

ARCS-11: REDCap Platform

Version 1.0.0

ARC Advanced
Research
Computing



THE UNIVERSITY OF BRITISH COLUMBIA

REDCap Platform Standard

1. Introduction

1.1 Purpose

This standard defines platform specifications and requirements for the REDCap platform administered by UBC Advanced Research Computing (ARC). This describes the overarching structure of the platform, its instances, and servers.

1.2 Scope

This Standard applies to all servers that collectively house the REDCap platform managed by ARC. This includes the associated **REDCap Flex** and **REDCap Solid** production, pre-production, and development; application and database instances.

2. Standard

2.1 Platform Overview

The platform consists of two (2) distinct production instances of REDCap supported by pre-production and development staging instances. The two (2) instances have different target use cases and are named accordingly:

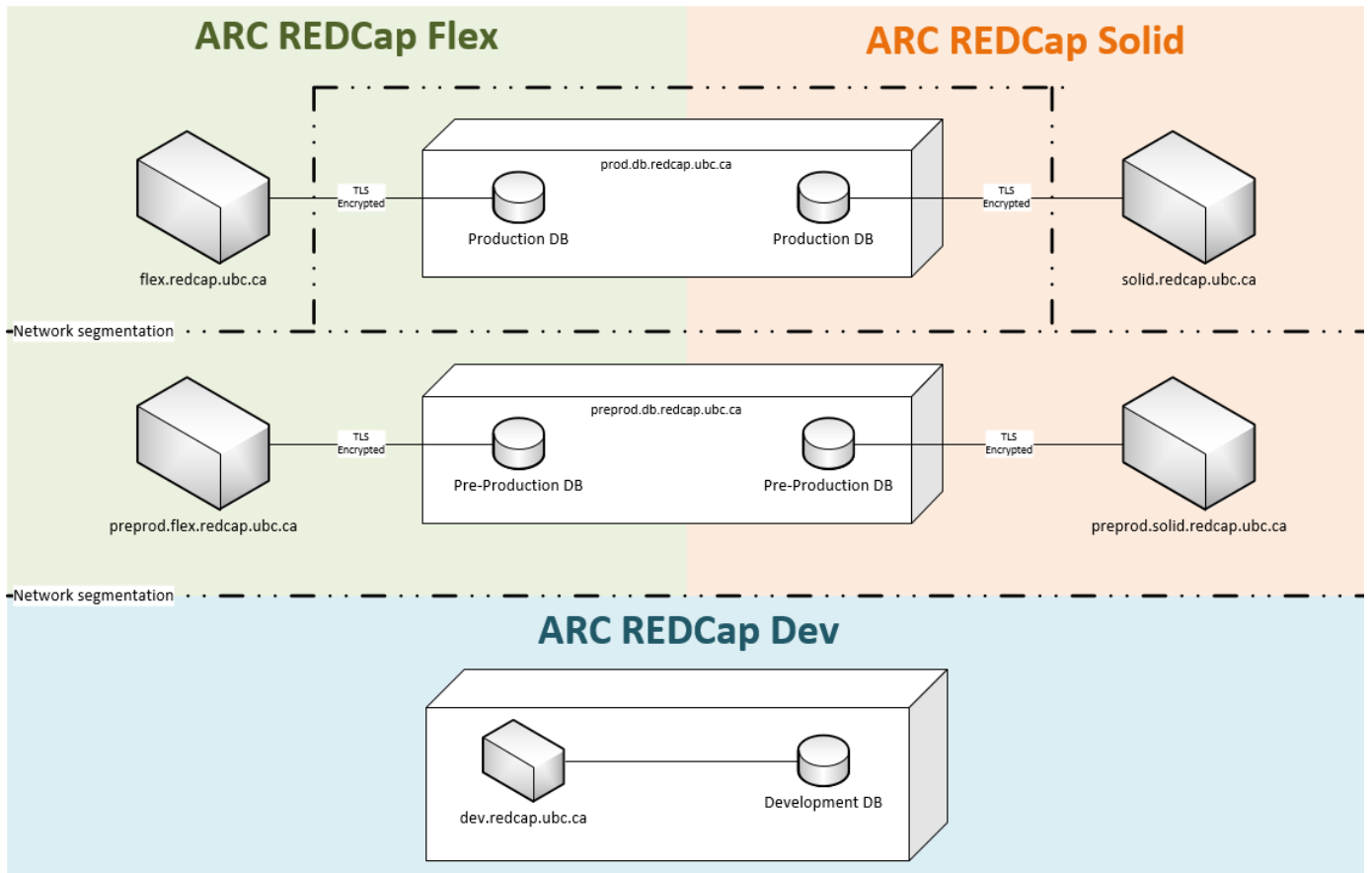
REDCap Flex: Primary Goal: Features. This instance runs the Standard version of REDCap. This instance is designed to support projects that seek the latest features available from REDCap and can accept changes over time based on more frequent updates to the software.

