

# Unlimited storage for the Healthcare sector

*A Scality briefing paper*



# A must read for healthcare organizations

*Today's Healthcare sectors – in countries across the world – are facing a range of increasingly demanding challenges. Overcoming them is simply impossible without the effective use of technology. But current storage infrastructures are often inherently incapable of delivering against the new landscape that Healthcare operates in.*

So what is the solution? This paper shows the way forward by examining:

- > Why IT transformation is now essential for today's Healthcare sector
- > The challenges created by today's outdated storage infrastructures
- > The role that technology plays in enabling better patient outcomes and more effective use of resources
- > The solution provided by Scality's software-defined Object Storage for meeting the needs of modern Healthcare providers

**“For healthcare providers across the developed world, providing secure, scalable and always-available IT infrastructure is essential for modern healthcare.”**

*Paul Turner  
CMO, Scality*

## The pressures on today's Healthcare systems

Irrespective of whether provision is via a public or private model, Healthcare sectors around the globe are struggling under common pressures.

### Rising demand

From aging populations and growing numbers of people with chronic long-term conditions, to the impacts of lifestyle factors such as obesity and the increasing expense of new treatments, the demands continue to rise for Healthcare providers in all developed countries.

### Funding crises

At the same time as rising demand – and partly as a result – funding pressures are also intensifying. Many publicly-funded health services face rising deficits, while in the US, where spend on Healthcare has reached an eye-watering 17.8% of GDP<sup>4</sup>, there is intense political pressure to reduce costs.

### Performance pressures

To compound the situation, Healthcare providers are facing both political and commercial pressures to improve performance in key areas.

Publicly-funded services – such as the NHS in the UK – are being challenged to meet exacting performance targets in areas such as waiting times. While in the US Healthcare industry, there is a trend to move reimbursement from a volume-based methodology to one based on value and quality.

### Regulatory changes

Regulatory changes – such as the latest data privacy requirements – are creating new demands. For European Healthcare providers, these have been intensified by the General Data Protection Regulation (GDPR), which comes into force in 2018; while in the US, providers have had to contend with the demands of HIPAA and regulations that vary state-to-state.

### Increasing public expectations

Influenced by their broader experiences as consumers, patients now have heightened expectations of both how they'll be communicated with and how quickly. They also expect easy online access to their records.

### Internally-driven imperatives

Finally, Healthcare providers continue to strive to improve working practices and enable more effective collaboration across different teams.

In numerous countries, Healthcare is provided by a patchwork of different agencies and providers that are not necessarily equipped to share information and collaborate effectively.

At the same time, many providers across the sector are seeking to improve patient outcomes and improve the productivity of frontline staff by digitizing their processes. For example, in the UK the concept of a paperless NHS has been high on the agenda for a number of years. While in France, 'Digital Healthcare' is one of a number of strategic initiatives championed by the government.



### +10 years

The increase in life expectancy between a French person born in 1960 and 2009<sup>1</sup>



### 1 in 3 over 60

$\frac{1}{3}$  of France's population is predicted to be over 60 by 2060 compared to  $\frac{1}{4}$  today<sup>2</sup>



### £22 bn shortfall

The UK's NHS projected funding shortfall by 2020<sup>3</sup>



### \$3.2 trillion

The amount the US spends on Healthcare, which is larger than the total GDP of Germany<sup>4</sup>

<sup>1</sup> Healthcare Challenges and Trends, CGI, 2014

<sup>2</sup> The National Institute of Statistics and Economic Studies, France, 2016

<sup>3</sup> The Five Year Forward View, NHS, 2014

<sup>4</sup> National Health Expenditure, Centers for Medicare and Medicaid (CMS), 2015



## How technology helps

Technology has a key role to play in enabling the Healthcare sector to respond to these challenges.

### Improving frontline response

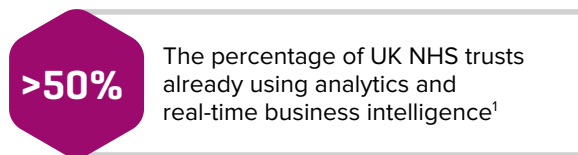
By equipping staff – from nurses on wards to paramedics out in the field – with connected devices, response times can be reduced, productivity can be improved and better patient outcomes achieved.

### Accessing specialist resources

Technology such as video conferencing can improve access to specialist resources by enabling remote consultations and diagnosis.

