TEMPO

Trusted Enterprise Mobility

Mobility is transforming the enterprise. Enterprises that embrace mobility as a strategy can improve productivity, mission effectiveness, customer satisfaction and their time to market. However, organisations need to make this strategic move deliberately by embedding the same security, compliance and continuous monitoring objectives into their mobile enterprises that underpin their traditional enterprise network security architectures. Adequately addressing the inherent risks and vulnerabilities that are presented by adding smartphones, tablets, and other mobile endpoints is an absolute imperative when implementing a trusted enterprise mobility strategy. Government organisations require anytime and anywhere mobile access to information in their networks, including classified data, without compromising security.

Mobile Access to Sensitive and Classified Data

Modern mobile devices are full featured, powerful computing devices and present multiple layers of physical and logical abstraction. Threats to a mobile platform come from a variety of sources including malicious apps, physical tampering, and external radio interfaces such as WiFi, Bluetooth, and the 3G/4G baseband. Security vulnerabilities are present at each level and must be mitigated with a comprehensive and consistent approach.

For classified data, this has traditionally been achieved by building customised hardware and software solutions requiring high-grade (Type 1) cryptography which typically take years to certify and accredit. This approach is giving way to a more COTS-based one, following Information Assurance controls established by the NSA's Commercial Solutions for Classified (CSfC) Mobile Access Capability Package (MACP). Northrop Grumman is a registered Trusted Integrator in the CSfC program and has developed the Trusted Enterprise Mobility (TEMPO) platform, a CSfC/MACP compliant secure mobile solution for handling both unclassified as well as SBU/SECRET/TOPSECRET data.

The TEMPO Advantage

The CSfC approach relies on vendor participation for its COTS model. However, application vendor participation is currently severely lacking. As a result, most MACP-based solutions aren't able to securely implement device storage of classified data nor are they able to deploy more than a very small set of approved applications. Additionally, there are very few solutions for true authentication of the mobile user, as opposed to authentication of the device itself. Role-based

identity solutions are still lacking in the secure mobile space. TEMPO addresses this critical gap with a mobile device solution known as Secure Communications Mobile (SCM).

SCM is based on a high-assurance Multiple Independent Levels of Security (MILS) architecture. It features a Separation Kernel and Hypervisor (SKH) design, allowing it to host multiple security domains on a single mobile device and to isolate critical security functionality into independent trusted execution environments. This allows SCM the ability to completely isolate potentially vulnerable hardware components, such as the cellular baseband and WiFi interfaces, decoupling them from the device application processor. SCM also features advanced security control mechanisms including secure boot leveraging hardware root-of-trust, trusted credential storage, and independent dual layers of Data in Transit (DIT) and Data at Rest (DAR) encryption. These features directly addresses the market gaps in current CSfC solutions and allow for role-based user identity management, execution of non-pre-vetted applications, and the ability to accredit the system to process and store SECRET and TOPSECRET data.

Northrop Grumman has developed SCM to a Technical Readiness Level (TRL) of 7. Most pieces of the SCM solution are built on top of existing commercial hardware and software. We design, build and implement components using commercial methodologies with a view to support broad market adoption.

Why Northrop Grumman

Northrop Grumman is a leading supplier of mobile and enterprise cybersecurity solutions. The combination of Northrop Grumman's unique security solutions and a fully integrated enterprise mobile platform results in a first-of-its-kind end–to-end approach to secure mobility.

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