Change Management Process

June 1, 2011
Version 2.7

Contents

Document Control

Summary of Changes

Version	Version Date	Nature of Change	Edited By
1.0	2010, December 23	Initial Document	Eva Basner-Katz
1.1	2010, December 23	Update Document	Eva Basner-Katz
2.0	2011, March 11	Update documentation	Pablo Sevilla
2.1	2011, March 14	Removed scope and assumptions; Updated change workflow graphic	Pablo Sevilla
2.2	2011, April 6	Removed Dynamic Change category; added process for window extensions; other minor revisions	Eva Basner-Katz
2.3	2011, April 7	Added NUIT wiki URL and other formatting changes	Pablo Sevilla
2.4	2011, May 4	Changed 'Change Advisory Board' to Change Approval Board (CAB) to better reflect purpose of CAB; minor editorial modifications and clarifications	Eva Basner-Katz
2.5	2011, May 4	Updated Change Management Flow graphic and formatting	Pablo Sevilla
2.6	2011, May 12	Updated section 2.0 to remove Technical Review line and to incorporate description in first paragraph of that section Replaced Eva for Michael as "Other Document Owner" Removed mention to University on composition of CAB Removed "Platform" from glossary, and made clarification to cutoff time	Pablo Sevilla
2.7	2011, May 17	Adding minor changes from Governance Team review	Eva Basner-Katz

Document Change-Approvers

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Document Owner	Aaron Mansfield	aaron@northwestern.edu
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Document Approvals

The document owner is responsible for the accuracy and integrity of this document.
Document changes are made through the change management process. To initiate a change to this document, e-mail the document owner.

Proposed changes will be reviewed by the document change-approvers listed above.

After approval from those listed above, the updated document will be presented to the Change Approval Board for final approval.

Document Review Plans

This document is reviewed and updated as defined below:

- As required to correct or enhance information content
- Following an annual review

How to Find the Latest Version of this Document

The latest and official version of this document may be obtained on the NUIT wiki at
http://wiki.it.northwestern.edu/wiki/images/1/1b/Change_Management_Process.pdf

Printed copies are for reference only and are not controlled. It is the responsibility of users of this document to ensure that they are using the most recent version.

Overview

Northwestern University Information Technology (NUIT) has decided to implement a change management process that will allow its users to request, manage, approve, and control changes that modify services as defined in the NUIT Service Catalog.

This document is intended to provide a high-level overview of the change management process, and is to be used as reference for all NUIT staff to clearly understand the procedures put in place to manage qualified changes through the University's centralized information technology environment.

Definition of a "Change"

For the purposes of this document, a Change is defined as the addition, modification, or removal of a configuration item (CI), service, or service component, and/or its associated elements.

Description

The purpose of the Change Management implementation at Northwestern University is to ensure that standardized methods and procedures are used for efficient and prompt handling of all changes associated with the University's IT infrastructure and services, in order to minimize the number and impact of any related incidents. Changes in the IT infrastructure may arise reactively in response to problems, or proactively from seeking improved efficiency and effectiveness, as well as to enable or reflect business initiatives, programs, projects, or service improvements.

Change Management can ensure standardized methods, processes, and procedures facilitate efficient and prompt handling of all changes, and maintain the proper balance between the need for change and the potential detrimental impact of changes, thus contributing to maintain service level objectives.

This document defines the process for implementation of changes that affect services provided by NUIT. Each step in the process is important unto itself as well as being a necessary part of the entire process. It provides a vehicle for communications, evaluation, approval, implementation, and measuring effectiveness of all changes.

The Change Management Process begins with the identification, recording, and classification of the change, and continues with its approval, test, and staging for implementation. Once the completed implementation has been measured and reported, the Change Process is complete.

