



NRK MA-3026/17E

**NEW
BACKUP-
SOLUTION
FOR NRK**

INVITATION TO PARTICIPATE
IN A TECHNICAL MARKET
DIALOGUE

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1. INTRODUCTION

Norwegian Broadcasting Corporation Ltd, subsequently named NRK, invites you to participate in a technical market dialogue. Today NRK cannot backup everything. Our current backup systems are mainly configured for general IT – and not our large media data (sound and video). Hence, the solution needs a substantial expansion and scaling up. We see this as a golden opportunity to improve and modernize and acquire a state of the art backup system.

This RFI process is designed to envisage the possible scope and tradeoffs to include all our storage in a new backup strategy and later form our requirements for the procurement.

The dialogue will provide us with an overview of current landscape in data backup technology that may be suitable to cover our needs today and in the future. This is the last step in the process of firstly replacing our Media asset management system, then a consolidated and replacement of most of our storage systems, and our solutions for backup.

Our goal is to begin the deployment of new backup systems by the end of 2017.

NRK ask the suppliers to observe the fact that the scope of this procurement is more extensive than what is natural to acquire using the existing framework agreement and thus it will be arranged as an independent public procurement.

1.1. About NRK

NRK is the public broadcasting corporation in Norway with main responsibility to produce and distribute radio and television programs for the entire Norwegian population. NRK also delivers a comprehensive portfolio of Internet, mobile and text-TV content. With approximately 3500 employees NRK is a nationwide business and it is the largest media company in Norway. NRK is characterized by its diversity, which is partly reflected by the fact that over 120 professions are represented among the employees.

Besides the HQ at Marienlyst in Oslo, NRK is located in Mo i Rana with License Office and Information Center, as well as in Karasjok with NRK Sápmi. NRK also has regional centers in Trondheim, Bergen and Tromsø, as well as regional offices in Alta, Bodø, Ålesund, Førde, Stavanger, Kristiansand, Porsgrunn, Fredrikstad, Oslo and Lillehammer. Several of the regional offices also have one or more local offices.

For further information about the business, please refer to www.nrk.no.

NRK Aktivum is a wholly owned subsidiary of NRK located at Marienlyst and runs NRK's commercial activities. The company has approximately 20 employees.

For further information about the business please refer to www.nrkaktivum.no.

2. SCOPE AND HISTORY

About three years ago, NRK started a substantial modernization process for multiple areas of technology, including a new Media Asset Management (MAM) system and a new storage solution.

The procurement process for a new MAM system was concluded in the beginning 2016, with Tedia as the selected vendor. The deployment, integration and migration process is currently ongoing.

By the end of 2016 the procurement process for new storage solution was completed, with Proact as the vendor Dell EMC as sub-supplier. The deployment and migration of data from previous storage systems is in progress.

Today we use Veritas NetBackup for backing up data to tape. We run backup from the branch offices to Oslo over WAN links. We do not do backup of all data, just selected systems on VMWare, Isilon and other servers and systems.

3. SYSTEM OVERVIEW

3.1. General

At NRK there are two major platforms for storage. One for file based storage, and one for block-based VMware and database related storage. Hence two different backup solutions for these two categories of storage, could be beneficial.

The main platform for file based (NAS) storage is Dell EMC Isilon, while the main platform for block storage is Hitachi VSP G Series.

In addition to NAS and SAN storage, we also have the object based private cloud storage solution Elastic Cloud Storage (ECS) from Dell EMC.

