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INTRODUCING AND WORKING WITH ELECTRONIC SIGNATURES IN MASS APPLICATIONS: NOTARIES AND THE GERMAN COMMERCIAL REGISTER

By **Dr Dominik Gassen**

It is not a simple task to enable more than 8,600 legal professionals, their offices and staff and more than 500 courts, judges and clerks to move from a paper-based procedure to an electronic one on a fixed date. It gets worse if you realize that now more than 800,000 transactions each year will require a considerably higher standard of reliability, security and privacy than what is offered in current internet standards. The odds begin to look insurmountable when 17 federal and regional governments are added to the mix and spice it up with a deadline that seems tight even for a less complicated project.

This is the basic situation that German notaries and courts were faced with when federal and regional governments decided to introduce compulsory electronic filings to the German commercial register (Handelsregister) from January 1st, 2007. The decision was in part based on the requirements of EU directive 2003/58/EG (SLIM-IV), amending Council Directive 68/151/EEC, as regards disclosure requirements in respect of certain types of companies.¹ The directive demands that commercial registers be kept in electronic form and that they have to enable filings to be done

electronically from January 2007.

State and legal framework of the German commercial register

In Germany, the local, in some cases the regional courts, retain commercial registers. An entry is compulsory for nearly all German companies, liability limitations are only granted when the entry is completed. The register provides reliable information on the good standing of the company, its legal representatives and officers, its capitalisation and more.

Filings to the register court can only generally be made in a specific notarial form, in some cases by notarial certification of the presenter's signature (Unterschriftsbeglaubigung), in others by authentic public document and notarial deed (Notarurkunde) §§ 12 HGB, 2 I, 53 I GmbHG. Filings are checked before the entry into the register by the judges or clerks of the court. This procedure ensures high quality and reliability of the content of the commercial register, especially in regards to the representation and capitalization of commercial entities.

German law recognizes this standard by attaching legal consequences to the fact of register entries, § 15 HGB. One of these consequences is that a company will be bound by any legal declaration of a person that is

¹ Directive 2003/58/EC of the European Parliament and of the Council of 15 July 2003 amending Council Directive 68/151/EEC, as regards disclosure requirements in respect of certain types of companies, Official Journal L 221, 04/09/2003 P.

0013 – 0016; First Council Directive 68/151/EEC of 9 March 1968 on co-ordination of safeguards which, for the protection of the interests of members and others, are required by Member States of companies within the meaning of the second

paragraph of Article 58 of the Treaty, with a view to making such safeguards equivalent throughout the Community, OJ L 65, 14.3.1968, p. 8–12.

registered as a representative of the company (Geschäftsführer) providing the entry is in the register.

Commercial registers are a matter of the federal states (Bundesländer) and are organized regionally. During the late nineties and early 2000, nearly all federal states had already reformed their registers to be retained in electronic form by the competent courts. In this regard, the European legislation did not have a significant effect on register practices.

While preparing for the additional changes, register authorities also introduced a new common portal for regional commercial registers² that can be used to obtain access to and search the content of all German commercial registers. Additional information, for example financial statements and balance sheets of companies, can be found in the newly introduced enterprise register (Unternehmensregister).³

Reform of filing procedures

German federal and regional governments decided to comply with the directive by introducing electronic filings to the register from 2007. For reasons of financial and procedural efficiency, they went one step further: In nearly all German countries, paper filings would be abolished on the same day, and every document would have to be submitted electronically. The legislation that was necessary to precede the change was discussed for a lengthy period, only to be enacted shortly before the change in form of the EHUG.⁴

In any event, all the parties concerned had been preparing for some time. Because there was no reference procedure that could even remotely compare in size and importance, it became clear very quickly that the timeframe set by the directive could only be kept if everybody would work together very closely, regardless of their role and organisation. Representatives of ministries, courts and notaries formed common working groups to find solutions to the organisational and technical challenges posed by the reform.

Soon, a few central areas of discussion emerged that would pose the most serious problems:

- a) Notaries would still perform their functions in a paper-based environment. The resulting paper-based documents would have to be transferred into the electronic medium while still being formally consistent with the formal requirements

of notarial documents.

- b) To facilitate filings on the side of the register courts, additional information consistent with the content of the transmitted deeds would have to be provided in the form of structured data. That way, data that had already been collated in the notary's office could be imported into the register's databases, avoiding the need for a manual data entry.
- c) Filings would have to be submitted via a system that offered higher standards of security, reliability and privacy than regular e-mail while still being accessible to everybody without major obstacles.