Objectives

The objectives of this project are as follows:

- Provide a structured process for planning, scheduling and implementing changes
    - o Measured by number of changes
        - Performed within the scope of the approval process
        - Implemented within their designated windows
        - Implemented successfully
- Minimize downtime
    - o Measured by downtime resulting from unapproved, unscheduled or unsuccessful changes

Key Terms & Definitions

Term	Definition
Action Items	The purpose of the Action Items is to provide detailed change implementation steps. Action Items are not a replacement for project plans, design reviews, or other planning activities. Action Items should be utilized to indicate the activities group(s) or individual(s) that are responsible for completing the requested change. They also provide a historical record for future reference and lessoned learned.
Approver	A member of the Approval Groups for the platform or service being changed or affected. Responsible for assuring the total quality of all requests including all documentation requirements. Has the authority to approve or reject changes.
Approver Group	Group of individuals authorized and responsible for the review and approval of Change Requests.
Back Out Plan	A contingency plan of step-by-step instructions with defined success criteria (with sufficient detail to allow an individual with similar skills to execute the plan and is understood by all approvers) to minimize any disruption of service if a change implementation does not go as planned.
Change Approval Board (CAB)	A team whose goal is to provide cross-functional visibility to all standard change requests (SCRs), to assist the change management team in the assessment and prioritization of SCRs, and to ultimately approve or deny SCRs.
Change Manager(s)	Person or persons assigned to review changes for completeness prior to review by the CAB.
Change Management	The process used to ensure that any modifications to the NUIT environment are performed in a controlled and approved manner.
Configuration Item (CI)	Configuration Item or CI refers to the fundamental structural unit of a configuration management system. Examples of CIs include documents, hardware, software, models, plans, and people.
Emergency Change Approval Board (E-CAB)	A subset of the CAB that will review and approve emergency requests for change (RFC)
Emergency Change (i.e., Break/Fix)	A change required to immediately restore service or to avoid an outage where no other workaround is available. Authorization for Emergency changes generally takes place outside the Change Management Procedure (e.g. the Incident Management Process). Upon approval, a Change Request must be entered after change implementation for tracking and documentation purposes.
Filtered Changes	A pre-defined subset of changes that have been identified as having no impact or outside the scope of the Change Management process. They require the submission of a Request for Change for tracking and recordkeeping purposes.
Implementation	The enactment of a change to a platform service or facility.

Term	Definition
Implementation Plan	A step-by-step set of instructions detailing information on how the proposed change will be implemented and tested. Level of detail must be sufficient for a person with similar skill to execute the implementation successfully and be understood by all reviewers/approvers.
Implementer	The person/assignee or group of individuals who perform implementation of a change activity. If the Implementer does not have Change Management system access, it is the responsibility of change owner to close the Change Request with success/failure detail.
Lead Time	The required amount of time between when a Change Request is submitted and the change start date/time.
Post Implementation Review (PIR)	Review of changes from the prior change period. Should include noting any problems/resolutions with changes performed during that period.
Request for Change (RFC)	Tickets submitted to request a change to systems, infrastructure, hardware, software, or services defined in the NUIT service catalog. Also known as a Change Request.
Requester/ Owner	The person responsible for documenting, planning, coordinating, implementing (or assigning an implementer) and closing a Request for Change This person inputs the Change Request into toolset.
Risk Assessment Matrix	A matrix of the level of risk for each aspect of a change – scope, impact, complexity, severity, users and location.
Service Manager	A tool implemented at Northwestern to facilitate service management. The current implementation is a repository for all service desk interactions, incidents (both from callers and alerts), service desk knowledge, and (Tentative) on-call support contacts.
Standard Change Request (SCR)	A document that describes the requested change and why it is important. This can originate from problem reports, system enhancements, other projects, changes in underlying systems, and senior management.
Technical Change Approver	The person responsible for the change process for a NUIT department or group, typically a Technical Manager within the requester's organization. The person will: Ensure their changes are properly represented at CAB meetings Be an approver on all changes submitted by their department or group prior to the submittal to the CAB. Appointed by the Approver Group and has the responsibility for reviewing all technical aspects of the change including success criteria.

