



# APPENDIX 1

PRELIMINARY SCOPE

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## 1 INTRODUCTION

This document presents the preliminary scope for the RFI, as introduced in the RFI document.

## 2 INFRASTRUCTURE SERVICES

### 2.1 Basic Infrastructure Operations and Data Center (BO & DC)

Currently delivered by (section/department)	Description
Infrastructure	<ul style="list-style-type: none"><li>Physical servers (Windows and Linux), VMWare, storage (NAS (Isilon) + SAN), backup etc.</li><li>Operation of Windows servers</li><li>Config. manager</li><li>Server patching</li></ul>
Distribution and Publication Technology	<ul style="list-style-type: none"><li>Operation of Linux servers</li><li>Operation of Linux operational tools for patching, orchestration, automation</li><li>Operation of Azure IaaS servers</li></ul>
District Offices	<ul style="list-style-type: none"><li>Some manual patching</li><li>Nordland (a district office) performs patch testing before distribution to the rest of NRK</li></ul>

## 2.2 Application Development and Maintenance (AD & AM)

Currently delivered by (section/department)	Description
Infrastructure	<ul style="list-style-type: none"><li>AD, AM (and AO) of NRKs monitoring platform for Windows servers</li></ul>

## 2.3 Operational security

Currently delivered by (section/department)	Description
Infrastructure	<ul style="list-style-type: none"><li>All operational security related to Infrastructure Operations.</li></ul>

## 2.4 Application Operations (AO)

Currently delivered by (section/department)	Description
Infrastructure	<ul style="list-style-type: none"><li>AO for several applications: Active Directory (AD), Azure-AD connect, ADFS, DNS, DHCP, Skype, monitoring platform</li></ul>
Back Office	<ul style="list-style-type: none"><li>Oracle database operations</li><li>Administrative systems</li></ul>
Distribution & Publication technology	<ul style="list-style-type: none"><li>Operation of MSSQL</li><li>Operation of MS IIS</li></ul>
Production systems	<ul style="list-style-type: none"><li>Operation of various production systems</li></ul>

## 2.5 Automation

Currently delivered by (section/department)	Description
Infrastructure	<ul style="list-style-type: none"><li>AD (Powershell, ASP.net, C#)</li><li>Data mining, ad-hoc scripting (on demand)</li><li>Integration of Service Manager, Config. Manager (Service Catalogue), User automation</li></ul>

## 2.6 Print services

Currently delivered by (section/department)	Description
Back Office	<ul style="list-style-type: none"> <li>NRK performs all on premise services.</li> <li>Canon supplies NRK with printers and performs scheduled maintenance</li> </ul>
District Offices	<ul style="list-style-type: none"> <li>NRK performs all on premise services.</li> <li>Canon supplies NRK with printers and performs scheduled maintenance</li> </ul>

## 3 SERVICE DESK SERVICES

### 3.1 Support

Currently delivered by (section/department)	Description
Infrastructure	<ul style="list-style-type: none"> <li>1<sup>st</sup> to 3<sup>rd</sup> line support for server hardware and OS</li> <li>2<sup>nd</sup> line support for some applications (Skype, e-mail etc.)</li> </ul>
Network	<ul style="list-style-type: none"> <li>Performs 1<sup>st</sup> and 2<sup>nd</sup> line support for all network services</li> <li>3<sup>rd</sup> line support delivered by external vendor</li> </ul>
Service desk (2300) Operations bridge (Bifrost)	<ul style="list-style-type: none"> <li>Service desk is responsible for 1<sup>st</sup> line support for all IT services (hardware and software) in NRK, including district offices</li> <li>Routing of tasks to 2<sup>nd</sup> line support (various groups in different business lines in NRK)</li> <li>Operations bridge is responsible for some 1<sup>st</sup> line support regarding production</li> <li>Operations bridge also handles support requests from the Customer Center (responsible for 1<sup>st</sup> line support to NRK's audience)</li> </ul>
Back Office	<ul style="list-style-type: none"> <li>Support on Oracle databases</li> <li>2<sup>nd</sup>/3<sup>rd</sup> line support user administration, clients and administrative systems</li> <li>3<sup>rd</sup> line support for Office365, currently delivered by external vendor</li> </ul>

### 3.2 IT contacts

Currently delivered by (section/department)	Description
Service desk (2300) Operations bridge (Bifrost)	<ul style="list-style-type: none"><li>• IT Contacts are IT support personnel that is rented to various business lines on a daily basis (“local” Service desk)</li><li>• It is not clear whether or not NRK wants to continue with this practice</li></ul>

