CHANGE MANAGEMENT PROCESS

Computing & Telecommunications Services

Wright State University

Change Management Project Team
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Change Log

Date	Section	Description	Changed by
March 20, 2018	Entire Document	Initial version	Jonathan Jackson

Overview

A process is defined as a set of linked activities that transform specified inputs into specified outputs, aimed at accomplishing an agreed-upon goal in a measurable manner.

Description

This is the Change Management process for Computing and Telecommunications Services. A Change is defined as, "the addition, modification or removal of anything that could have an effect on IT services. The scope should include changes to all architectures, processes, tools, metrics, and documentation, as well as changes to IT services and other configuration items". (ITILv3, ST, page 306)

Scope

The scope of this process includes all Changes performed on any CaTS-managed service or configuration item, to include but not limited to all architectures, servers, network/telephony equipment, code bases, processes, tools, metrics, and documentation, as well as changes to IT services and other configuration items.

Definitions

Change Advisory Board (CAB)

A body that exists to support the authorization of changes, and to assist the change management process in the assessment, prioritization, and scheduling of changes.

Emergency Change Advisory Board (ECAB)

A subset of the full CAB that supports the authorization, assessment, and scheduling of emergency changes. Membership may be decided at the time the meeting is called, and may depend on the nature of the emergency change.

Routine Change

A pre-authorized change that is low risk, relatively common, and follows a procedure or work instruction previously approved by the Change Advisory Board (CAB).

Note: ITIL defines this as a "Standard Change", so some verbiage and/or items in ServiceNow may reflect this official definition.

Change Manager

An individual with overall accountability for the Change Management process

Change Coordinator

An individual responsible to oversee the lifecycle of a change, from initial planning and testing through the completion of the change. The Change Coordinator will generally be the individual

identified in the Change Record in the "Assigned To" field. The Change Coordinator is responsible for updating the Change Record as the change progresses.

Normal Change

Any service change that is not a standard change or an emergency change. These types of changes do not have a pre-authorized/pre-approved procedure or work instruction, are not routinely performed, or are not low risk.

Emergency Change

A change that must be implemented as soon as possible, either to resolve a major incident, prevent a major incident, or mitigate a security vulnerability. Emergency Changes require director-level or higher approval to proceed.

Request for Change (RFC)

A formal proposal for a change to be made. It includes details of the proposed change, and is recorded in ServiceNow's Change module.

Change Record

A record, recorded in ServiceNow, that contains the details of the requested change. The change record must include the following:

- Planned start and end date/time
- Reason for the change
- Category of change
- How difficult of remediation/backout efforts in case change goes awry
- Whether the change causes an outage to a system, and that system's level of business criticality
- Whether the change affects the availability of other systems
- How many users are affected by the change
- Description of the change
- Justification for performing the change
- Test plan
- Implementation plan
- Backout/remediation plan

Standard/Routine Change Proposal

A proposal, logged in ServiceNow, containing the procedure or work instruction to be applied to a specific Routine Change. The Standard/Routine Change Proposal will be reviewed by the CAB, and once approved will be added to the Routine Change Catalog. Once added to the Routine Change Catalog, these changes do not need to be further approved prior to implementing, so

long as the change follows the approved proposal, and falls within approved maintenance windows.

Risk Assessment

All change records will include 4 fields to assist the CAB in determining the overall risk of performing the change: Dependencies, Impact, Priority, and Scope; each with 4 choices with a value ranging from 1-4: massive, high/large, medium, and low. The values of each will be added together to achieve a risk score, defined as:

Risk Level	
4-8	High
9-12	Medium
13-16	Low

Dependencies + Impact + Priority + Scope = Risk Level

Value				
	1	**2**	**3**	**4**
Dependencies	Change can not be backed out, or testing/validation must be performed on production services	Complex implementation or validation/testing; or required extended change window, or change exceeds 2.0 hours in length	Moderate implementation or validation/testing.	Change is easily validated or backed out
Impact	Affects all services, servers, and/or networks.	Affects services, servers and/or networks of multiple departments/buildings	Affects services, servers, and/or networks of a single department/building	Services, servers, and/or networks will be usable during the change.
Priority	Service outage for major systems.	Service outage for critical systems.	Service outage of a non-critical system.	No service outage is expected.
Scope	75% or more users will be affected	50-75% of users will be affected	25-50% of users will be affected	Less than 25% of users will be affected
	Higher risk			Lower risk

Deadline for RFC Submission

The deadline for submitting a change request is determined by the risk level. High risk changes require a longer window between submitting the change and planned start date. RFCs may be submitted prior to the deadline, and is encouraged. It is anticipated that some RFCs may not have plans fully developed at the time of submission, especially when submitted many weeks in advance. The CAB will begin reviewing the details of the change, and the change may become a standing agenda item until the change is completed.