Change Management Process Flow

Change Management includes the following processes:

- Change Logging
- Change Review
- Change Assessment and Planning
- Change Approval
- Coordinate Change Implementation
- Change Evaluation and Closure
- Emergency Change Handling

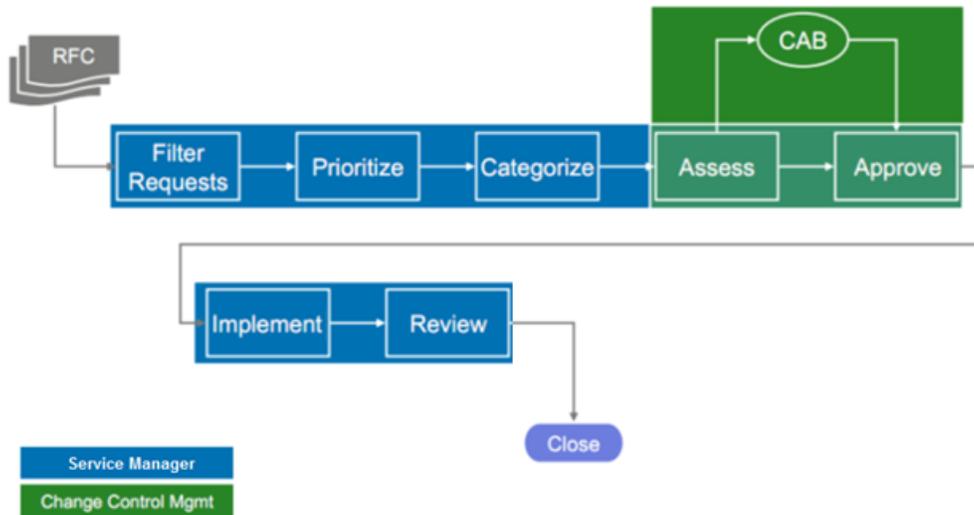The following graphic depicts a simplified Change Management flow:

Figure 1: Change Management Flow

Key Information Items

The business and technical decisions that drive change are assumed to be handled prior to submission of Change Requests by processes external to Change Management. The Change Management Process relies on key components detailed in this section.

Change Approval Board (CAB)

The Change Approval board (CAB) delivers support to the Change Management team by approving requested changes and assisting in the assessment and prioritization of changes. This body is generally made up of IT representatives that include: the Change Manager, User managers and groups, technical experts, and possible third parties (if required).

The CAB members should selectively be chosen to ensure that the requested changes are thoroughly checked and assessed from both a technical and business perspective. The considered change will dictate the required personnel to convene in a CAB meeting. CAB meetings will by held at regularly scheduled intervals, typically weekly.

A CAB offers multiple perspectives necessary to ensure proper decision-making. For example, a decision made solely by IT may fail to recognize the concerns of accounting. The CAB is tasked with reviewing and prioritizing requested changes, monitoring the change process and providing managerial feedback.

A CAB is an integral part of a defined change management process designed to balance the need for change with the need to minimize inherent risks. The CAB is responsible for oversight of all changes in the production environment. As such, it has requests coming in from management, users and IT. The changes may involve hardware, software, configuration settings, patches, etc.

The CAB is comprised of (but not limited to):

- Change Approval Board Chairperson or designate
- Change Control Manager(s) or designate(s)
- Technical Department representative(s)
- Applications representative(s) - if applicable
- Business representative(s) - if applicable

The CAB Chairperson is responsible for preparing the meeting agenda, which includes a list of all Change Requests to be reviewed during the meeting. It is the responsibility of CAB participants to obtain and review the meeting agenda prior to each CAB. Changes may be rejected by the CAB if a change is not represented at the CAB, lacks appropriate approvals, lacks appropriate documentation, or if issues/concerns are raised during the CAB.

Meeting Format:

- Start the meeting on time, regardless of attendance
- Take attendance
- Review the date range to be covered during the meeting
- Perform PIR review of changes from previous week, noting any problems/issues resulting from changes. PIR review should include emergency changes from the previous period
- Review requested changes for the change period
- Identify any major changes beyond meeting date range
- Identify any relevant/required inputs for next meeting

The following criteria should be used to address conflict resolution:

- Change Requester or delegates are responsible for negotiating conflict resolution
- If possible, reach agreement or assign an accountable individual for resolving conflict

Change Requesters are responsible for communicating conflict resolution to appropriate individuals. Leadership (CAB and/or Chairperson) has the final approval. If conflicts cannot be resolved or impact is determined to be too severe, the Change Request may be rejected or rescheduled.

