SCALITY

CASE STUDY:
SCALITY RING ENSURES THAT RAPIDLY EXPANDING STORAGE CAPACITY IS EASY TO HANDLE

" Because of the importance of VOD for Mediengruppe RTL Deutschland and the growing user audience for Mediengruppe RTL's VOD services, we needed high read performance and a very scalable storage backend that we could depend upon to meet our very high SLA. "

THE PROJECT

As part of RTL Group, the leading European entertainment network, and as a subsidiary of Mediengruppe RTL Deutschland, RTL interactive develops innovative themes, products and platforms that attract consumers as well as advertisers. RTL interactive is responsible for the business units Online (including video on demand, IPTV, Mobile and Teletext), Licensing and Media Services (telephone value-added services) and furthermore for the subsidiaries Clipfish GmbH & Co. KG, the social network werkenntwen GmbH and the Smart Shopping and Saving GmbH.

In 2007, RTL Germany inaugurated its video on demand offering, RTL NOW, which today delivers more than 1.19 billion video views annually.

With a hundred million video views per month, Mediengruppe RTL Deutschland is experiencing tremendous growth in its VOD business and needed a way to scale beyond traditional storage solutions.

RTL NOW

There are four main factors driving RTL interactive's data growth:

1) The proliferation of viewing devices requires that each available video be encoded for a growing range of screen sizes and resolutions.

2) Increasing screen sizes and new high definition TVs require better video quality and therefore rapidly increasing files sizes.

3) The VOD market needs to provide users with a growing catalog of new media to view.

4) A growing number of subscribers creates increasing amounts of user-specific data.

THE REQUIREMENTS

RTL needed to be able to scale storage for their VOD service, easily, quickly, cost effectively and reliably. Within 12 to 18 months, the storage solution is expected to be managing an estimated 22,000 movies and television series, and 16,000 hours of video.

In addition to these scalability requirements, other key requirements include:

- **Extraordinary performance** - With potentially hundreds of thousands of simultaneous views, RTL's VOD service and streaming servers require high read performance from the storage repository. Target bandwidth expected for the platform is: 4 Gbits/sec for Reads and 800 Mbits/sec for Writes.

- **Exceptional data resilience and disaster recovery provisions** - Viewers have very low tolerance for downtime, and in a highly competitive market, near perfect accessibility

to VOD services needs to be assured.

- **Efficient handling of very large files** - The increasing market emphasis on high-resolution viewing necessitates a storage solution that can efficiently handle files of one GB or more without compromising performance or creating additional management overhead.

- **Multiple file access methods** - A variety of applications need to interface with storage, including Adobe Media Server, Apache Web Server, encoding appliances and web services for streaming. This requires diverse access methods such as FUSE, NFS and CDMI.

THE SELECTION PROCESS

RTL interactive was introduced to Scality RING by its subsidiary company, the German Social Network, wer-kennt-wen.de, which has been using Scality RING to store subscriber photos for more than two years. Werkenntwen's very positive experience with the RING was an important factor in the selection process.

Other RTL Group storage teams were also consulted with regard to their experience using EMC's Isilon and a variety of SAN offerings from HP, Dell and others. An on-site proof of concept (POC) was initiated in 2013 to test performance, data resilience and disaster recovery configurations, with particular emphasis on failover scenarios for disk or server failures, or for network interruptions.

