



Migration Of Research Project Data Management System

Proposal, project schedule and organisation

For the attention of: NIMS

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Contents

Context	1
Description of work	1
Work items	1
Project Coordination	1
Technical leadership	1
Support and maintenance for NIMS service	1
Implementing feedback	1
Deployment design & specification	1
Cluster configuration	1
Kubernetes configuration for GitLab	2
Kubernetes configuration for MDR-X application	2
Deployment and testing	2
Documentation	2
Schedule	2
Project Organisation	2

Context

The "proof of concept" prototype for MDR-X, delivered in March 2020, has been further developed and will be taken into service in December 2020. It will be deployed on a NIMS server "on-premises". NIMS has decided to re-deploy this service to commercial cloud infrastructure in the first quarter of 2021 and NIMS will recruit someone to manage this infrastructure.

Description of work

This work includes the tasks needed to configure the service to be managed with Kubernetes such that it may be redeployed from the NIMS server to a standard commercial cloud infrastructure, to redeploy the service to the Google Cloud infrastructure, and to document this deployment and its configuration in detail so that it can be managed directly by NIMS.

This quote assumes that a standard, Kubernetes-enabled cloud infrastructure service has been procured by NIMS.

Work items

Project Coordination

This will include general coordination of the work, managing the liaison with NIMS, arranging and facilitating meetings, planning and reporting. The existing GitHub repository will be used for managing the work¹.

Technical leadership

This will include the technical leadership supplied by Cottage Labs, which will inform the technical solution developed in the project.

Support and maintenance for NIMS service

This will cover the general maintenance of the live, deployed version of the software running on the NIMS server initially, later migrated to the Google Cloud.

Implementing feedback

This will cover making small improvements and fixing any bugs, in response to user feedback. This will be assessed, planned and prioritised in consultation with NIMS.

Deployment design & specification

This item is to design the architecture and processes needed to deploy and maintain the system on the Google Cloud infrastructure. These will be documented.

Cluster configuration

This item is to configure the Google infrastructure itself, to establish a new Kubernetes cluster (nodes, ingress etc.) which is suitable for the deployment and maintenance of the GitLab and MDR-X systems. The configuration will be documented.

¹ <https://github.com/antleaf/mdr-x-development>

Kubernetes configuration for GitLab

This item is to develop the Kubernetes configuration for the GitLab deployment, including deployments, services, config-maps, secrets etc. Although Kubernetes configurations are, to a great extent, self-documenting, some explanatory notes will be provided where these are useful.

Kubernetes configuration for MDR-X application

This item is to develop the Kubernetes configuration for the MDR-X application deployment, including deployments, services, config-maps, secrets etc. Although Kubernetes configurations are, to a great extent, self-documenting, some explanatory notes will be provided where these are useful.

Deployment and testing

This item is to actually deploy the entire system to the Google Cloud infrastructure, and to test that the deployment is successful and repeatable.

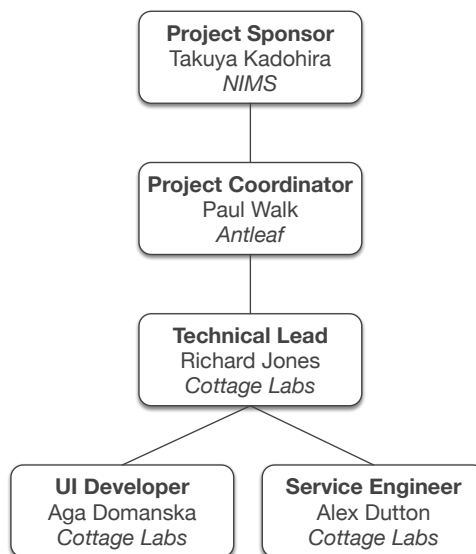
Documentation

This item is to document the deployment process completely, so that it can be managed directly by NIMS. This documentation will conclude all that is necessary to configure and deploy an instance of the whole MDR-X stack on the NIMS Google Cloud.

Schedule

This is a short project, intended to run from 4th January 2021 - 26th March 2021. As such, the main deadline is to have delivered all the work items before the 26th March 2021. In order to achieve this, the project team will need access to the NIMS Google Cloud environment fairly soon in the project. While this is being arranged, the work to design the architecture and deployment specification can be carried out and we would expect to complete this before mid-February 2021.

Project Organisation



The primary liaison will be between Takuya Kadohira (NIMS), acting as the *Project Sponsor*, and Paul Walk (Antleaf) acting as the *Project Coordinator*.