Following the CAB meeting, the Change Manager updates the Change Request as scheduled or rejected for all reviewed changes. The outputs of the CAB meeting are meeting minutes and updated Change Records.

Cutoff Times

CAB will only review Change Requests that have been scheduled for review by the Change Manager. The cutoff time for submission of Change Requests and for updating records with current change status is 12:00 p.m. of the day prior to the CAB meeting. Requests that do not have the required information may be rejected at the CAB.

Emergency Changes

The Emergency Change Approval Board (E-CAB) makes decisions about high-impact Emergency Changes. Emergency Changes are authorized only to repair an IT service error that is severely impacting the business, when a situation has occurred that requires immediate action to either restore service or prevent an outage. Membership of the E-CAB may be decided at the time a meeting is called, and depends on the nature of the Emergency Change. E-CAB's may be held via teleconference for expedited approvals.

The emergency change process differs from a normal change process in:

- Approval is given by the authorized Emergency Change Approvers (See Appendix for roles with authorization) rather than waiting for a regular CAB meeting
- Testing may be reduced or in extreme cases eliminated, if necessary to deliver change immediately
- Updating of the change request and configuration data may be deferred, until normal business hours

Emergency Changes require:

- Technical Change Approver review and approval
- Submission of a Change Request within one business day after the issue has been resolved
- PIR review of the Emergency Change at the next CAB meeting

Change Management Tool

The dynamic nature of change is a persistent issue in IT. Consequently, instituting change management practices to get ahead of issues before they become problems or violate service level agreements is key. Unexpected outages, upgrades and one-off requests are costly, both in real dollars and in service delays. Even worse, the "quick fix" approach may sometimes solve an issue in the short term but at the cost of long-term IT objectives.

The HP Service Manager Change Management module will allow us to respond to these challenges. It will help NUIT institute a proactive, automated and integrated approach to managing change. With Change Management, NUIT can gain control of our IT infrastructure by automating processes that leverage industry best practices, such as IT Infrastructure Library (ITIL) principles. HP Service Manager Change Management has been enhanced to adopt the Service Lifecycle approach now accepted in ITIL® V3. Change Management delivers a practical solution by helping to manage risk, reduce costs, and improve service quality.

Change Management Process

This section outlines the activities that encompass Change Management. Each activity in the Change Management process is described in detail in this section.
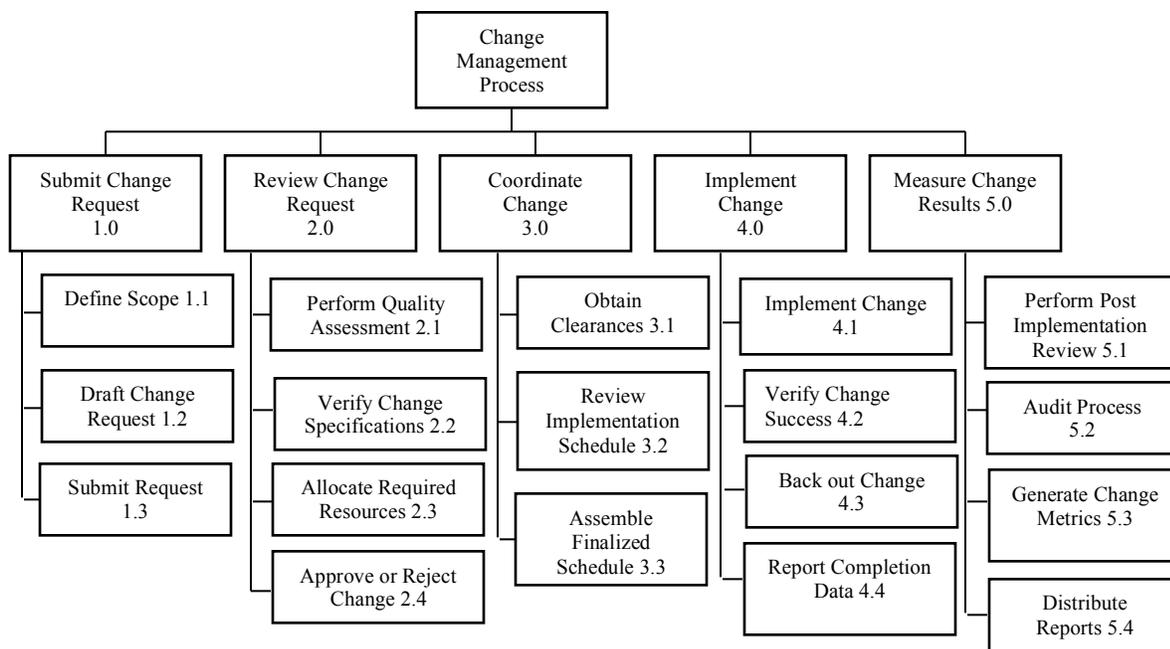