### 3.3 User administration

Currently delivered by (section/department)	Description
Service desk (2300) Operations bridge (Bifrost)	<ul style="list-style-type: none"><li>• Access control in AD</li><li>• Password resets (delivered by password.nrk.no, but Service desk and Operations bridge sometimes step in if needed)</li><li>• The responsibility for user administration lies with Back Office, but Service desk and Operations bridge help with sharing the workload</li></ul>
Back Office	<ul style="list-style-type: none"><li>• Access control, Active Directory</li><li>• Setup and administration of service accounts (e.g. VPN, system accounts)</li></ul>

## 4 NETWORK SERVICES

### 4.1 LAN

Currently delivered by (section/department)	Description
Network	<ul style="list-style-type: none"><li>• Setup, operation, configuration etc.</li><li>• Currently moving towards “all IP” (all audio and video over IP)</li></ul>
District Offices	<ul style="list-style-type: none"><li>• Documentation of cabling</li></ul>

### 4.2 WAN

Currently delivered by (section/department)	Description
Network	<ul style="list-style-type: none"><li>• Setup, operation, configuration etc. of the WAN between Marienlyst and the district offices</li><li>• WAN services/lines rented from external providers</li></ul>

### 4.3 WLAN

Currently delivered by (section/department)	Description
Network	<ul style="list-style-type: none"><li>• All services related to WLAN (Setup, operation, configuration etc.)</li></ul>

### 4.4 Cabling

Currently delivered by (section/department)	Description
Network	<ul style="list-style-type: none"><li>• Patching (telephony and data)</li><li>• Fiber and UTP</li><li>• Installation of new cables, termination of access points etc. is already performed by an external vendor, but is still in the scope of the sourcing project</li></ul>

## 4.5 Telecommunication services

Currently delivered by (section/department)	Description
Network	<ul style="list-style-type: none"><li>• Various services related to telephones, associated cabling etc.</li></ul>

## 4.6 Network monitoring

Currently delivered by (section/department)	Description
Network	<ul style="list-style-type: none"><li>• Monitoring of the network</li><li>• Network monitoring also performed by NSM and TSOC</li><li>• Follow-up of alarms from NSM and TSOC</li></ul>
Operations bridge (Bifrost)	<ul style="list-style-type: none"><li>• Monitoring of nrk.no, tv.nrk.no, radio.nrk.no</li><li>• Monitoring of internal servers (operated by Infrastructure), network nodes (including district offices), Oracle databases, radio etc.</li><li>• Tasks include load balancing between different CDNs, geoblocking, setup of event channels, etc.</li></ul>

## 4.7 Network security

Currently delivered by (section/department)	Description
Network	<ul style="list-style-type: none"><li>• Various network security related services</li></ul>

## 4.8 VPN

Currently delivered by (section/department)	Description
Network	<b>Ipsec VPN:</b> <ul style="list-style-type: none"><li>• Ipsec VPN is used at the district offices and at external arrangements/events</li></ul>
Network	<b>SSL VPN:</b> <ul style="list-style-type: none"><li>• Hardware is delivered by F5</li><li>• Network does all related tasks</li><li>• Viprinet (for busses)</li></ul>

## 4.9 Load balancing

Currently delivered by (section/department)	Description
Network, Distribution and Publication Technology	<ul style="list-style-type: none"><li>• Hardware is delivered by F5</li><li>• The service is performed by Network and Distribution and Publication Technology</li></ul>

## 4.10 IP telephony

Currently delivered by (section/department)	Description
External	<ul style="list-style-type: none"><li>• IP Telephony Services</li></ul>

## 4.11 Network related projects

Currently delivered by (section/department)	Description
Network	<ul style="list-style-type: none"><li>• Planning, development and testing of new network installations</li></ul>



## 5 CLIENT SERVICES

### 5.1 PCs and Macs

Currently delivered by (section/department)	Description
Service desk (2300) Operations bridge (Bifrost)	<ul style="list-style-type: none"><li>• Procurement</li><li>• Provides rental services for PC and Mac to productions and individual users with temporary need for devices</li><li>• Installation, monitors, docking stations</li></ul>
District Offices	<ul style="list-style-type: none"><li>• Installation, monitors, docking stations</li></ul>
Back Office	<ul style="list-style-type: none"><li>• OS setup</li><li>• License management</li><li>• Patch administration for Windows-clients and servers</li><li>• Windows images</li><li>• Software distribution and setup</li><li>• NRK-specific software setup</li><li>• Group policy administration of Windows-clients</li><li>• VPN and Direct Access</li><li>• Client security</li><li>• Antivirus monitoring and configuration</li><li>• Incident handling</li><li>• Daily and weekly reports</li></ul>
Back Office	<ul style="list-style-type: none"><li>• Antivirus monitoring and configuration</li><li>• Incident handling</li><li>• Daily and weekly reports</li></ul>