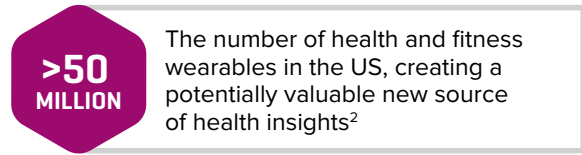
### Harnessing analytics

Technology-enabled analytics are increasingly being used in prevention and treatment.



### Exploiting new data

From wearable devices to DNA sequencing, technology is delivering important new sources of patient data.



### Enabling remote monitoring

Technology that enables remote monitoring of chronic conditions can reduce demands on doctors and consultants.

### Improving patient communications

The ability to provide quick online access to records and test results is already improving patient communications.

### Automating manual processes

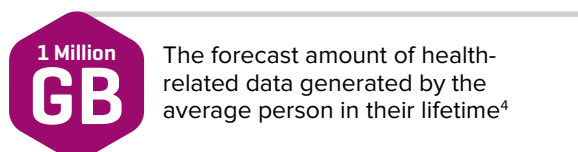
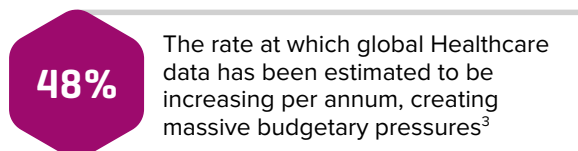
Increasing speed and reducing human error, technology continues to automate manual, paper-based processes.

## The limitations of current IT infrastructures

Clearly, technology offers numerous significant opportunities for Healthcare. Unfortunately, the limitations of current IT infrastructures – particularly storage platforms – mean that many providers are not only unable to take advantage of these opportunities, but are also actually struggling to manage the technology they already have.

These infrastructure limitations include:

- > **Lack of interoperability** prevents a joined-up, inter-agency approach, undermining effective cross-agency information-sharing and affects continuity of patient care
- > **Lack of scalability** means existing platforms are unable to meet increased storage demand while budgets are unable to stretch to deliver additional capacity
- > **Siloed systems** mean that frontline staff (such as a paramedic attending an emergency call-out) cannot access the patient information they need, increasing time to effective treatment
- > **Limited ability to extract intelligence from unstructured data** results from both an inability to handle new data types – such as medical imaging, video and wearable device data – and the fragmented nature of existing sources
- > **Overly complex existing IT systems** are difficult to manage, which leads to increased inefficiency and creates data breach risks because best practice policies and controls cannot be applied
- > **Stretched IT skills and resources** are often insufficient to respond to new demands at the same time as managing legacy systems



To even meet existing demands, let alone take advantage of new opportunities, today's Healthcare IT infrastructures have to change. Struggling to get by with existing siloed, inefficient systems is no longer an option. Healthcare IT needs to transform to platforms that are more scalable, more efficient, more flexible and more open.

## The role of software-defined Object Storage

A newer type of storage platform – software-defined Object Storage – has a key role to play in addressing many of the IT challenges faced by the Healthcare sector.

Critical advantages over traditional storage platforms include:

