

Secure Digital Signing with SAP and Hardware Security Modules from Thales



SAP software utilizes electronic documents to streamline business operations and communication across departments, such as procurement, manufacturing, customer service, sales, finance, and human resources. Together with HSMs from Thales, businesses gain a secure, trusted solution for secure digital signing.

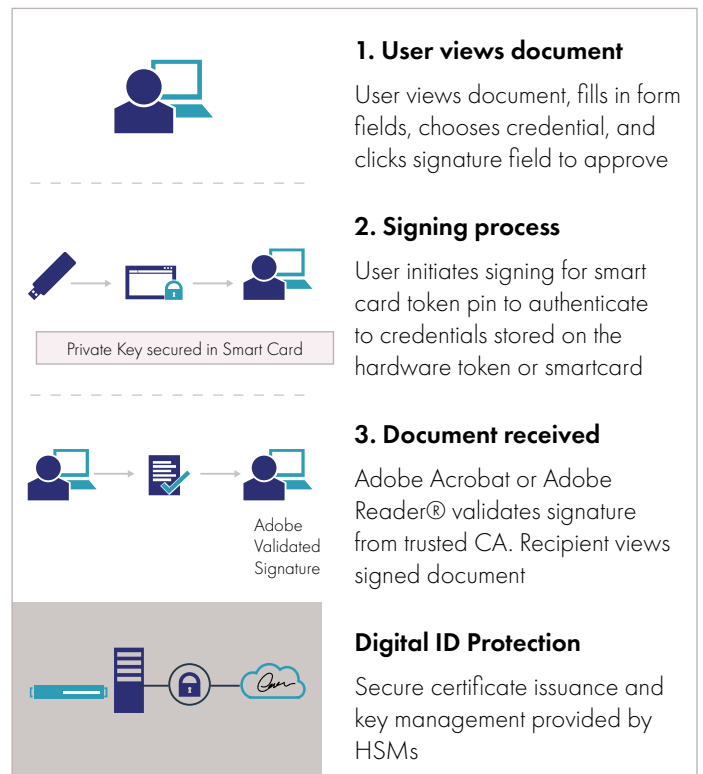
Secure Digital Signing with SAP Solutions and Thales HSMs

As organizations transition from paper to digital, a simple, secure solution to streamline business processes and initiatives is needed. Together, SAP and Thales offer the ideal solution that not only cuts time but costs associated with traditional paper-based document signing. The combined solution allows users to digitally sign documents, files, forms, and transactions anywhere while ensuring data integrity, signer authenticity, and regulatory compliance.

Benefits of Digital Signatures

- Easy to Use – Digitally sign and seal electronic documents with ease
- Expedite Business Processes – Replace handwritten signatures and paperwork, and reduce the approval process time for multiple authorizing signatures
- Paperless Office – Reduce costs associated with traditional paper-based processes
- Legal Compliance – Digitally signed electronic documents improve compliance posture

How Digital Signing Works



Using Digital Signatures with SAP Solutions

SAP software utilizes electronic documents to streamline business operations and communication across departments, such as procurement, manufacturing, customer service, sales, finance, and human resources. These solutions speed up the time to market, provide for effective, real-time business processes, and improve the overall utilization of corporate resources. With the integration of electronic documents and digital signatures, SAP management solutions allow organizations to reap many rewards, including but not limited to

- Automated operational processes
- Faster reporting across all business lines
- Increased confidence in data integrity
- Enhanced vendor relationships

Enhancing Digital Signatures with Thales Hardware Security Modules

Thales HSMs augment digital signatures for two fundamental reasons: performance and security. From a performance standpoint, signing operations are extremely processor-intensive, and the longer the key, the greater the processing effort required. NIST recommends using keys that are at least 2048 bits in order to provide adequate security. At this length, there is a significant load on the CPU, and to be CPU-independent, hardware acceleration is needed to provide a large number of both key generation and signing operations. Thus, organizations need to offload all cryptographic functions to a dedicated HSM with its own dedicated crypto processors to ensure adequate performance and prevent overloading the host server.

Moreover, utilizing Thales HSMs for all signing operations is a matter of basic security. After all, the entire security structure of digital signatures is built upon the foundations of cryptographic keys so the private keys must be kept strictly private, secret, and secure. Without proper security measures protecting both the signing process and underlying cryptographic keys, our ability to trust digital signatures is put in jeopardy.

The Advantages of Secure Digital Signing with SAP and Thales





Together, SAP and Thales efforts provide a secure and seamless digital signing solution, enabling organizations to achieve

- **Streamlined Business Processes** – Replace handwritten signatures and paperwork with digital documents and legally compliant certificate based signatures, and reduce approval process timelines for multiple authorizing signatures
- **Reduce Costs** – Reduce costs associated with traditional paper-based processes (i.e. paper, printing, ink, faxing, postage, and processing time).

- **Non-Repudiation** – Thales and SAP solutions integrate to provide non-repudiation of documents or transactions. Digitally signed documents and transactions are sealed electronically, providing evidence of signer and document authenticity and guaranteeing document integrity and are thus resistant to fraud and tampering. Utilizing a hardware-based device ensures users that the private keys are never exposed outside the module, ensuring the integrity of signed documents.
- **High Assurance** – With PKI-based trusted credentials, the level of assurance is typically higher than that of electronic signatures protected only by a password. Class 2 and Class 3 certificates assigned to Individuals and Organizations from country specific Central Certificate Authorities (e.g. CCA of India) or other approved Certificate Authorities which are deemed acceptable as per the court of law can only be issued on FIPS 140-2 Level 2 or higher certified devices like Thales HSMs.
- **Compliance** – Utilizing standards-based digital signatures and X.509 certificates in accordance with regulatory and legal mandates maintains the integrity of documents. SAP and Gemalto enable compliance with security and privacy standards, including country specific regional legal framework, FIPS-val-idated cryptographic modules, NIST test suite validation, and JITC/SAFE/IdenTrust certification, all of which combine to provide a powerful, dependable, and interoperable digital signature solution.

About SAP

Headquartered in Waldorf, Germany, SAP is the world's largest inter-enterprise software company, and the world's third-largest independent software supplier overall. SAP employs over 28,909 people in more than 50 countries. Their professionals are dedicated to providing high-level customer support and services. For more information, visit www.sap.com.

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