



## Digital Signatures with PDF

In order to save time, money and be more competitive, enterprises worldwide are taking steps towards conducting transactions online. The e-commerce chain starts from sending a quotation or an invoice to delivering a receipt or bank statement. As a means of verification and authentication such trading partners are also using digital signatures when concluding contracts or sending other similar important documents. This IT innovation is bringing the business community closer to paperless offices and free delivery services. Imagine how much money is saved in postage and time when enterprises send their invoices or statements online.

There exists a common understanding that a regular signature or paper signature is a means of document security proof. The person who physically signs the document is assumed to have first and foremost inspected the document and secondly he has accepted the content of the document by endorsing it and eventually then signing it. The same assumed parameters apply to digital signing. The difference between paper and digital signing lies in their respective validation procedure.

When you receive a physically signed document by someone you have never met the maximum you can do to verify such a signature is to compare it to an ID card or passport. In other circumstances all you can do is to compare the signature to other previous signatures. The weakness of the latter scenario is pretty obvious. Who can guarantee you that such a signature is not forged or it does not belong to the signing person.

Unlike humans computers do not have common sense to guide their trust and intuitive mechanism. If anyone of you has an idea how to make computers a par to human perception may be the long expected Turing prize winner! The verification system that is used for digital signatures is purely mathematical and is carried out via a PKI Infrastructure. Without going to technical details you can compare a PKI with a third person who has a database of all authentic signatures and can confirm if a signature has been done by the right person or not. Since the computer will rely 100% on the PKI, the operator of such a PKI has to be legally approved by a higher authority which is usually the government.





To be able to sign a document digitally you would need a digital certificate issued by your PKI operator and the installation of software which uses that certificate to sign. To make your signed document readable on all platforms it is suggested to convert your document to PDF before signing it. Unlike Word documents a PDF documents can be protected that nobody can make amendments or alterations to a document once it has been created. This is vital in eradicating the risk of document manipulation by the receiving party. The digital signature is an added value to a PDF document because it seals it with a sender authentication.

As an extra precaution it is also advisable to use a qualified digital signature. To create a qualified signature you would need the certificate stored on a plastic card and password protected. So in case you loose your certificate nobody can use it. Usually these certificates are part of electronic ID cards. If you save your certificate on your computer there is always the chance that somebody hijacks your PC, steals it or whatever. In this case it is only when you register it as stolen or lost at your certification authority that you can have your mind at rest.

As mentioned already some paragraphs above it is best to convert your documents to PDF before signing it. Tools to create PDF Documents are more than enough on the market. Starting from freeware tools up to paid one like Adobe Acrobat. But only very few tools are able to digitally sign the PDF Documents. One cheap and easy to use tool is the Aloaha PDF Suite ([www.aloaha.com](http://www.aloaha.com)). If you install Aloaha on your machine you can just print your document and Aloaha will convert it automatically to PDF and digitally sign it with your certificate. Aloaha PDF Suite includes as well a PDF Editor which can also be used to digitally sign or digitally countersign any existing PDF document or to add Sticky Notes, Text Stamps, image Stamps etc.

