



## CASE STUDY

# Digital Transformation of Invoice Authentication: DB SCHENKER's Journey with eMudhra

## Seamlessly Integrating HSM-Based Digital Signatures into Global Logistics Operations

### About DB SCHENKER

Founded in the early 19th century, DB SCHENKER has grown into a global powerhouse in the logistics industry. With a presence in over 130 countries, they offer a diverse range of services including land transport, air and ocean freight, contract logistics, and supply chain management. Their commitment to innovation and customer-centric solutions has positioned them as a trusted partner for businesses worldwide, ensuring the smooth flow of goods in a globalized world.

### Business Scenario

In the face of rapidly changing technological landscapes, DB SCHENKER was confronted with the challenge of keeping their document processing systems both secure and efficient. With the increasing prevalence of cyber threats and the need for swift, authenticated transactions, it became imperative for them to incorporate a digital signature system for their invoice documents. The primary obstacle was integrating this new system with their existing applications without disrupting the flow of operations. Additionally, they required a solution that could handle the conversion and validation of invoice data formats seamlessly.

## eMudhra Solutions

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Recognizing DB SCHENKER's unique challenges, eMudhra tailored a solution using emSigner platform. Here's a detailed breakdown:

- **Integration with Current Infrastructure:** eMudhra ensured that emSigner seamlessly merged with DB SCHENKER's existing applications: Tango, Procar, LFS, and Globus.
- **Data Retrieval and Conversion:** The system was designed to fetch invoices in XML format from the integrated applications, and with precision, convert these documents into the more versatile JSON format.
- **Validation and Transmission:** Once converted, emSigner validates the JSON invoices, ensuring data integrity. This validated data is then securely transmitted to ASP, which subsequently pushes it to the IRP portal via GSP.
- **Digital Signature Implementation:** Leveraging the security of HSM, IRP digitally signs the JSON & QR parameters and generates an IRN Number. emSigner then embeds this information onto the invoice and finalizes the process by adding a digital signature using certificates stored in HSM.
- **Return to ERP:** The digitally authenticated documents are then channeled back to DB SCHENKER's ERP system, ready for further processing.

## Workflow Architecture

- Fetch invoice in XML format from the aforementioned applications.
- Convert XML invoice to JSON format.
- Validate the JSON invoice using emSigner.

- Push the validated JSON from emSigner to ASP and then forward it to the IRP portal via GSP.
- IRP digitally signs the JSON & QR parameters, generating an IRN Number. These three parameters are pushed to ASP via GSP.
- ASP sends the digitally signed JSON, QR parameters, and IRN Number to emSigner through an API call.
- emSigner embeds the IRN and QR on the invoice, digitally signs the invoice using certificates stored in HSM, and returns the digitally signed documents to the ERP system.

## Value Added to the Customer

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- **Fortified Security:** The HSM-based digital signature solution fortified DB SCHENKER's invoicing system against tampering and unauthorized access, ensuring only authenticated documents get processed.
- **Optimized Operational Efficiency:** The automated processes reduced manual interventions, leading to faster invoice processing times and fewer errors.
- **Smooth Integration:** eMudhra's expertise ensured that DB SCHENKER's existing systems were not disrupted, allowing for business continuity even during the integration phase.
- **Holistic Support:** eMudhra's commitment went beyond just providing a solution. They ensured that from the initial stages of supply and delivery, to the intricate processes of installation, customization, and subsequent maintenance, DB SCHENKER had a reliable partner at every step.

OVER 15 YEARS  
EXPERIENCE  
IN DIGITAL  
IDENTITY AND  
TRANSACTION  
MANAGEMENT

100K  
CHANNEL  
PARTNERS

900+  
ENTERPRISE  
CUSTOMERS

## About eMudhra

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eMudhra, a global provider of digital identity and cybersecurity solutions, specializes in digital signature certificates, Public Key Infrastructure (PKI) services, and robust authentication protocols. Our impactful presence in India and international presence have allowed us to support governments and enterprises in safeguarding their digital transactions and vital information.

eMudhra offers digital certificates, PKI-based solutions, authentication and identity governance services. With a strong presence in India and a global footprint, eMudhra helps organizations securely manage their digital transactions and protect sensitive information. Being a leading digital identity and cybersecurity solutions provider, eMudhra is now focused on futureproofing cybersecurity using Post Quantum Ready Cryptography and Zero-Trust Identity Governance model.