Figure 2: Change Management Hierarchy

Submit/Resubmit Change Request (1.0)

The person or group responsible for the implementation of a change has the responsibility of documenting and submitting the Change Request.

Prior to preparation of a Change Request, all technical aspects of a change should be coordinated between the Requester and the personnel whose responsibility it will be to implement the change. Changes should be tested prior to implementation and information regarding the success/failure of tests included in the Change Request.

Once the Change Request Start Date/Time has passed, if a scheduled change is not to be implemented the change must be cancelled. If the change will be attempted at a later date/time, a new request must be opened with the new implementation date/time and approvals obtained.

Changes staged for automatic implementation at boot, refresh, or cycle of the application must be approved and scheduled prior to staging.

Define Scope (1.1)

Defining the scope of a change includes identifying the platforms impacted, duration of any outage requirements, business units or departments affected and an assessment of risk. This data is used at many decision points within the process.

The complexity of changes must be understood and communicated to change Approvers. Appendix A contains a list of Change Request details that should be considered when drafting a Change Request. Any additional information that is vital to understanding of a change must be included when defining a change.

Draft Change Request (1.2)

Once the scope of a change is defined, the data should be drafted into a Change Request as soon as it is available. Drafting a Change Request as soon as information becomes available allows data to be reviewed at an early stage.

All details pertaining to implementation, testing and backup plans must be documented within the change record itself. Attachments are permissible for supporting documentation only. (i.e., test scripts, project plans, etc.).

In addition to providing details of the change, it is the responsibility of the Requester to identify the level of risk associated with the change. The Risk Assessment in Appendix B must be used to identify risk of all changes.

Change Categories

There are three main designated categories of Change Requests (Normal, Filtered, and Emergency). These categories are based on both the Risk Level Assessment (RLA) and time between submission of a Change Request, and the Start Date of the change. Change Categories are reviewed in PIR and reported in Change Management metrics.

Normal Changes are defined as changes that meet required lead-time, submission cut-off time, and maintenance window (if applicable).   Normal Changes must follow all Change Management Procedure activities, unless they are defined and approved as Filtered Changes.

Filtered Changes are a pre-defined subset of Normal changes that have been identified as having no impact, or outside the scope of the Change Management process. Filtered Changes require the submission of a Filtered Change Request for tracking and recordkeeping purposes but will not have an associated approval process.

Emergency Changes are defined as changes required to immediately restore service or to avoid an outage where no other workaround is available. Upon approval, a Change Request may be entered after change implementation.

Submit Request (1.3)

Changes must be submitted with the appropriate lead-time to ensure that appropriate individuals receive adequate notice of changes. The maximum allowable change window (duration of a change) may not exceed seven (7) calendar days for a single Change Request.

Review Change Request (2.0)

Once a Change Request is submitted it begins a review process. There is a minimum of two levels of review prior to Change Requests being scheduled (approved for implementation. This section describes the activities performed during leading to approval by the Technical Change Approver.

