

Success Story

PROMISE Technology & Conceptual Analytics

CONCEPTUAL ANALYTICS

▼ BACKGROUND

Founded in 2000, Conceptual Analytics provides scientific and technical services and products to government, universities, and industry. Conceptual Analytics' comprehensive support includes program planning, project management, systems engineering and requirements development, data analysis, and technology development.

▼ SOLUTION

The Conceptual Analytics team was already familiar with PROMISE RAID system; using multiple integrated VTrak, Pegasus, and SANLink devices. Since the early VTrak days, the team has used this storage solution to perform scientific data analysis of imaging arrays, which generate a large volume of data. These analysis tasks used a combination of commercial software such as IDL or Mathematica, as well as custom software. This work has supported major NASA missions such as the Hubble Space Telescope, the James Webb Space Telescope, and more recently, the Wide Field Infrared Survey Telescope (WFIRST). When they recently acquired Apple's new Mac Pro, they naturally chose to install the Pegasus R4i internal RAID hardware. The Mac Pro is equipped with 16 TB of SSD RAID0 maximize throughput during processing. The Pegasus R4i in this system is used to mirror the SSDs (for backup), as well as for Mac OS Time Machine system backup.

▼ Pegasus R4i

The Pegasus R4i RAID Storage MPX Module internal storage for Mac Pro is used to store and speedily access up to 32TB of data over internal buses. This product has a rugged chassis designed uniquely to fit into Mac Pro's MPX slots. Working in aerospace, the team recognizes and appreciates the quality and workmanship in this product as well as all other PROMISE products. Machined parts fit with high precision, and the design is elegant and provides simple access.

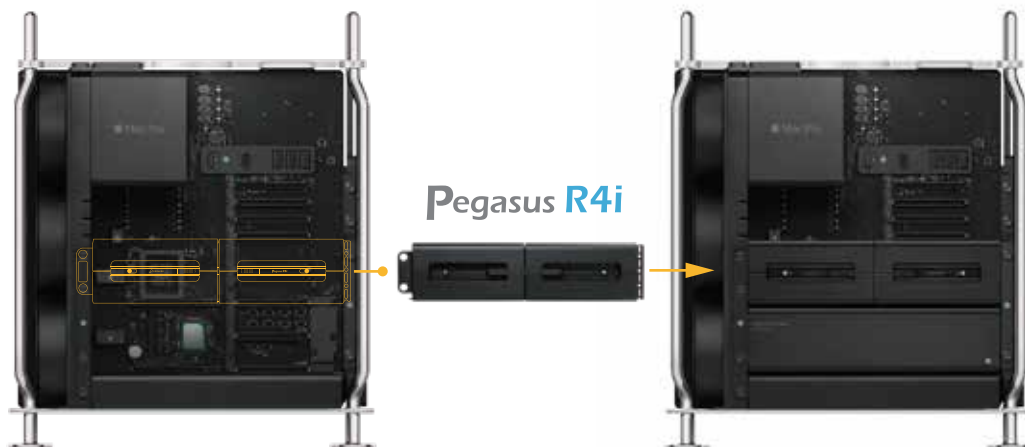
- Plug and play with built in driver in macOS
- Four swappable modules with 8 TB 7200 rpm SATA HDDs pre-formatted and pre-installed
- Best-in-class Pegasus hardware RAID an optimal combination of capacity, redundancy and performance with up to 680 MB/s in RAID5
- PROMISE Pegasus Utility for simple-to-use but powerful storage management and monitoring



▼ Testimonial

The Conceptual Analytics team was able to install the Pegasus R4i easily in just ten minutes. To support their specific application, the standard 8 TB drives have been replaced with compatible 16 TB drives, a process that took only several more minutes and went smoothly because of the simple disk carrier design. The system is working as advertised and expected, and is going through its commissioning activities. Once set up, this system will be used for routine data analysis, in addition to some planned work on realtime hardware performance simulations.

The team has high confidence in all the PROMISE products. They work almost all of the time without complication. And when rare issues occur, the PROMISE support staff has been very responsive and helpful. In the course of their work, they use a variety of RAID and storage solutions. One aspect that stands out to the team is that their 15 year old VTrak system is still working, and is their only RAID system that has not ever crashed a volume. Only a single HDD had failed in this entire time, and the system automatically and flawlessly performed the expected reconfiguration.



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