

SB3100

As recent technological advances have made it easier than ever to harvest oil and natural gas out of the ground, the US and the world finds itself awash in a glut of fuel. More than ever before, oilfield service companies find themselves needing to be streamlined and efficient, maximizing the value of each job. More and more data is acquired and analyzed and decisions need to be made in real-time in the field – reliable equipment is the key.



Wireline Truck Used for Data Acquisition

One of the biggest challenges with putting a computer in the field is the environment. Well site jobs can be done in winter in Alaska, summer in Saudi Arabia, or anywhere in between. The environmental differences can be drastic from job to job. The sites are consistently remote and reachable only via off-road vehicles which encounter a large amount of shock and vibration navigating the tough terrain. Between extreme temperatures (both hot and cold), shock and vibration, dust, and electro-magnetic interference (EMI), it is very easy to have equipment failure with standard computer systems.

Systel's rugged computers are built specifically to not only withstand but excel in these harsh environmental conditions. Systel's engineers design and build oilfield service and military-grade systems for mission-critical applications. When an hour of downtime can cost a company hundreds of thousands of dollars, it is imperative that all of the computers that are deployed in the field are reliable and durable. That's only half the battle. The other challenge is ensuring that all of the data that is collected and stored is valid. Lost or corrupted data is equally if not more costly than machine downtime.

With these challenges in mind, Systel introduces the SB3100, a rugged high performance high density storage 3U rack mount workstation. With dual Intel Xeon E5-2600 processors, ten 3.5" bare hot-swappable SSDs and two internal removable 2.5" SSDs, 7 PCIe slots for maximum flexibility and expandability, and an all-aluminum chassis for lightweight portability, SB3100 is ideal for mission-critical data-intensive oilfield service applications. The system meets MIL-STD-810G for shock and vibration and has an extended operating temperature range.



Systel's SB3100 Rugged Rack Mount Workstation

The addition of GPGPU cards such as the NVIDIA QUADRO M6000 GPU enables a user to take advantage of massive parallel processing opportunities. The same algorithm can be run on hundreds or thousands of pieces of data simultaneously allowing for instantaneous imaging of data in the field for real-time decision making purposes. For example, a signal algorithm can be run continuously throughout a job while data is being acquired; attached monitors can display real-time results.

In effect, SB3100 combines two systems: a high performance computer with a high density storage system. By designing and packaging these features into one all-purpose unit, Systel is able to create efficiencies and cost-savings for the end user. This is perfect for seismic imaging, signal processing,

fracture mapping, and reservoir monitoring services. A typical job can last several months and use petabytes of data. With 10 hot swappable, bare removable 3.5" SSDs, the SB3100 allows the user to easily swap out drives with no downtime. Multiple drives also allows a user to create RAID arrays for data redundancy. These features ensure constant 24/7 high data volume storage, reliability, and security.