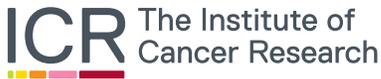




# Simple Accessibility for Analysis and Big Data Modeling

Life Sciences  
Europe



- Analytics
- Clinical Research
- VDI using VMware HorizonView
- NFS – ESXi Data Store
- Boot Disk for iSCSI – ESXi and Windows servers

## Solution

A resilient, multi-site infrastructure built with agility for seamless zero-impact expansion and simple accessibility for collaboration, analysis and big data modeling



**Dr. Jon Lockley**  
Head of Scientific Computing, The Institute of Cancer Research, London

## The Institute of Cancer Research

Taking storage to the next level by adapting support services to meet needs of 140 research teams focused on the future of dynamic adaptive therapies.

The Institute of Cancer Research, London, is one of the world’s most influential cancer research organizations, with an outstanding record of achievement dating back more than 100 years. The Institute of Cancer Research (ICR) is led by Chief Executive, Professor Paul Workman — an expert in cancer drug discovery. It is a world leader in identifying cancer genes, discovering cancer drugs and developing precision radiotherapy. Together with hospital partner, The Royal Marsden NHS Foundation Trust, the pair is rated in the top four centers for cancer research and treatment worldwide.

## The Challenge

- A single, central storage infrastructure
- Enable users to collect and analyze all types of active research data

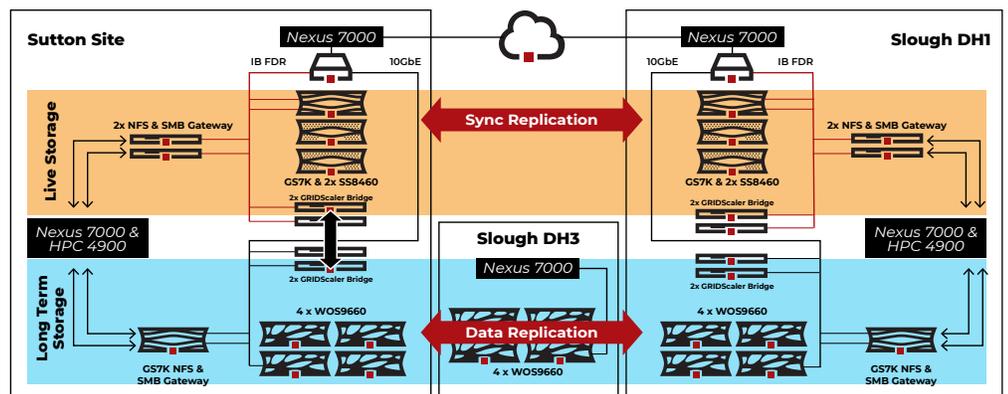
According to Dr. Jon Lockley, Head of Scientific Computing at the ICR, meeting the data needs of scientists and clinicians creates unique requirements. “We have to support a variety of data workflows and delivery needs,” he says. “Scientists pull data directly from research instruments and immerse themselves in the technology, whereas clinicians want fast results from diagnostic tests and treatments.”

The research data service (RDS) had to be broad enough to support eight research divisions and all types of biology, chemistry and physics-related data. It needed to be able to pull in massive amounts of data from different scientific instruments and next-generation sequencers while connecting to various research services from laptops and desktops of every flavor, to high performance supercomputers with CPUs and GPUs.

## The Solution

- An inherently agile solution that could expand quickly and transparently.
- Extremely resilient infrastructure with replication and erasure coding across three geographically separate locations.

ICR set out to deploy a scalable solution that would host a wide range of scientific and clinical data. “It was not just a large data store that we sought,” Professor Paul Jeffreys, Digital Operations Program Lead for ICR, notes. “we were looking for a trusted partner who would provide an evolving solution that could grow over time and keep pace with our requirements.”





### Performance

Clinicians want fast results from diagnostic tests and treatments



### Scale

A solution that could grow over time and keep pace with



### Flexibility

Supporting a variety of data workflows and delivery needs



### Experience

Looking for a trusted partner with a solution that could evolve over time

## The Benefits

- Collected data is easily accessible for analysis and big data modeling

The new RDS service is designed to be scalable, cost-effective, and highly resilient – an infrastructure scalable both in front-end performance and back-end capacity that can easily increase to meet changing demand. The solution provides a resilient fast access tier for tough workloads, with a transparently integrated object tier that delivers a simple single namespace and provides multi-site data protection for longer term data storage. Not only can the ICR give users confidence that research data is easily accessible regardless of storage tier, it's well placed to keep pace with evolving scientific and clinical requirements. In the future, researchers will be able to manage their data from inception, through to long term storage.

## Future Challenges

- Increased use of machine learning and artificial intelligence is expected to impact storage growth.

“As the ICR evolves its research capabilities, we expect to see a change in the balance of our storage demands,” muses Lockley. The RDS service will underpin Data Science activities in the ICR, in particular its Knowledge Hub. It will underpin ICR’s evolution towards precision and adaptive healthcare. “By 2022, we’ll be undertaking novel dynamic, adaptive individualized patient trials.”, Jeffreys concludes.

Please note: The views expressed in this article are those of the individuals concerned and do not necessarily reflect the position of the ICR.

“DDN’s innovative design for storage tiering was the winning combination because it gave us the most flexibility to adapt to changing research needs.”

#### Dr. Jon Lockley

Head of Scientific Computing, The Institute of Cancer Research, London

## About DDN

DataDirect Networks (DDN) is the world’s leading big data storage supplier to data-intensive, global organizations. DDN has designed, developed, deployed, and optimized systems, software, and solutions that enable enterprises, service providers, research facilities, and government agencies to generate more value and to accelerate time to insight from their data and information, on premise and in the cloud.

©DataDirect Networks. All Rights Reserved. DataDirect Networks, the DataDirect Networks logo, DDN, GS7K, ObjectAssure, and WOS are trademarks of DataDirect Networks. Other Names and Brands May Be Claimed as the Property of Others.

v4 (4/20)