National Archives Catalog System

Business Impact Analysis (BIA)

NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

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DOCUMENT CHANGE PAGE

Modifications made to this Business Impact Analysis (BIA) for National Archives Catalog are as follows:

Document Version	Description of contents / revision	Editor	Change Date
1.0	BIA for National Archives Catalog (NAC)	ISSO	12/12/2016
2.0	Update of NAC BIA with new template	ISSO – John Nelson	3/20/2019
3.0	FY 2020 System Owner/ISSO Document Review and Validation • MTD, RTO update • Resource Requirements update	ISSO – John Nelson	2/25/2020

Table of Contents

1.   Overview

This Business Impact Analysis (BIA) is developed as part of the contingency planning process for the National Archives Catalog (NAC). It was created on December 12, 2016 and updated on February 25, 2020.

1.1 Purpose

The purpose of the BIA is to identify and prioritize system components by correlating them to the mission/business process(es) the system supports, and using this information to characterize the impact on the process(es) if the system were unavailable.

The BIA is composed of the following three steps:

- **Determine mission/business processes and recovery criticality.** Mission/business processes supported by the system are identified and the impact of a system disruption to those processes is determined along with outage impacts and estimated downtime. The downtime should reflect the maximum that an organization can tolerate while still maintaining the mission.
- **Identify resource requirements.** Realistic recovery efforts require a thorough evaluation of the resources required to resume mission/business processes and related interdependencies as quickly as possible. Examples of resources that should be identified include facilities, personnel, equipment, software, data files, system components, and vital records.
- **Identify recovery priorities for system resources.** Based upon the results from the previous activities, system resources can more clearly be linked to critical mission/business processes. Priority levels can be established for sequencing recovery activities and resources.

This document is used to build the NAC Information System Contingency Plan (ISCP) and is included as a key component of the ISCP. It also may be used to support the development of other contingency plans associated with the system, including, but not limited to, the Disaster Recovery Plan (DRP) or Cyber Incident Response Plan.

2.   System Description

The National Archives Catalog system was created by NARA to serve as the primary method for search, access, and distribution of publicly available, digital NARA content. At a high level, NAC will:

- Hold a copy of publicly available NARA digital content
- Provide methods for downloading this content by the public
- Will maintain and make available renditions (for example, images at different resolutions) of the content designed to make the content more useful for the public
- Will provide methods to search this content and associated metadata so that users can easily find the content they wish to access. This will include:
    - Maintaining a search engine index over the content
    - Providing a search user interface to the content
- Will provide APIs and other methods for end-users to access the content programmatically.

3.   BIA Data Collection

Data was collected through analysis of existing documentation, research, email communication, and interviews with NAC stakeholders.

3.1   Determine Process and System Criticality

Step one of the BIA process - Working with input from users, managers, mission/business process owners, and other internal or external points of contact (POC), identify the specific mission/business processes that depend on or support the information system.

Mission / Business Process	Description
Search, access & distribute publicly available digital NARA content	NAC provides APIs and other methods for end-users to access and received digital content programmatically

3.1.1 Identify Outage Impacts and Estimated Downtime
Outage Impacts

The following impact categories represent important areas for consideration in the event of a disruption or impact.
Impact category: NARA system has a requirement to search, access, or distribute digital NARA content.

Impact values for assessing category impact:

- Severe = Total loss of the ability to search, access, or distribute digital NARA content
- Moderate = Temporary loss of the ability to search, access, or distribute digital NARA content
- Minimal = Minimal loss of the ability to search, access, or distribute digital NARA content

The table below summarizes the impact on each mission/business process if NAC were unavailable, based on the following criteria:

Mission / Business Process	Impact Category - NARA system user has a requirement to search, access, or distribute digital NARA content			
	Severe	**Moderate**	**Minimal**	**Impact**
Search, access and distribute digital NARA content			X	The search, access and distribute functions will be minimally impacted because NAC backups are maintained within the AWS Cloud

Estimated Downtime

Working directly with mission/business process owners, departmental staff, managers, and other stakeholders, estimate the downtime factors for consideration as a result of a disruptive event.

- **Maximum Tolerable Downtime (MTD).** The MTD represents the total amount of time leaders/managers are willing to accept for a mission/business process outage or disruption and includes all impact considerations. Determining MTD is important because it could leave continuity planners with imprecise direction on (1) selection of an appropriate recovery method, and (2) the depth of detail which will be required when developing recovery procedures, including their scope and content.

- **Recovery Time Objective (RTO).** RTO defines the maximum amount of time that a system resource can remain unavailable before there is an unacceptable impact on other system resources, supported

mission/business processes, and the MTD. Determining the information system resource RTO is important for selecting appropriate technologies that are best suited for meeting the MTD.

- **Recovery Point Objective (RPO)**. The RPO represents the point in time, prior to a disruption or system outage, to which mission/business process data must be recovered (given the most recent backup copy of the data) after an outage.

The table below identifies the MTD, RTO, and RPO (as applicable) for the organizational mission/business processes that rely on NAC.

