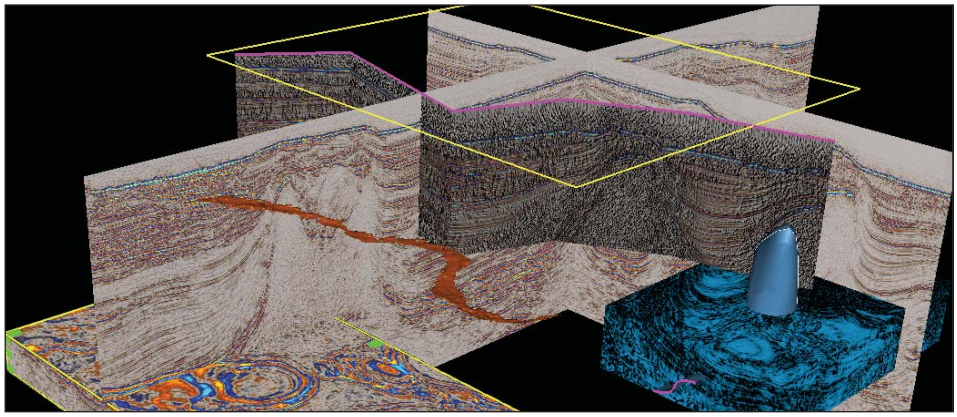
Application Brief

SGI® Visualization Solutions



Silicon Graphics Prism™ Visualization Systems and DecisionSpace® GeoProbe®: Revolutionizing Large-volume 3D Seismic Interpretation

Landmark

Silicon Graphics Prism™ visulization systems and DecisionSpace® GeoProbe® software from Landmark help you manage and visualize very large seismic datasets faster and more effectively than ever before. Whether you are analyzing multi-attribute data or optimizing recovery across a regional oil field, Landmark and Silicon Graphics deliver a highly scalable solution based on industry-standard components and the Linux® operating system. This solution dramatically increases capabilities and lowers the cost of real-time 3D visualization of seismic volumes. The combination of Silicon Graphics Prism and DecisionSpace GeoProbe can improve profitability and streamline operations in many ways. These include:

- Optimizing prospect generation by understanding regional frameworks and their associated seismic data
- Increasing recoverable reserves with improved interpretation accuracy derived from multi-attribute seismic visualization
- Eliminating data manipulation required to break 3D seismic volumes into smaller projects that fit on desktop systems
- Increasing productivity by shortening long data load times between networked file servers, compute servers and visualization systems
- Using thin-client networked visualization to simplify IT deployments and improve interpretation speed, and functionality
- Collaborating in real-time on the same interpretation session from anywhere in the world without first having to duplicate data
- Maximizing resource utilization by using visualization systems at night and on weekends for reservoir simulation or seismic processing

A Powerful Team

DecisionSpace GeoProbe is a multi-threaded and multipipe software environment that takes full advantage of the large-memory features and scalability of the Silicon Graphics Prism. It is designed to accommodate the visualization and interpretation of very large datasets in memory for faster and more accurate results.

The combination of DecisionSpace GeoProbe software with Silicon Graphics Prism systems creates the world's leading solution for 3D multi-volume interpretation and visualization so geoscientists find and replace reserves faster. This solution allows geoscientists to interpret seismic datasets that scale to over 3TB and provides a comprehensive view of their information, resulting in superior productivity, and enhanced decision-making capability.

Workflow Benefits

- Interpret multi-attribute datasets and regional models that drive physical memory requirements to hundreds of gigabytes and beyond
- Collaborate interactively with remote interpreters without having to move your data
- Work with local team members in a cost-effective, high-resolution team room environment
- Consolidate all resources on a single shared-memory solution to alleviate the need for high network traffic, long transfer waits, and unnecessary data duplication
- Create new semblance volumes in real-time using multi-threaded technology and shared memory
- Interactively co-render multiple volumes with an unprecedented level of detail
- Run reservoir models or seismic imaging applications at night and on weekends – tripling the amount of work done on the system

Key capabilities of DecisionSpace GeoProbe include:

- Real-time scanning through massive datasets using probes, planes, random lines, and opacity volumes
- Simultaneous viewing of multi-attribute/multi-volume seismic data, well data, cultural data and reservoir models
- Interactive auto trackers for constructing precise structural frameworks
- GeoAnomalies®, a tool that extracts bodies of interest from data volumes
- Multiple simultaneous fault and surface interpretation
- Automated and manual horizon interpretation
- Real-time multi-volume co-rendering that merges two volumes into a single probe
- Integrated well planning capabilities
- Optimized multipipe visualization to support high-resolution team room and SGI® Reality Center® environments
- Support for most oil and gas industry-standard ASCI formats and supporting applications including SEGY, Dot. vol, OpenWorks® and SeisWork®

Configuration Recommendations

Upgrading Capabilities

Your ideal configuration depends on your expected survey size and multi-attribute visualization requirements. Silicon Graphics Prism systems are highly scalable, allowing you to easily and affordably increase system size and capabilities as requirements increase. DecisionSpace GeoProbe easily scales from the desktop to the largest Silicon Graphics Prism visualization system.

Personal

Silicon Graphics Prism deskside systems support up to 2 CPUs, 24 GB of memory and 2 graphics pipes. The recommended configurations for power users start at 2 CPUs, 1 graphics pipes and 16GB memory.

Small Asset Team

The Power configuration of the Silicon Graphics Prism system is recommended for small teams. This configuration scales to 8 Intel Itanium 2 CPUs, 4 graphics pipes and 96GB of memory. The multipipe, multi-user capabilities of these systems can simultaneously drive both a team room and multiple independent DecisionSpace GeoProbe analysis sessions using thin-client technology. The recommended small team configuration starts at 4 CPUs, 2 graphics pipes and 48GB of memory and expands to 8 CPUs, 4 graphics pipes and 96GB of memory for larger seismic surveys.

Medium Asset Team

Larger asset teams need the power of the Silicon Graphics Prism system Team configuration. These systems scale up to 16 CPUs, 8 graphics pipes and 192GB memory. The recommended configuration for larger asset teams starts at 8 CPUs, 4 graphics pipes and 96GB to 128GB of memory.

Enterprise Resources

Enterprise requirements are best met by Extreme configurations of the Silicon Graphics Prism system family. These systems scale up to 256 CPUs, 16 graphics pipes and 3TB memory. Enterprise-level systems should have between 32 and 64 CPUs, 256GB to 512GB of memory, and 8 graphics pipes.

For more information about Silicon Graphics Prism, see www.sgi.com/products/visualization/prism
For more information about DecisionSpace GeoProbe, see http://www.lgc.com/landmark/productsservices/geologicalgeophysical/geoprobe/

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