

Leveraging DTECH Products in a Data at Rest (DAR) CSfC Solution

Abstract

The Commercial Solutions for Classified (CSfC) program within the National Security Agency (NSA) Information Assurance Directorate (IAD) uses a series of Capability Packages to provide configurations that will allow customers to independently implement secure solutions using layered Commercial Off - the - Shelf (COTS) products. The Capability Packages are vendor-agnostic and provide high-level security and configuration guidance for customers and/or Solution Integrators. (https://www.nsa.gov/ia/programs/csfc_program/)

This paper provides an example of DTECH's commercial off the shelf (COTS) products being utilized to implement a CSfC Data at Rest (DAR) Capability Package. The CSfC DAR Capability Package describes a CSfC system that meets the demand for securing classified information on storage media. The DAR Capability Package Version 2.0 enables customers to implement layered encryption using commercial products to protect classified data on commercial storage media.

References:

- https://www.nsa.gov/ia/files/Campus_WLAN.pdf
- www.dtechlabs.com

1 Introduction

The [M3-SE Product Family](#) consists of modular interlocking set of components that share a power supply.

The NSA CSfC [Data at Rest Capability Package 2.0](#) defines the architecture and requirements necessary to field a DAR CSfC Solution. CSfC Solutions must use certain products from the NSA's [CSfC Components list](#). Even though DTECH's M3-SE products don't appear directly on the CSfC Components list, DTECH M3-SE products embed CSfC components or can be used to host software that is a CSfC Approved Component.

2 DAR Architecture and Components

2.1 DAR Capability Package Overview

The following Architecture diagram is sourced from the DAR Capability Package document. It depicts what is referred to as an SF solution, that is a solution that uses Software Full Disk Encryption (SW FDE) and File Encryption (FE).

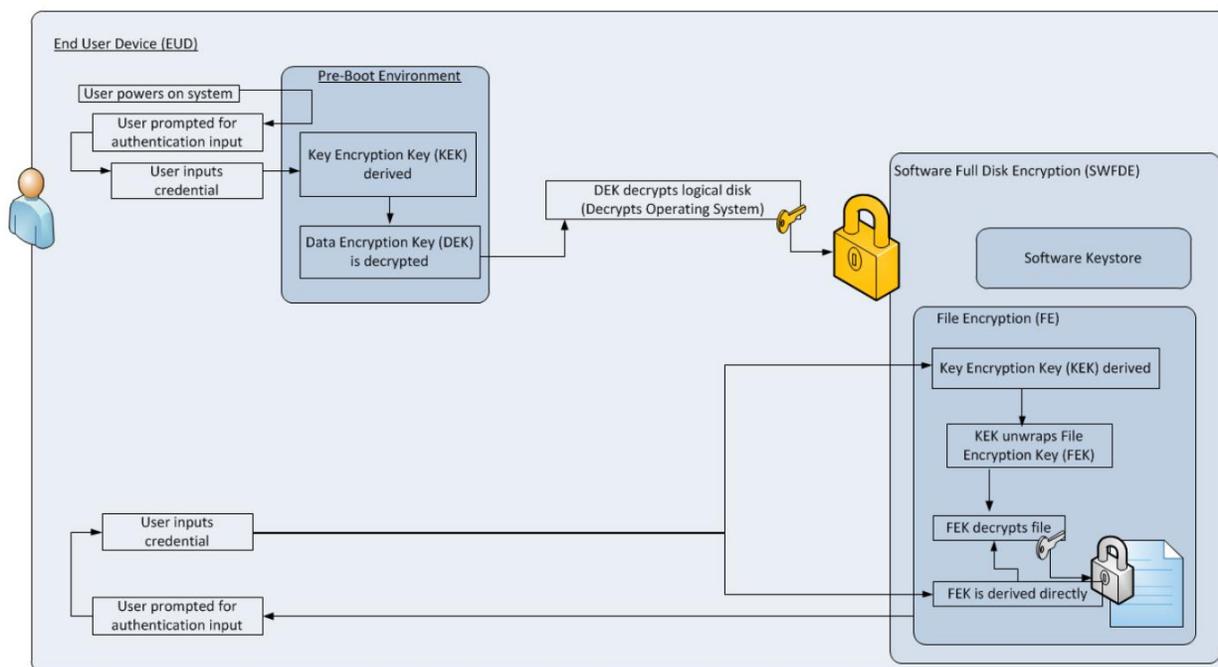


Figure 1: Two Layers of Encryption Protected Data at Rest

There exists another solution called a PF solution that uses Platform Encryption (PE) and File Encryption (FE). However Platform Encryption components are devices that meet the Mobile Device Fundamentals Protection Profile and these are currently restricted to tablets and phones.