The CAB may reject changes that do not have fully developed plans by the 2nd CAB meeting prior to the scheduled change, and reserves the right to retroactively reject/postpone an already-approved change if it is determined that change plans are not well developed, risk assessment changes, or higher priority RFCs cause a conflict.

The Change Manager reserves the right to grant exceptions for RFC deadlines in the event of unplanned university closures (e.g., weather), and can conduct CAB meetings virtually (either live or via electronic messaging) in the event that circumstances beyond anyone's control prevent a CAB meeting from occuring at its regularly scheduled time.

Change Deadline	
Risk Level	**Deadline**
1 - High	4 CAB meetings prior to planned start date.
2 - Moderate	2 CAB meetings prior to the planned start date
3 - Low	1 CAB meetings prior to the planned start date

Change Advisory Board

The CAB will meet weekly on **Wednesday** at **2:00pm**.

Efforts will be made to reschedule the CAB meeting if a university holiday falls on a Wednesday.

Agenda

The agenda of the CAB meeting will be:

- Assess pending RFCs that have not yet been moved to the "Scheduled" state, make approval decisions or determine if, and what, additional information is needed from the Change Coordinator in order to make a decision.
- Review changes in the "Scheduled" state to ensure no modifications to the change plan require re-assessment.
- Review changes completed since the previous CAB meeting to determine if any further action is necessary, and review the Change Management process to determine if any improvements/changes are required.
- Review and make approval decision on any pending Standard Change Templates.

Membership

Standing members of the CAB will be:

- Change Manager/Manager of ITSM
- Chief Information Security Officer
- Director, Client Services
- Director, Information Services
- Director, Technical Services
- Manager, Service Desk
- Change Coordinator for each change being reviewed at the respective meeting

If any standing member is unable to attend s/he shall send a designee from their respective area.

Non-standing members who will be invited as necessary:

- Change Team
- Business Unit Leadership
- Chief Information Officer
- Others deemed necessary by any member of the CAB

Approval Decision

The CAB will approve changes by unanimous decision.

In the event the CAB fails to reach a consensus, the Change Coordinator can either 1) chose to cancel the change, 2) postpone the change, or 3) the Change Manager will forward the RFC to the CIO for final authority.

Periods of Minimal Changes

Recognizing that there are critical times of year where an outage of an IT system can cause significant disruption to the academic, research and/or administrative functions of the university, normal changes will be minimized during the following windows, and will receive increased risk aversion by the CAB.

Start of the Semester

- Begins at 12:01am on the day occuring one (1) week prior to the first day of fall or spring semester.
- Ends at 11:59pm on the day occuring one (1) week after the first day of fall or spring semester.

End of the Semester

- Begins at 12:01am on the day occuring one (1) week prior to the start finals week
- Ends at 11:59pm on the day of the final grade submission deadline, as determined by the Office of the Registrar. As of the initial authoring of this document, that day is the Wednesday following finals week.

