



T-Systems Solutions for Research.

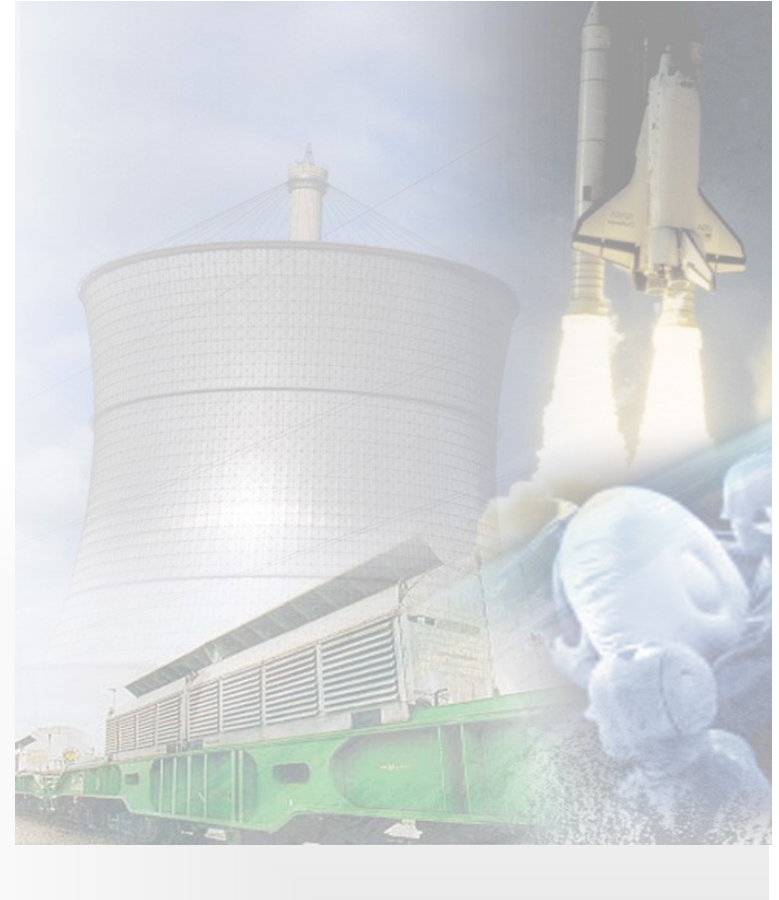
Data Management and Security

Andreas Landhäußer
Benedikt Rosenau

Andreas.Landhaeusser@t-systems-sfr.com
Benedikt.Rosenau@t-systems-sfr.com

Content

- Nirvana SRB (SRB2007)
- Security features inside SRB2007
- Security Enhancements according to federal data protection act (BDSG)
- Summary



Nirvana SRB (SRB2007)

Storage Resource Broker offers a global Namespace, an extension of a standard file system hierarchy containing files and other data residing on dispersed and usually disparate data sources. The global Namespace is used to access, manage, search, and organize data across the entire SRB Federation.

Samatha Kottha presented an overview of SDSC SRB at 2. D-Grid Security Workshop

http://www.medigrid.de/u_veranst/070327security-ws/v27_ogsa-dai_srb_security_ws.pdf

Features of SRB2007 1 of 2

- support for virtually all major storage systems, file systems, OS, RDBs.
- interfaces for CIFS (Windows, Mac OS X) NFS (Unix, Linux), Web Services, and leading storage and archival systems (i.e. Centera) with SRB Gateways.
- sophisticated metadata management for unstructured data.
- complete and advanced automation for Information Lifecycle Management (ILM Daemon) and data synchronization (Sync Daemon).
- Full suite of security mechanisms including authentication, access control, audit trails, integrity check, etc.
- High availability and disaster recovery with definable number of data replicas in distributed locations.

Features of SRB2007 2of 2

- Intelligent handling of MCAT queries and data traffic for optimal performance with load balancing, data caching, parallel streams and bulk operations throughout the system.
- High performance for both large and small files with patented technologies.
- Transparent background migration/maintenance of data without affecting users and applications.
- Enabling data repository, publication, archiving, and virtual organization in a "grid" environment (i.e., data and storage as a utility).
- federated MCAT, hence no single point of failure

SRB2007 built in Security Features

SRB is offering Security and data protection against unauthorized access

- Authentication
- Access Control Lists
- Authorization
- Tickets
- Encryption
- Users/Groups/Domains
- Audit Trails

SRB2007

Most of Nirvana SRB is closed source and not accessible to non-US Government entities.

Quote from Nirvana, if we “need more detailed information about the SRB protocol, we could put that together as part of a Nirvana SRB deployment in Germany”.

SRB2007 compliant to Health Insurance Portability and Accountability Act

Federal Data Protection Act (BDSG)

work on personal data is requiring processes being defined and audited

- Authentication
- Access Control Lists
- Authorization
- Encryption
- Audit Trails
- Introduction of pseudonymity and separation of specific metadata

all have to be enabled and supervised

Encryption

- end-to-end Encryption of all stored Data,
- Data will be accessible only by authorized users
- Data en-/decryption by personal and physical tokens
 - auditable
 - more difficult sharing tokens
- Key Management/Infrastructure is required

Summary

- Nirvana SRB (SRB2007)
- Security features inside SRB2007
- Security Enhancements Security Enhancements according to federal data protection act (BDSG)
- Summary

Thank you