Electronic notarial documents

German notarial law has recognized deeds in electronic form since mid-2006. The relevant regulation in § 39a BeurkG enabled the notary to produce a certified electronic copy of his paper-based deed⁵ (or for that matter any paper-based document). It imposes a few strict requirements that an electronic notarial document had to fulfil:

- a) A qualified electronic signature by the notary (conforming to German signature law) has to be attached to the document,
- b) The signature has to be based on a certificate that can be permanently verified,
- c) A confirmation of the good standing of the signing notary in office has to be provided with the document, and
- d) It has to state the time and place it was issued.

German notaries had been familiar with signature technology since the early 2000s and already had infrastructure in place to provide any notary with a signature card of sufficient quality.⁶ However, careful analysis revealed that in order for the procedures to work smoothly, clear technical standards and common conventions would have to be introduced and tested. Agreements reached were:

- a) Multipage TIFF would be used as preferred

² <http://www.handelsregister.de>.

³ <https://www.unternehmensregister.de>.

⁴ Gesetz über elektronische Handelsregister und Genossenschaftsregister sowie das Unternehmensregister, enacted on November 10,

2006, <http://www.bgblportal.de/BGBL/bgbl1f/bgbl106s2553.pdf>.

⁵ http://www.bundesrecht.juris.de/beurkg/_39a.html.

⁶ Dr Dominik Gassen, 'A system of trust: German

civil law notaries and their role in providing trustworthy electronic documents and communications,' *Digital Evidence and Electronic Signature Law Review*, 3 (2006) 69 - 72 (previously the *Digital Evidence Journal*).

document standard. PDF⁷ and various text formats⁸ would generally be accepted, although their use would not be encouraged.

- b) Editable Text (one advantage of encoded Text files) was not regarded a major issue. There was little demand for copying or pasting parts of submitted documents because any need for further processing of content data was satisfied by the structured data that had to be submitted as well. The nature of the notarial deed itself is averse to later editing, so the selection of an image format seemed more suitable.
- c) Signatures should conform to PKCS#7 and ISIS/MTT (also known as Common PKI), standards that are commonly observed in qualified electronic signatures in Germany.
- d) Signatures should be provided as a separate signature file; that way document data could be viewed without resorting to an application that can open and extract specific formats of inline signature files (.p7m, .p7s). This also reduced the process complexity on the side of the register.

Structured data submission

A certain data set - mainly any information that would later be used in the actual register entry - has to be provided in structured form. The participants agreed on an XML-based standard. One such standard already existed in the German judicial system (XJustiz).⁹ It focuses on personal and address data. This standard was expanded to include the necessary specifics for commercial registers (XRegister).¹⁰

This was probably the most significant change in the filing procedures, because it shifted the task of preparing the (technical) data from the register courts to the notaries, taking into consideration that notaries had been collating this data in their own systems for reasons of efficiency for some time. From the register courts' point of view, this led to a significant reduction of the workload in regard to manual data entry and allowed a more efficient use of personnel resources.

Secure transmission

A year before, the German government had introduced a specialized transmission system that would be used for any communication with administrations or courts that had legal relevance and privacy concerns. Called 'EGVP'¹¹ it provided additional functions compared to e-mail transactions: A closed system with only centrally registered users; end-to-end privacy (strong encryption, additional features that prevent access to the content even for the transmission servers); native support of card-based electronic signatures, and automatic transmission receipts for the sender.

Technically, it is based on another standard that was mainly used in Germany, 'OSCI-Transport'.¹² Two of the drawbacks of the system are that it is not readily compatible with existing communication systems like e-mail, and that it requires specific client software to operate. The latter is provided free of charge for users.

Implementation

After the technical framework had been established, it became clear to the notaries that there was no existing product on the market that would be able to fulfil all requirements and functions and still be user friendly enough to be handled by people that did not have a good grasp of technical issues. The number of notaries in Germany (about 8,600) was too small and fragmented for the market to address this requirement quickly enough. The implementation was considered vital for the development of the notarial profession: Notaries were eager to prove that they were ready to extend their traditional services to this new medium. The notaries decided to undertake the development on their own, using the knowledge gained during coordination with the justice departments and external software specialists. After one year, a product was produced that comprised of a signature program (SigNotar),¹³ an expandable front end for data services (XNotar)¹⁴ and an integrated version of EGVP Client. All three modules were designed to form a continuous workflow, giving the notary enough flexibility to delegate the required amount of work to their members of staff.

The courts were required to make a number of technical changes to their own systems and to widely

⁷ This referred mainly to the PDF-A substandard. PDF Documents in recent versions could not be supported because readability depended on the use of proprietary software. Inline Signatures in PDF documents would not be supported for similar reasons.