Perform Quality Assessment (2.1)

A Change Request should be evaluated in terms of required corrective action or system enhancement, technical design, risk and impact analysis, and business case. The following are suggested questions to facilitate performing quality assessment:

Who will the change affect?

- Information Technology resources
- Business Units
- Departments
- Schools

What will the change affect?

- Sites/locations
- System availability
- Application availability
- Business cycles
- Processes/practices
- Outage duration

What is impact on?

- Other scheduled changes
- System performance/capacity
- Other resources (manpower, security, etc.)

Verify Change Specifications (2.2)

Each Approver Group must have predetermined individuals (primary and backup) responsible for reviewing all Change Requests that have specified their group as Approvers (either as an Approver or a group to notify). This resource is responsible for reviewing all changes affecting their group that are planned for implementation. The resource will assess the impact on their group and notify all members of his/her workgroup. If the information in the Change Request is sufficient to warrant approval, the group approves the request. If the information is not sufficient, follow the guidelines in the *Review for Issues / Conflict* section below.

In addition to the Information to include in Change Requests in Appendix A, the following should be considered during the evaluation of every change:

- Date/time/duration of the change
- Description of the change
- Risk assessment
- Technical validity of activities
- Justification for change
- Impact to schools/business units and to other scheduled changes
- Teams identified on Approver and Notification lists
- Potential conflicts – Owners of conflicting changes to resolve conflicts/escalate to management
- Detailed Test Plan – including detail of testing success/failure
- Detailed Implementation Plan
- Detailed Back out Plan - – including detail of testing success/failure
- Disaster Recovery impact
- Go/No-Go point (if necessary)
- Security Impact assessment – if security impacted, testing & approval from Security required

Review for Issues / Conflict

If an Approver has concerns or questions about a change and the information provided is not sufficient, the Approver may either request further information be added to the record, request the Change Request be rescheduled, or reject the change. Approvers must document any reason for rejection within the change record.

Allocate Required Resources (2.3)

For any change to be successful, appropriate resources must be allocated to the implementation of that change. The following are examples of resources to consider for all changes:

- Time within a scheduled change window
- Personnel to implement and support the change
- Logical and physical access
- Interfaces with other groups to ensure adequate testing facilities
- Interfaces with Schools and/or Business Units to negotiate and agree on service outages, degradation of service(s) or additional requirements

Approve or Reject Change (2.4)

After review of a Change Request, Approvers may either approve or reject the request. Approvers should contact change Requesters directly as soon as possible to resolve issues. If issues cannot be resolved, the Requester may cancel or re-plan the work involved to address the issues or Approvers may reject the Change Request. It is recommended that Approvers make every attempt to resolve issues or conflicts prior to rejecting a change. Once a change is rejected, it must revert to the beginning of the process for re-approval or be cancelled.

Coordinate Change (3.0)

The CAB is responsible for scheduling all changes (providing the final approval) and refining the final Change Schedule related to all activities being performed. This section defines the process involved in the CAB review of Change Requests.

Obtain Clearances (3.1)

During the CAB review of Change Requests, the CAB ensures that the technical aspects of Activities 2.1, 2.2, and 2.3 have been performed appropriately. If a change involves high risk, the CAB may request that the Change Requester contact the appropriate management for additional authorizations prior to the actual implementation.

Review Implementation Schedule (3.2)

It is the responsibility of Change Manager and the CAB to review each Change Request for completeness, appropriate approvals, and compliance to the Change Management Procedure prior to granting final approval of changes. Change Managers may reject changes with inadequate information or lacking required approvals and add reason(s) for rejection to the Change Request.

Assemble Finalized Schedule (3.3)

Following the CAB meeting, the Change Manager updates the Change Requests based on the determination by the CAB. A final Change Schedule is an output of the CAB meeting.

The final Change Schedule should include:

- Change request #/ID
- Change title/description
- Change requester/implementer name(s) and department(s)
- Planned start and end time
- Device name
- Back out time requirement
- Planned outage start and end time

Implement Changes (4.0)

All changes require appropriate levels of approval **prior** to planned start date and time.

