



SEP
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SEP sesam

HYBRID BACKUP AND RECOVERY FOR SAP ON RED HAT ENVIRONMENTS

AGENDA



1. SEP sesam in general
Supported IT environments
Data Privacy
Red Hat
2. SAP Backup
3. Summary



GENERAL



Global Product

- > 5000 Customers
- > 60 Countries
- > 270 certified partners worldwide



Software *Made in Germany*

- Attribute of Quality
- Data Privacy
- EU-GDPR



Long Backup Experience

- > 30 years SEP
- 25 years SEP sesam
- Famous customers



Best Support Reputation

- Extremely competent
- Confirmed by Gartner
- Recommended by lots of customers



SEP WAS NAMED ONE OF THE 2018 GARTNER PEER INSIGHTS CUSTOMERS' CHOICE FOR DATA CENTER BACKUP AND RECOVERY SOFTWARE



<https://www.gartner.com/reviews/market/data-center-backup-and-recovery-software>

SEP is 1 of only 7 vendors worldwide of the 2018 Gartner Peer Insights Customers' Choice for Data Center Backup and Recovery Software

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Vendors and Products	Reviews	Overall Rating
Veeam	250	4.6
SEP	135	4.7
Dell EMC	121	4.1
Code42	114	4.7
Commvault	113	4.3
Veritas Technologies (formerly Symantec)	109	4.1
Unitrends	102	4.5
Actifio	89	4.6
Cohesity	85	4.8
Acronis	78	4.3
Rubrik	72	4.8
VMware	54	4.2
Barracuda Networks	51	4.7
IBM	41	4.1
Druva	39	4.6
Quest Software (Dell)	38	4.3
Micro Focus	30	4.3
Arcserve	29	4.0
Microsoft	24	4.1
Carbonite	23	4.3
ExaGrid	8	4.8
FalconStor	4	3.8
Catalogic Software	2	4.5
Spanning Cloud Apps	1	3.0
Infrascale	1	2.0

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← → ↻ [Sicher | https://www.gartner.com/reviews/customers-choice/data-center-backup-and-recovery-software](https://www.gartner.com/reviews/customers-choice/data-center-backup-and-recovery-software)

FOR VENDORS **WRITE A REVIEW** 🔍

Gartner peer insights. **FOR VENDORS** **WRITE A REVIEW** 🔍 **MY ACCOUNT** ⚙️

All Markets > Data Center Backup and Recovery Software

Reviews for Enterprise Backup Software and Integrated Appliances **Magic Quadrant** **Critical Capabilities**

What is enterprise data server recovery and backup software?
Gartner defines the data center backup and recovery software market as being focused on providing backup capabilities for the upper-end midmarket and large-enterprise environments. Gartner defines the upper-end midmarket as being 500 to 999 employees, and the large enterprise as being 1,000 employees or greater. Protected data comprises data center workloads, such as file share, file ... See More

Email this page

Vendor: SEP

Product(s): SEP sesam

SEP provides the leading german Software solution for Backup and Disaster Recovery in heterogenous environments. SEP has been delivering a wide range of backup products for enterprise-level customers since 1996. With thousands of installations worldwide, SEP has developed the fastest and most reliable data-backup solution available today.

★★★★★

“Straightforward Implementation, Functional, flexible easy to use and manage”

—CIO in the Education Industry

[BROWSE ALL REVIEWS >](#)

Vendors and Products	Reviews	Overall Rating	
		1 2 3 4 5	
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Cohesity	85	4.8	customers' choice 2018
Acronis	78	4.3	customers' choice 2018
Rubrik	72	4.8	
VMware	54	4.2	
Barracuda Networks	51	4.7	
IBM	41	4.1	
Druva	39	4.6	
Quest Software (Dell)	38	4.3	
Micro Focus	30	4.3	
Arcserve	29	4.0	
Microsoft	24	4.1	
Carbonite	23	4.3	
ExaGrid	8	4.8	
FalconStor	4	3.8	
Catalogic Software	2	4.5	
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<https://www.gartner.com/reviews/customers-choice/data-center-backup-and-recovery-software>

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SEP SESAM: BACKUP OF SYSTEMS NO ONE ELSE CAN



- **Software ,Made in Germany'**
→ GDPR ready and BSI conform



- **Gartner: Best Backup Software worldwide**

→
<https://www.gartner.com/reviews/market/backup-and-recovery-software>



- **Certified SAP Backup**
→ HANA, B1, ASE and NetWeaver

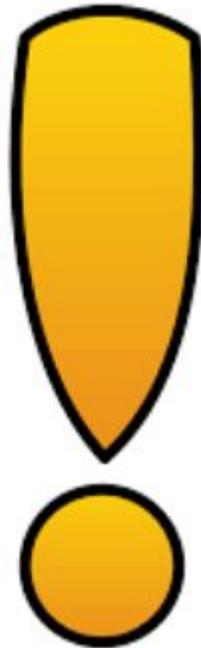


- **Top Competence**
→ Support in Germany

- **Famous References worldwide**



WHY SEP SESAM?