⁸ The complexity of data formats in current word processors poses a problem for signature technology. There are no usable secure document

viewers that can ascertain that the visible file that the user wants to sign will appear in exactly the same form on the recipient's computer or printer or both computer and printer (hidden text, meta information, change histories are examples), Dr Dominik Gassen, *Digitale Signaturen in der Praxis*, (Cologne 2002), 90 and on.

⁹ <http://www.xjustiz.de/>

¹⁰ <http://www1.osci.de/sixcms/detail.php?gsid=>

bremen76.c.3088.de#register.

¹¹ „Elektronisches Gerichts- und Verwaltungspostfach“, *Electronic mailbox for courts and administration*; more information available at <http://www.egvp.de>.

¹² *Online Services Computer Interface*, <http://de.wikipedia.org/wiki/OSCI>.

¹³ http://www.notarnet.de/elrv/infos_signotar.htm.

¹⁴ http://www.notarnet.de/elrv/infos_xnotar.htm.

But the process of implementation was not as easy as it appears from the description given above, and the results of the change were in part surprising to everyone.

introduce EGVP as a means of communication with the register. After that, register court judges and clerks had to be educated to use them. Planning and adoption of the new system proved to be a formidable task because so many different people and institutions were involved. The resources were stretched until mid-2007. The signature component of the EGVP system was constructed to shift the load of signature verification to central servers, so the recipients of signed communication only get information on the signature and its status and do not have to perform any manual checks.

Results and experiences

Even though a significant amount of obstacles – smaller and larger ones – had to be overcome, the new proceedings were put into place on time on January 1st 2007. Due to extensive preparation by everybody involved, the switch was accomplished with hardly any setbacks. Those technical issues that arose were few and could mostly be resolved quickly. Contrary to pessimistic projections, there were no disturbances that led to failures or noticeable delays in register traffic. On the contrary, the positive effects became visible faster than expected. Entry times for basic filings went down from 2-3 weeks to days, and in some cases, hours.¹⁵ The common portal for all German commercial registers proved a big success as well, in increasing company transparency, improving accessibility of information and producing fees for viewing and searching the register. But the process of implementation was not as easy as it appears from the description given above, and the results of the change were in part surprising to everyone. On the notaries' side, more time and effort was needed for filings because additional work (providing structured data) had been taken on. There was a higher demand on the skills of the notaries' employees to be able to interpret and evaluate the legal

content of documents in order to filter out irrelevant information. The software product offered by the notaries' organisation was difficult to implement in alternative OS context, although this proved to be a minor problem.

The most difficulties were caused by the strict regulatory framework on electronic signatures in German law. During the time the process was introduced, technical standards were raised twice in respect of signature technology,¹⁶ each time forcing the CSPs to exchange signature hardware and adapt software products. The distribution of signature cards was a significant problem because, in addition to slow production, mandatory secure methods of delivery increased the number of layers of communication and checks between the CA and their customers.

Other problems were encountered when mass signature verification was introduced as a part of the procedure. The EGVP servers verified every certificate along the chain with the respective server.¹⁷ Some directory services were not prepared to handle the increased volume of requests which led to a number of verification failures, slowing down entry procedures.

The decision to impose stricter regulation on technical parameters of register filings produced questions in unexpected places. German law does not prohibit notaries from other countries from submitting filings. Notaries from Austria and Switzerland found it harder to comply with some of the aspects. They had no suitable programs to produce the required structured data and found it difficult to adopt EGVP as a method of communication, even though the client software was provided for free on-line.

The courts had great difficulty coping with any non-Standard signatures, especially those based on certificates from other countries. Nearly every such filing had to be dealt with manually by local IT experts. On the legal side, German law required the use of

¹⁵ Some increases in productivity were due to the simultaneous reduction of registry regulation that streamlined proceedings even further.

¹⁶ First, RSA encryption with 1024 bit keylength was deemed structurally insecure, later SHA-1 had to be phased out as a sufficiently secure hash algorithm.

¹⁷ In addition to the signer's certificate, the CSP and CA's certificate and the root certificate of the German regulation authority (BNetzA).

electronic notarial form (§ 39a BeurkG). If the legal system of the notary's home country had not yet introduced this variation of form, filings from that country were formally not valid. Electronic apostilles¹⁸ have yet to be introduced as a method of filing from other countries.

Looking back after more than a year of working with the new procedure, the changes have had a decidedly positive effect for everybody involved. The new degree of transparency in corporate legal matters has improved daily dealings with companies incorporated in Germany. For notaries and courts, it has been a significant step of modernization, and at the same time proof that such a transition can be successful. Soon afterwards, efforts in a number of related legal areas have started to pursue electronic transactions in earnest - and not just as a niche prototype. Of these, the German land registry (Grundbuch) looks the most promising.

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¹⁸ <http://www.e-app.info/>.