The Implementer, normally the Change Requester, performs the implementation of the change. It is the responsibility of the Implementer to verify system availability prior to implementing the change. If the implementation is not to be performed by the Requester, the Requester designates an assignee, which may be a vendor. In cases where the assignee will not have access to the Change Management tool, it is the responsibility of the Requester to update the Change Request with implementation results.

Implement Change (4.1)

The Implementer should follow the implementation action items detailed in the Change Request. Any deviation from the approved implementation plan, including requirements to extend the approved change window, must be approved by a Technical Manager (who will verify appropriate approvals are obtained prior to providing final approval for deviation).

Verify Change Success (4.2)

The Implementer must determine the success of the change based on execution of the post implementation test plan and success criteria identified in the Change Request. If the change was not completed successfully as planned or is incomplete, the Implementer must determine if the change should be backed out. Technical Managers, Business Managers or anyone negatively impacted by the implementation of a change may request to have a change backed out.

The criteria for a successful change:

- The change was implemented in accordance with the implementation plan
- The change was implemented within the planned implementation timeframe
- The change did not cause unplanned customer impact
- The change met anticipated objectives defined in the Change Request
- The change did not result in a system/application outage due to the execution of the back out plan

Back Out Change (4.3)

If a change fails during implementation, or cannot be completed within the approved implementation period, it must be either backed out within the approved change window or a window extension may be requested.

Back out plans should include:

- A detailed step-by-step procedure for reversing the change
- Timeframe needed to perform the back out
- Back out risk
- A plan to mitigate the severity of any potential negative impact resulting from implementation reversal
- Detailed testing plans

If a change was not completed and backed out, all parties impacted by the unsuccessful completion of the change must be notified. A backed out Change Request must be closed as a failed change and updated to reflect issues requiring the back out. If the change activity will be re-attempted, a new request must be submitted referencing the backed out Change Request.

In addition to reporting the final status of failed changes in the Change Record, Implementers/Requesters of failed changes must review change implementation at the next CAB meeting where a review of failed changes will occur.

Window Extension Request:

Window extensions should only be requested when the implementer believes that the additional time necessary is minimal and that the impact of extending the window is less than that of backing out the change. Window Extensions are granted through the approval of implementers' management chain and others as needed. Window Extension Request approvals can be held via conference call to expedite decision making and approvals. Window Extensions should be noted in the completed Change Request.

Report Completion Data (4.4)

The Implementer is responsible for reporting the final status of the Change Request within 24 hours of implementing the change:

- Actual start and end time
- Change implementation results (see Appendix F)
- If change was not completed successfully, additional detail:
- Failure description
- Incident # (if applicable)

Measure Change Results (5.0)

Measuring change results involves a review of Change Request documentation, final implementation statuses and metrics. This review is used to refine criteria used for authorizing changes, ensure consistent application of the process, and to make refinements to the process itself.

Perform Post Implementation Review (5.1)

Change Managers, CAB Members, and Change Management Process Owners are responsible for reviewing Change Management reports and metrics to monitor and improve the performance and effectiveness of Change Management. This activity is performed during CAB meetings.

It is the responsibility of Change Managers to review Change Management reports to identify problem and out of process change activities as well as changes not implemented as planned. The CAB reviews each of these activities with the Requester / Implementer. It is important to compare the final results of a change against the original objective of the Requester. If a change is unsuccessful, an analysis may be requested to identify problems encountered during implementation and identify opportunities for improvement.

Audit Process (5.2)

The Change Management Procedure should be regularly monitored for effectiveness. If the Procedure needs refining or adjustment, a request to modify the procedure should be submitted through the appropriate CAB Chairperson.

Generate Change Metrics (5.3)

Generating Change Management reports reflecting performance is key to understanding change activity and the success of Change Management. Appendix C contains samples of standard Change Management report data and metrics that should be monitored on a routine basis by the Change Managers and may be distributed to interested parties with the University.

Distribute Reports (5.4)

Change Management reports are available at:

http://wiki.it.northwestern.edu/wiki/index.php/Process_Reports

These reports include Change Management metrics and report activity detail.

Appendix A – Information to Include in Change Requests

This section details information needed when drafting a Change Request.