Here is why SEP sesam!

**Certified SAP Backup,
Linux focus + scripting,
local vendor**

**Reduced maintenance costs,
online Backup of DBs,
international locations**

**Lotus Domino Backup,
references with SEP at other MDKs**

Certified SAP HANA Backup

**OES Cluster Backup,
individual license contract**

Performance, price, certified SAP HANA Backup

Flexible MSP licensing, certified SAP Backup

Support of older versions (OS and Oracle)

RHV Backup

KVM / OpenNebula Backup

**Long-term intensive cooperation,
individual Support Service**

Backup of IBM Power Systems



LICENSE MODELS



Classic

Single licenses for modules and agents

Benefits:

Customer purchases only what he really needs

Disadvantages:

License management



Volume

Licensing based on front-end capacity

Benefits:

All-inclusive – all modules included

No license management

Full flexibility

Disadvantages:

Could be more expensive than Classic, because the flexibility has to be paid upfront

Subscription

Licensing based on front-end capacity with annual charge

Benefits:

Same as Volume

Fixed costs

No pre-invest

Disadvantages:

Will become more expensive than Volume with longer periods

Essential

Socket based

Max. 6 sockets

VMware or Hyper-V

Essential Plus (incl. most level 2 agents)

Benefits:

All front-end data inclusive

Incl. VMs, Tape, Dedup, Replication

Target:

Competitive to Veeam Essential, but cheaper

MSP

Pay-per-use

Billing of front-end capacity or per unit (nr. of VM's)

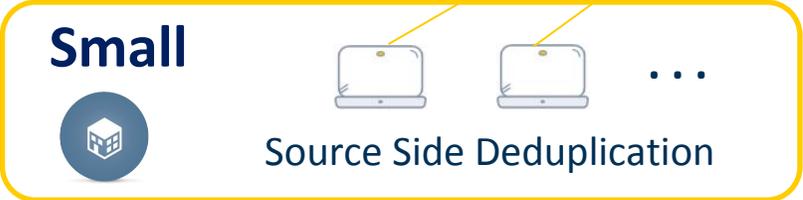
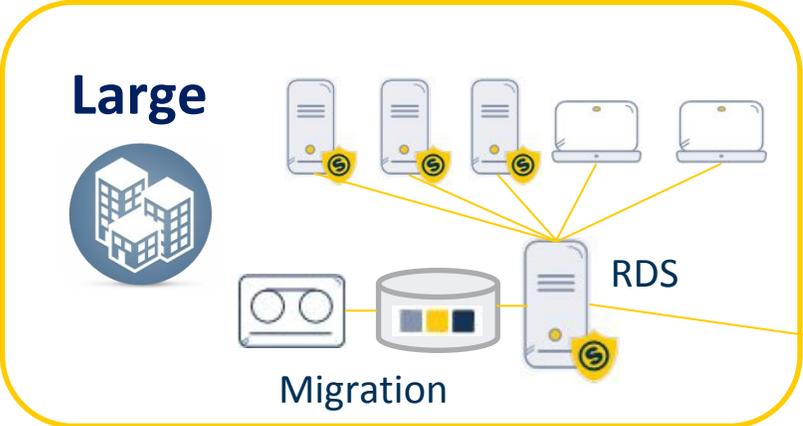
Benefits:

All-inclusive – all modules included
Full flexibility

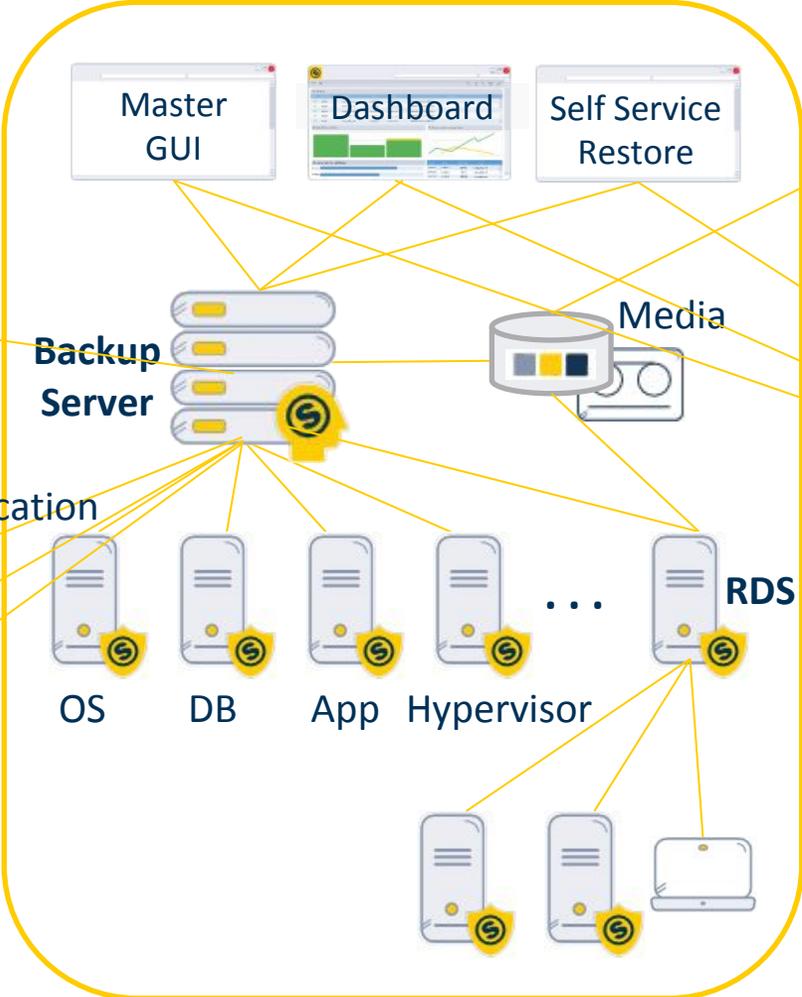
Target:

Dynamic and heterogeneous customer environments

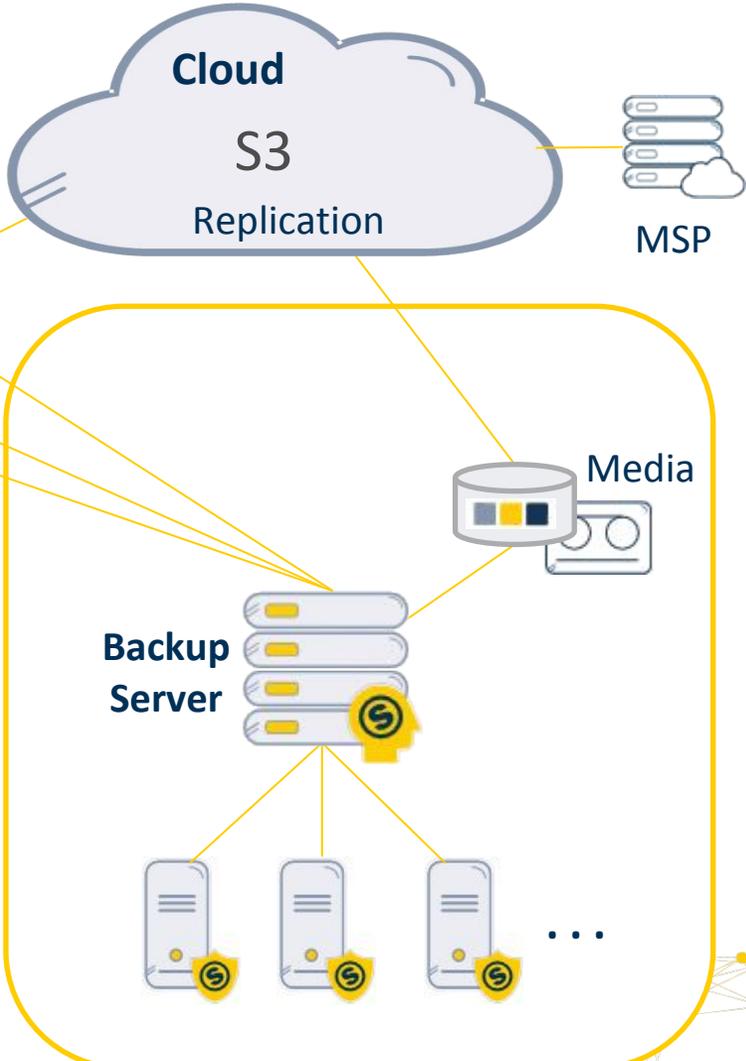
THE SEP ARCHITECTURE



Branch Offices



Data Center



Data Center 2



HYPERVISOR



- Agentless via vStorage API
- VSS
- Change Block Tracking
- vMotion, VMware HA
- Single File Restore
- Instant Recovery
- HotAdd, nbd(ssl), SAN
- Activate VM after Restore
- LAN-free Backup



- MS API
- VSS
- **Single File Restore**
- Live Migration
- CSV
- SMB 3.0
- Component Based Restore
- Single Host or Hyper-V Cluster



- Xen API
- VSS
- **Native INC via CBT**
- Single Host or Poolmaster
- Recover to another host or poolmaster
- Restore over Management LAN
- XenHost Metadata



- oVirt API
- Online Backup
- RHV Host or Cluster
- DataMover as VM
- Granular Restore (Complete VM, Single virtual disks or only meta data)
- LAN-free Backup
- Activate VM after Restore



- libVirt API
- Qemu
- Online Backup
- Client on each host
- Mutually exclusive with RHV agent

Snapshot Backup of 6 Hypervisors!