Maintenance Windows

All changes should be scheduled during the following maintenance windows. Requests for Change occurring outside of these windows may receive additional scrutiny.
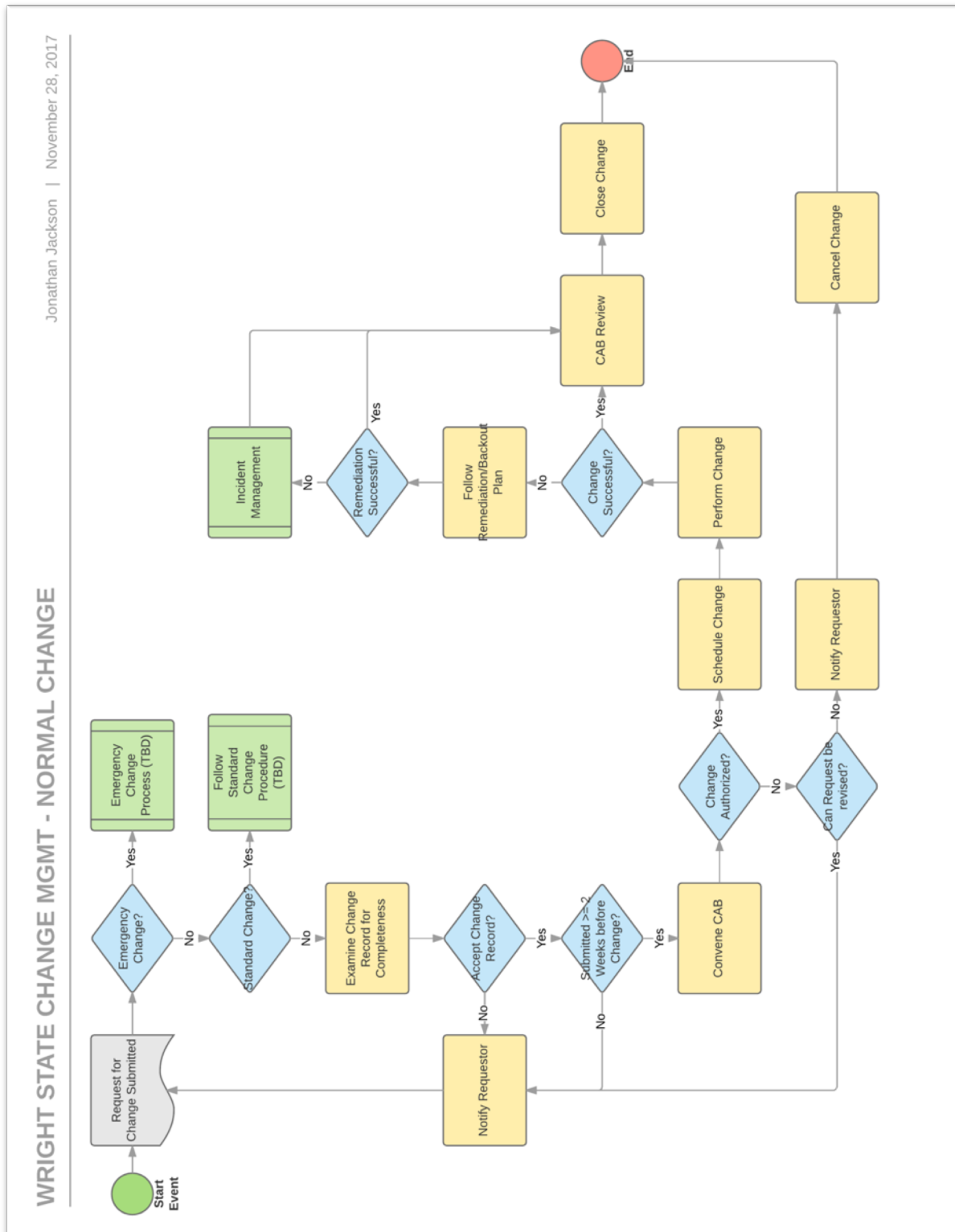
Tuesdays: 5:30am – 7:30am

First Sunday of each month: 6:00am – Noon

Second Sunday of each month: 6:00am - Noon

Roles & Description of Responsibilities

Workflow & Activities

Workflow Diagram for Normal Changes

Workflow Activities & RACI Matrices for Normal Changes

1. Request for Change Submitted

The individual requesting a change will submit a Change Record within ServiceNow. This is likely an individual that will be involved in the full life of the change.

The change record will include the following details:

