



Libelle

SICK Aktiengesellschaft Highly Available SAP System Landscape

Abstract

Project:

Ensure the availability of productive SAP Systems Landscape.

Solution:

Landscape integration of **Business Shadow®** for High Availability of SAP Applications. Additional integration of **DBShadow®** for existing backup concept.

About SICK Aktiengesellschaft

From factory automation to logistics automation and process automation, SICK is one of the leading producers of sensors.

As a technology and market leader, SICK's sensors and application solutions for industrial use create the perfect basis for reliable and efficient control of processes, for protecting people from accidents, and for preventing environmental damage.

The company, founded in 1946, has a global presence with almost 50 subsidiaries and participations as well as numerous sales agencies. SICK currently employs about 5,000 employees worldwide.

High Availability of complete SAP System Landscape

Round-the-clock availability of critical IT applications defines a basic necessity for an enterprise with subsidiaries, representations, and branches spread across six continents. Access to consistent business data must be available any time. These requirements apply particularly to the SAP System Landscape.

SICK's Headquarter is located in Waldkirch near Freiburg, Germany. It provides IT services for subsidiaries, regional subsidiaries, and additional business

facilities. The Waldkirch site provides two data centers to allow redundant data storage and Disaster Recovery capabilities for various disaster scenarios.

Redundant Data Storage / Stand-by Databases

Providing database redundancy is often facilitated with standby databases. This can generally be achieved with free database tools. SICK Aktiengesellschaft experienced the deployment and operation of the tool specific to their database as impractical. The tool in itself was prone to glitches and not suited for operating large, high-volume databases. Additionally there was a lack of professional external support available.

Based on this, SICK Aktiengesellschaft has been aware that an Emergency Incident may leave them unable to restore full functionality to the SAP System Landscape. Using the free database tool implementation was always seen as partial solution.

Complete Solution with Libelle Software Products

After analyzing the complex requirements, the teams in charge of SICK Aktiengesellschaft initiated the contact to Libelle Partner SMC and Libelle to provide a more complete High Availability Implementation.

Minimizing Downtime

The SMC and Libelle project teams co-designed the system architecture of the production SAP systems to a great extent. The infrastructure was built on a foundation of HP Server and Midrange Storage systems. All servers were installed with Microsoft Windows 2008 Server as Operating System. The initial Database Management System was MS SQL Server 2000 and is scheduled to be upgraded to 2005/2008.

*"The backup procedures of our SAP database became much easier since implementing Libelle **BusinessShadow**."*

Thomas Schill
(Team Leader Databases)

SICK
Sensor Intelligence.

Industry

Industrial Goods

Application

SAP R/3

Software

Windows 2008
MS SQL 2005
HP Data Protector

Hardware

HP Server and Storage
Midrange Storage

Partner

SMC GmbH Boeblingen, Germany
www.smc-bb.de



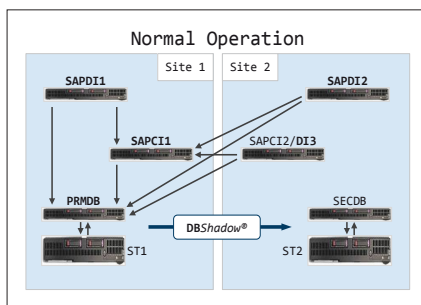
Conceptually, the architecture was designed as a dual infrastructure facility. According to Disaster Recovery Scenario, the SAP System has been deployed in two almost identical data centers each with three servers and one of the two storage units.

The Server Roles were defined distinctively and deployed to separate the SAP Central Instance from the Database Instances. Each then facility provided the following servers (Production/Mirror):

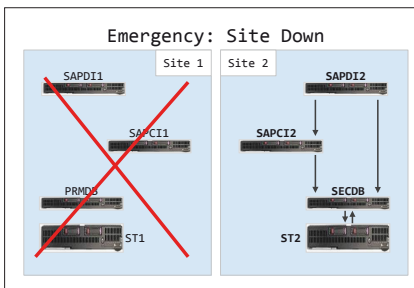
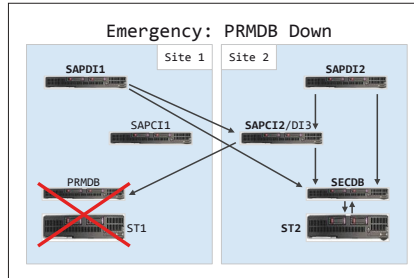
1. Database Server (PRMDB/SECDB)
2. Central Instance (installed) (SAPCI1/SAPCI2)
3. Application Server (SAPDI1/SAPDI2)

During normal/non-emergency situations, Production Databases run on PRMDB and Central Instance on SAPCI1. SAPDI1 and SAPDI2 run active Application Server. If required, SAPCI2 and SAPSECDB allow the deployment of additional Application Server.

The Production Database is continuously mirrored to SECDB in the secondary facility from PROMDB with Libelle **DBShadow**.



In case of a failure of the PRMDB server and/or during a Disaster Incident with a total site failure, the Mirror Database is activated on the SECDB Server.



Failover of the Central Instance Services and re-activation of the Application Server is extensively automated with an installation and use of Libelle **SwitchApplication** software.

The following have been critical factors in the project:

1. Size of the production database (1.6 TB and growing)
2. Automation of the failover process with integrated SAP Central Instance and Application Server failover by combining Libelle **DBShadow** and **SwitchApplication**
3. Solution integration in Backup Strategy by running backups of the data base on secondary facility.
4. Largely automated fail-back after an incident.

High Availability thanks to time-delayed mirroring and professional services.



Contact

Libelle AG
 Gewerbestr. 42
 70565 Stuttgart, Germany
 T +49 711 / 78335-0
 F +49 711 / 78335-148
www.libelle.com



Libelle, the Libelle Logo, **BusinessShadow**, **DBShadow** and **FSShadow** are trademarks of Libelle AG, Germany.

SAP is the trademark of SAP AG in Germany and in several other countries. All other mentioned products and companies in this reference are trademarks of their respective owners.

The information is provided from the customer named and/or the Libelle Business Partner. Subject to correction.