← Unified Look&Feel for Backup and Restore in the GUI →

DATA PRIVACY (1)



- Data Protection *Made in Germany*
 - no backdoors
 - BSI compliant

- As of May 2018:
 - EU-General-Data-Protection-Regulations (EU-GDPR)
http://ec.europa.eu/justice/data-protection/reform/index_en.htm
 - GDPR specific SEP Compliance Document
co-authored by a neutral well-known IT lawyer



DATA PRIVACY (2)



- Firewall Security
 - › Limiting used ports to only one port by using *https*
 - › Use RDS (Remote Device Server) to adapt to network structure



- Automated Restore
 - › Schedule a restore task
 - › Get a report and verify your backup automatically
 - › Avoid double disaster



- Integrated Encryption of
 - › Communication
 - › Data Transport
 - › Data on tape, DataStore or Si3 DedupStore



- External password for restore with a 4-eyes-principle
 - › Backup admin with backup and restore rights
 - › Second person required with password access



RED HAT PARTNERSHIP



- Long and active partnership since 2005
- Support of current version RHEL7
- Disaster Recovery supported
- Backup possible for RHEL on Intel and IBM Power
- Common development of a backup API for RHV
- 2015: Common [announcement](#) of the worldwide first agent for online backup of RHV



RED HAT VIRTUALIZATION



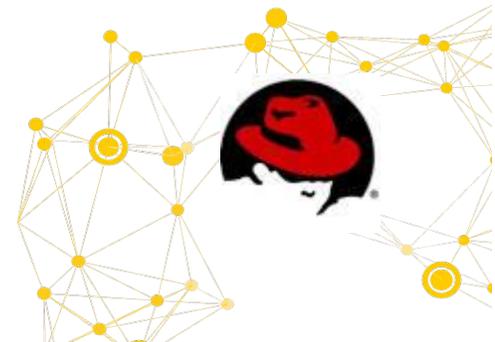
Backup

- Single Nodes or RHV Cluster
- Via ovirt and libvirt API
- Complete VMs, single virtual disks or backup of the config data of a VM possible
- Groups of VMs can run on several hosts by means of the RHV Manager Resource
- Currently only COPY backups possible -> Recommendation: Si3 for data reduction
- Needs a proxy VM as DataMover (similar to VMware HotAdd)
- Via LAN or LAN-free
- RHV 4.X supported
- Requires at least RHEL V7 for the DataMover



Restore

- On the original VM or in another location even on other RHV system
- With same or other name
- Path restore of a VM directly into the file system possible



SEP FACTSHEET FOR RED HAT



SEP Hybrid Backup & Disaster Recovery

SEP sesam's Backup & Disaster Recovery Capabilities for the Red Hat Ecosystem



Supported systems that are part of Red Hat's ecosystem

Protected solutions:

- ✓ Red Hat Virtualization
- ✓ Red Hat Enterprise Linux
- ✓ Red Hat Storage
- ✓ Red Hat Certified Cloud and Service Provider Program (CCSP)

Supported architectures:

- ✓ i386
- ✓ x86-64
- ✓ IBM Power, Open Power
- ✓ zSystems/LinuxONE

Protected databases running on RHEL & RHV:

- | | |
|-----------------|-----------------|
| ✓ PostgreSQL | ✓ SAP ASE |
| ✓ Enterprise DB | ✓ SAP HANA |
| ✓ MariaDB | ✓ SAP Netweaver |
| ✓ MySQL | ✓ MaxDB |
| ✓ Oracle | ✓ Informix |
| ✓ IBM DB 2 | |

Protected applications running on RHEL & RHV:

- | | |
|---------------------|----------------|
| ✓ IBM Domino Server | ✓ Davcot IMAP |
| ✓ Zarafa | ✓ Cyrus IMAP |
| ✓ Kopano | ✓ Courier IMAP |
| ✓ MySQL | ✓ openLDAP |
| ✓ Atlassian Jira | |

Furthermore SEP sesam supports all guest Operating Systems of the Red Hat OpenStack Platform and Red Hat Enterprise Virtualization for i386, x86-64 and Power architecture.

SEP sesam for Red Hat Solutions

Red Hat solutions operate systems that are the centerpiece of IT environments for companies and organizations worldwide. These systems manage all types of information from sales and customer relationships to finance and business operations. The importance of these systems requires a comprehensive business continuity management strategy, focusing on Recovery Point Objectives (RPOs) and Recovery Time Objectives (RTOs), which are essential in a disaster scenario.



This is where SEP's unified data protection is vital. The SEP sesam Hybrid Backup and Bare Metal Recovery Solution prevents data loss and can recover the entire environment after a disaster scenario like:

- Force majeure
- Hardware failures
- Human errors
- Data corruption
- Logical and software errors

Even after the attack of encryption trojans SEP's backup data can still be recovered through the proven support of offline media.

With SEP sesam, data is protected 24/7 and is always available. SEP's reliable backup solution offers numerous certifications for Red Hat solutions and also the backup server can be operated on RHEL! SEP has partnered with Red Hat for over a decade.

SEP's versatile and economical data protection is ideal for both medium and large enterprises and integrates seamlessly into any IT environment.