- **Number**: Autofilled, readonly unique identifier
- **Category:** A drop-down selection of basic categorization of the type of component involved in the change (e.g., Hardware, Software, Documentation, etc)
- **Configuration Item:** The configuration item affected by the change (not currently fully populated)
- **Planned start date:** The planned start date and time of the change
- **Planned end date:** The planned date and time that the change is expected to be complete
- **State:** Pre-defined workflow states of the change (e.g., New, Assess, Authorize, Scheduled, Implement, Review, Closed, Cancelled)
- **Assignment group:** Organizational group of the individual responsible for overseeing the change
- **Assigned to:** The individual responsible for overseeing the change (Change Coordinator)
- **Short Description:** A brief description of the change
- **Description:** A longer description of the need for change, services and users impacted, etc. This should include as much detail as possible in order for the CAB to properly assess the change.
- **Reason:** Drop-down selection of the reason for implementing the change (e.g., problem resolution, user request, hardware/software upgrade, regulation/legislation, etc)
- **Scope:** An estimation the number of users affected by the change.
- **Impact:** An estimation of how the change will affect other systems.
- **Priority:** An estimation of the likelihood the change will cause a system outage, and the level of business criticality of that system.
- **Dependencies:** An estimation of the effort required to remediate/backout the change if it fails.
- **Justification:** A description of the reason that the change needs to be performed.
- **Test Plan:** A description of the test plan to ensure the change will be successful. Enough detail should be provided so that the CAB can properly assess the change. High-level detail is sufficient, there is no need for low-level specific procedural steps to be included.
- **Implementation Plan:** A description of how the change will be implemented into the production environment. Enough detail should be provided so that the CAB can properly

assess the change. High-level detail is sufficient, there is no need for low-level specific procedural steps to be included.

- **Backout plan:** A description of the plan to backout/remediate the change if unsuccessful, including milestones and decision points where the decision to implement the backout plan need to be made.

Number	CHG0030181		State	Closed
Category	Telecom		Type	Normal
Configuration item	General IT Service		Assignment group	Telecommunications
Planned start date	2018-02-06 06:00:00 AM		Assigned to	Matt Hemker
Planned end date	2018-02-06 08:00:00 AM			
Reason	Other			
Dependencies	Low		Priority	Low
	Easily validated and backed-out			No service outage
Impact	Medium		Scope	Large
	Affects single service, system and/or network			Affects 50-75% of users
Risk	Low			

Short Description	Upgrade campus voicemail system
Description	Telecom to upgrade from legacy NuPoint Centigram voicemail system to NEC UM8700. Communication draft: https://raidermailwright-my.sharepoint.com/personal/jonathan_jackson_wright_edu/_layouts/15/guestaccess.aspx?guestaccesstoken=BBUlC1RoVK2MWtsHSAGVYu5n9czYSz47bwc4fDecCEM%3D&docid=2_03da4d55cc14649ceaac38ad4def17340&rev=1&e=GEggPn
Justification	- Lower costs to Telecom dept. - Consolidation of services/vendors by moving from a NuPoint system to an NEC system
Test plan	Both the current and new system are running in tandem right now, with a pilot extension(x7222) setup for testing. CaTS is piloting the new system on volunteer basis.
Implementation plan	- Have users set up their voicemail boxes prior to cutover, and continue to use the Centigram system - On cutover: - remove serial MCI connection and plug directly into PBX via IP - redirect UM8700 to PBX IP address - System extensions will flip: x7222 will call the Centigram system, x1010 will call the NEC system - Any phones that are forwarded to x7222 on morning of cutover, will be re-forwarded to x1010 automatically (CaTS volunteer testers)
Backout plan	If cutover fails, the serial MCI connection to the PBX will need to be reinstalled and system extensions be flipped back to prior production status(Centigram x1010, UM8700 x7222).

A RACI Matrix defines who is **R**esponsible, **A**ccountable, **C**onsulted and **I**nformed for a given activity.

Name	Duties	Type
Change Manager	The change manager has overall accountability for the change management process.	A/C/I
Change Coordinator	Responsible for the overall lifecycle of the change	R/C/I
Change Requestor	Accurately completing the Request for Change	R

2. Examine Change Record for Completeness

The change manager will review the change to ensure the fields are adequately completed to the point that s/he feels the CAB will have enough information to properly assess the change.

If the change record is incomplete, or the change manager feels more detail is required, the User will be responsible for updating the change record with more information.

RACI Matrix

Name	Duties	Type
Change Manager	Review the change for completeness.	A/R
Change Coordinator	Will be called upon by the Change Manager if more detail is necessary	C/I
Change Requestor	Will be required to update the change record if more information is needed	C/I

3. Convene CAB

The Change Manager will schedule the RFC into a future CAB meeting, and will update the field "CAB date" on the change record. The selected meeting will be determined at the Change Manager's discretion based on existing agenda items, the proximity of the change's planned start date, and the scope/impact of the change.

