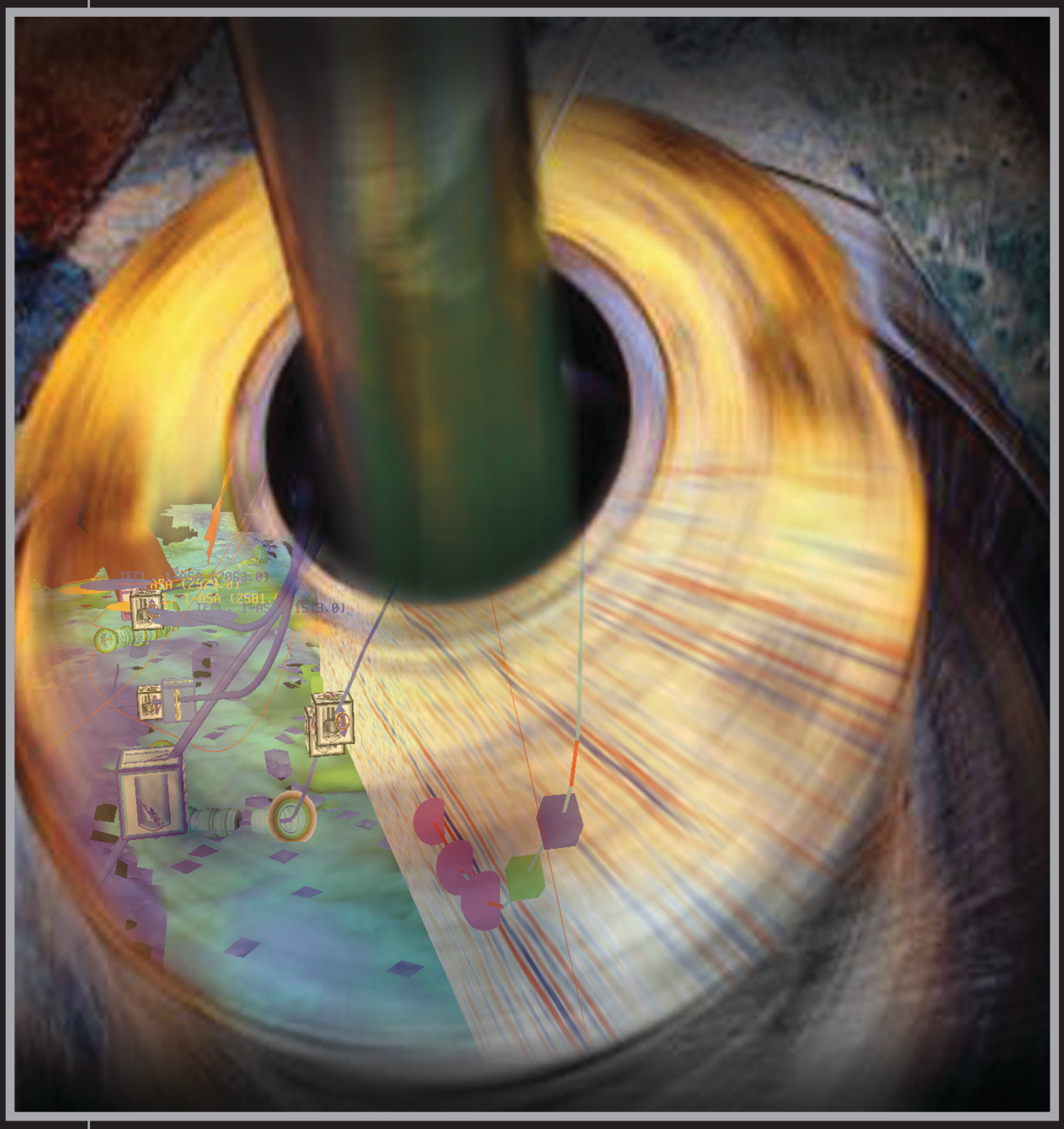
LINUX PROCESSING SOLUTION FROM THE INDUSTRY LEADERS

Landmark's Rapid Prospect Generation Engine



Landmark
A Halliburton Company

IBM®

NetApp®
The evolution of storage.™

As exploration and production (E&P) companies continue to search for new ways of improving their business processes, innovative technology still offers the most promising solutions. To help provide upstream E&P companies with faster information access, increased productivity and reduced cycle time for seismic analysis and processing, Landmark has teamed with IBM and Network Appliance to develop a comprehensive Linux® cluster seismic processing system and life-cycle services solution. The scalable solution includes **ProMAX® seismic processing software, IBM eServer Linux Cluster 1350, Network Appliance™ FAS960 high-performance data storage and comprehensive services.** Landmark has been and continues to be a consistent innovator in the upstream E&P technology sector. With the cooperation of industry leaders, Landmark delivers an important component of its rapid prospect generation engine, providing customers with increased operational efficiencies and improved decision-making to help accelerate prospect generation.

Performance and reliability you can count on

Businesses the world over continue to invest in formed alliances as cornerstones of their IT strategies. The Landmark, IBM and Network Appliance collaboration enables us to deliver best-of-class Linux cluster seismic processing systems and services to the upstream E&P industry. The collective knowledge and experience of these three companies helps eliminate risk in your decision to transition to a Linux seismic processing solution. This group of industry leaders delivers performance and reliability you can count on.

We have taken the complexity out of building a cluster for seismic processing by preconfiguring and pretesting an ideal hardware configuration for your processing needs. Factory assembly and testing using a repeatable manufacturing process helps eliminate errors and can translate to less downtime. The system is designed to automatically recover from storage or network failures. Testing and tuning of the complete system in our laboratories ensure optimum reliability, and because we install and test the Linux processing system in your IT environment, you can expect peak performance. Since this proven solution is also installed and operating in the Landmark customer support office, we can provide rapid and reliable technical support for your ProMAX/Linux computing system.

