Brookhaven National Laboratory (BNL), located in Uptown, New York, delivers discovery science and transformative technology to power and secure the nation’s future which includes fundamental research in nuclear and particle physics. Primarily supported by the U.S. Department of Energy’s (DOE) Office of Science, Brookhaven Lab is a multidisciplinary laboratory with seven Nobel Prize-winning discoveries, 36 R&D 100 Awards, and more than 70 years of pioneering research.

Business Needs:
» Experienced enormous data storage growth – in 3 years grew from 60PBs of storage to 145PBs
» Anticipate continual archiving of about 500PBs of data per year
» Needed to be cost effective in data storage process, retrieval and preservation
» Access frequency issues as half of data is ‘hot’ and regularly referenced by multiple organizations
» Needed archive storage solution that would provide scalability, reliability, and technology enhancements for future growth

Solution - Results:
» Implemented active archive system with LTO tape technology and automated tape libraries built for read-write and high throughput for 100s of PBs
» Able to increase tape library capacity and implement new generations of LTO technology providing scalable growth
» Tape active archive system much lower cost as opposed to disk storage alternatives
» High reliability - nearly 50,000 LTO tape cartridges in use with average 200 mounts per hour and zero data loss

“We use tape technology as an active data archive system for high throughput read and write operations. Tape is the most cost effective and LTO tape has been extremely reliable.”

DAVID YU
TECHNOLOGY ARCHITECT