NORDUnet Learning Management System (LMS) Framework Procurement:
Invitation to Submit Outline Proposal Vol. 2

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Definitions

Term	Definition
Bidder	A candidate (including consortia or joint venture arrangements) who submitted a response to the PQQ who was selected and invited to participate in dialogue with NORDUnet
Bidder's Response Questions	Numbered question in Volume 2 of the Descriptive Document that a Bidder must answer to describe how it's Detailed Solution meets NORDUnet's Detailed Requirements
Contract Notice	Contract Notice 2016-116380, published in the Official Journal of the European Union
Descriptive Document	A centralised procurement document that contains the Invitation to Submit Final Bids, comprising: - Volume 1 –Instructions - Volume 2 – Statement of Requirements and Questions - Volume 3 –Framework Agreement Terms and Conditions
Detailed Solution	The response to the Bidder's Response Questions set out in Volume 2 and any supporting information that represents the offer from the Bidder
Final Bid	The bid(s) prepared and submitted by each Bidder in response to the ITSFB, presented and specified during the dialogue stage and then refined as the Detailed Solution
Framework Contracting party	NORDUnet A/S
Contracting party	The party that makes a call-off contract from the framework agreement
Customer	The customer of the contracting party for example a University
Preferred Bidder	The Bidder chosen as the winner of the competition process for the award of the framework contract
PQQ	The ESPD and ITSOP
SoR	Statement of Requirements

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1   Introduction

NORDUnet is a joint collaboration by the 5 Nordic National Research and Education Networks in Denmark (DeIC), Finland (CSC Funet), Iceland (RHnet), Norway (UNINETT) and Sweden (SUNET) and operates a world-class Nordic and International network and e-Infrastructure service for the Nordic research and educational community.

It is anticipated that all NRENs (as listed in the OJEU) could potentially benefit from the Framework Agreements that are awarded. However, the procurement for the Framework Agreements is being carried out with representatives from a subset of the NRENS, forming the Procurement Team (PT).

NORDUnet A/S is the procuring authority acting on behalf of the procurement team, and will be the contracting authority that will enter into the Framework Agreement with the Preferred Bidder(s).

This document is Volume 2 of the three-volume Descriptive Document that both outlines, and is a mechanism for conducting the Learning Management System procurement process.

Bidders should ensure that they read Volume 1 before responding to this Volume 2.

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2   Outline of the Requirement

2.1   Background

This procurement is designed to enable NORDUnet and Nordic NRENs to purchase Learning Management System(s) that will allow them to resell Learning Management Services within their respective countries.

NRENs generally provide "in-country" network and other e-infrastructure services to Research and Education (R&E) users, and in some instances to government departments.

Potentially, NORDUnet and all NRENs associated with NORDUnet (as listed in the OJEU) may elect to use the framework agreement.

The requirements within this volume 2 have been grouped into three areas: Technical, Operations, Commercial and Legal.

Below numbered paragraphs with the prefix "R" denote requirements and are presented in bold; numbered paragraphs with the prefix "Q" denote questions.

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2.2   Technical Service requirements

It is ESSENTIAL that before providing an answer to the questions below Bidders have read Volume 1 and that the response to each of the Bidder's Response Questions has information relating to and relevant to the actual proposed/offered, Detailed Solution and not to other Equipment, Software or Services the Bidder also may have available.

2.2.1   General requirements

R1   **The proposed LMS services shall be delivered either without dependencies on on-premises equipment as a cloud service hosted within the EU region, or alternatively as a multi-tenant managed on-premises solution, hosted by NORDUnet or any the listed NREN's.**

R2   **The proposed services and features shall be ready for service by end Q1 2017**

Q1   Please provide an executive summary of the proposed solution.

Q2   Please list all major service components including hosting sites, sub-contractors and other provisions.

Q3   Please describe the network architecture of the proposed services including possible points for interconnecting if delivered as a cloud service

Q4   Please provide 3 three references for similar services for higher education, preferable within the Nordic region, as described in section 2.2.2
For the 3 references the following must be provided:
-Name and size of organisation
-A description of the provided services and integrations
-When the service was implemented
-Contact persons for different roles, Teacher, administrator and student.