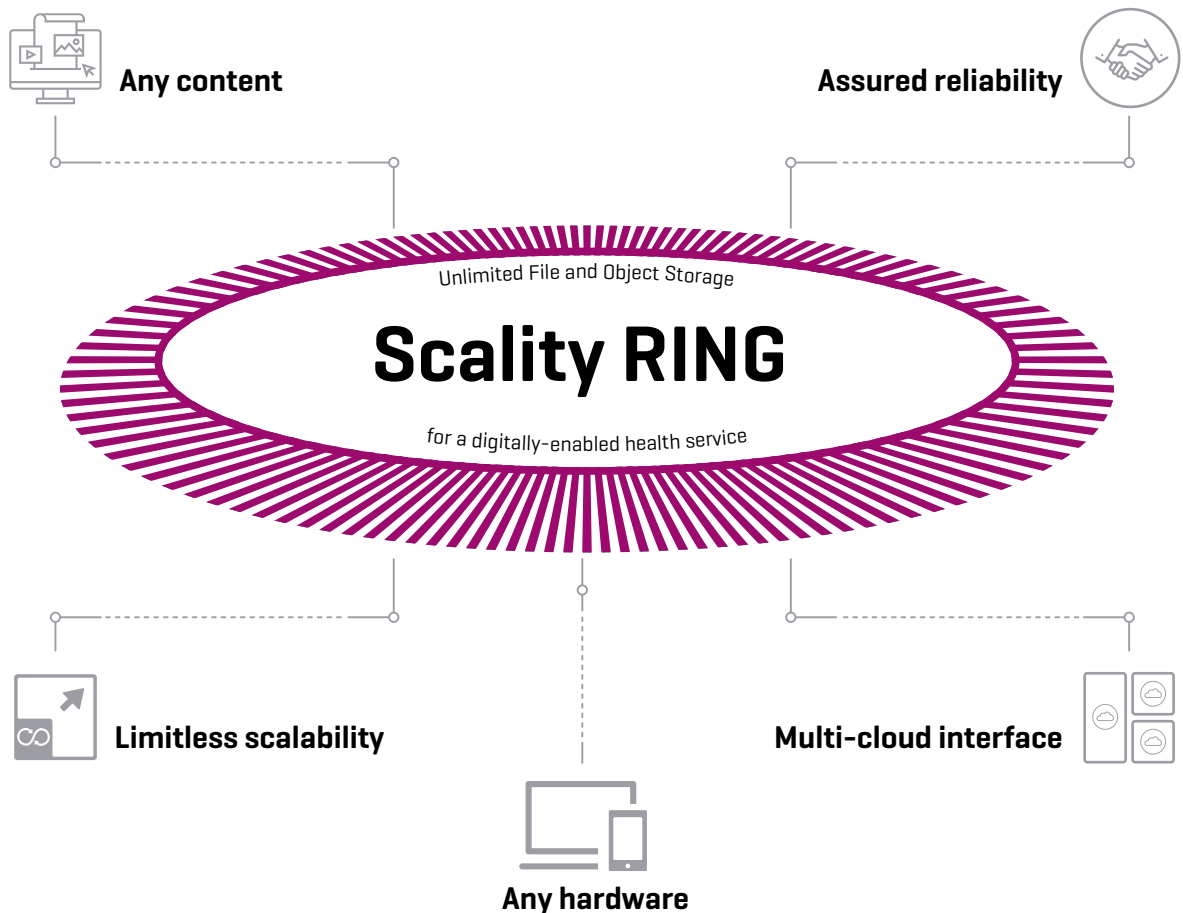
- > The ability to scale beyond petabytes
- > Easy management at scale
- > Cloud-like cost efficiencies
- > Advanced system security and reliability
- > Hardware freedom with broad compatibility
- > The versatility to support both static and unstructured data – delivering maximum flexibility to support both new and legacy applications from a single platform

## The superiority of Scality RING

Scality RING is the market-leading Object Storage software that turns any standard x86 servers into web-scale storage. With the RING, Healthcare providers can store any amount of data, of any type, with outstanding efficiency.

Scality RING provides a range of significant benefits:

- > **Any content** – access, store and manage all legacy and digital content from one platform. Scality RING, the only storage platform with native support for both File and Object, maximizes storage flexibility
- > **Any hardware** – total hardware freedom enables any standard x86 server to be used
- > **Multi-cloud interface** – launch public or private cloud services with a proven storage foundation, with both AWS S3 and OpenStack compatible interfaces for maximum flexibility
- > **Assured reliability** – a shared-nothing, distributed architecture provides geographical redundancy and no single point of failure
- > **Limitless scalability** – scales to hundreds of petabytes to manage billions of small or large files



## Why unlimited storage from Scality RING is right for the Healthcare sector

For Healthcare providers, Scality RING provides the unlimited storage platform that helps enable improved patient outcomes, increased staff productivity and reduced costs.



### Enabling new technology adoption by driving down storage costs

Scality's technology drives down storage costs and eliminates expensive and time-consuming hardware refresh cycles:

- > Unlimited ability to scale — linearly and with standard x86 hardware — eliminates the need for costly data migration cycles
- > Unique architecture increases storage efficiency as it scales
- > The ability to use any x86 servers lowers hardware costs
- > Multiple workloads can be consolidated onto the same storage platform, even across multiple locations
- > Resilient architecture eliminates back-up requirements



### Extracting new insights that help underpin digital Healthcare

Supporting the realization of digital Healthcare, the combination of Scality and our extensive partner eco-system enable the extraction of new insights from patient data.