Name	Duties	Type
Change Manager	Schedule the RFC into a future CAB meeting	A/R
Change Coordinator	May be called upon to provide a recommendation as to how soon the change needs reviewed by the CAB. Also responsible to make sure that all items in	R/C/I

	the change record are complete and accurately reflect the lifecycle of the change. It is also expected that the Change Coordinator has already discussed user communication with the IT Training & Communications team; and also has done their due diligence to ensure technical teams in other areas are either unaffected, or already aware of downtime/outages as a result of the change.	
CAB	The CAB schedule may be reviewed to determine the appropriate date the schedule the change assessment. Members of the CAB will be informed as to which changes are on the upcoming agenda.	C/I
Change Requestor	Informed that the Change Record has been accepted as complete and that the CAB date has been set.	I

4. Schedule Change

Once the CAB approves the change, the state of the change record will change to "Scheduled".

RACI Matrix

Name	Duties	Type
Change Manager	The change manager is responsible for updating the change record to reflect the CAB's decision	A/R/C
Change Coordinator	The Change Coordinator will be invited to the CAB meeting in order to provide any information required of the CAB. They will also be informed of the CAB decision.	C/I
CAB	The CAB will determine whether the change is approved or needs further review.	R
Change Requestor	The submitting user will be informed of the CAB decision, and may be in attendance at the CAB meeting to answer any questions from the CAB	C/I

5. Perform Change

At the approved time, the applicable technical team will perform the change under the direction of the Change Coordinator. The Change Coordinator is responsible to ensure the

change follows the approved implementation plan, and ensures the change record is updated accordingly to indicate that the change has moved into the "Implementation" state. Further the Change Coordinator is responsible to ensure applicable notes from the change are recorded in the Change record. Once the change is complete, the Change Coordinator will move the status of the Change Record to Review.

RACI Matrix

Name	Duties	Type
Change Manager	The change manager has overall accountability for the change management process.	A/C/I
Change Coordinator	Ensure the Change Record is updated accurately and within a timely manner	R/C
CAB	Once the change is complete, the CAB will be informed of its status.	I
Change Requestor	The submitting user will be informed when the Change is complete	I
Change Team	Perform the technical aspects of the change, and keep the Change Coordinator updated as to the Change's status	R

5.1 Follow Remediation/Backout Plan

In the event the change is not successful, it may be required to follow the remediation/backout plan described in the Change Record. It is the responsibility of the Change Coordinator to make this determination in consultation with the Change Team, and possibly with CaTS Management, the Change Manager, and/or the Incident Manager. Once the decision is made to follow the remediation/backout plan, the Change Team will perform the actions necessary to remediate/backout the change. In the event that there is an outage or degradation of the affected service(s), beyond what was published/communicated to users, the Change Coordinator is responsible for ensuring that an Incident is raised through the Incident Management process. The Change Coordinator will then change the status of the Change Record to "Review" for review by the CAB. The change will not be reattempted until reviewed and rescheduled by the CAB, or if necessary, an Emergency Change is requested.

RACI Matrix

Name	Duties	Type
Change Manager	The change manager has overall accountability for the change management process. S/he may consult with the Change Coordinator during the course of remediation/backout, and in the even an	A/C/I

