komprise

Pacific Biosciences Pioneers Next Generation Genome Sequencing

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Genome analysis is changing the world. Pacific Biosciences (PacBio) produces genomic sequencers that are used in wide-ranging ways: from diagnosing and treating diseases such as cancer and Parkinson's to wildlife conservation and efforts to improve the world's food supply. PacBio is accelerating the pace of genomic discovery with a data fabric enabled by NetApp and Komprise.

PACIFIC BIOSCIENCES®

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Pacific Biosciences (PacBio) standardized on NetApp® storage and leveraged Komprise intelligent data management software to rein in exploding growth in scientific data across its organization.
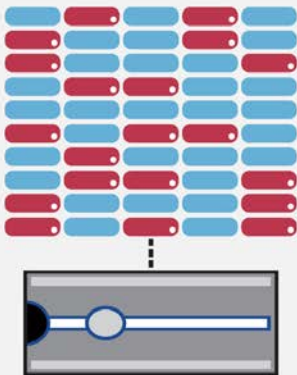
In partnership with:

NetApp®

REDUCTION IN STORAGE COSTS

60%

INCREASE IN DATA PROJECTED OVER THREE YEARS

28×

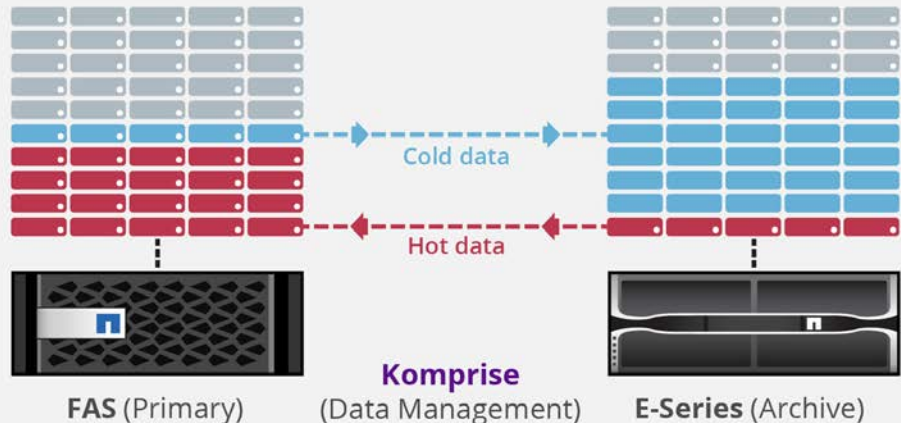## PACBIO BEFORE AND AFTER IMPLEMENTING A DATA FABRIC

Before
Rapidly growing heterogeneous storage environment.

After
Standardized on NetApp storage. Komprise software transparently moves data to and from primary and secondary storage based on policies.

Cold data

Hot data

FAS (Primary)

Komprise (Data Management)

E-Series (Archive)

REDEFINING BIG DATA

Genome sequencing is notoriously data intensive. Researchers estimate that by 2025, genomics will generate more data than all the content on YouTube.[1] PacBio is on the front lines of that growth, generating a tremendous amount of data through manufacturing, testing, and research and development. Its sophisticated systems provide the fastest, most complete genome analysis available, with each generation of the technology producing more data than the last.

"As we iterate our technology, we are looking at a 28 times increase in data compounded over three years," says Jay Smestad, senior director of infrastructure architecture at PacBio. "We could knock out walls and build more data centers, but for what? We needed a platform on which to grow our business."

MANAGING DATA WITH INSIGHT

With 4.7PB of data—and more being generated each day—PacBio turned to Komprise data management software to gain insight into data growth and usage across its heterogeneous storage environment. Komprise provided a real-time analysis of PacBio's environment, showing how data was growing, which data was active, and which data could be moved to secondary storage for cost savings.

"Komprise gave us data management at scale," explains Smestad. "How much data do we have? Where does it live? Who owns it? When was it last accessed? Komprise's ROI analysis showed us that we could save 60% by moving storage to a lower tier."

TURNING INSIGHTS INTO ACTION

"Komprise gave us visibility into our storage so that we could build a proper foundation for growth. That's where NetApp came in," adds Smestad. "Of all our vendors, we chose to standardize on NetApp because it offers the most flexibility on a proven platform. It just works."

By leveraging Komprise's analysis, PacBio began standardizing its primary environment on NetApp FAS systems and added a petabyte of ultradense NetApp E-Series storage for archiving. Komprise transparently moves data to and from the archive based on predetermined policies, keeping only active data on primary storage.

> *"Our data fabric gives us a solid foundation on which to build our business."*
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> Jay Smestad, Senior Director of Infrastructure Architecture, PacBio
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"NetApp understands that we wantchoice," says Smestad. "Through their broad storage portfolio and integration with partners like Komprise, they are delivering on that promise. Our data fabric gives us a solid foundation on which to build our business."

ACCELERATING THE BUSINESS WITH STORAGEGRID WEBSCALE

As PacBio scientists work to launch the next generation of its technology, Smestad is already preparing for the coming data storm—starting with the NetApp StorageGRID® Webscale object storage appliance. Komprise integrates with the comprehensive metadata capabilities of StorageGRID to make tagging and finding data faster and easier, providing new insights into data.

"How do you search data when you have six, ten, or a hundred petabytes?" asks Smestad. "Komprise's integration with StorageGRID Webscale is exciting because it gives us a tool to do that. Our partnership with NetApp and Komprise will enable us to better support the business even as we grow."

1. http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1002195