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## Public Utility Company of Potsdam

### Situation

#### Public Utility Company of Potsdam Selects SEP Software's Xen & Now to Backup Entire Virtualized Data Center

The Public Utility Company of Potsdam, with around 1,100 employees, is the largest employer in the German state of Brandenburg. At the beginning of 2010, the IT Department began a step-by-step conversion from physical servers to a Citrix XenServer virtual environment. One of the challenges the IT Department faced was that their existing backup solution was not going to work in this new virtual environment. New technology that could handle the demands of virtualization and the vast amount of rapidly expanding data would be required. SEP Software's Xen & Now solution was rigorously tested and enthusiastically selected.

The Public Utility Company of Potsdam is the supplier of all major utilities for city of Potsdam. They are responsible for all electricity, water and natural gas for over 150,000 people. To meet the demands of the city, the IT infrastructure has grown and evolved in both scale and complexity. Currently, 50 physical servers run between four and ten virtual servers each, for a total of approximately 350 servers.

Starting in 2010, the IT department for the utility began to upgrade the environment to virtual servers along with new hardware. The decision was made to implement the Citrix XenServer solution across the board. By using the 64-Bit-Hypervisor from Citrix, it allows the IT management easy access to virtualize all their Windows and Linux servers. “By consolidating our physical server environment utilizing the Citrix XenServer technology we were able to drastically reduce our expenses for hardware and services we were receiving from our vendors,” stated IT director, **Frank Rausch**. At the same time, the utility was able to starkly reduce their dependence on a single hardware vendor, allowing a great deal of flexibility for the acquisition of new hardware. “Today, if we lose a server we are able to move both the application and operating system to a virtual server pool, with little or no down time. We are also able to off-load compute intensive applications to underutilized virtual machines with the flick of a switch. In addition, new servers and IT services can be implemented in the shortest possible time. Finally, by virtualizing our environment, we have saved a great deal of energy, space and most of all, money.” added **Rausch**.



## Xen &amp; Now

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## CHALLENGE

It quickly became evident that the backup software in use before the virtualization campaign was no longer technically adequate. A backup, or even a partial backup, of the complete virtual server environment was not even possible. Shortly after the start of the upgrade to virtual servers, a search began for a better backup solution.

## SOLUTION

The IT team found and tested three different solutions, but the only solution that fulfilled all the requirements was **Xen & Now** from SEP Software Corp. “We set up a test environment for all of our various packages and it was soon very clear that only SEP’s **Xen & Now** would even come close to fulfilling our needs. SEP’s solution was hands-down the best offering we have found or tested!” Rausch stated emphatically.

“We were aware that we were one of the first enterprises to implement the new **Xen & Now** solution and even though our tests were showing it would be the right decision, we wanted to work directly with SEP and their support team for the backup of our Citrix XenServers. There were a few minor bumps, but the SEP team helped us at each step,” **Rausch** recounted. “After the installation, the Public Utility’s system administrators took over the operation of the backup systems and the backups have operated flawlessly ever since,” continued **Rausch**.

The number of virtual servers put in service at the Utility Company continues to climb. The move from physical servers to virtual continues at a steady pace, and as each new service comes online, they are added to the virtual server farms. At the moment the IT department has seven pools of servers, each with four to eight physical servers, and a minimum of 10 virtual servers connected to a high-performance SAN from Dell with 40 TB of storage space.

Most virtual servers are backed up daily, but several less important servers are only backed up once a week. The backup includes the complete operating system, configuration data and user information, with the data being written to a second disk array. The data is then transferred from this array, with the assistance of two **SEP sesam** Remote Device Servers, to LTO 4 and LTO 5 autoloaders — which reside at various off-site locations within the utility. “The overall time required for the utilities administrators to monitor both log files and data backups has been reduced to three or four hours per week. A vast improvement from the previous backup solution, with a significant increase in the amount of data being backed up as well,” reported **Rausch**.

**ADDITIONAL  
FEATURES**

Moving from physical to virtual servers also included streamlining efforts to move from Novell NetWare 6.5 to Novell's Open Enterprise Server running NetWare in the shortest possible time. After speaking with SEP engineers, the Potsdam Utility IT staff discovered that they could use **SEP sesam** to easily and quickly migrate legacy NetWare applications to OES by simply making a full system backup and restoring all the data to a new server. This migration was made even simpler because **SEP sesam** enables the restoration to a virtual machine and performs backups within a virtual environment running Novell OES, something no other software can do.

In addition to the migration from NetWare 6.5, **SEP sesam** also backs up Novell Storage Services (NSS) volumes, including eDirectory and Trustee Rights along with pointers and object parameters. All of these features were unavailable from the previous backup software or any of the new products tested. "All of these features proved to be a special bonus for us when you consider the fact that we had over 20 Novell servers in use. We needed to perform the backup and restore all user data and have them back online working for our customers in the shortest amount of time possible. The time we allotted for this conversion was only half-a-day, a target that not one vendor could agree to," stated **Rausch**. "Just reconfiguring systems in the past could take up to half-a-day, something we could no longer live with. Finding SEP was a godsend!" reported **Rausch**.

The Utility's IT department was also very impressed with all of the functionality offered by **SEP sesam**, which was a great advantage over SEP's competitors. None of the other products came close to the offering from SEP Software. "The **SEP sesam** Backup Server communicates directly with the Citrix server farm without using agents or other software on the hypervisor. This allows for increased performance during backup operations. It also reduces administrative overhead during full backups," stated **Rausch**.



## SEP Software Corp.

SEP Software Corp. is the technology leader providing standardized and high performance data availability solutions for professional IT environments of all sizes. SEP sesam and its associated products deliver seamless solutions to your backup requirements.

SEP sesam ensures that data security for virtual machine environments including data backup, restore, disaster recovery and encryption can be both easily and cost-effectively achieved. SEP's software is the ultimate expression of German engineering and attention to detail. Design and programming originate from our German offices in Weyarn, near Munich where overall performance and reliability are under our constant vigilance.

## RESULTS

The Public Utility of Potsdam was able to implement a new backup structure for their Citrix XenServer virtual environment using SEP Software's **Xen & Now** in a timeframe previously unthinkable. After optimization of the configuration, the backup of the XenServers and their virtual guests have run flawlessly for the past six months. **Frank Rausch**, utilities IT director, reported that he is extremely satisfied with both the functionality and product as a whole from SEP Software. "The service and support that we have received is both commendable and praiseworthy. It has been what every IT director hopes to obtain someday," he stated. "We see **SEP sesam** as a long-term solution for backup requirements here at the Potsdam Utility. Our continued virtualization of old and new applications will continue, as will our use of **Xen & Now** for our Citrix XenServers," **Rausch** articulated. Additional plans include disaster recovery using **SEP sesam** and backing up other sites for the City of Potsdam.

ABOUT  
PUBLIC  
UTILITY  
COMPANY OF  
POTSDAM

The Public Utility of Potsdam GmbH, with around 1,100 employees is the largest employer in the German state of Brandenburg. Every day the citizens of Potsdam come in contact with the services provided by the Utility. Whether it is turning on an appliance, a computer or a faucet, taking a bus, passing safely through a streetlight or going for a swim, they unknowingly are dependent on the workings at the IT Department and Public Utility of Potsdam. Web: <http://www.swp-potsdam.de>

## ABOUT SEP

SEP has been delivering the widest range of backup products for enterprise level customers since 1996. With thousands of installations world-wide, SEP sesam provides backup solutions for all environments, both physical and virtual; delivering the fastest backup, restore and disaster recovery tools on the market today.