### 5.2 Mobile Devices

Currently delivered by (section/department)	Description
Service desk (2300) Operations bridge (Bifrost)	<ul style="list-style-type: none"><li>• Setup and distribution to users</li><li>• Support</li></ul>
District Offices	<ul style="list-style-type: none"><li>• Setup</li><li>• Support</li></ul>

## 6 COLLABORATION SYSTEM SERVICES

### 6.1 Collaboration platform

Currently delivered by (section/ department)	Description
Back Office	<ul style="list-style-type: none"><li>• Currently using Office 365</li><li>• Enterprise contract with Microsoft expires 30.6.2019</li><li>• Workplace by Facebook</li><li>• Skype for Business (internally operated, currently not part of the Office 365 subscription)</li></ul>

## 7 INTEGRATION PLATFORM SERVICES

### 7.1 Application Development and Maintenance (AD & AM)

Currently delivered by (section/ department)	Description
Back Office	<ul style="list-style-type: none"><li>• AD, AM and AO of Integration platform (in Norwegian: "Serviceplattformen"). Currently performed by external consultants. Responsible for point-to-point integration of administrative systems</li><li>• AO, BO and DC is performed by the Infrastructure section (and is also in scope of the RFI)</li></ul>

## 8 NRK SYSTEM PORTFOLIO CONSOLIDATION PROJECT

### 8.1 System rationalization and establishing holistic system maintenance

NRK is in the planning stage of optimizing its system portfolio and is considering working in a long-term relationship with an integration partner who will provide hosting, integration, implementation, maintenance and changes to NRK's system portfolio (or parts of it). This include steps C, D, F, G and H in Figure 1 below. NRK needs to access the following competencies on or off premise:

- Program or project management (lean)
- Enterprise or Technical Architects
- Development (all modern languages)
- Test management (and test development)
- Procurements
- Delivery support
- Other

Figure 1 illustrates NRK's suggested approach to the NRK IT system portfolio consolidation.

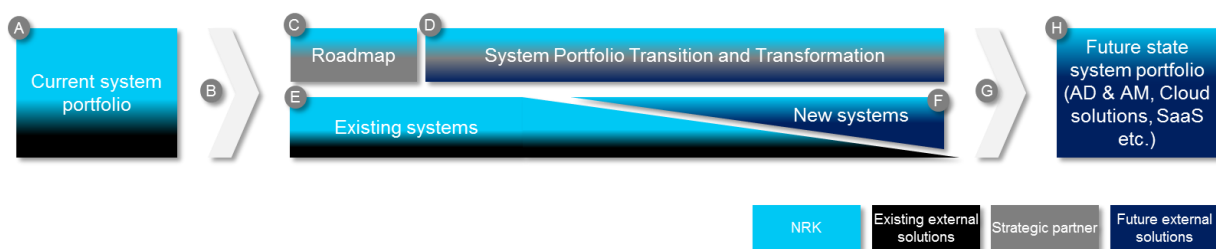


Figure 1 – NRK system portfolio consolidation program

- **Current system portfolio:** The current system portfolio consists of a combination of externally provided and internally developed systems.
- Program start
- **Roadmap:** In the roadmap phase, the blueprints and roadmaps (target and transition architectures) will be developed in cooperation between NRK and the chosen strategic partner(s)
- **System Portfolio Transition and Transformation:** The system portfolio will be transitioned and transformed in accordance with the blueprints. The transition and transformation will be performed by NRK, the strategic partner(s) and the chosen vendor(s) for the future system portfolio. The strategic partner(s) might, either alone or in cooperation with third party vendors, be providers of whole or parts of the future system portfolio.
- Continual improvement and change of **existing systems:** The existing systems will be continually improved and changed as today throughout the roadmap phase and until any change is produced in the transition and transformation phase
- Continual improvement and change of **new systems:** The responsibility for continual improvement and change of the system portfolio will gradually be transitioned

corresponding to the progress of the transition and transformation phase (as systems are consolidated).

- Program end
- **Future state system portfolio:** The future system portfolio will most likely consist of a combination of legacy systems, custom systems Cloud services (such as SaaS) etc.