The combination of the Red Hat and SEP solution gives you as customer a higher level of safety and security because of covering a majority of the relevant IT processes and operations. SEP and Red Hat offer you a complete, proven and certified solution stack.

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SEP Hybrid Backup & Disaster Recovery

Red Hat Virtualization

SEP sesam was the first data protection solution that fully integrates with the Red Hat Virtualization backup API.



Full integration of Red Hat Virtualization's backup API into SEP sesam ensures consistent data protection as well as the fast and comprehensive recovery of virtual machines (VMs) in production IT environments. The integrated solution offers a platform for IT administrators utilizing the SEP sesam management interface to monitor the data protection status of VMs.

The integrated solution offers consistent data protection of Red Hat Virtualization VMs without the need to install backup clients inside each virtual machine.

Red Hat and SEP are committed to meet customer needs providing all the functionality, performance and interoperability required to meet today's demanding customer environments. Together, Red Hat and SEP offer worldclass solutions at an optimal price to implement, protect, and improve customers' investments in their IT infrastructure.

SEP sesam Hybrid Backup is a certified, cost effective, scalable and reliable backup and recovery solution for Red Hat Virtualization.

- API based Snapshot Backup for RHV 4.0 or later
- API based Snapshot Backup for RHEV 3.6 or later
- Easy and fast to install backup application
- Linux and Windows based backup server available



SEP reliably protects a wide range of Linux distributions. SEP sesam is certified for Red Hat Enterprise Linux and optimized for mission-critical solutions and applications:



ADVANCED BY PARTNER

Independent Software Vendor of the Year

- | | | | |
|----------|----------|------------|------------|
| • RHEL 7 | • RHEL 5 | • CentOS 7 | • CentOS 5 |
| • RHEL 6 | • RHEL 4 | • CentOS 6 | • CentOS 4 |

Red Hat Enterprise Linux

Bare Metal Recovery Capability for Linux

Each productive server needs a reliable backup and recovery concept. In physical environments a proven bare metal recovery solution for Linux is indispensable for an always on business. Therefore SEP sesam is a key component of Red Hat environments.

With SEP sesam Bare System Recovery (BSR) the recovery of systems after a server blackout is fast and easy. SEP sesam BSR enables users to restore a system to full operational availability within minutes, depending on the volume, hardware and network performance, after replacing a system disk or the complete computer hardware. The disaster recovery of Linux systems includes any settings with ACLs.

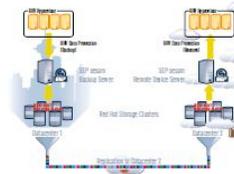
The SEP sesam interaction with Red Hat Storage

Massive Storage, Data Backup, Disaster Recovery, Redundancy and Replication can be at one's fingertips with Red Hat Storage combined with SEP sesam Hybrid Backup.

Companies and organisations can use Red Hat Storage to backup and redeploy data backups from anywhere to anywhere. Backups created from data centers, virtualized environments and private or public clouds can be moved anywhere the system manager desires.

Red Hat Storage Server offers global replication capability with a single point of administration. Replication is latency aware, object based and works perfectly with SEP sesam S3 inline deduplication. The included, Open Stack proven, Gluster FS offers the ability of easy and unlimited storage growth. This scalable and redundant backup-solution-stack allows tiering and backup-datamigration on any storage hardware or cloud storage.

SEP offers a central backup solution for the entire IT environment on one side while Red Hat offers a vendor independent backup storage with no limitations on the other side which gives maximum flexibility to IT administrators and radically reduces total cost of ownership (TCO).



SEP WHITEPAPER FOR RHV



SEP sesam Hybrid Backup for Red Hat Virtualization

First Data Protection Solution that fully integrates with RHV



SEP sesam Hybrid Backup – First Data Protection Solution that fully integrates with Red Hat Virtualization (RHV)

Native backup API support allows SEP to provide enterprise backup functionality for Red Hat Virtualization users

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Find the latest Version of this Whitepaper at sepssoftware.com/redhat



SEP FOR RED HAT ECOSYSTEM

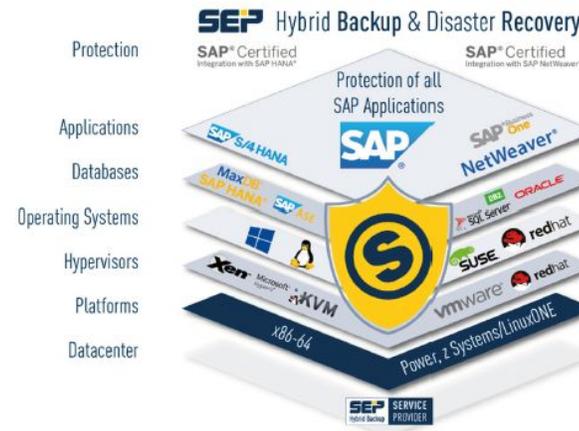


SAP HANA Certifications

Vendor	Backup Tool	Intel SAP HANA 1.0/2.0 HANA-BRINT 1.1	Power SAP HANA 1.0 HANA-BRINT-PW 1.1	Power SAP HANA 2.0 HANA-BRINT-PW 1.2
SEP	SEP Sesam	Yes	Yes	Yes