3.2. Systems that need backup

3.2.1. Dell EMC Isilon

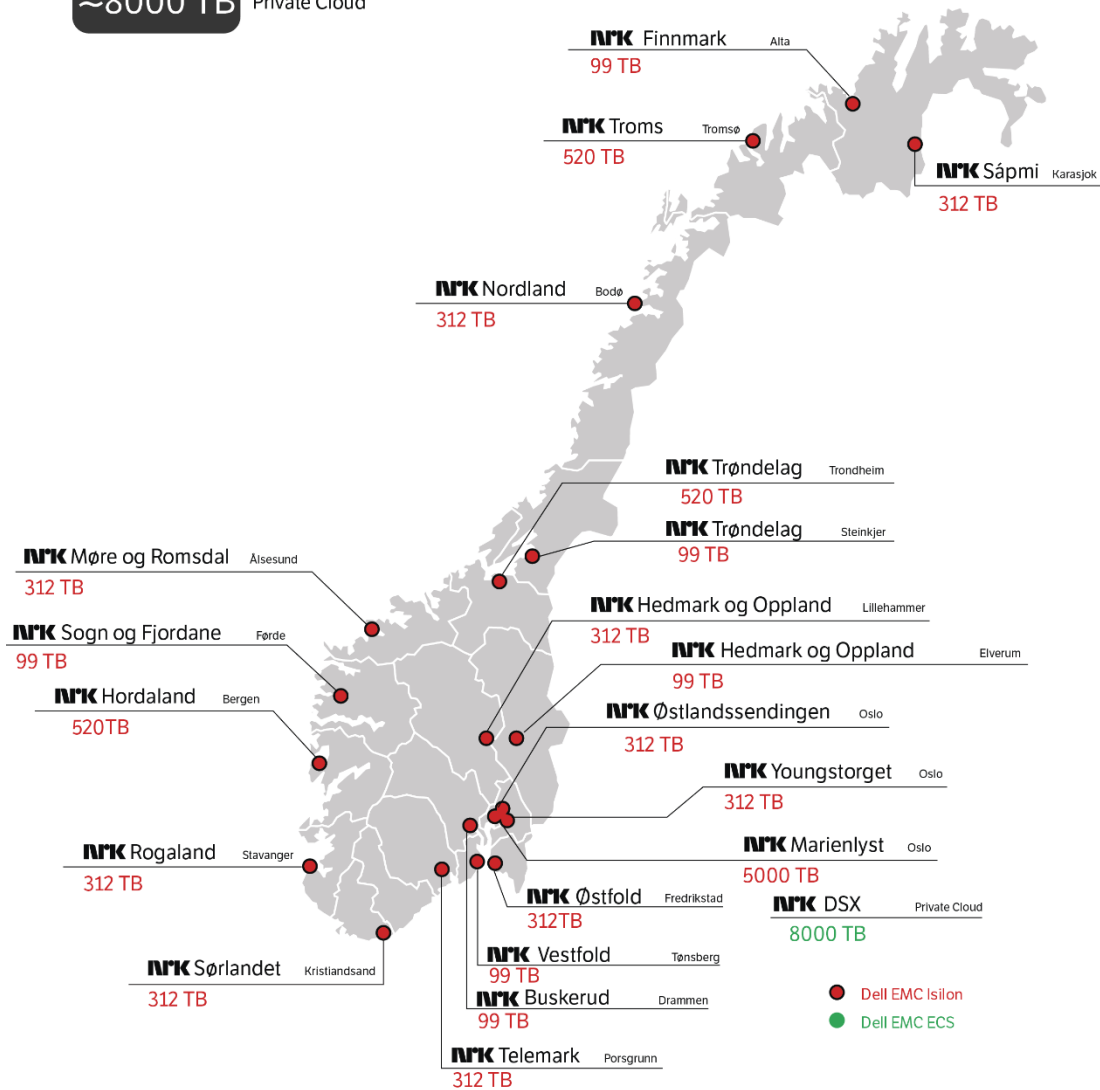
Storage overview

~9000 TB Total net storage capacity

~4000 TB Total net storage capacity at the regional offices

~5000 TB Total net storage capacity in the main office at Marienlyst in Oslo

~8000 TB Private Cloud



3.2.2. ECS (Elastic Cloud Storage)

The ECS is currently being used as a cold data cloud tier (Cloud Pools) for Isilon. Once files are untouched for a set period of time, it is tiered to the ECS. The backup solution must support NDMP to allow backup of "stubbed" files on the Isilon.

3.2.3. VMware

We have VMWare installations at all locations outlined in the storage overview map above. 2 hosts on each location and 45 TB of Hitachi VSP G200. There are between 5 and 40 VMs at each location. At the Tyholt location there is a 3-host cluster with about 100 TB of storage on Dell EMC VNX. In Oslo, at the main site, there are 25 hosts with two Hitachi VSP G400 systems with around 1,6 PB of storage and ~1000 VMs. At the DR site, there are 25 hosts with ~500 VMs and 600 TB of storage.

We use vSphere 6.5 as the main production platform for VMWare. A new backup solution must support this.