Who

- Implementer
- Who will be impacted by/during implementation
- Requester name, department, email and contact number
- Support staff requirements
- Escalation contact names, phone number, and beeper number
- Additional appropriate notifications

What

- Change type
- Technology service or facility being changed
- Dependencies and requirements
- Platforms needed exclusively during implementation
- Platforms impacted by/during implementation

Why

- Business and technical justification (i.e., problem resolution, project, benefits gained)

When

- Proposed implementation date/time (window) not to exceed seven (7) days
- Back out time requirements
- Expected service outage window (if applicable)
- How easily can this request be rescheduled (immovability)

Where

- Locations impacted by/during implementation

How

- Detailed implementation plan
- Detailed back out/ plan
- Detailed Action Items

Risk and Impact

- Business and service impact
- Technology/business risk

Acceptance criteria for successful implementation

- Go/No-Go points must be established for the following criteria:
    - If the implementation time requires more than 50% of the change window
    - If the back out requires more than 1/3 of the change window
    - If the back out impacts the entire system (e.g., IPL or server reboot)

Additional Information

- Documentation or records needing revision
- Problem Management record number where relevant
- Security impact detail
- Disaster Recovery impact detail
- Is this change being done to a platform or system which has DR support? If so, will corresponding changes need to be made to those systems?
- Does this result in a hardware or software configuration change?
- Does this result in a capacity change?
- Does this add additional/new business requirements?
- Updated network diagrams
- Customer Notification/Approval

Appendix B – Risk Level Assessment

This section details how the Risk Level Assessment (RLA) is calculated.

Users simply complete the risk assessment section of the Change Request and the toolset will automatically determine if the change has a low, medium or high risk associated with it. The table below contains the Risk Level Assessment weights given to the equation:

Dependencies + Impact + Priority + Users Affected = RLA

Weight				
Type	**1**	**2**	**3**	**4**
Dependencies	Change cannot be backed out –or- Validation is based on usage	Complex implementation and/or validation –or- Requires extended change window –or- Change exceeds 1.5 hours to implement	Moderate implementation and/or validation	Easily validated and backed-out
Impact	Affects All Platforms/Servers –or- Affects all sites	Exclusive use of entire platform or network –or- Affects multiple platforms/networks –or- Affects multiple systems or Business/Departments	Affects single Platform or Server –or- Exclusive use of major component –or- Exclusive use of major sub-system	System usable by users during implementation
Priority	Service outage causing for major systems	Service outage-critical component	Service outage-non critical component	No service outage
Users Affected	75% or more users affected	50% to 75% of users affected	25% to 50% of users affected	Less than 25% of users affected
	High Risk			Low Risk

RLA	Risk
4 – 8	High
9 – 12	Medium
13 – 16	Low

Appendix C – Change Management Metrics

The following are standard Change Management metrics for NUIT:

- Minimum notice for outages (by Scheduling category)
- Sufficient test, implementation, and back out plans for all changes
- Effectiveness of change against original objectives (successful/failed)
- Trend and audit reports
  - Changes by Type
  - Changes by Category
  - Changes by Status
  - Changes by Site

The table below outlines how metrics are calculated in audit reports:

Metric	Calculation
% Closed Successful	# of changes "Closed Successful"/ total number of changes
% Closed Failed	# of changes "Closed Failed"/ total number of changes
% Not Closed	# of changes that are in the following status: ("Submitted," "Reviewed," "Provisional," "Pending," "Resubmitted," and "Scheduled")/ total number of changes
% Rejected	# of changes that are in the following status: ("Rejected")/ total number of changes
% of Cancelled	# of changes that are in ("Cancelled" and "Draft")/ total number of changes
# of Emergency	Total # of Emergency changes
# of Normal	Total # of Normal changes
Total # of Changes	Shows the total number of Change Requests
% of Emergency	# of Emergency changes/total number of changes
% of Normal	# of Normal changes/total number of changes

Appendix D – Other Documentation References

NUIT Service Catalog

http://wiki.it.northwestern.edu/wiki/index.php/Service_Catalog