2.2 The DTECH M3-SE Products as DAR Solutions

For the purposes of this paper the M3-SE product line is used as an example, however the component roles prescribed within the DAR Capability Package map to all of the DTECH products that provide computer/server capabilities. The M3-SE product line is a small form factor rugged family of stackable interlocking modules that share a common power supply and integrated UPS battery backup. M3-SE products are ideal for rapid deployment or high mobility systems. An example of how to use DTECH M3-SE products to achieve a CSfC DAR capability is shown in the following section.

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2.2.1 M3-SE Products as a DAR Solution

An example DAR solution built from DTECH M3-SE components is shown below in Table 1. This solution is rather straight forward but it is noteworthy to point out that DAR is often combined with other services and capabilities that are not detailed further here.

Table 1: DTECH M3-SE CSfC DAR Capability Functional to Physical Mapping

Function	M3C4G Model	CSfC Component
DAR	M3-SE-APP3 with M3-SE-RAID	Windows Server 2012 R2 with Software Full Disk Encryption enabled and Dell Data Protection Encryption Personal Edition installed natively or on client laptops

In practice, a group of equipment like what is depicted above includes a power supply and UPS. The resulting system would look like what is depicted below in Figure 2.

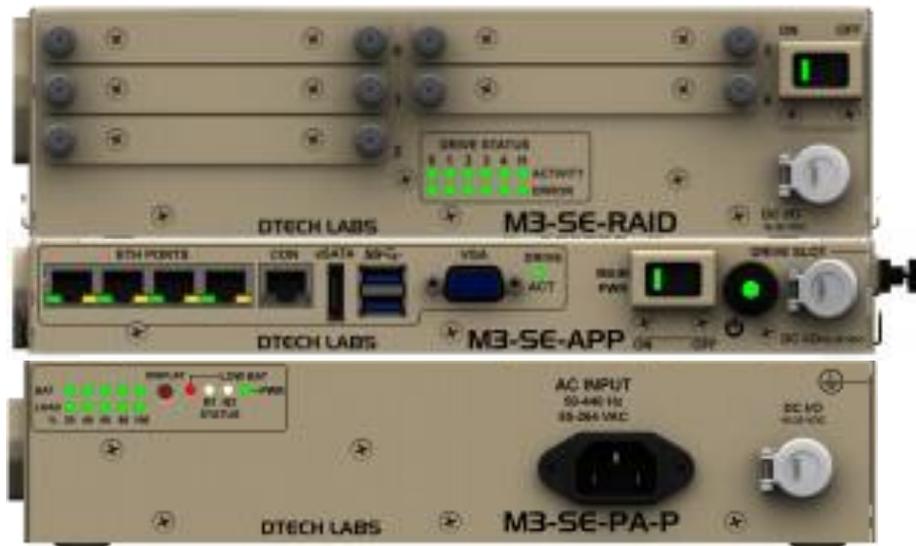


Figure 2: DTECH Example M3-SE DAR Management Node Gray Network (left) and Red Network (right)

This example stack up is easily modified to add more compute power for applications or mission specific interfaces. The inclusion of [additional M3-SE modules](#) can provide E&M ports for LMR integration, telephony ports, MANET radio, switches, bulk storage, and/or more computers/servers.

3 Conclusion

The CSfC DAR Capability Package provides government users with a set of instructions and guidance on how to go about properly using commercial products to field classified services. The DTECH M3-SE product line provide an industry leading combination of small size and rugged design that meets the requirements of government users in even the most challenging of conditions. When composing CSfC solutions to meet the NSA published CSfC Capabilities Packages DTECH products can be effectively used either directly or as host platforms across the entire spectrum of CSfC components. In those cases where DTECH equipment is already fielded or in use, modifying those systems to provide a CSfC solution would require only minimal modification or reconfiguration.

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Or contact an account manager at sales@dtechlabs.com . They may assist in getting any questions answered or support needed regarding DTECH products used for CSfC or any other requirements you may have.