3.2.4. Servers – Windows and Linux

We are using a mix of most versions of Windows Server from 2008R2 up to 2016. For the Linux we mainly use Ubuntu, some Red Hat, CentOS and a few other distros.

A new backup solution must support this.

3.2.5. Databases – Microsoft SQL, Oracle, MySQL

For databases, we use a mix of Microsoft SQL from 2005 and up to 2016. In addition, we use multiple versions of both Oracle and MySQL.

We use file dump backup for Microsoft SQL and MySQL. Oracle use RMAN. In the future, we are looking for a better option for doing database backups as well.

A new backup solution must support this.

4. NETWORK WAN CAPACITY

NRKs current main vendors for network switches and routers are Cisco for Ethernet and Brocade for fiber channel. We also use F5 for load balancing.

The offices listed below describes the type of office, network bandwidth capacity and latency measured between each site and the data center located at main site in Oslo, Marienlyst.

Sites	Type of office	Capacity	Latency*
<i>Oslo (Marienlyst)</i>	Main	2x10Gbit	-
<i>Oslo (Østlandssendingen)</i>	Regional	1Gbit	<1ms
<i>Bergen</i>	Regional center	2x1 Gbit	~9ms
<i>Ålesund</i>	Regional	250 Mbit	~14ms
<i>Bodø</i>	Regional	250 Mbit	~16ms
<i>Lillehammer</i>	Regional	250 Mbit	~8ms
<i>Fredrikstad</i>	Regional	250 Mbit	~6ms
<i>Stavanger</i>	Regional	250 Mbit	~16ms
<i>Kristiansand</i>	Regional	250 Mbit	~6ms
<i>Trondheim</i>	Regional center	2x1 Gbit	~7ms
<i>Porsgrunn</i>	Regional	250 Mbit	~2ms
<i>Tromsø</i>	Regional center	500 Mbit	~23ms
<i>Karasjok</i>	Regional	250 Mbit	~34ms
<i>Youngstorget</i>	Regional	2x1 Gbit	<1ms
<i>Elverum</i>	Local	250 Mbit	~6ms
<i>Førde</i>	Local	250 Mbit	~8ms
<i>Alta</i>	Local	250 Mbit	~31ms
<i>Steinkjer</i>	Local	250 Mbit	~9ms

5. CENTRALIZED VS. LOCAL

Due to limited network WAN capacity between the regions/sites and Oslo, our initial thoughts are to set up local backup solutions for each site. This ensures better security and faster speeds for both backup and restore.

6. LICENSING

NRK is generating petabytes of new data each year, hence we would like to find a backup system that does not require complicated per-terabyte or similar licensing costs.

7. PURPOSE OF TECHNICAL MARKET DIALOGUE

NRK would like an open dialogue with suppliers/manufacturers who have relevant experience and good references in backup solutions for large enterprise customers with substantial amounts of data.

The dialogue will provide us with an overview of current landscape in data backup technology that may be suitable to cover our needs today and in the future, hopefully it will enable us to optimize the best cost benefit ratio for the coming procurement process.

We are looking for solutions that make it possible to build a secure and robust backup system to prevent data loss and costly downtime. We need to minimize long-term backup costs and have support for both local and cloud storage as backup targets.

7.1. High-level requirements

This is a compilation of our wish list for a new backup solution:

Minimize long-term backup costs

- Dedupe and compression
- Automated services and processes
- Easy expansion of capacity and performance
- A simplification of management and support
- Reduce backup restore times and cost

Backup targets and integration

- Support for different local backup targets
- Support for both private and public cloud as a backup target
- Integration with Microsoft Active Directory

Administration, management, reports and analytics

- Easy management and administration via web interface
- Easy monitoring of resource usage – both capacity and performance
- Support for detailed reports and analytics

7.2. Areas of particular interest

The following list defines the areas of particular interest, with no specific order of priority.

- **Simplification.** We need easy administration and reduced complexity.
- **Scalability.** We have a rapid growing amount of data. We are looking for solutions that easily can keep up with the growth.
- **Reduction of risk, backup restore times and cost.**
- **Detailed reports and analytics**
- **Identification of cost driving elements**

When you address our needs and areas of particular interest, we would ask you to put it in the following context:

- A. **Performance:** How your solutions contribute to achieve the objectives and requirements of this procurement.
- B. **Risks:** How you the will help reduce principal risk in this procurement.
- C. **Additional Value:** What you can offer that represents additional value to us in addition to the requirements above.

