



Deutsche Rentenversicherung

Public Key Infrastructure (PKI) – Security for Generations

The Deutsche Rentenversicherung is Europe's largest provider of statutory retirement insurance. With 54,000 employees, it serves more than 57 million policyholders and more than 19 million retirees.

The scope of services encompasses individual consulting in all matters of retirement pensions, payout of pension benefits, and medical rehabilitation.

The administration of Deutsche Rentenversicherung is engaged in the largest transformation in its history. Electronic communication is replacing paper as the basic foundation of all administrative tasks. Flexible workflow solutions, highly scalable document management systems, and digital signatures simplify and pare down administrative processes.

The basic prerequisite for deployment of electronic business processes with digital signature is the use of a trust center that conforms to the requirements of the German Signature Law. Siemens took over responsibility for building up the trust center.

The project

The scope of the project "Trust Center of Deutsche Rentenversicherung" encompassed the buildup and startup of a trust center for the providers of statutory retirement insurance.

The production and issuance of the employee chipcards was to be handled peripherally by the individual providers, while the highly secure high-availability systems, such as certification, directory, and revocation service would be operated centrally at Deutsche Rentenversicherung Bund. In addition to meeting the requirements for qualified signatures under the German Signature Law and German Signature Regulations for the specified operations, it was also necessary to carry out the initial personalization of 30,000 chipcards for Deutsche Rentenversicherung Bund. It was also necessary to provide high availability for the critical components 7 x 24 hours at a probability of 99.5%.



"The introduction of multi-functional employee chipcards with qualified signatures is the basis for a secure, efficient and fully electronic business process management in the state retirement pension sector."

Ronald Grunert,
Head of the Trust-center at Deutsche Rentenversicherung

The challenge

- Setup of the infrastructure for unique identification of employees at access control points for buildings and rooms, time recording, logon to the workplace PC, and for access to applications
- Electronic processing of business transactions without any media discontinuities (e.g. electronic payment orders)

Benefits

Unique identification of employees and legally valid digital signature are the key to efficient and secure, fully electronic administrative business processes.

This leads to shorter processing times, higher quality, and lower administrative costs.

The digital signature is not only the basic prerequisite for fulfillment of the legal requirements for electronic archiving of files; it is also another contribution to efficient administrative processes.

The solution

- Trust center architecture with multitenant capability on the basis of Nexus Certificate Manager and Oracle database
- Central directory and information service with Siemens DirX and secunet OCSP-Responder
- Provision of a central time stamp service
- Peripheral components for registration, personalization, card issuance, ownership checks, and revocation
- Notification of certificate expiration and renewal of certificates
- Implementation of the production system as a high-availability system with clusters and load balancers
- Implementation of a wide-area backup system with continuous synchronization and minimal switchover times
- Provision of a complete development and testing environment

Our services

- Design of the system architecture and detailed technical concept. Creation of the security, organizational, operational, testing, and training concepts
- Delivery, installation, and configuration of the hardware and software for the central and peripheral systems
- Adaptation of the software functions to the specific requirements of Deutsche Rentenversicherung
- Transfer of data from existing personnel administration systems
- Delivery of the pre-personalized smart-cards
- Initial personalization of 30,000 employee chipcards within 30 days
- Documentation
- Training
- Maintenance and update of the overall high-availability system

Technical basis

- Nexus Certificate Manager
- Siemens directory service DirX
- Secunet OCSP-Responder and time stamp service
- iCMS personalization server and client, including cameras for recording picture and signature, chipcard printer with interface device for contact chip and noncontact chip
- iCMS web clients for registration and card issuance
- Nexus clients for publication and revocation of certificates
- Siemens employee tool (SC-Info) for setting PINs and updating certificates
- Siemens chipcards with card operating system CardOS V4.01A

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