The NRK system portfolio consolidation program is, as previously mentioned, in the planning stage. Initially, the program is focusing on the following areas of the system portfolio:

- Production and resource planning (in TV/radio production, not ERP)
- Content planning
- Content production
- Publishing (online and broadcast)
- ERP
- Etc.

The system portfolio consolidation program has been initiated due to a recommendation in the Technology plan, which included a more comprehensive list of potential candidates for consolidation. These are presented in the tables below.

Currently delivered by (section/department)	Description
Technology portfolio and architecture	<p>The following system areas are identified as candidates for consolidation:</p> <ul style="list-style-type: none"> <li>• Contribution</li> <li>• Audience and customer service</li> <li>• Production planning</li> <li>• IT development and operations platform</li> <li>• Monitoring systems</li> <li>• Texting (sub titles)</li> <li>• Collaboration systems</li> <li>• Publishing planning</li> <li>• Graphics</li> </ul>

The system areas identified as candidates for consolidation in the above table are described in the table below.

System areas	Assessment
Contribution	<p>Make a more modern contribution agreement for the entire NRK. Important to make MCR more forward looking. In the case of “Deng” – we should switch to an “occasional” solution instead of a subscription service. “Iris” and “Bidra” and “Lusmart” – a project is being undertaken to consolidate this. With three solutions, there is a lot of training that we have to do. This should be simplified.</p>
Audience and customer service	<p>Several of these systems are not integrated so that the registrar and the first line cannot follow up the status of case processing in their own system. Moreover, several of the systems have directly</p>

	<p>overlapping functionality. Here, NRK can professionalize the audience and employee dialogue with better knowledge sharing, self-service and automation and improve interaction internally and with subcontractors. The potential for improvement is great in this area. There is also a lot of errors and change management that does not go through the formal channels, so we do not capture all of the errors and changes. NRK is currently in the process of procuring a new ITSM tool to replace HP Service.</p>
Production planning	<p>Production and resource planning is fragmented today, driven by repeated manual workflows, supported by a variety of duplicate systems, and lacking the necessary functionality to drive the most efficient and transparent planning. The majority of these systems/solutions are self-developed, and have non-transparent operating costs. Probably great potential for streamlining across by utilizing an integrated solution for this area.</p>
IT development and operations platform	<p>On these platforms there are running hundreds of smaller applications, which are not categorized as separate systems. Each of the platforms exists in many different versions and different locations. The potential for reducing the operational costs by consolidation and standardization of the platforms is great.</p>
Monitoring systems	<p>Here there are many overlapping and different tools within the different departments in NRK. There is a large potential for consolidation, both on system support and the delivery of IT services.</p>
Texting (sub titles)	<p>Subtitling of content is done with different proprietary system support, depending on which channel the content is created for. Consolidation is necessary.</p>
Collaboration systems	<p>Here there are many overlapping and different tools within the different departments in NRK. There is a large potential for consolidation, both on system support and the delivery of IT services. Process ownership must also be established.</p>
Publishing planning	<p>The workflow is not fit for purpose, and there is a large potential for consolidation and replacement of systems. The area is of high importance, and improvements here should be prioritized. Some improvements can be done as a part of the basis architecture part of the Origo project - but it is recommended that it should be done as a separate project.</p>
Graphics	<p>Direct overlap between different systems. Consolidation into a single system for graphics should be considered.</p>

## 8.2 Application Development and Maintenance (AD & AM)<sup>1</sup>

Currently delivered by (section/department)	Description
Back Office	<ul style="list-style-type: none"><li>• AD, AM and AO of various internal proprietary applications (e.g. X9/X98 – see Appendix C)</li><li>• More external ERP systems like HR and economy are replaced by SaaS systems (see appendix C for more details)</li></ul>

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<sup>1</sup> AD and AM only comprise the activities performed by the IT department. This means that, for instance, front-end development on tv.nrk.no, nrk.no, etc. is not in scope.

### 8.3 Other relevant initiatives from the technology roadmap

Please refer to Figure 15 in the RFI document.

Currently delivered by (section/department)	Description
Technology portfolio and architecture	<ul style="list-style-type: none"><li data-bbox="624 477 1362 539">• Other initiatives will be linked to T-INFRA-02, but detailed planning of these initiatives are still in progress</li></ul>



## 9 RECORDS MANAGEMENT (DOCUMENT ARCHIVE)

NRK wants to receive more information regarding records management, both in terms of a new system and as a service.

Currently delivered by (section/department)	Description
The records management section within the Strategy and Communication department	<ul style="list-style-type: none"><li>• The system used for archiving is ePhorte, delivered by EVRY</li><li>• Current license ends by year-end of 2018</li></ul>