By collapsing existing siloes and aggregating data, we make consolidated analysis possible. We also ensure that more historical clinical data is online and accessible to researchers and clinical staff.

Scality RING enables the use of advanced analytics solutions that provide actionable, data-driven insights to improve patient outcomes. While our partner eco-system supports a wide range of applications, including Backup, Archive, CCTV, Medical Imaging and Compliance.



### Improving outcomes by ensuring data is available and accessible

Scality RING helps improve patient outcomes and increase staff productivity by ensuring the openness, responsiveness and availability of applications.

Greater openness is achieved through standards-based interfaces (such as AWS S3), that deliver enhanced interoperability across systems. The result is improved information sharing across multi-discipline teams and better access to data for clinical staff.

Scality RING ensures that frontline staff have immediate access to the information they need for delivering effective treatments, by ensuring that systems are highly responsive. Key features include:

- > Linear performance scales beyond hundreds of petabytes
- > No increase in latency regardless of number of nodes or objects in the system

The availability of data is assured through Scality RING's shared-nothing, distributed architecture, which enables up to 100% data availability and zero downtime.



### Ensuring the security and integrity of patient data

With multiple separate platforms, it is usually impossible to have standard policies in place that ensure best practice. With Scality RING's consolidation of workloads and data onto a single platform, it is much easier to apply common policies and controls — enabling a more holistic and effective approach to data protection and compliance.

Scality RING is a strong ally in your plan to meet national and regional data availability, retention and security compliance requirements. Access via HTTPS with password authentication and Role-based Access Control (RBAC) and AES-256 encryption ensure data security. Scality RING's multi-geo options distribute data across availability zones to ensure access even when an entire data center is lost.

Plus, its common, flexible platform for storing and sharing files makes it easier for people to do the right thing — reducing the need for shadow IT and the temptation to use insecure methods for storing and sharing data (such as USB sticks or Dropbox).

**Scality's first customer in 2010 – Telenet – has run multiple generations of applications, hardware and the RING over seven years with no downtime.**



## Building a storage strategy that underpins digital Healthcare

The combined resources of Scality and our partner eco-system provide comprehensive support to help build a forward-looking storage strategy that underpins digital Healthcare. We help balance the need for increased standardization with department-level flexibility.

A pioneer in Object Storage, Scality has been helping organizations manage their web-scale storage since 2009.

With our partners, the range of our professional services support encompasses developing storage strategies (including data discovery and classification), business cases and transition planning.

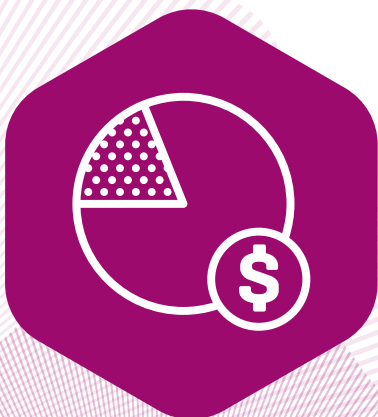


## Minimizing transition risks and disruption

With 150+ cloud-scale deployments to date, Scality RING is proven technology.

Unique features that help ensure seamless transition to a new Object Storage platform include:

- > Support for both file and object interfaces means that the Scality RING can store virtually any unstructured data, enabling consolidation and simplification in storage across departments
- > The ability to work with both new and existing applications



## \$8 million cost savings – 229% ROI

In 2016, Forrester's Total Economic Impact study (TEI) looked at the benefits of the Scality RING compared with traditional NAS storage arrays. For a customer with 2 petabytes growing to 4 petabytes, Scality RING was shown to deliver \$8m in expected cost savings (over \$3m from capital savings alone) and a 229% ROI over the life of the storage. It also delivered a capital payback within just six months.

## About Scality

Scality is a pioneering innovator of software-defined, multi-cloud data storage at petabyte scale. Recognized as a leader in distributed File and Object Storage by Gartner and IDC, Scality assures data control and freedom to manage data across clouds. Our products scale on-demand, non-disruptively, and drive lower cost for today's leading enterprise companies.

Be sure to get your complimentary copy of the **Gartner Magic Quadrant for Distributed File Systems and Object Storage report**.



**Gartner Magic Quadrant for Distributed File Systems and Object Storage report**  
(<http://bit.ly/2ip1NSh>)



**800 billion +**  
objects managed by Scality



**150 clouds +**  
Scality cloud implementations

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