Source: <https://wiki.scn.sap.com/wiki/pages/viewpage.action?pageId=451067853>

SAP Ecosystem - Protection Overview



SEP sesam's Backup & Disaster Recovery Capabilities for the Red Hat Ecosystem

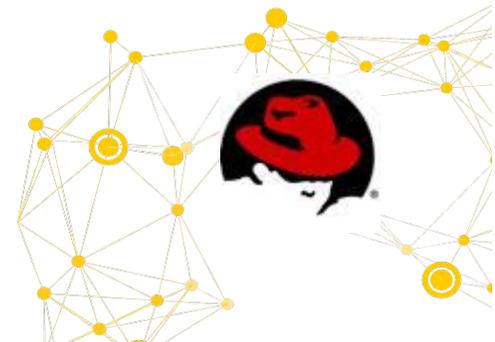


RED HAT STATEMENT



“As a long-time partner, we were very happy to attend the event. The combination of Red Hat as a basis for SAP installations that are perfectly backed up by SEP and the long-time experience in Linux and open source environments are decisive for steady growth and successful cooperation.”

*Hubert Schweinesbein, Manager EMEA Partner Enablement Team, Red Hat
[12/09/2017 at SEP SNAP Partner Days, Holzkirchen, Germany]*





SAP BACKUP

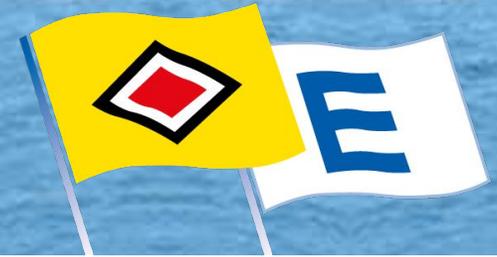
SAP



- SAP certified since 2002
- SAP certifications:
 - › NetWeaver on Oracle DB on Linux
 - › NetWeaver on Oracle DB on Windows Server
 - › NetWeaver on MaxDB
 - › SAP HANA on Intel (SLES, Red Hat)
 - › SAP HANA on IBM Power System (SLES, Red Hat)
- SAP ASE (ex-Sybase)
- Interfaces:
BRTOOLS/RMAN for Oracle, *BRTOOLS/dbmcli* for MaxDB,
backint for HANA, *iSQL* for ASE



CASE STUDY DAL/JTE GROUP



DEUTSCHE AFRIKA-LINIEN
JOHN T. ESSBERGER

SAP HANA (1)



- Uses **backint** API
- FULL, DIFF and INC backups are possible
- The backup state can be checked from the **SEP sesam server** as well as from the **SAP HANA Studio**
- Backups and Restores can be started from SAP HANA Studio
- Backups could be automated in different ways (SEP, cron-Job, etc.)
- Simple installation + configuration (Install script)
- Support of scale-out cluster (multi node)
- Support of multi-tenancy (multiple separate HANA instances on one host)
- Tutorial on YouTube:



SEP sesam Tutorial | SAP HANA Certified Backup (Lang_EN)

