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# Fujitsu Siemens CentricStor

## OVERALL RATINGS

<b>Installation</b>		Installation guide delivered with the evaluation system starts with installing the operating system and omits necessary passwords.
<b>Manageability/Configuration</b>		There is no configuration wizard or threshold alerts
<b>Operation/Functionality</b>		Even with professional services, we could not get our test environment to work; we did view a working demo.
<b>Recoverability</b>		Dual save and active failover are the best features of the product.
<b>Problem Resolution and Support</b>		The supporting engineers were earnest, but unable to resolve our problems.
<b>Interoperability</b>		Supports mainframe and open systems, alike, but the virtual emulations are not supported by backup software products.
<b>User Level</b>		This product requires senior-level support and professional services.
<b>List Price as Tested</b>		\$ Vendor would not provide pricing.

Scale: 1 flame = poor; 2 flames = fair; 3 flames = satisfactory; 4 flames = very good; 5 flames = excellent

User level: ● = novice; ■ = intermediate; ◆ = advanced; ◆◆ = experts only

## PRODUCT SUMMARY

Fujitsu Siemens Computers GmbH (FSC) is a well respected name and organization throughout Europe but is less-known to North American IT organizations. From its heritage as an independent Siemens GmbH, the company has a large and loyal following of European data centers, particularly in IBM-compatible mainframe environments.

From its huge array of products, the company has introduced its CentricStor Virtual Tape appliance product to North America. FSC markets CentricStor directly in Europe, Middle East and Africa (EMEA) and works through resellers such as EMC and Peak Data in North America. For this evaluation, though, we worked directly with the manufacturer's personnel. CentricStor is positioned as an "end to end" disk-to-disk-to-tape product, supporting mainframe (MVS, OS/390, zOS), AS400, VM, VSE, UNIX, Linux and Windows host environments simultaneously. The product can support ESCON, FICON, and Fiber Channel connections on a single device.

Our VTC unit was shipped directly from Germany, and it arrived very well-packed. The experience starts strangely, however, as a box of 3.5" floppy disks is the first element unpacked upon opening the box. Although the unit comes with a CD drive, FSC has chosen to distribute its software keys on the 3.5" disks. Although the 3.5" disks certainly work, we would prefer to see key distribution on CD. Equally odd, a 56K modem also was shipped with the unit. We can't see the need for the modem given the ubiquity of broadband in data centers, but FSC contends that it is necessary to access systems behind firewalls for maintenance purposes. Its inclusion is certainly harmless.

The CentricStor unit is built upon FSC's Primergy hardware platform using a proprietary version of UNIX called SINIX. Upon opening the "Quick Start" installation guide, we noticed that Step 1 involves selecting and installing an operating system. This caused some initial confusion, but we later learned that this guide applies to the Primergy server and not the VTC. Our unit arrived preconfigured, so we did not have to spend time with the operating system. Because CentricStor is

### **About the Review**

*Diogenes Analytical Laboratories and SearchStorage.com teamed together to create disk-to-disk buyer's guidelines that help IT buyers differentiate between products and select the best candidates for their own situation. For this report, we took 13 different products into the lab and ran them through their paces. We compared products based on ease-of-use, manageability, features/functions and technical support systems. Our opinions are based on the experience of more than a decade of implementing and managing data protection systems.*

sold only through resellers, end users should generally not see this point of confusion. However, when we initialized the system, the logon password was not included in the documentation, so we had to contact technical support. As it turns out, FSC does this intentionally for security reasons, but an appropriate note in the documentation would have saved a lot of time hunting for the password. Although SINIX may have a considerable installed base in Europe, we would prefer to see the company adopt a commercial version of LINUX for the U.S. market. FSC has indicated that future version of the product will be built on LINUX. FSC also indicated that CentricStor is designed to be implemented and managed by the vendor and not by the end user organization.

FSC sent two services engineers to our site to

assist with the VTL configuration. They gave us an overview of the system, key architectural features and configured the environment. After two days of trying, though, they were unable to get the system operational enough to run a backup. We soon discovered that CentricStor's SCSI library emulates only FSC Jukbox, ADIC Scalar 100/10K tape libraries and generic SCSI tape drives, 3590E, Exabyte Mammoth 2 and STK 9840 tape drives. However, ADIC does not support either Mammoth 2 or STK 9840 drive types in its libraries. So, when we tried to configure the virtual tape library in Veritas NetBackup, we received an "invalid configuration" error. (We tried again with other backup products and had the same result.) We defaulted to the basic "FSC Jukbox emulation mode," but even that configuration was not successful. We noted that the CLI and GUI disagreed on how many and which pieces of virtual media were in the device. The services engineers took the problems back to the development team, but we ran out of time in our evaluation before the problems were resolved. Later, we viewed a working demo at a reseller's site where the configuration included Sun's ACS/LS. The demo initially failed on backup but was successful after a system reboot. FSC recommends using ACS/LS and generic SCSI emulation, a fact that we only learned after the evaluation.

The best features of the product are "Dual Save" and automated failover. Dual Save creates a copy of the logical volumes, these can be local or remote and on different media types. CentricStor units are designed with single point of failure. Automated failover capabilities for both the system management and internal RAID systems enable DR capabilities, making disaster recovery a viable alternative. CentricStor always has tape libraries connected directly to the unit and moves data (logical volumes) to and from physical tape (physical volumes). Libraries from SUN/STK, ADIC, SpectraLogic and IBM can be connected to a CentricStor unit with 3590x, 3592, 9940x, 9840x as well as LTO tape technology. Another important feature of CentricStor is its Cache Mirror Feature (CMF). Using CMF, all data written to the internal Tape Volume Cache is replicated to a separate system, thus enabling automated failover. CentricStor controls all these operations, rather than the backup and recovery software, so a CentricStor unit must be available in order to restore data.

FSC touts 300 CentricStor sites worldwide along with a handful in the U.S. We assume these sites are successful and that our experience with the VTC was an anomaly. Nevertheless, CentricStor is a product that requires professional services and adequate time to fully implement the system. Our test environment was a single-server Windows configuration, and we expect that adding legacy and UNIX hosts to the mix would make it even more complicated. For those organizations wanting to consolidate their legacy, UNIX and Windows VLT requirements onto a single platform, CentricStor is a product designed to do exactly that.

## DIFFERENTIATING FEATURES AND FUNCTIONS

FEATURE/FUNCTION	DESCRIPTION
<i>Broad host support</i>	<i>CentricStor supports mainframe (zOS et. al.), AS400, VM, VSE, UNIX, LINUX and Windows host connections.</i>
<i>Dual Save</i>	<i>Dual save replicates data between units and allows two different copies to be managed with different management policies.</i>
<i>Cache Mirror Feature</i>	<i>Automates the replication of data between CentricStor units.</i>

## BUYER GUIDANCE

### ***Kudos:***

CentricStor supports mainframe (zOS), AS400, VM, VSE, UNIX, Linux and Windows in a single operating environment. This includes ESCON, FICON, and Fibre Channel connectivity.

### ***Caveat:***

CentricStor is a very complex product.

### ***Who should consider this product:***

Organizations wishing to consolidate all virtual tape needs onto a single platform and desire a “hands off” experience where implementation and management are handled by the vendor will consider CentricStor.

## ABOUT DIOGENES ANALYTICAL LABORATORIES, INC

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