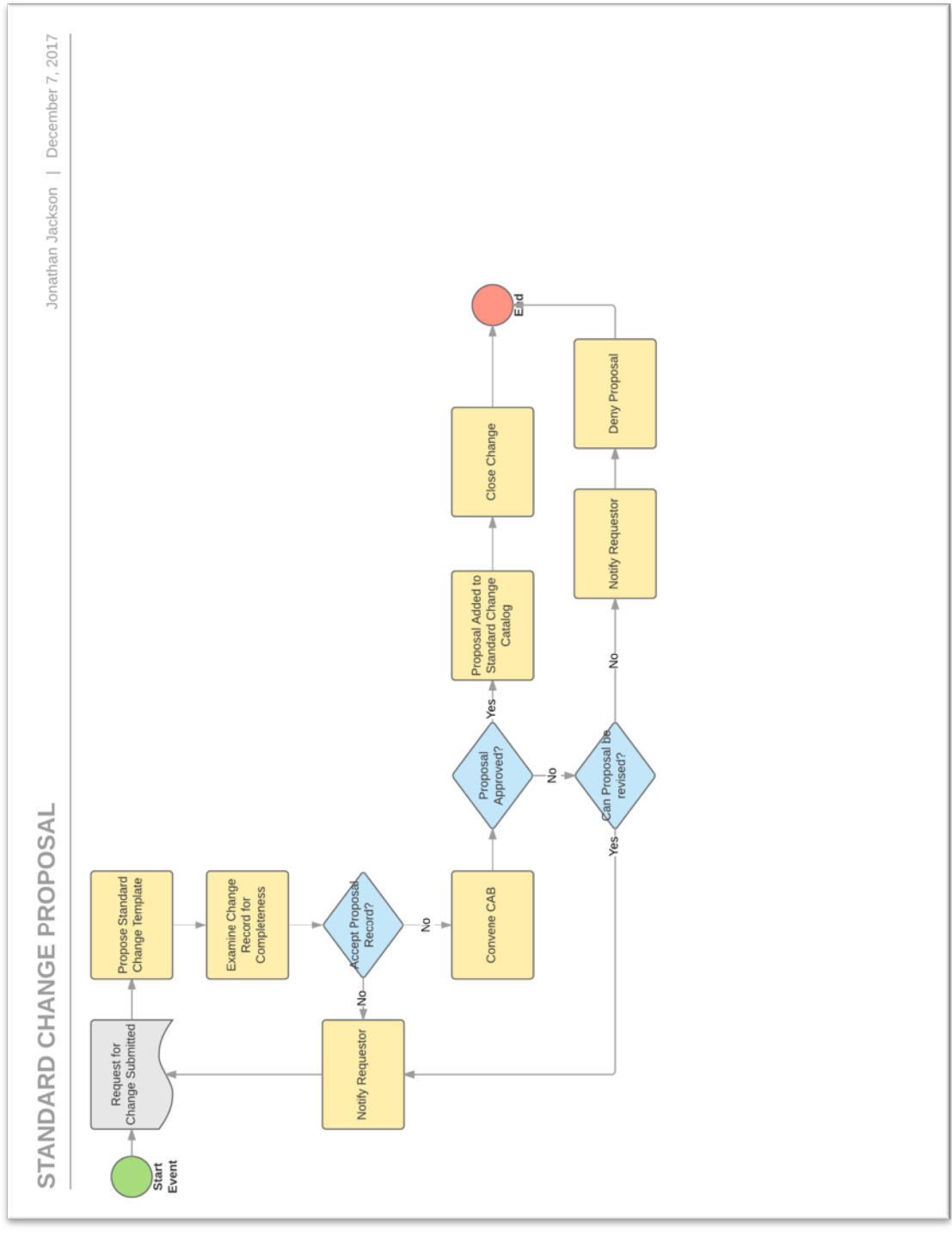|	Incident needs raised.	
Change Coordinator	Ensure the Change Record is updated accurately and within a timely manner, coordinate the remdiation/backout plan, consult with the Change Manager, Incident Manager, and/or CaTS Management to determine an appropriate course of action.	R/C
CAB	Once the change is complete, the CAB will be informed of its status.	I
Change Requestor	The submitting user will be informed when the Change is complete, whether successful or not.	I
Change Team	Perform the technical aspects of the remediation/backout, consult with the Change Coordinator to determine the appropriate course of action.	R

6 CAB Review

The week following the completion of a change, the CAB will review the change to discuss whether the change was successful, share lessons learned, and discuss any necessary changes to the change management process. Once reviewed, the Change Manager will close the change record.

RACI Matrix

Name	Duties	Type
Change Manager	The change manager has overall accountability for the change management process. S/he will update the CAB agenda accordingly, will run the CAB meeting, and update the change record accordingly	A/R
Change Coordinator	Attend the CAB meeting to discuss the outcome of the change	C
CAB	Attend the CAB meeting to discuss the outcome of the change	C
Change Requestor	Will be informed when the change has been completed.	I
Change Team	Attend the CAB meeting if necessary, and the discretion of either the Change Manager or Change Coordinator.	C

Workflow Diagram for Standard Change Proposal

STANDARD CHANGE PROPOSAL

Jonathan Jackson | December 7, 2017

Start Event

Request for Change Submitted

Propose Standard Change Template

Examine Change Record for Completeness

Accept Proposal Record?

Notify Requestor

Convene CAB

Proposal Approved?

Proposal Added to Standard Change Catalog

Close Change

Can Proposal be revised?