With the assistance of Scality Customer Service engineers, the selection process and POC were undertaken by RTL interactive's Infrastructure team, led by André Knegt.
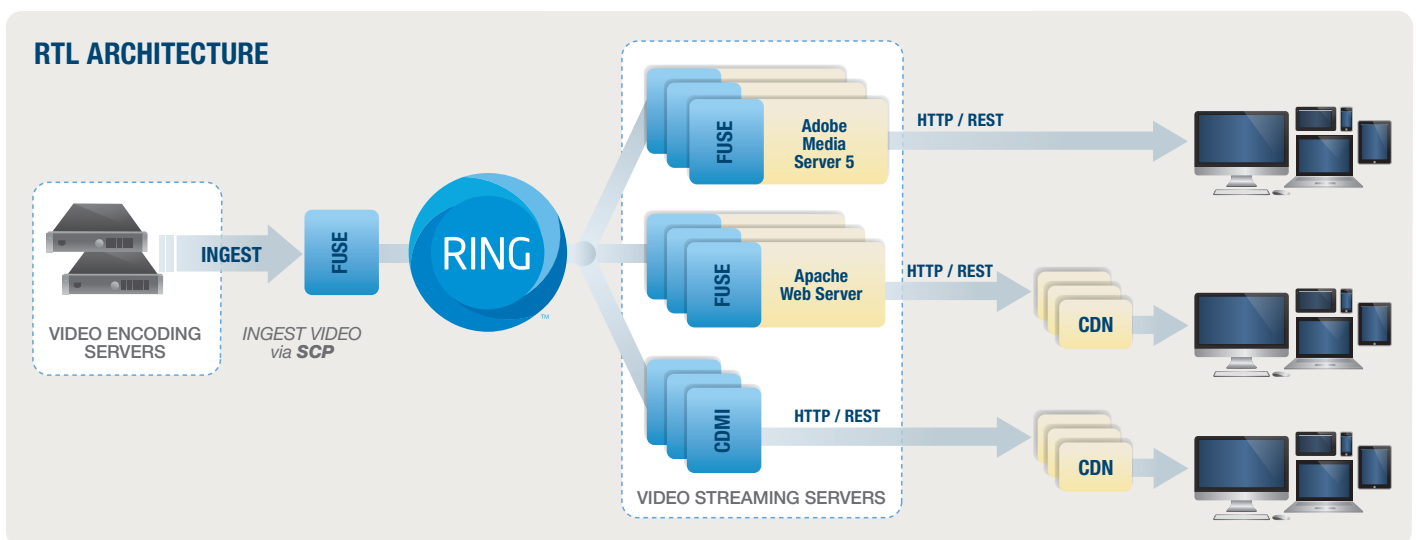

Fig 1. RTL interactive Network Architecture

THE RESULTS OF SELECTION PROCESS

As a result of the POC and the experience of the other storage teams in the RTL Group, Scality RING was determined to be the best-fit solution.

- Scality RING demonstrated extreme and easily managed scalability, successfully handling large numbers of files, including very large files.

  "The RING gives us the ability to just add discs and servers to grow the capacity easily. This really impressed us."
  — André Knegt, Head of Infrastructure at RTL

- Scality RING never lost data when system failures occurred either at disc, server or network levels.

- Scality RING was compatible with a range of existing applications.

- Performance testing showed that, even at very large scale, Scality RING was able to maintain the necessary IOPS for customer needs.

- Use of Scality RING in combination with chosen hardware vendors proved to be exceptionally cost efficient.

SELECTING HARDWARE

RTL interactive has had a relationship with HP for more than 15 years. With the help of Scality's customer support engineers, RTL selected HP Proliant 380p Gen8 servers with 6 disks for the RING.

"Because of our long experience with HP Proliant Servers and the integration in our deployment and monitoring system, we chose HP"
—André Knegt, Head of Infrastructure at RTL interactive

THE ARCHITECTURE

- 8 HP Proliant 380p Gen8 servers
- One RING for production and another for backup
- ARC Erasure coding to ensure resilience for large video files and replication for small files, such as images or small video files
- Sparse file technology to divide very large video files into parts that are stored on multiple nodes for added resilience
- Adobe Media Server access to data via the Scality SOFS FUSE connector
- Web services access to the RING using the Scality CDMI (HTTP/REST) connector
- Write access to the RING from video encoding applications via SCP
- The Linux/Ubuntu Operating System

> " *Although Object Storage itself wasn't the goal for us, this technology offers us the scalability, reliability and performance that we need, as well as the ability to easily integrate storage into our existing infrastructure.* "
>
> André Knegt, Head of Infrastructure at RTL interactive

RTL interactive's Infrastructure Team

> *"With Scality RING we believe that we will be able to deploy more storage capacity, in a shorter time frame. This allows us to introduce new products and features to the market sooner."*
>
> André Knegt, Head of Infrastructure at RTL interactive

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TECHNICAL RESULTS

The Scality RING was deployed in January, 2014 and capacity is expected to grow 3x over the next twelve months.

The Scality RING software delivers the extreme scalability which RTL interactive requires, and it also ensures that ongoing growth is easy to handle. Hardware refresh and scaling are just simple matters of adding and removing servers, with no risk of interrupting or impairing the customer's service.

BUSINESS RESULTS

RTL interactive supports fast growing VOD services for six television channels (RTL, RTL2, RTL NITRO, VOX, n-tv, SUPER RTL). Storage capacity is expanding rapidly as both the number and size of files increase and the number of viewers and individual video views continue to grow.