



Bill Vass

Interview with Bill Vass CIO and VP of IT, Sun Microsystems

By David Geer

Bill Vass is responsible for all aspects of Sun Microsystems' global IT infrastructure and line-of-business application development, support and maintenance, including information service delivery and security. Previously, he worked in the Office of the Secretary of Defense, Office of the CIO. In this capacity, Vass was director of three large sectors of the U.S. Department of Defense's IT infrastructure.

Q: What is your biggest oil industry undertaking today?

Utility computing. We have set up five Points of Presence (POPs) around the world offering three flavors of grid computing. The first flavor delivers stateless CPU cycles computing on Solaris with our Java Enterprise System stack. This mix is very good for geophysical modeling. From the same grid, oil companies can pull up desktop images to our thin clients from anywhere in the world. By year-end, we will be providing stateful applications that let our oil customers put transactional information on the grid. Utility computing enables companies to rent CPU time on many machines and handles more data at off-times more efficiently and less expensively. It lets them expand their internal grids to a commercial grid over the Internet through a secure IP Sec tunnel and make their internal grid look like many thousand more CPUs than there actually are. We are piloting these utility computing grid applications so oil companies can run their mathematical models much faster and cheaper. We are looking to put one of these POPs in Houston, as well.

Q: What about security?

Security in the oil and gas industry is a very big deal. With prospects costing millions of dollars to develop, you don't want that information leaking out. We have been working with a number of companies like Schlumberger on Java badge technology, which provides two-factor authentication - a combination of the Java badge and a PIN or password - for access to information. The same Java card a person uses to swipe to get into the building can be used to authenticate her or him to use the thin client and bring up an individual, personalized desktop. With role-based access through our visual web services, our portal product and our identity server, we can manage identity and authentication for connecting to the systems to increase security significantly. We have been working with a few companies on Trusted Solaris, which allows them to segment information on the machine in a way that meets Intelligence-level security standards. This allows people to access the Internet from a secure environment without having to worry about IT leakage - proprietary information remains secure on one segment while an employee accesses the Internet from another segment.

Q: What is your biggest Digital Oilfield initiative?

Being a roughneck is among the toughest jobs on earth. As an example, oil rigs in the Gulf of Mexico are among the most dangerous to work on due to hurricanes, tornadoes, storms, the extreme volatility of the oil and gas beneath the rigs and the heavy equipment with all

of its moving parts above. Sun is working with its customers to create "digital, automated rigs" that can be remotely monitored, safely, on the ground in Houston, St. Louis, New Orleans - anywhere.

Q: What is your latest 3D visualization workstation?

The Sun Java Workstation W2100z, released late last year, is the first line of AMD Opteron chip-based workstations. With two AMD-Opteron chips and 16 gigs of RAM, it works in parallel with our traditional Sparc-based workstations. It is faster and cheaper to run than the Sparcs and it runs Linux or Windows in addition to Solaris. We can now offer our oil industry customers, who have been running Solaris for years, the opportunity to run Solaris, Linux or Windows on the same box - they don't need to have two boxes running in their office; that lowers the footprint. The W2100z offers visualization capabilities for complex datasets and large images on multiple displays.

Q: What are you developing in the way of future 3D workstation technologies?

A forthcoming chip, code-named "Niagara," should be an interesting development for the oil market. One Niagara chip is equivalent to 32 Xeon 1U servers. A symmetric multiprocessor with 8 cores and 32 threads, Niagara will enable much wider transactional and delivery processing.

Q: What else will you offer the upstream sector for field processing?

For business and transaction systems, we will have three new multithreaded chips. Chip multithreading will give you a lot more throughput than current chips because it does not have to wait for memory - it breaks the threads out. You also get lower power consumption. In addition to Niagara, we have a chip debuting later that is twice as powerful, and then for the imaging sector we will have a chip called "The Rock" that offers comparable improvements for graphic imaging and fast floating-point area for the high-end graphics components.

Q: What else do you have for the oil market?

We are looking at the extension of Sun Ray thin clients into oil and gas. We are doing a number of studies with Sun Rays to reduce the costs of desktop support and to provide secure access to oil and gas information in remote locations. For example, 3D analyses can be done in politically sensitive parts of the world and yet can be easily read from Houston or wherever we have the thin client technology in place. The huge amounts of data and the computing power needed to analyze 3D information place limits on the amount of graphics that can be used on Sun Rays. We created a high-end graphics version of our Sun Ray thin client that lets oil concerns access this information and share it via session mobility. We are piloting that now.

CASE STUDY

Forecasting Software

Market Forecasting for Service Companies

M-I Drilling Fluids needed an advanced system for forecasting customer needs to develop new products to help solve drilling problems. Using SAS, M-I built industry forecasting, market research and competitive intelligence applications that pull data from across the enterprise to perform advanced analysis and data management.

The Market Research Group at M-I Drilling Fluids wanted to understand customers' needs