7.3. Intention and theme

The dialogue will not include discussion of eligibility requirements, selection criteria and award criteria. Nor will we discuss factors that may modify or otherwise affect competition on deliveries. Nor commitments or promises related to specific shipments and prices for such.

8. EXECUTION OF THE TECHNICAL MARKET DIALOGUE

NRK will perform technical market dialogue as follows:

1. NRK will hold an **open information meeting** with suppliers who are registered for participation. In this meeting, we will present our needs and challenges. Suppliers are then to participate in a dialogue / Q & A in a plenary meeting with the aim to improve understanding of NRK's challenges and what the market can offer. The meeting will be held by NRK in Oslo. Further agenda will follow.
2. NRK will hold **individual meetings with suppliers** who request it, with the opportunity to expand and further clarify both NRK needs and suppliers' suggestions for possible solutions. Suppliers who want such meetings must send a reasoned request to NRK where they briefly explain how they are relevant to the issues NRK presents in this document – especially chapter 7. Since the time and number of such meetings is limited, NRK will use its discretion in choosing suppliers to give us greater and new knowledge in the most efficient manner.

With the use of this technical market dialogue, NRK will aim to fulfil the basic requirements of equal treatment set out in the laws and regulations governing public procurement, so it prevents that any supplier is given a specific competitive advantage by:

- Biasing the requirements used in the tender documents to its advantage
- Influencing the structure of the tender documents to its advantage
- Achieve greater insight about the actual conditions
- Achieve a greater understanding of customer requirements than competitors

In summary, NRK seek to avoid giving information or use the information received in a way that provides some competitive advantage. To counteract such imbalance, we will try to provide the same information to all suppliers.

Suppliers who are prevented from participating in this market dialogue could therefore expect to receive the necessary information in the following competition and procurement procedure.

8.1. Schedule

The procurement process is scheduled to be completed after the tentative and overall milestone schedule as given in the table below.

Activity	Date
Announcement of RFI	19. April 2017
Public information meeting with the registered suppliers held in our HQ in Oslo	10. May 2017, at 10 CET
1:1 dialogue with potential suppliers	11. - 12. May 2017
Scheduled announcement of Tender	Q3 - 2017
Signing of contract	Q4 - 2017
Start of contract	Q4 in 2017 (optimistic)

9. ADMINISTRATIVE PROVISIONS

9.1. Announcement

This prior announcement has been published 19th of April 2017 at www.mercell.no (new reference NRK-MA3026-17E) and at www.doffin.no as well as at TED (www.ted.publications.eu.int/official)

The announcement of the Procurement process will be conducted separately after the completion of technical marketing dialogue. C.f. schedule in section 8.1.

9.2. Areas of Communication concerning the procurement

This procurement process is managed via the Mercell. In this portal, the suppliers will be able to show their interest in attending the information meeting and later submit the qualification and tender documents, as well as conduct other correspondence concerning this acquisition.

Any questions regarding this completion and other matters concerning the procurement process should only be addressed through www.mercell.no. Inquiries should be marked "Case number NRK-MA3026-17E".

Other inquiries cannot be expected to be answered. Attempts to acquire information or to influence NRK's employees involved in the procurement process may lead to rejection or that the competition is cancelled.

Incoming questions will be reviewed and answered in a general and anonymous manner, and will be continuously distributed via www.mercell.no, where e-mail notification will be submitted to the contact persons registered.

For questions on the use of Mercell Pro referenced Mercell Support on telephone +47 21 01 88 61 / +47 21 01 88 00 or email: support@mercell.com.

9.3. Confirmation of participation and communication

Contenders are asked to confirm whether they intend to attend the information meeting. This is done by sending an email in the Mercell Communication module – listing: name, position / function and company of those who will participate.

Suppliers who also wants a 1:1 meeting must include a reasoned request (Cf. chapter 8).

Explicitly; you are not required to upload any documents in this stage of the process, even if the portal may generally indicate such.

9.4. Cost of participation

At this stage, suppliers participate and prepare dialogue at their own expense and risk. NRK does not undertake any financial responsibility for the invested effort or other costs in relation with the preparation of participation in the competition as such.

9.5. Cancellation of the market dialogue and procurement process

NRK reserves the right to cancel any part of this procurement process if there are objective reasons for this.