Customers Such as Shell and Porsche Count on T-Systems Cloud Services— Built Using NetApp

KEY HIGHLIGHTS

Industry
Technology

The challenge
Provide cloud-based services that deliver lower costs, greater flexibility, and higher service levels than companies get from on-premise IT.

The solution
Automate and virtualize servers and storage, standardizing using VMware® and NetApp®.

Benefits
- Up to 30% lower costs than on-premise IT
- Self-service recoveries in minutes, not hours
- Scale servers and storage up or down in 1 day versus 15
- Disaster recovery at one-seventh the cost

CUSTOMER PROFILE

In tough economic times, companies around the world seek ways to drive costs out of IT budgets. Many are turning to the value proposition offered by T-Systems:

Plug into the IT services you need. Pay for what you use, and save 30% compared to building and operating your own IT infrastructure.

It's called cloud computing, and, years before the term was coined, T-Systems was delivering the concept under its own name: Dynamic Services. Today, there are advantages to Dynamic Services that cloud competitors find difficult to match.

One is a proven track record. "T-Systems serves 400 global corporations such as Shell, Porsche, Airbus, Audi, Volkswagen, and Daimler AG," says Dr. Stefan Bucher, global delivery manager for Shell at T-Systems.

Customers can choose Dynamic Services for almost any application they already have. "We also offer an application-as-a-service model for SAP®, Lotus Notes/Domino, Microsoft® Exchange, and other applications," Bucher adds. "On SAP, for example, we currently have 1.5 million hosted seats. Our biggest SAP database is 20 terabytes, and we can accommodate 20,000 to 25,000 concurrent SAP users globally for a customer."

Besides a proven track record, customers are drawn to three other Dynamic Services competitive advantages, notes Bucher: "Lower cost, greater flexibility, and higher service levels."

THE CHALLENGE

The cloud services market is growing fast, and Gartner projects it will reach US$150 billion by 2013. Competition from other providers such as HP and IBM is fierce, notes Bucher, and T-Systems needs to continuously improve its competitive edge.

THE SOLUTION

"We work closely with our partners," Bucher says. "The big enablers of Dynamic Services are VMware on the server side and NetApp on the storage side. We standardize on NetApp and use clustered NetApp FAS6080 systems as our workhorses. NetApp technology contributes to each of our competitive advantages: lower cost, greater flexibility, and higher SLAs."

BUSINESS BENEFITS

Up to 30% lower costs than on-premise IT
To keep costs low, everything that can be automated, standardized, and simplified at T-Systems is. Thousands of servers, for instance, boot from the same image on NetApp storage.

"Every 90 days, we issue our requirement catalog to *all* storage providers: to EMC, IBM, HP, HDS, and NetApp. And we ask for feedback and answers. So far, only one company always fulfills our requirements—and that's NetApp."

Dr. Stefan Bucher
Global Delivery Manager for Shell, T-Systems Enterprise Services GmbH

"Our whole Dynamic Services concept is based on replace instead of repair," Bucher says. "If something breaks, we switch to another server or storage box and start up again. So we avoid expensive maintenance contracts, four-hour response windows, or the need to call a supplier into the data center. We just ramp up on a spare hot line."

Boosting storage utilization by half
Another factor driving costs down is improved storage utilization. "In customers' legacy storage environments, we often find storage utilization of 60%," Bucher notes. "With NetApp technology, we use thin provisioning to increase this significantly. High utilization requires the biggest possible throughput in a storage controller—to avoid making the controller a bottleneck. That's why we use the biggest possible NetApp systems."

Another tool keeping utilization up and costs down is NetApp MultiStore® software, enabling more than one customer to share a storage system through secure portioning of storage and network resources.

Self-service recoveries in minutes, not hours
More costs are driven out by using NetApp technology for data protection. "Instead of remediating the expensive legacy backup

systems of our customers, we transform them," Bucher observes. "We have tapeless backup, built around NetApp SnapManager®, SnapVault® and SnapRestore®."

Snapshots are taken daily and kept for the most recent 30 days. "Customers can perform their own recoveries," Bucher says, "and recoveries that took hours from tape now take minutes."

Reliability is also higher. "It's not unusual, in the legacy backup environments at some customers, to see recovery success rates of 75%," notes Bucher. "With NetApp, our recovery success rate has been virtually 100%."

Flexibility: scale in 1 day instead of 15
NetApp and VMware technology also enable greater flexibility. "Before Dynamic Services, it took a lead time of 15 days to give a customer a new server or a terabyte of new storage," Bucher observes. "Now they can ramp up—or ramp down—in one day. That lets them create large new test environments fast—NetApp FlexClone® can make a writable, virtual copy of a database in minutes—and, when testing is done, we can eliminate their environment and their expense fast. The freedom to ramp down capacities makes customers feel much more confident."

A fast time to value in project development is crucial, Bucher adds. "Sometimes a delay in provisioning capacity for developers is more serious than an interruption in production," he says.

Disaster recovery at one-seventh the cost
Storage is the biggest challenge in disaster recovery, Bucher says. "And that's where NetApp convinced us with their expertise and customer orientation."

T-Systems uses NetApp MetroCluster software to synchronously replicate data between data centers 160 kilometers (100 miles) apart. "If failover is needed, we are back live for a customer in 15 minutes, and our data loss is zero," Bucher says. "Stretching NetApp MetroCluster to 160 kilometers beyond its previous maximum distance of 100 kilometers was a challenge we gave NetApp—and they made it happen."

