

# Dow Corning Corporation

Three-Person IT UNIX Team Supports 4.4 Billion Dollar Global Corporation Using the Solaris 10 Operating System

Customer Success Story

## Industry

- Manufacturing

## Business Issues

- Support global growth through dependable IT services
- Minimize IT expenditures
- Extend lifespan of older servers and storage arrays
- Enhance availability and stability
- Enable innovation

## Solution

Dow Corning is able to virtualize and manage servers quickly and efficiently by exploiting the Containers and ZFS features in the Solaris 10 Operating System as a key part of its adaptive computing model. Further, the Solaris 10 OS has enabled Dow Corning to substantially reduce IT costs to support global growth.

## Business Results

- \$2 million in server hardware cost avoidance
- 99% reduction in server deployment time (4-6 weeks reduced to 2 hours)
- 50% reduction in total cost of ownership providing and managing remote servers
- 50% gain in storage capacity where Solaris 10 ZFS file system disk compression is utilized
- \$50,000 saved in storage purchase avoidance due to Solaris ZFS file system
- Six-figure virtual tape library purchase avoided due to the Solaris 10 OS
- No unplanned production system downtime in the past 1.5 years

## Products/Services/Solutions

- Solaris 10 Operating System
- Sun Fire V215 Server
- Sun Fire V445 Server
- Sun StorageTek 6140 Array
- Sun StorageTek 2540 Array
- Sun StorageTek 9990V System

## URL Reference

[sun.com/customers](http://sun.com/customers)

Dow Corning Corporation develops, manufactures and markets a wide portfolio of silicon-based products and services. Headquartered in Midland, Michigan, the company offers more than 7,000 products used in the manufacture of everything from cosmetics to medical devices. About 50 percent of the company's annual sales occur outside the United States.

## Success at a glance

Industry leader Dow Corning makes more than 7,000 types of compounds and industrial ingredients for everything from cosmetics to medical devices. In order to meet the needs of its thousands of customers globally, it has come to rely on rock-solid stability of its global SAP infrastructure—the core of which runs on Solaris.

To support operations at its 47 locations worldwide, the company depends on applications such as SAP and Oracle 10g, hosted on 110 Sun and third-party Solaris based servers connected to 250 terabytes of disk storage. Most of this infrastructure runs on the Solaris 10 Operating System and is managed by an IT Unix team of just three people. To succeed, the team relies on Solaris 10 OS features that enable virtualization, remote management and a self-healing file system.

A key feature is Solaris Containers. They're flexible, software-defined boundaries that can be used to create virtual servers, so that multiple environments can run on a single server box. Solaris Containers now enable 130 virtual servers to be housed on 36 physical servers. "Virtualization has allowed us to avoid the purchase of approximately \$2 million as compared to the traditional computing model", says Ken Karls, manager of network and datacenter engineering at Dow Corning.

Dow Corning has adopted a modular approach to capacity, acquiring blocks of server resources in anticipation to near term demand. Once installed, these resources are allocated and deployed using Solaris 10 Containers and ZFS. "In the past, I'd have to send out individual RFPs and POs for each request and the process took four to six weeks," remembers Gene Down, Senior Infrastructure Engineer at Dow Corning. "Now, I can meet the need for a new server image in less than two hours." From a customer viewpoint, the company is not only saving money, but the deployment time has been reduced by 99%.

Containers also support the company's databases. "We move our production data often. We extract it from one database, back it up, and move it to another Oracle instance. It is much easier using Containers, since all my Oracle instances have the same user ID numbers and naming conventions."

Remote offices can also be provisioned at dramatic savings. IT can buy a single server, which supports up to 10 Solaris Containers. The local site gains the flexibility of 10 virtual servers, while the team has to purchase and manage only one. As a result, Dow Corning's total cost of ownership (TCO) for deploying and managing remote servers has been reduced by 50 percent.

Another key Solaris 10 OS feature for the team is the ZFS file system, which streamlines the company's global IBM Tivoli Storage Manager data protection environment. "ZFS is enabling 50 percent disk compression on the fly, so in a sense we're getting 50 percent more storage capacity," Down says. "And it ensures data integrity with a self-healing checksum feature that catches any silent data corruption we may have in older storage arrays. That lets us extend the lifespan of three older disk arrays that we'd otherwise retire. By not replacing them, we save \$75,000. And we're using the ZFS file system to pool their 34 terabytes. We have re-purposed them as the equivalent of a virtual tape library, enabling disk-to-disk-to-tape data protection while avoiding a six-figure expenditure for a new library."

The ZFS file system is also being deployed on new servers and storage systems, such as the Sun StorageTek 6140 array and 2540 arrays being used for Oracle, TSM and Documentum. Since the ZFS file system can be used to pool storage elements into volumes, Dow Corning is starting to replace the Veritas Storage Foundation software.

Another advantage for the team in working with Sun was using Sun's partner competency centers to pilot installation techniques. "We've used the competency centers a lot, especially when we were getting started," Down recalls. "Often, we would have Oracle people sitting right beside Sun and SAP people to solve a problem, or figure out the best upgrade path."

The impact that the UNIX IT team has made using Solaris 10 OS has been recognized with one of four awards Dow Corning gives annually for outstanding IT improvements within the company. External consultants have recognized the IT team's achievements, too. "They determined that we're delivering service at a substantially lower TCO than the benchmark companies with which we are being compared," Down concludes.

"The stability of Solaris 10 has been simply outstanding. It's delivered additional key functionality while continuing to provide the same outstanding level of availability to which we've become accustomed."

**Ken Karls**

Manager of Network and Datacenter Engineering,  
Dow Corning