

TAOS  
LABS



"It's alive! ALIVE!"

It's not unusual to hear such cries coming from the TAOS lab, although our sys admins are — in all probability — bringing servers to life, not monsters.

In another part of the lab, however, several admins working as a team may very well be tackling a monster of a problem, troubleshooting a nasty bug in Linux's inetd, getting BIND and Windows 2000 Active Directory to play well together, or hunting through a core file to discover why a SPARC threw a CPU panic.

They may be stumped at the moment, but then again that's the point; the TAOS lab environment, also known as "the beach," is designed to engineer real-world scenarios that could indeed happen on assignment, with the additional benefit of providing ongoing training for everything from Veritas or Sun clusters; to Checkpoint, PIX, or Sidewinder firewalls; to Xitech, LSI, and Brocade SAN solutions (to name just a few of the available technologies and products).

Playing in the Sandbox

The lab is meant to recreate a variety of environments that our employees could encounter while on assignment, and includes workstations running Solaris, IRIX, Linux, BSD, HP-UX, and Windows NT platforms; networking resources such as routers, switches, and hubs; and management software such as HP OpenView for UNIX. Additionally, the lab is home to many standard tools of the trade, such as backup solutions, firewalls, monitoring tools, compilers, and volume management tools.

The company's four branches and four respective labs give our admins four times the resources, so Veritas clustering training available in our New York lab is accessible in Santa Clara. It's even possible to pool the resources of all four, to create a "nationwide" deployment of sendmail, for example. "The TAOS labs provide every consultant a chance to take on projects where they must face the challenges of enterprise-level computing — distributed environments, time-zone considerations, and security and bandwidth issues," says Samuel Daffner, senior technical consultant for the San Francisco branch.

Not only is such intra-branch lab access possible, so is remote access from just about anywhere. We've built a scheduling and monitoring solution for each of our labs that allows our employees to schedule time with the various resources. We've also deployed a secure remote access system that allows them to learn and grow regardless of location using an LDAP-driven, ssh-based single sign-on architecture coupled with port forwarding, tunneling, and the use of LightWave console servers.

This setup comes in handy when a consultant has unintentionally brought a system down. After all, it's preferable that any missteps are made within the TAOS lab environment rather than at the client site. That's why you might find SAs who are currently on assignment using the lab to test out a tricky configuration or attempt a novel infrastructure design or tool implementation, such as coupling dynamic DNS with DHCP and LDAP. Our SAs can even use the lab to practice for the hands-on portion of the CCIE exam.

Beach Time

For those SAs not currently on assignment, the lab is a classroom, where they complete projects assigned by the Technical Services Group (TSG).

These projects are tailored to an admin's individual skills within core technology areas of system administration, such as Mail Services or Security; occasionally they may be asked to concentrate on an existing skill in preparation for a potential assignment. "We provide the most comprehensive training environment possible, so that TAOS consultants arrive at their assignments well prepared, and consistently perform above and beyond our clients' expectations," adds Daffner. Some projects are designed as individual exercises, while others are meant to be completed as a group; our admins derive additional professional experience working as a team, and the team lead is able to enhance his or her project management skills. Some teams can even be "multibranch," comprising admins from TAOS's Santa Clara, San Francisco, New York, and Boston offices.

We may call it the beach, but our SAs are far from beach bums. They are expected to act exactly as they would at a client site, interacting with TSG as if they were their client managers. Conversely, members of TSG serve as teachers, coaching sys admins through difficult portions of an assignment, establishing appropriate deadlines, verifying that the work was completed satisfactorily, and providing further challenges in new lab assignments.

Thus, when one (or more) of our admin's services are required at a client, they've experienced no interruption in their career path, having had the opportunity to gain both technical and professional skills in the TAOS lab.

**BUILDING A BETTER ADMIN**

