

# Digital Signatures Coming Soon to a Document Near You

How do digital signatures fit into your workflow - as a technology, as a solution, or as a set of requirements? The following explains this business productivity tool and the benefits of employing it.

Companies around the world have invested 6-figure budgets into automating their business processes and workflows, yet they still find themselves printing papers for the purpose of obtaining signature approvals. In every industry and vertical market, projects can be held up for days while documents are mailed between offices, partners, suppliers or customers for appropriate signatures.

Professionals often share compliance officers' concern over how to assure the integrity and accountability of electronic documents and records. Meanwhile, COOs are concerned with avoiding project delays, and CFOs are seeking ways to cut costs associated with paper handling. Digital signature technology addresses each of these concerns.

## What are digital signatures?

By providing heightened levels of security and non-repudiation, digital signatures guarantee the integrity of the electronic document and the identity and intent of the signer. Any changes made to the document after it has been digitally signed invalidate the signature, thereby protecting against tampering and forgery.

For centuries, signatures have been the most accepted means of authentication. Roman law recognized a combination of seals and signatures as the primary source for authenticating documents and legal contracts. The 1830s saw the first signs of electronic communication and legally recognized "electronic" signatures with the invention of the telegraph and Morse code.

But it was the introduction of public key cryptography by Diffie and Hellman in 1976 that established the first practical method of distributing cryptographic keys over an unprotected public network, paving the way for digital signatures.

Fast-forward 20 years, in 1999, the Europe Commission passed the "EU Directive for Electronic Signatures" and on June 30, 2000, President Clinton signed into law the Electronic Signatures in Global and National Commerce Act ("ESIGN"), which made signed electronic contracts and documents equally as legally binding as a paper-based contract.

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*"Electronic signatures are becoming more popular as enterprises strive to streamline the approval process and reduce costs associated with paper-handling. With digital signatures, organizations can get rid of the last paper hurdle in their workflow."*

## The business case for digital signatures

Businesses around the world are now using digital signatures to replace traditional pen and paper signatures, or ‘wet’ signatures. An example is ClinPhone, a leading provider of Clinical Technology Services in the Life Sciences industry. ClinPhone has moved to a complete paperless signature process across a number of offices in Europe and the U.S., thus considerably reducing the time-to-approval process while maintaining compliance with FDA regulatory requirements for digital signatures. “In the past, obtaining approvals on a project required us to fax documents between our branches around the world,” says Daljit Cheema, Senior VP of Technology, ClinPhone. “It could take anywhere between three to four weeks to get signatures from all the parties. In contrast, today the process is completed in 10 minutes. Digital signatures paid for themselves just in terms of increased productivity.”

The initial compliance driver in ClinPhone’s case is no coincidence; inadvertent or intentional tampering become easier in the electronic world than with a pen and paper. Regulators became aware of these concerns and in 1997 the FDA was the first to issue regulations (Title 21 CFR Part 11) that specifically mandate the use of electronic signatures on electronic documents.

Other industries and sectors such as Healthcare, Government, and Finance added either direct requirements for using electronic signatures or a “technology neutral” requirement for data-integrity of electronic documents (i.e. safe-guarding electronic documents against unauthorized changes). While the latter can be satisfied by different means, the only standard technology that offers this is digital signatures.

While most companies move away from paper-based processes to streamline the approval process and comply with their industry regulations, other motivations to adopt digital signatures include cutting costs associated with paper handling (printing, scanning, faxing, shipping and archiving), document security and corporate ‘green’ initiatives.

## How to choose a digital signature solution

What considerations should be taken into account when choosing a digital signature solution that will maximize the business benefits of moving to a paperless environment?

- » Seal the document
- » Comply with industry regulations and legislation
- » Enable multiple application support
- » Allow for multiple signature support
- » Require zero IT management
- » Provide seamless user registration
- » Support graphical signatures
- » Be easy to use
- » Enable transportability of signed documents - i.e. anyone, anywhere should be able to validate signatures
- » Lower TCO (Total Cost Of Ownership)

To read more about How to Choose a Digital Signature Solution, [click here](#).

## How will digital signatures fit in your ECM and Workflow solutions?

A wide variety of desktop applications today have built-in support for digital signatures. These applications include Microsoft® Word, Excel® and Adobe Acrobat (including the freely available Adobe Acrobat Reader) and many others. This built-in support is enabled once a “signing engine” is plugged into the application to provide the digital certificates and keys used for signing. ARX’s CoSign® is an example of such a “signing engine” that also enhances the application with other electronic signature capabilities that are not always supported by the application (such as graphical signatures). This digital signature support allows an ECM system user to check-out a document, apply a digital signature and check it back in. Some ECM vendors took the support for digital signatures a step further and integrated digital signature functionality as an integral part of the ECM system. This integration provides the ability to sign files directly from within the ECM’s front panel (without having to open the file and sign at the application level); a user-indication of where the document is in terms of signature process is also added to the front panel. The digital signature information might also be part of the meta-data for each document for various search criteria.

## Digital Signatures Beyond Workflow

While the most visible and significant advantages are seen in workflows, digital signatures benefit your ECM in other areas as well:

- » **Version Control** - Add the user’s signature to any changes made throughout the document’s life cycle. With digital signatures, non-repudiation is guaranteed. Due to CoSign’s wide support of third-party applications, documents such as Microsoft Word, Adobe Acrobat and others can be signed with minimal, if any, changes to the document management system.
- » **Audit Trail** - Digital signatures can be added to any transaction being recorded in the audit trail.
- » **Capture** - Add system signing to captured documents (e.g. an incoming fax) or add user signatures to captured documents (e.g. a user capturing a news clip from a web to be added to the document management system).
- » **Deliver** - Add system signing to documents that are sent out of the company, such as invoices.
- » **Record Management** - Sign and seal records that must be retained, to assure the record’s integrity.

If your company has already migrated to a paperless environment yet you find yourself printing documents for signing, join thousands of companies who are already reaping the benefits of digital signatures. Digital signatures can expedite the approval process and improve workflow systems, as well as save on additional costs.