2.2.2   LMS requirements

2.2.2.1   *General requirements*

R3   **The service shall not impose limitations on the amount of data stored in the service.**

R4   **The service shall not impose any internal restrictions that unduly limit the access to data in the service.**

Q5   Please describe the processes and architecture of the service proposed. Please also include information about possible limitations in the service.

Q6   Please describe all customer operational requirements, e.g. firewall bypass.

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2.2.2.2 *Data security*

R5 **The data associated with the services shall be encrypted in transit and at rest.**

R6 **The Bidder shall change all applicable encryption-keys on request by the contracting party.**

Q7 Please describe how data is encrypted and protected in the services.

Q8 Please describe how data and keys are handled and protected.

Q9 Please describe all other applicable security processes, practices and certifications.

2.2.2.3 *Access control and Identity Management*

R7 **The service shall support externalized authentication using SAML2 and the SAML2int.org profile.**

R8 **The service shall have an access control system.**

Q10 Please describe all methods for externalized authentication.

Q11 Please describe your access control mechanism and any supported integration.

Q12 Please list the currently supported formats for social security numbers.

2.2.2.4 *User interface and communications*

R9 **The service shall have a responsive and accessible HTML-based user interface, for students, teachers and administrative purposes.**

R10 **The service shall support access from mobile devices.**

R11 **The user interface shall support multiple languages.**

Q13 Please describe all functions of the user interface.

Q14 Please list the currently supported languages.

Q15 Please describe and list the currently supported mobile applications and functions, and highlight which, if any, functions in the LMS are not supported in the mobile device applications.

Q16 Please describe how the LMS can be used for open courses, i.e. MOOCs

Q17 Please describe the currently supported accessibility features.

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Q18 Please describe all means of electronic communication available within the LMS system. ie. Instant messaging, e-mail, SMS, social media etc.

2.2.2.5 *Structure and User groups*

R12 **The service shall support multiple pedagogy methodologies.**

R13 **The service shall support the concept of user groups.**

Q19 Please describe how the LMS provides support for different types of pedagogy, i.e. problem-based learning, collaborative learning, gamification, etc..

Q20 Describe the primary structure for programs and courses including the functionality and relationship between objects, for example inheritance between blocks within a course.

Q21 Describe how groups, collective groups and users are supported and structured.

2.2.2.6 *Integrations and API*

R14 **The service shall have an API.**

Q22 Please list which standards and versions from IMS Global Learning Consortium that are currently implemented.

Q23 Please describe which components and versions of the LTI Learning Tool Interoperability standard that are supported.

Q24 Please describe in detail all aspects of the API, or provide a copy of you API documentation

Q25 Please describe and list all existing integrations with third party applications and systems.

2.2.2.7 *Archiving*

R15 **The service shall support automated archiving of data.**

Q26 Please describe how archiving of data is supported in the proposed service ie. is there a system to archive courses (long term storage) and give the institution access to retrieve the data.

Q27 Describe any options for using external cloud data storage outside the LMS, ie Amazon C3 for storing data relating to the LMS.

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2.2.2.8 *Learning Analytics*

R16 **The service shall have support for learning analytics.**

Q28 Please describe in detail how learning analytics is implemented including but not limited to:
-Support and access for students and teachers
-Progress tracking
-Statistics

2.2.2.9 *Examination and assessment*

R17 **The service shall support examination and assessment.**

Q29 Please describe how the LMS system is structured with regard to examination and assessment. Any proprietary components or integration and dependencies of third-party examination systems.

Q30 Please describe the support for ie. Safe Exam Browser and other security measures related to digital exams.

2.2.2.10 *End of contract provisions*

R18 **There shall be a mechanism to export the data from the service at the end of the contract, at no extra cost.**

R19 **The provider shall delete all data on request by the contracting party and any encryption-key associated with the stored data.**

Q31 Please describe the mechanism for end of contract data export.

2.3 Operations

2.3.1 Support and Maintenance Organisation

R20 **The Bidder shall be responsible for providing a complete solution for the support and maintenance of the service provided, independently of the sub-contractors being used.**

R21 **The Bidder shall offer a single point of contact "Helpdesk" for reporting and updates on all issues and questions that arise during the use of the services provided.**

R22 **The Bidder helpdesk shall be available at least during extended CET office hours (08-19).**

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R23 **When recording an incident, the determination of classification shall be at the ultimate determination of the Customer.**

Q32 Please describe your incident management process.