Mission / Business Process	MTD	RTO	RPO
Search, access & distribute publicly available digital NARA content	72 hours	48 hours	24 hours

Hardware and software inventories are located in the Configuration Management Database (CMDB) or the Master Configuration Document (MCD).

NAC backups are stored within the AWS Cloud.

3.2 Identify Resource Requirements

The following table identifies the resources that compose NAC, including hardware, software, and other resources such as data files. The resources identified in the table are limited to the Production environment. The Development (Dev) and User Acceptance Testing (UAT) environments are not included. Based on conversations with the system owner, it was determined that the Dev and UAT environments are not critical to the operation of NAC, as it applies to critical mission/business processes.

System Resource/Component	Platform/OS/Version (as applicable)	Description
AWS jump NAT Production (MGMT)	RHEL 6 (64bit)	Jump/NAT/Proxy
AWS Nessus Production (MGMT)	RHEL 6 (64bit)	Nessus
AWS otw01 Production (MGMT)	RHEL 6 (64bit)	Tripwire
AWS pa01 Production (PROD)	RHEL 6 (64bit)	Application server
AWS pa02 Production (PROD)	RHEL 6 (64bit)	Application server
AWS pa03 Production (PROD)	RHEL 6 (64bit)	Application server
AWS pa04 Production (PROD)	RHEL 6 (64bit)	Application server
AWS pcp01 Production (PROD)	RHEL 6 (64bit)	Ingestion server
AWS pcp02 Production (PROD)	RHEL 6 (64bit)	Ingestion server
AWS pdb01 Production (PROD)	RHEL 6 (64bit)	Database server
AWS pdb02 Production (PROD)	RHEL 6 (64bit)	Database server
AWS pl101 Production (PROD)	RHEL 6 (64bit)	Lambda server

AWS ps01 Production (PROD)	RHEL 6 (64bit)	Search server
AWS ps02 Production (PROD)	RHEL 6 (64bit)	Search server
AWS ps03 Production (PROD)	RHEL 6 (64bit)	Search server
AWS ps04 Production (PROD)	RHEL 6 (64bit)	Search server
AWS ps05 Production (PROD)	RHEL 6 (64bit)	Search server
AWS ps06 Production (PROD)	RHEL 6 (64bit)	Search server
AWS pw01 Production (PROD)	RHEL 6 (64bit)	Web server
AWS pw02 Production (PROD)	RHEL 6 (64bit)	Web server
AWS pw03 Production (PROD)	RHEL 6 (64bit)	Web server
AWS pw04 Production (PROD)	RHEL 6 (64bit)	Reporting Web server

It is assumed that all identified resources support the mission/business processes identified in Section 3.1 unless otherwise stated.

3.3   Identify Recovery Priorities for System Resources

The table below lists the order of recovery for NAC resources. The table also identifies the expected time for recovering the resource following a "worst case" (complete rebuild/repair or replacement) disruption.

- **Priority** – Priority is defined on a scale of 1 – 5, with 1 being the highest priority.

- **Recovery Time Objective (RTO)** - RTO defines the maximum amount of time that a system resource can remain unavailable before there is an unacceptable impact on other system resources, supported mission/business processes, and the MTD. Determining the information system resource RTO is important for selecting appropriate technologies that are best suited for meeting the MTD.

Priority	System Resource/Component	Recovery Time Objective
1	AWS jump NAT Production (MGMT)	48 hours
1	AWS pw01 Production (PROD)	48 hours
1	AWS pw02 Production (PROD)	48 hours
1	AWS pw03 Production (PROD)	48 hours
1	AWS pw04 Production (PROD)	48 hours
2	AWS ps01 Production (PROD)	48 hours
2	AWS ps02 Production (PROD)	48 hours
2	AWS ps03 Production (PROD)	48 hours
2	AWS ps04 Production (PROD)	48 hours
2	AWS ps05 Production (PROD)	48 hours
2	AWS ps06 Production (PROD)	48 hours
3	AWS pa01 Production (PROD)	48 hours
3	AWS pa02 Production (PROD)	48 hours

| Priority	System Resource/Component	Recovery Time Objective
3	AWS pa03 Production (PROD)	48 hours
3	AWS pa04 Production (PROD)	48 hours
4	AWS pdb01 Production (PROD)	48 hours
4	AWS pdb02 Production (PROD)	48 hours
4	AWS pl01 Production (PROD)	48 hours
5	AWS pcp01 Production (PROD)	48 hours
5	AWS pcp02 Production (PROD)	48 hours
5	AWS Nessus Production (MGMT)	48 hours
5	AWS otw01 Production (MGMT)	48 hours

4.   BIA Approval

Interview Conducted by:

John M. Nelson
PRINTED NAME

JOHN NELSON
(Affiliate)

Digitally signed by JOHN
NELSON (Affiliate)
Date: 2020.03.04 14:52:25 -05'00'

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Interviewee(s):

Jason Clingerman
PRINTED NAME   SIGNATURE   DATE

Adil Latiwala   3/4/2020
PRINTED NAME   SIGNATURE   DATE
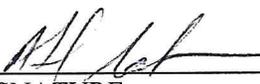
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System Owner:

Jason Clingerman   3/4/2020
PRINTED NAME   SIGNATURE   DATE