von SEPsasam

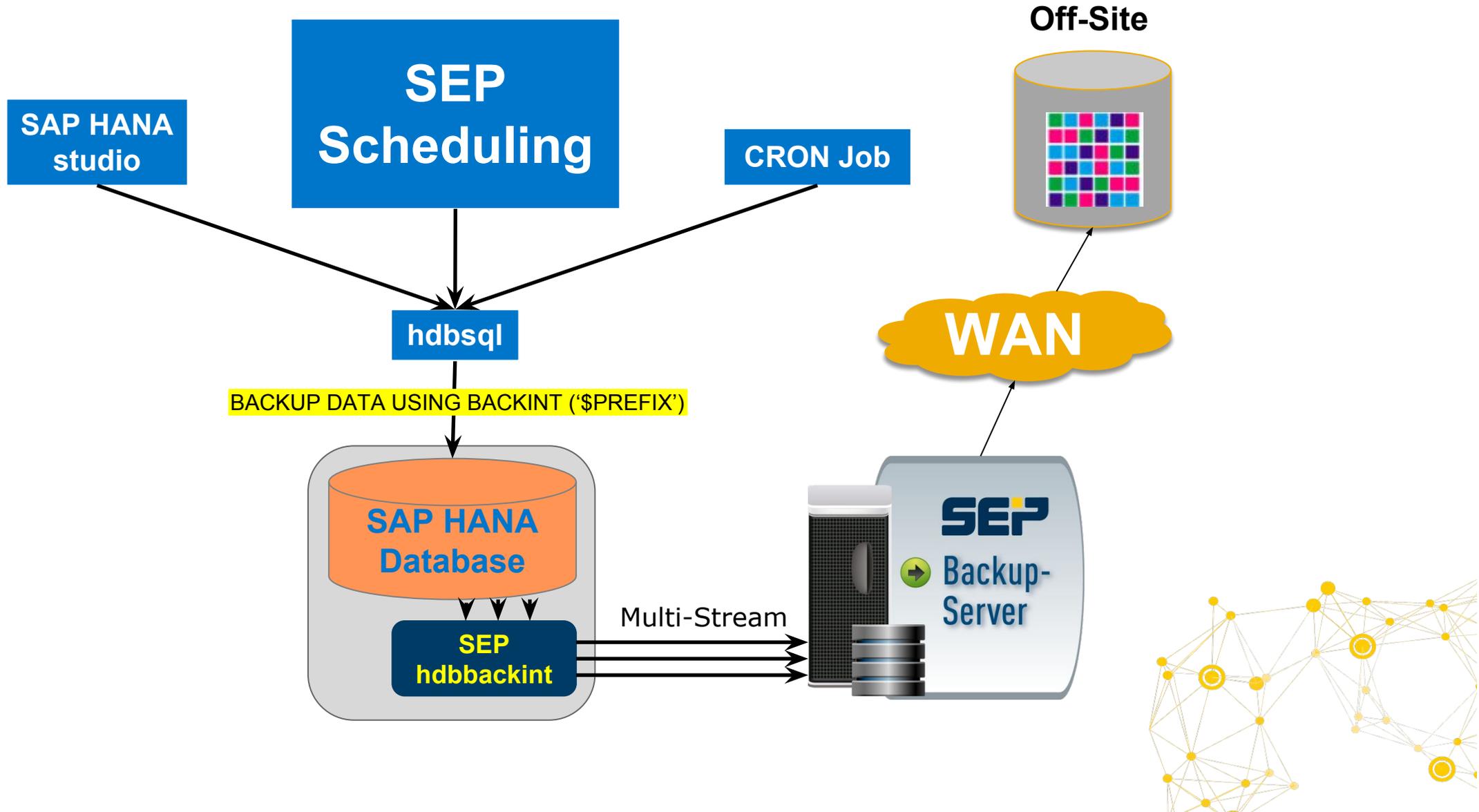
vor 2 Monaten • 69 Aufrufe

Please visit http://wiki.sepsoftware.com/wiki/index.php/SAP_Hana for further information.

HD



SAP HANA (2)



CASE STUDY TECHNISCHE WERKE LUDWIGSHAFEN

SINCE MORE THAN 100 YEARS, TWL IS A REGIONAL PUBLIC ENTERPRISE WHICH RELIABLY SUPPLIES DOMESTIC HOMES, AGRICULTURE AND INDUSTRIES WITH POWER, GAS, HEAT, COOLING AND WATER.



“SEP sesam is the optimal way to backup our heterogeneous and complex IT environment.”

Thomas Scharfenberger, IT Service Manager at TWL



CASE STUDY KWIZDA

SEP IS NATIVELY INTEGRATED INTO THE SAP HANA STUDIO MANAGEMENT TOOL AND ENSURES THAT KWIZDA ALWAYS HAS CONSISTENT BACKUPS OF MISSION-CRITICAL BUSINESS DATA.

Kwizda

Holding



- Lenovo System x3950 X6 servers
- SAP HANA for
 - › SAP Business Suite
 - › SAP Business Warehouse
 - › SAP Extended Warehouse Management



CASE STUDY UNIORG GMBH

ONE OF THE LARGEST AND MOST PRESTIGIOUS SAP CONSULTANCY SERVICES PROTECTS ITS DATA CENTERS WITH SEP SESAM – AS A MANAGED SERVICE AS WELL.

UNIORG



“We can now give our customers an even better argument to work with us, especially because of the SAP certifications of SEP sesam.”

