

# SEISMIC MICRO-TECHNOLOGY

HP Workstations power seismic analysis, oil exploration



“In our experience, HP Workstations deliver the performance our developers require, along with the reliability our customers depend on.”

—Indy Chakrabarti, director of marketing, SMT, Houston, Texas

HP customer case study: SMT chooses HP Workstations to develop, test Windows®-based KINGDOM geoscientific interpretation software

Industry: Energy

## Objective:

Perform high-end geoscience analysis in a Windows® environment

## Approach:

Seismic Micro-Technology (SMT), a global leader for Windows-based geophysical interpretation software, has standardized on HP Workstations for development and testing

## IT improvements:

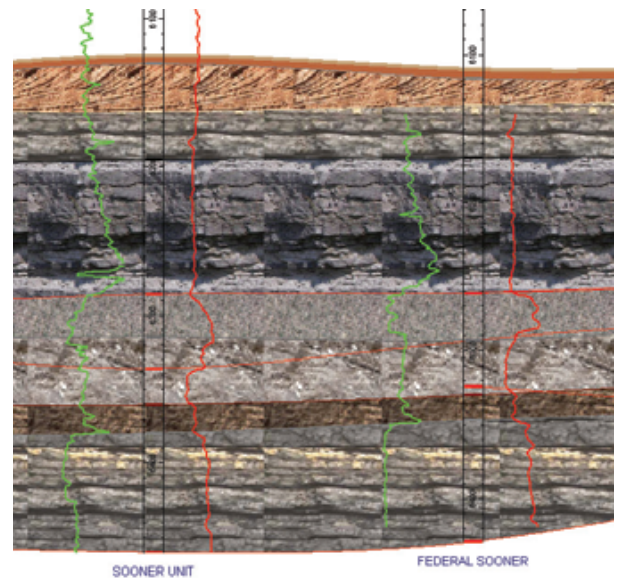
- Highly stable processing of models involving hundreds of gigabytes of data
- Configuration with up to 64 GB RAM for faster processing with minimal caching to disk

## Business benefits:

- Long-term relationship provides access to full range of HP Workstation technology
- Global presence matches SMT user base

When a company goes exploring for a new oil or gas field, it's often taking a huge risk: the likelihood of a \$100 million failure, weighed against the small chance of a billion-dollar success. To improve the odds, explorers need the very best geoscience available, like KINGDOM Software from Seismic Micro-Technology Inc. (SMT), which is developed and tested on HP Workstations.

“Customers turn to software like ours because it enables them to visualize the subsurface,” notes Indy Chakrabarti, director of marketing for SMT. “The ability to use high-end video cards, high-speed processors and large amounts of RAM all combine to



make the software run its best. And in our experience, HP Workstations deliver the performance our developers require, along with the reliability our customers depend on.”

## High-powered analysis on the desktop

Since the 1980s, SMT has been a global industry leader for Windows®-based geophysical and geological interpretation software. It continues to lead the industry in Windows-based hydrocarbon exploration software. SMT software is widely accepted by geologists and geophysicists in over 95 countries.

“Historically, our business catered to the small, entrepreneurial independents. We offered a very low-cost solution that ran on inexpensive hardware,” Chakrabarti explains. Larger companies opted for solutions that ran on servers under UNIX® and Oracle. But with the rise of workstation technology, SMT’s

## Customer solution at a glance

**Primary application**  
Software development/QA

**Primary hardware**  
• HP Workstations

**Primary software**  
• SMT KINGDOM  
• Genuine Microsoft Windows Vista® Business  
• Genuine Microsoft Windows® XP

KINGDOM software can now deliver the high-level geosciences capabilities required by anyone in the business. "We have entry into all the largest organizations around the world," says Chakrabarti.

The key, as Chakrabarti pointed out, is giving users the ability to visualize what lies beneath the earth's surface. That often means developing complex models based on hundreds of gigabytes of data, then analyzing them in several different ways. Some SMT developers have up to four HP LP2065 monitors driven by a single workstation.

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*"Our customers are global—from Nigeria to Brazil to Thailand. And wherever they are, HP is too. It's great to have a partner that's internationally known and internationally supported."*

Indy Chakrabarti, director of marketing, SMT

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"In many ways, we're doing the same sort of thing that a radiologist will do with a medical CT or MRI study," Chakrabarti explains. "Geoscientists use our software to get multiple views and angles to analyze what's going on underground."

All of which is highly demanding. SMT developers and quality assurance (QA) testers use a variety of HP Workstations. Developers use everything from HP xw4600 to xw8600 Workstations, often equipped with genuine Microsoft Windows Vista® Business operating system to take advantage of 64-bit processing.

"For my staff, I want workstations with at least a quad-core processor and 8 GB of RAM, and a 1,333 front side bus (FSB) speed," notes Karl Zachry, director of software development for SMT. SMT was among the first to purchase an xw8600 Workstation with 64 GB of RAM. "Some customers may have close to a terabyte to analyze. In that case, the more RAM you have, the better the software is going to run. Most of our users can perform well on 4 GB or 8 GB of RAM, but for the rare customers with a huge data set, the

extra RAM will really keep performance from being slowed down."

The QA staff, on the other hand, tests the software on a variety of workstations from base configurations on up. "Our applications exercise all the resources on a workstation, so we're testing the performance of everything," notes Dwain Smith, director of quality assurance. "From a QA perspective, we have to consider that our customers might use a wide range of hardware, so we'll test many different hardware configurations running multiple versions of Vista and genuine Microsoft Windows® XP."

The latest SMT KINGDOM software features more automation and virtualization than ever before, so that users can run multiple automated sessions on one workstation. HP is helping ensure those features will run effectively on contemporary hardware.

SMT's strategic relationship with HP is critical, Smith says. "We're a small organization. But HP has been nimble enough to work with us as a mature, serious partner. They have everything our users might need, and they're willing to give us loaner equipment when we need it for testing. We choose HP not just for their best and latest technology, but for the relationship that we've developed. When I needed some loaners for a performance test, they were very proactive. They wanted to know exactly what we were trying to do, so they could help us more effectively. They really want to help us succeed as a company."

SMT never sells hardware with its software. But it always demonstrates KINGDOM software on HP Workstations at trade shows, "and we mention HP if a customer specifically asks us," Chakrabarti says.

SMT is confident its customers can run KINGDOM software reliably and efficiently on HP Workstations wherever they may be. "Our customers are global—from Nigeria to Brazil to Thailand. And wherever they are, HP is, too. It's great to have a partner that's internationally known and internationally supported," notes Chakrabarti.

## HP recommends Windows Vista® Business

Contact the HP Reference2Win Program, 866-REF-3734 for more information.

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Certain Windows Vista product features require advanced or additional hardware. See <http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx> and <http://www.microsoft.com/windowsvista/getready/capable.mspx> for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit [www.windowsvista.com/upgradeadvisor](http://www.windowsvista.com/upgradeadvisor).

This customer's results depended upon its unique business and IT environment, the way it used HP products and services and other factors. These results may not be typical; your results may vary.

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