Fast, reliable failover is critical. "In our customers' environments, we've seen legacy clustering solutions have a success rate of 70 to 80%," Bucher observes. "That means that 20% of the time disaster recovery doesn't work. We can't have that. With some of our larger customers, we're exposed to penalties of up to $2 million a month if we don't meet our SLAs."
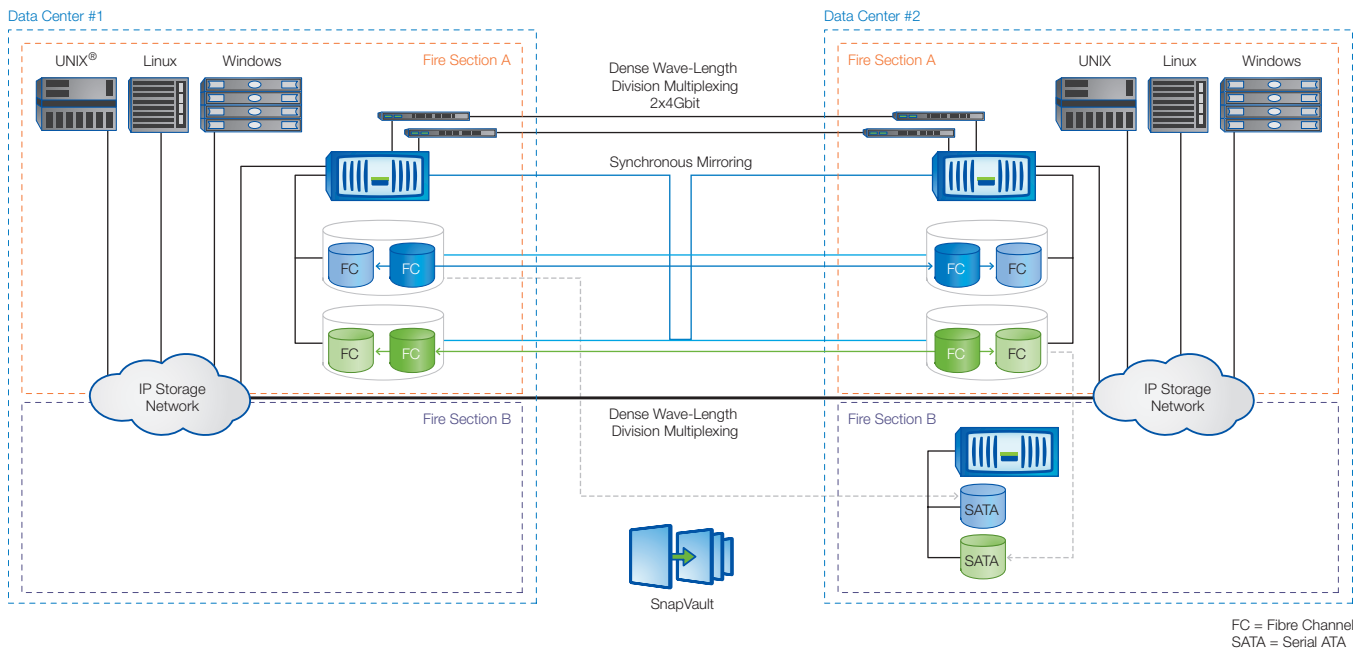
Figure 1) T-Systems storage infrastructure.

UNIX®   Linux   Windows

Fire Section A

Dense Wave-Length
Division Multiplexing
2x4Gbit

Fire Section A

UNIX   Linux   Windows

Synchronous Mirroring

FC   FC

FC   FC

FC   FC

FC   FC

IP Storage
Network

Fire Section B

Dense Wave-Length
Division Multiplexing

Fire Section B

SATA

SATA

IP Storage
Network

SnapVault

FC = Fibre Channel
SATA = Serial ATA

Data Center #1

Data Center #2

T-Systems can count on NetApp disaster recovery capabilities because it tests them five times a year. "We have one annual and four quarterly maintenance windows, and, during them, we do disaster recovery training," Bucher says. "After failing over using NetApp SnapMirror® and NetApp MetroCluster, we conduct our maintenance or upgrades and the customers don't notice any interruption."

Disaster recovery costs are also driven down. "A legacy DR architecture is easily two or three times the cost of a standalone architecture," Bucher says. "With NetApp technology integrated in our Dynamic Services, we need only charge a 30% premium—about one-seventh the cost. As a result, virtually all Dynamic Services customers end up choosing disaster recovery service for their most important applications."

NetApp makes migration easy
Potential customers are naturally concerned about the challenges of migrating critical SAP and other data to T-Systems as they start Dynamic Services. NetApp technology makes it easy. "We recently migrated over a petabyte for a global customer starting our service," Bucher says. "We place a NetApp on the customer's site and use NetApp

FlexClone to create a writable snapshot. Then we migrate the data over a big pipe we have to our own data center through asynchronous replication with NetApp SnapMirror."

The race for an edge is on
Bucher points out that the real enabler—the real difference in cloud services—is provided not by hardware but by software, especially storage management software. "Does it let you overprovision?" he asks. "Can you fully automate storage administration? Enable the customer to do their own provisioning, set up their own backup, and perform their own recoveries? Automatically generate the billing? Have a dark data center? We have some of these capabilities now, and are working quickly toward the rest."

The race is on for everyone, including NetApp. "Every 90 days, we issue our requirement catalog to *all* storage providers: to EMC, IBM, HP, HDS, and NetApp," Bucher sums up. "And we ask for feedback and answers. So far, only one company always fulfills our requirements—and that's NetApp."

NetApp

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