REDCap Solid: Primary Goal: Stability. This instance runs the Long Term Support version of REDCap. This instance is designed to support projects that require a stable platform such as clinical trials or where the sensitivity of the data being collected mandates additional security controls and governance.

Supporting pre-production staging copies (one for each instance) are configured as duplicates of the production instances. These must never be used for anything other than final testing of a new patch or release bound for production. They are only accessible from the ARC internal network segment and must not be accessible to anyone apart from **ARC System Administrators**.

A Development/Test instance is used for initial testing of patches, software updates, and other changes to the system. Its initial configuration should be a copy of the eventual target instance the candidate update is targeting. This server must only be accessible from the ARC internal network segment and must not be accessible to anyone apart from **ARC System Administrators**.

The following diagram provides an overview of the entire platform:



2.2 Server Baseline

All servers are EDUCloud virtual machines, instantiated following baseline specifications and managed through Ansible Playbooks. The baseline configuration is:

- Red Hat Enterprise Linux (RHEL) 7.5+
- SELinux is enabled for the systems
- SSH access is restricted to the ARC VLAN with users access managed through the UBC ELDAP service.
- root access is restricted. It is only initially provided to the arcansible setup user.
- sudo access is granted manually by the **ARC Systems Team** only to the roles responsible for managing the REDCap platform.

All maintenance and updates must be done in accordance with the [ARCS-13: ARC REDCap Maintenance](#) standard.

2.3 Application Servers

All application servers include PHP 7.2 and Apache 2.4 in addition to the baseline. The associated REDCap software installed depends on the instance. Only modules outlined below may be included in the associated instance. No other customizations or additions to the software are permitted.

REDCap Flex: Implements REDCap Standard release. The following REDCap Modules are installed in addition to the base release:

1. Session Tracker
2. Shibboleth Esignature
3. Unban IP

REDCap Solid: Implements REDCap Long Term Support (LTS) The following REDCap modules are installed in addition to the base release:

1. Session Tracker
2. Shibboleth Esignature
3. Unban IP

2.4 Database Servers

All database servers employ MariaDB 10.3 in addition to the baseline.

2.5 Development Server

The development server combines the application and database servers within a single virtual machine to be used as the initial test bed for maintenance as described in the [ARCS-13: REDCap Maintenance](#) standard.

3. Responsibility

3.1 ARC Platforms Team

Is responsible for the configuration and support of the REDCap applications.

3.2 ARC Systems Team

Is responsible for the configuration, operation, and maintenance of the servers and underlying platform.

3.3 ARC Sensitive Research Team

Is responsible for providing technical advice and documentation for the security and privacy of the platform.

4. References

ARCG-01: ARC Glossary of Terms

ARCG-02: ARC Glossary of Standards

Effective Date:	28-AUG-2019		
First Released:	28-AUG-2019		
Last Revised:	27-AUG-2019		
Last Reviewed:	28-AUG-2019		
Approved By:	ARC Management Team		
	28-AUG-2019		