Lower total cost of ownership

This unified processing, computing and data storage solution can offer dramatically improved price/performance over proprietary UNIX® systems and helps reduce total cost of ownership beyond the initial capital cost of the system. This comprehensive solution of best-in-class products can help reduce your risk and total cost of ownership, from initial assessment to ongoing technical support, while protecting your investment into the future.

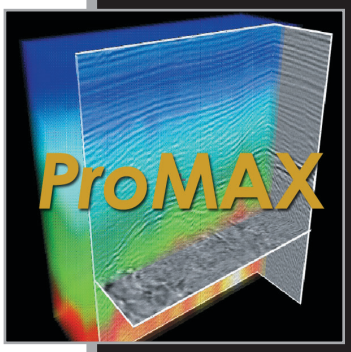
The preconfigured and pretested system can reduce your risk of an incorrect digital technology decision and helps ensure that you are not spending valuable time troubleshooting a new system. Our preconfigured system saves you considerable research and decision time, and rapid on-site setup ultimately reduces the time to deployment. Your seismic processing operations are quickly transitioned to the Linux cluster environment and integrated with existing technology infrastructure, resulting in minimual disruption to your daily business.

End-to-end service and support can help reduce risk and cost. Service personnel are trained to support your entire cluster. Parts are stocked worldwide to ensure faster turnaround for repairs, minimizing unlikely downtime and maximizing system availability. Data manageability, scalability, and availability in a simple, easy-to-use data storage environment can further reduce your total cost of ownership. Unified delivery of training and 24/7 technical support offer the life-cycle support your business requires to maximize operation efficiencies and helps ensure that your staff is productive from the start. The value of rapid system deployment, reliable processing software and computing environment, data availability, training and world-class technical support is reflected in reduced cost of ownership and ultimately measured in your productivity and competitive advantage.

Scalable to your business requirements

The comprehensive solution is scalable to meet your current business needs and future requirements as your business strategy responds to competitive challenges or market opportunities. The IBM eServer Linux Cluster 1350 offers

32-or 64-node CPU flexibility, while ProMAX licensing supports any number of geophysical processing staff members. The NetApp® FAS960 filer can meet virtually any enterprise data storage requirement, managing up to 24 terabytes of data in a single system. The system integrates your current computing infrastructure, adding flexibility to adjust your IT capacity and reduce technology obsolescence.



Software

The ProMAX seismic data processing family from Landmark is the industry's most widely used software for seismic data processing, from field processing and quality control to interpretive project-oriented reprocessing at oil companies to large survey production processing at service companies. ProMAX excels at interactive seismic data analysis for optimum parameter selection and rapid problem solving. ProMANAGER data management, flow replication, and third party queuing software for cluster management and resource balancing make ProMAX the industry choice for large 3D projects. SeisSpace™ provides additional cluster management, parallel I/O and 3D prestack time migration.

Hardware

IBM and Network Appliance, Inc. add world-class hardware technology, leadership and commitment to support your business objectives. IBM supplies some of the world's largest and most powerful Linux clusters. A $1 billion investment and nearly 2,000 production and R&D Linux servers installed demonstrate IBM's commitment to the Linux computing environment. Network Appliance, a world leader in unified storage solutions for today's data-intensive enterprise, provides proven reliability in handling seismic data, your company's most important asset. The computing and data storage components of this Linux cluster processing system include:

IBM eserver Linux Cluster 1350

The IBM eServer Linux Cluster 1350, based on Intel® architecture nodes, offers excellent price/performance, scalability and manageability for high-performance seismic processing workloads. IBM's integrated e1350 Linux cluster technology reduces deployment time, simplifies integration into existing IT environments and reduces administration and operating costs through advanced systems management. This computing system scales to meet your dynamic processing requirements.

- 32- or 64-node CPU systems
- Latest dual Intel Xeon processors per node
- 1 GByte memory and 73 GBytes disk
- Rack mount with gigabit switching
- Cluster Systems Management (CSM) software
- Advanced cable management and remote service processors
- http://www.ibm.com/servers/eserver/clusters

NetApp FAS960 filer

The NetApp FAS960 filer enhances Landmark's Rapid Prospect Generation Engine by providing industry-leading data management performance, a single point of management, reduced administrative costs, and shareable unified data access, independent of computing platforms. The filer integrates your processing solution across existing UNIX and Windows® systems, resulting in improved stability, greater data availability and a seamless transition to Linux computing. NetApp systems also provide the flexibility to add storage andcompute power as needed without interrupting your critical seismic data processing. With the capability of managing 24TB of data in one system and 16TB in one file system, the FAS960 can meet the storage demands of virtually any enterprise.

- FAS960 filer–6 Tbytes storage for the 32-node IBM cluster, or
- FAS960 filer–12 Tbytes storage for the 64-node IBM cluster
- http://www.netapp.com/ftp/fas900_specs.pdf

Service and support

Landmark and IBM Global Services provide a total solution approach, leveraging experience and technical expertise to focus on your business needs and help ensure that you maintain your competitive edge. Beginning with a single point of contact, we can deliver complete system planning and configuration, hardware and software installation, training, ongoing technical support, and consulting for your Linux cluster processing system. We provide worldwide 24/7 support for your processing software, Linux cluster and storage environment. World-class call centers and parts centers are located worldwide to keep your processing center up and running efficiently wherever you are.

For additional information, please contact your local Landmark account manager or visit the Web at www.lgc.com.

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