Dirk Kotthoff, Business Unit Manager for IT, UNIORG Consulting GmbH





SUMMARY

SEP – SAP – RED HAT

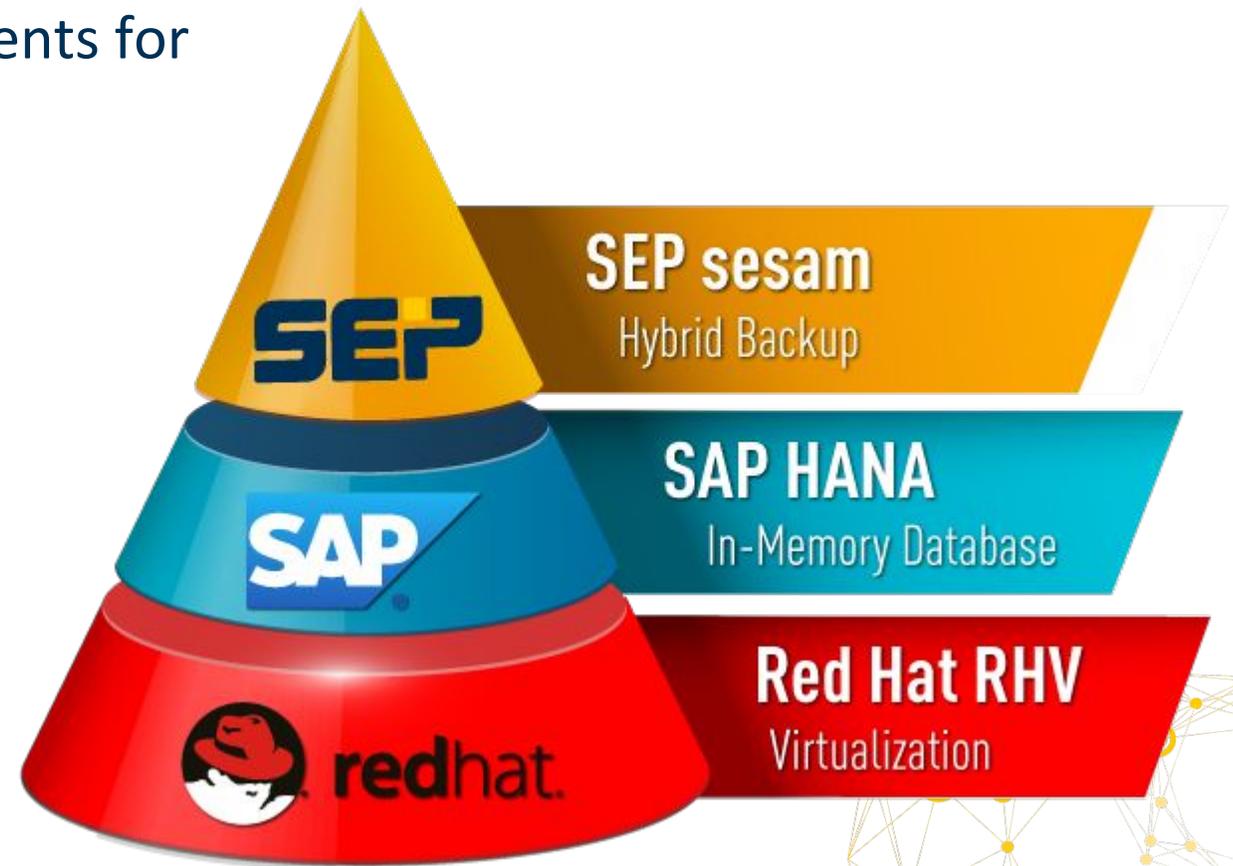


Physical SAP Installations

- Support of SAP on RHEL
- Certified SAP backup with online SEP agents for NetWeaver and HANA on Linux Intel or IBM Power
- Disaster Recovery of the system

Virtual SAP Installations

- **NEW since Feb 2018!**
SAP HANA released for RHV
- SEP agent for snapshot backup on RHV
- Disaster Recovery of the VM



INFORMATION POOLS



30 days Demo incl. free Support

www.sepsoftware.com/download

SEP Wiki

wiki.sepsoftware.com

Success Stories

www.sepsoftware.com/references



Trainings

www.sepsoftware.com/training

Youtube Channel

www.youtube.com/sepsesam

Support Matrix

<http://www.sepsoftware.com/supportmatrix>

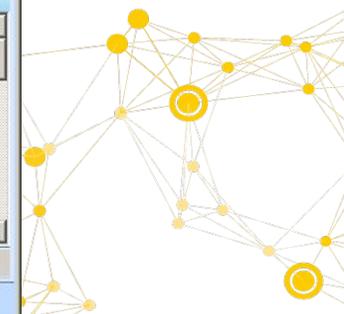


VISUAL IMPRESSION



The screenshot displays the SEP software interface with several key components:

- Main Selection:** A tree view on the left containing categories like Components, Tasks, Scheduling, Job State, Backups, Restore, and Monitoring.
- Client File View [qs]:** A central pane showing a hierarchy of clients and their associated databases and applications, such as IBM_DB2, Informix, and MySQL.
- Dashboard:** A top-right pane with two charts:
 - Backup state over time:** A stacked bar chart showing the number of tasks (successful, warning, cancelled, error) from Dec 06 to Dec 18, 2016. Legend: successful 710, warning 61, cancelled 24, error 14.
 - Total backup data size over time:** A line chart showing data size in GB over the same period. Legend: total 2.53 TB (06 Dec - 20 Dec), average 172.76 GB.
- Application based backup state:** A table below the dashboard showing backup status for various applications.
- Current data store utilization:** A bar chart showing storage usage for DataStoreNFS (2.28 TB), DataStoreRDS (36 GB), DataStore_Local (1.77 TB), ExchangeDS (30 GB), KRI-Si3 (29 GB), Dedup Rate 3.2 : 1, and Replifix-Si3 (180 GB).
- New Backup Task in group:** A dialog box in the foreground for configuring a backup task, including fields for source, exclude list, and options like "Backup with VSS".
- Current Messages:** A log at the bottom left showing system and drive-related messages.







**THANK YOU
FOR YOUR ATTENTION**