Q33 Please describe in detail the support process and support infrastructure that are currently in place.

Q34 Describe the different ways to report problems to your support infrastructure, e.g. phone, mail, web, etc. Please also describe how a progress of any reported issue can be monitored.

Q35 Please describe the process for communicating incidents to customers.

2.3.2 Monitoring

R24 **The Bidder shall monitor and report on the availability of the services on a monthly basis, per Customer, and report in a format agreed with the Contracting party.**

Q36 Please describe how services are monitored and please include a suggested sample report.

2.3.3 Implementation and Commissioning

It is expected that the services will be fully managed in a professional, structured manner by the Bidder, to ensure minimal downtime to current services.

R25 **The Bidder shall support each new customer of each contracting party with installation and deployment activities.**

Q37 Please describe the process of adding a new customer of the service.

2.3.4 Decommissioning and migration of data after contract expiration

R26 **The Bidder shall be responsible for maintaining and providing unrestricted read only access to the data stored in the services, subject to user access control, for six months after the contract has expired.**

Q38 Please provide information about how a customer accesses the data stored in the service after the contract has expired and highlight any differences to services during the 6 months after contract expiration.

2.3.5 SLA

R27 **NORDUnet requires the bidder to provide an SLA with service credits attached to it.**

Q39 Please describe in detail the SLAs you propose for the LMS service.

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2.3.6 Planned Works Change Control

R28 **Planned work request shall be communicated no less than 5 business days before planned work starts.**

Q40 Please describe your planned works and change control process.

2.3.7 Business Continuity Plan

Q41 Please provide a copy of your BCP (Business Continuity Plan) for providing services to the Contracting party.

2.3.8 Documentation

R29 **The Bidder shall provide a service description and all documentation in English.**

R30 **The Bidder shall have all documentation up to date and made available on line 24/7/365 for the Customer.**

Q42 Please describe how customers access documentation and your process for keeping documentation up to date.

2.3.9 Professional Support

R31 **The Bidder shall offer professional consultancy services.**

Q43 Please describe in detail the professional support services, including but not limited to:

a. Type or scope of services offered.
b. The process for the Customer to order resources, and any lead times involved for ordering and deployment.

2.4 Commercial

2.4.1 Background to the Commercial Structure

It is assumed that organisations using the framework will consume a mix of the services offered under the Framework. This will be reflected in the TCO model where all services will be included and weighted. Please note the provision for making consolidated volume discounts that will cover the total Framework and not just individual call-off contracts or customers.

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2.4.1.1 Relationship: NORDUnet to Successful Bidder

NORDUnet is undertaking a procurement procedure for Learning Management System framework contracts on behalf of the National Research and Education Network (NREN) Customers according to the contract notice published in the Official Journal of the European Union.

