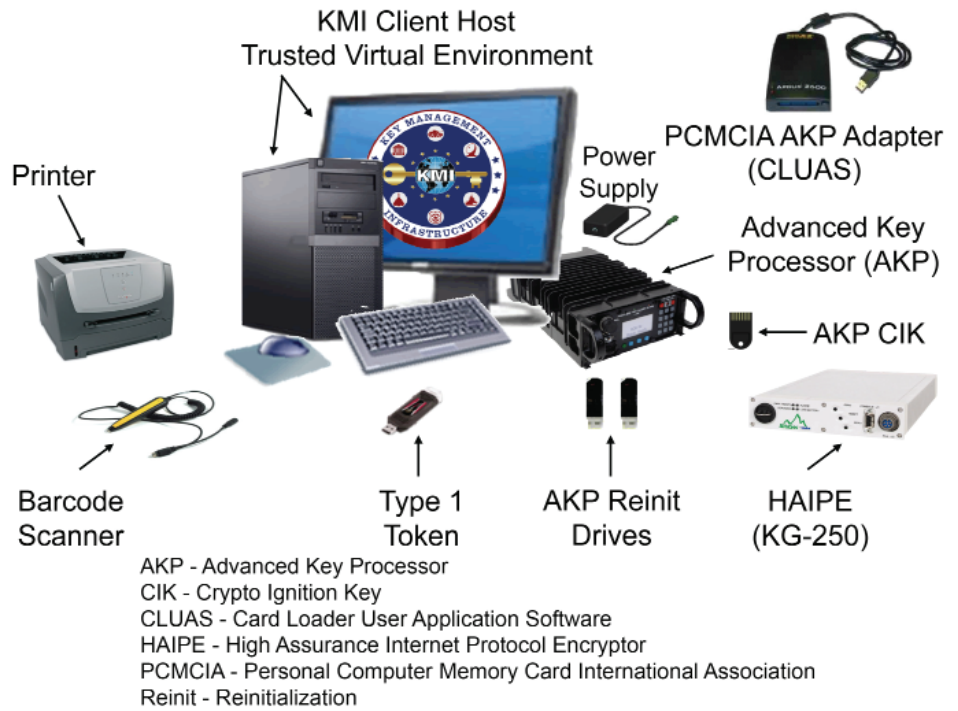
PROGRAM

The NSA is delivering KMI Increment 3 in eight planned Agile releases that will enhance existing capabilities and subsume EKMS Tier 0 and Tier 1 cryptographic product delivery into the infrastructure. The KMI PMO began Increment 3 capability development in July 2021. The KMI PMO announced a 6-month schedule delay for Increment 3 in April 2022, due to hardware technical refresh supply chain delivery delays and system configuration problems.

» ### MAJOR CONTRACTORS

- Leidos – Columbia, Maryland (Prime)
- SafeNet – Belcamp, Maryland

TEST ADEQUACY

DOT&E approved the KMI Increment 3 Test and Evaluation Master Plan in August 2020 that defines an adequate operational test strategy for the KMI program release testing through IOT&E scheduled for late FY25. The Joint

KMI Client Host Trusted Virtual Environment

Printer

PCMCIA AKP Adapter (CLUAS)

Power Supply

Advanced Key Processor (AKP)

AKP CIK

Barcode Scanner

Type 1 Token

AKP Reinit Drives

HAIPE (KG-250)

AKP - Advanced Key Processor
CIK - Crypto Ignition Key
CLUAS - Card Loader User Application Software
HAIPE - High Assurance Internet Protocol Encryptor
PCMCIA - Personal Computer Memory Card International Association
Reinit - Reinitialization

Interoperability Test Command (JITC) KMI test team will employ a multi-release test plan that can cover up to four releases over two years; however, the KMI PMO and JITC have yet to conduct any Increment 3 operational testing due to schedule delays. JITC is developing an operational test plan in early FY23 to support early KMI Increment 3 release testing that will commence in FY23.

PERFORMANCE

A preliminary performance assessment will be available after the completion of the early KMI Increment 3 release testing in May 2023. The current KMI Increment 3 schedule includes concurrent test planning, execution, and reporting, which adds risk to the program. In addition, while the KMI Test Infrastructure provides a safe laboratory for

evaluating KMI software builds, it is currently not maintained in the same configuration as the operational KMI. This may limit the KMI Test Infrastructure users' ability to identify problems prior to deploying a new KMI release to the operational system; however, the PMO intends to refresh the KMI Test Infrastructure and the production system to be the same in Increment 3.

RECOMMENDATIONS

1. The KMI PMO should reassess the release cadence to reduce delivery and test concurrency to make the schedule more achievable.

2. The NSA should maintain the KMI Test Infrastructure configuration to be the same as the operational environment.