ARCS-21: System Maintenance

Version 1.3.0

THE UNIVERSITY OF BRITISH COLUMBIA

System Maintenance

1. Introduction

1.1 Purpose

This standard defines the maintenance and upgrade requirements and procedures for UBC Advanced Research Computing (ARC) systems.

1.2 Scope

This Standard applies to all systems that are managed by ARC. This includes those systems listed in *Appendix A: ARC Managed Platforms*.

1.3 Governing Policy

UBC Policy SC14 Acceptable Use and Security of UBC Electronic Information and Systems and associated information security standards. For more information, please refer to: https://cio.ubc.ca/information-security/policy-and-standards/information-security-policy-standards-and-resources

2. Maintenance

2.1 Maintenance Windows

Maintenance windows are established to:

- Ensure security and reliability of the system.
- Minimize unplanned maintenance.
- Reduce length of unplanned maintenance time due to emergency outage.
- Allow **Users** to plan activities around regularly scheduled maintenance windows.

Standard (regularly scheduled) maintenance windows will be communicated to **Users** so they are aware of any system downtime and can plan accordingly. Urgent or emergency maintenance must be communicated as early as possible to identify a disruption of service.

Maintenance windows must be communicated by as many of the following means as possible:

a. email
b. landing page/Message Of The Day (MOTD)
c. web/home-page banner

Unplanned maintenance will be communicated to **Users** with as much notice prior to the maintenance period as possible.

2.1.1 Standard Maintenance

To facilitate required upgrades and patches, systems must have a regular defined pre-set maintenance window (see *Appendix A: ARC Managed Platforms*). **Users** must be notified in advance if the window will be required and its estimated duration. Regular upgrades and patches must only be performed during this window.

2.1.2 Urgent Maintenance

An urgent patch may be required to address a defect in the software, platform, or operating system; or a critical security patch. When an urgent patch is required, it may be necessary to perform maintenance to the

system outside the standard maintenance window. **Users** must be given as much notice as possible in such cases.

2.2 Security Patches

Application software, system software, or other upgrades may be conducted during the regular maintenance windows in cases where non-critical security patches or significant bug fixes are required outside the upgrade schedule.

2.3 Software Upgrades

Application software updates must be applied based on the system as specified in *Appendix A: ARC Managed Platforms*. Required updates and patches must be implemented according to the timelines set out by UBC policy SC 14 (see *UBC Standard #14 - Vulnerability Management*)

2.4 System Upgrades

The underlying infrastructure, including operating system and server software must be maintained independently of software deployment.

2.5 Verification Procedures

Verification of successful maintenance processes involves the completion and documentation following a deployment checklist.

2.6 Change Management

A change management process must be implemented and maintained to track for changes to systems; substantial modifications may trigger a new risk assessment.

3. Procedures

3.1 Deployment Procedure

All maintenance procedures involving software deployment must be completed following a documented deployment checklist.

3.2 Communications

Communicating standard and urgent maintenance to **Users** must be conducted following this standard and as described in *Appendix A: ARC Managed Platforms*.

4. Responsible, Accountable, and Consulted

Task	R	A	C
Identifying and prioritizing required security patches and mitigations.	**SRT**	**SRT**	**ARC Service Owner**
The maintenance of the underlying Infrastructure of the systems (OS, networking, virtual machines, etc). Including Security patches.	**RST**	**RST**	**ARC Service Owner**
The accurate documentation of the maintenance procedure in accordance with the deployment checklist	**ARC Service Owner**	**ARC Service Owner**	**SRT** **RST**
The maintenance of the service. Including but not limited to: Performing software configuration.	**ARC Service Owner**	**ARC Service Owner**	**SRT** **RST**
The maintenance of the platform software (everything beyond the OS). Including Security patches.	**ARC Service Owner**	**ARC Service Owner**	**SRT** **RST**
Communication to Users following the notification requirements specified in this standard.	**ARC Service Owner**	**ARC Service Owner**	

5. References

ARCG-01 Glossary of Terms
ARCG-02 Glossary of Standards

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Appendix A: ARC Managed Platforms

The following platforms are managed by ARC and their associated maintenance requirements are specified below.

1. UBC ARC REDCap

1.1 Scope

This includes the associated **UBC ARC REDCap Flex** and **UBC ARC REDCap Solid** production, pre-production, and development; application and database instances.

1.2 Service Owner

The UBC ARC Redcap service is owned by the Manager of the **ARC Platforms Team**

1.3 Maintenance Window

The fourth (4th) Tuesday of every month starting at 0800h Pacific Time.

1.4 Software Updates

1.4.1 Standard (Flex)

This instance will deploy the REDCap Standard package and will be upgraded a minimum of two (2) times per annum to the latest stable release selected by ARC and provided by the REDCap Project.

1.4.2 Long-term Support (Solid)

This instance will deploy the current REDCap Long Term Support package selected by ARC, at least once every year.

2. UBC ARC Sockeye

2.1 Scope

This includes the HPC platform and associated storage identified as **UBC ARC Sockeye**.

2.2 Service Owner

The **UBC ARC Sockeye** service is owned by the Manager of the **ARC Research Systems Team**

2.3 Maintenance Window

The third (3rd) Tuesday of every month starting 0900h Pacific Time.

2.4 Software Updates

User software available on the **UBC ARC Sockeye** platform is updated frequently and outside any specific maintenance window. In addition, multiple versions of software are available to facilitate researcher needs. Users may selectively install their own software which is their responsibility to maintain.

3. UBC ARC Chinook

3.1 Scope

This includes the object storage platform and identified as **UBC ARC Chinook**.

3.2 Service Owner

The **UBC ARC Chinook** service is owned the Manager of the **ARC Research Systems Team**

3.3 Maintenance Window

The third (3rd) Tuesday of every month starting 0900h Pacific Time.

3.4 Software Updates

As a storage platform, the only software **Users** interact with is related to the Globus file transfer platform. Maintenance and patching of the components of this platform managed by ARC must only be conducted based on this standard. The maintenance of any components of the Globus software managed directly by Globus occur based on their schedule and policies which are out of scope for this standard.