The outcome of the procurement will be an award of Framework Contracts to a maximum of three Bidders of compliant services. Figure 2.1 below illustrates the contractual arrangement between the parties.
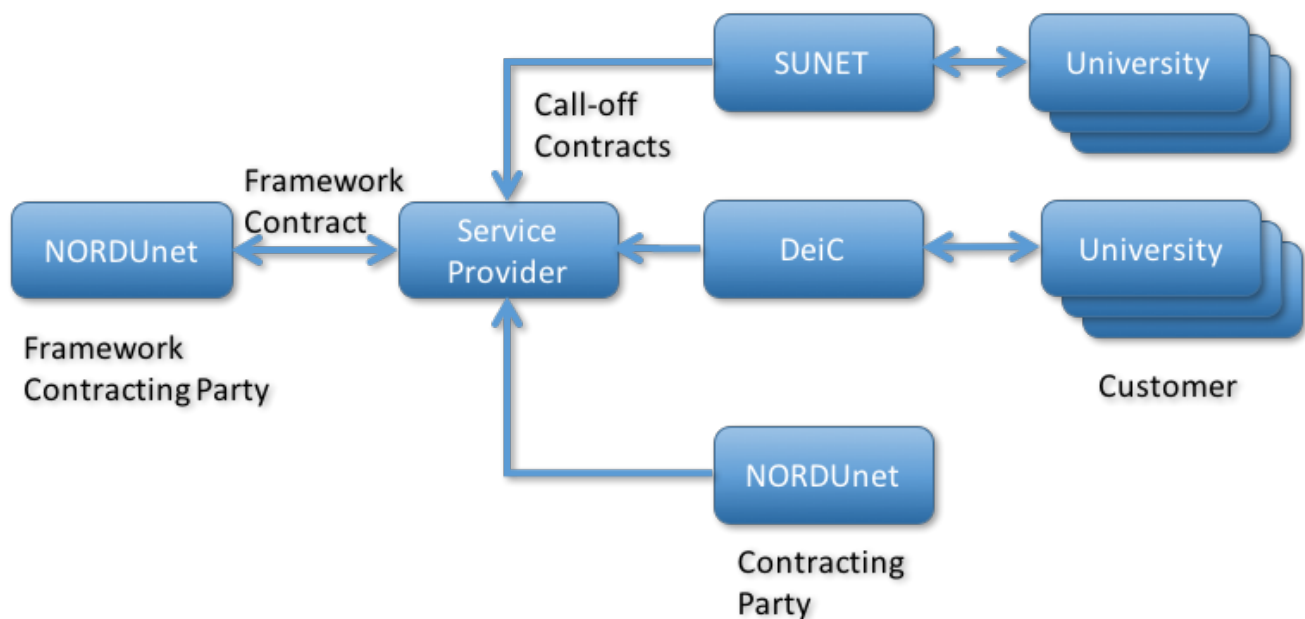

Figure 2.2: Relationship between parties

The Framework Agreement will have a Service Catalogue which will define the products and services offered by that Bidder, and the terms and conditions of sale.

NORDUnet will be responsible for the management of the Framework Agreement, ensuring it remains accurate and up to date. It is envisaged that the Framework Agreement and the service catalogue will be reviewed annually for this purpose.

2.4.1.2 Call-Off Contracts

Once the Framework Agreement has been established between NORDUnet and the Bidder, NRENs are able to purchase goods and services described within them. This is achieved by means of a Call-Off Contract: The Call-Off Contract will exist between the NREN and Bidder where a purchase is made. NORDUnet will have no involvement in this activity.

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Figure 2.2 shows four NRENs on the right hand side. In practice, any NREN listed in the OJEU Notice are eligible to purchase products and services using this process. NORDUnet may do it's own call-off contract to provide Services to its constituency.

The Call-Off Contract will reference the Framework Agreement Terms and Conditions and the NREN will only be able to purchase configurations of the Products and Services specified within the Framework Agreement Service Catalogue.

2.4.2   Total Cost of Ownership (TCO)

In accordance with Volume 1 Section 2.3, regarding the Invite to Submit Final Bid (ITSFB) NORDUnet will compute the Most Economically Advantageous Tender, which will include a calculation of TCO. The TCO computation method and components will be developed during the procurement process and dialogue sessions.

> Q44   Please describe in detail your proposed licensing, price structure and components.

> Q45   Please provide your proposed Service Catalogue, with indicative prices, including but not limited to the following components; Including both one time and recurring cost

> - User licenses
> - Standard packages
> - Professional Services ie. Implementation, integrations etc.
> - Sfw. and feature packages, incl. any 3'rd party cost and fees

2.4.3   Contract Governance & Contract Template

Volume 3 contains NORDUnet's contract template including a Call Off template

> Q46   The requirement for framework contract governance shall be defined in Volume 3, Para 4. Please describe your proposed changes to the contract governance if any. Changes to the current wording will be at NORDUnet's discretion.

> Q47   Other than a) the above mentioned governance model in Para 4 and b) the below mentioned benchmarking process in Para 14, Bidders may suggest a maximum of 5 (five) other suggestions for changes to the contract terms in Volume 3.
> Please note that *changes to the current wording will be at NORDUnet's discretion.*

> Q48   The requirement for benchmarking shall be defined in Volume 3, Para 14. In case you have suggestions for changes to the current wording of Para 14 please propose your approach to benchmarking during the life of the Framework Agreement. The aim is to ensure that the costs represent value for money over its life. Changes to the current wording will be at NORDUnet's discretion. Please describe your proposal for benchmarking.

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