Notify Requestor

Deny Proposal

End

RACI Matrix

A RACI Matrix defines who is **R**esponsible, **A**ccountable, **C**onsulted and **I**nformed for a given activity.

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Change Manager	The change manager has overall accountability for the change management process.	A/C/I
Change Coordinator	Responsible for the overall lifecycle of the change	R/C/I
Change Requestor	Accurately completing the Request for Change	R

1. Examine Change Record for Completeness

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RACI Matrix

Name	Duties	Type
Change Manager	Review the proposal for completeness.	A/R
Change Coordinator	Will be called upon by the Change Manager if more detail is necessary	C/I
Change Requestor	Will be required to update the change record if more information is needed	C/I

2. Convene CAB

The Change Manager will schedule the Proposal into a future CAB meeting, and will update the field "CAB date" on the change record. The selected meeting will be determined at the Change Manager's discretion based on existing agenda items, the proximity of the change's planned start date, and the scope/impact of the change.

Name	Duties	Type
Change Manager	Schedule the RFC into a future CAB meeting	A/R
Change Coordinator	Responsible to make sure that all items in the change proposal are complete and accurately reflect the lifecycle of the change.	R/C/I
CAB	The CAB schedule may be reviewed to	R/C/I

	determine the appropriate date the schedule the change assessment. Members of the CAB will be informed as to which changes are on the upcoming agenda. The CAB will approve/deny the submitted Change Proposal.	
Change Requestor	Informed that the Change Proposal has been accepted as complete and that the CAB date has been set.	I

Workflow Diagram for Standard Change
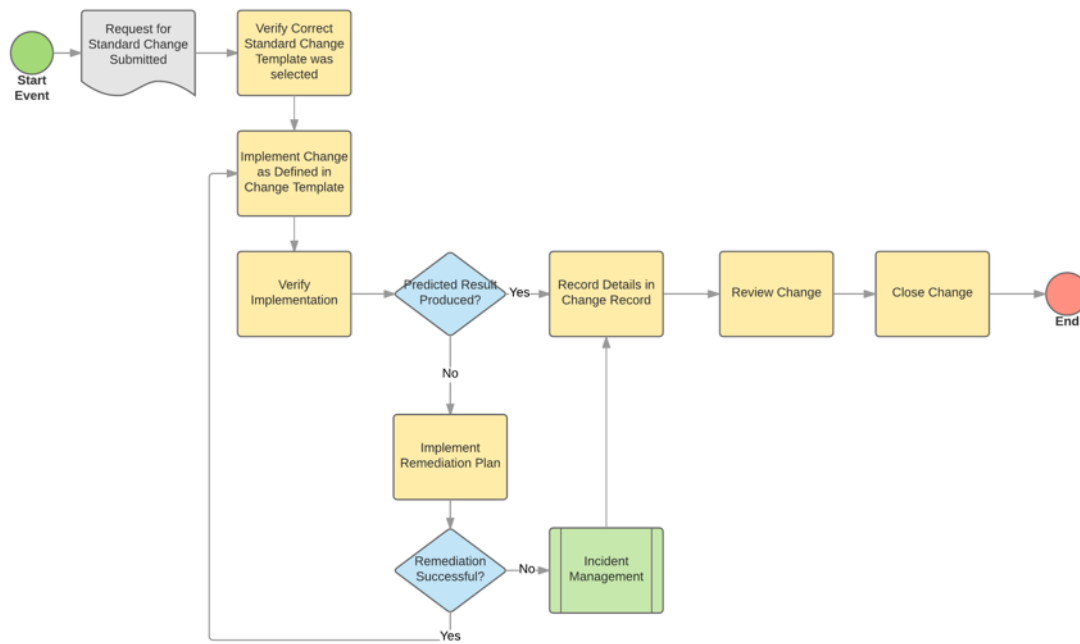
Critical Success Factors and Key Performance Indicators

Number	CSF	KPI	Source(s)	Interval
1	Reduce adverse impact of Changes on the university			
1.1		Percentage of Major Incidents caused by Changes	ServiceNow	Monthly
1.2		Percentage of Incidents caused by Changes	ServiceNow	Monthly
2	Changes implemented in a timely manner			
2.1		Amount of time for which a change is planned compared to actual time	ServiceNow	Monthly
2.2		Average time to complete a change	ServiceNow	Monthly