



**IT CHANGE MANAGEMENT**  
Enterprise Change Management  
Process

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# Section 1. About this Process Document

## 1.1 Intended Audience

The document should be read by anyone working within the UCSF Enterprise Change Management process. It should be used to maintain a standard set of practices so that anyone impacted by the practice (customers and providers) have common expectations.

## 1.2 Assumptions

- Only authorized individuals can perform change management functions, as explicitly outlined in the proceeding change management policy. In the absence of specific requirements thereunder, no undefined action may be taken without prior approval from the Service Transition Process Manager/Change Manager. Furthermore, no authorized or unauthorized individuals may intentionally or unintentionally circumvent the change policy whatsoever, without getting prior approval from the Service Transition Process Manager/Change Manager.

The change management policy is a living document, which is continuously subject to revisions. At times the change management policy might not be in sync with the functional automated control. Therefore management will notify UCSF employees and HCL members of a change management process; addition subtracted or modified in expressed writing via email. Management may reinforce the change in policy during CAB and ECAB meetings, as all change in policy notifications will be fully binding as to if they have been already inserted into the change policy.

- Standard Change Requests are only authorized to be used for the purpose they were approved.
- A single, common Enterprise change management process is adopted and applied by each business (ITS, Medical Center, SOM).
- The change management process assumes a tool-agnostic approach. The process was not designed around the capabilities of any specific tool set, but requires any tool used by UCSF to support the process.
- Appropriateness of the change was vetted before a change request is created. Any change that is submitted in the change management system is assumed to be an approved change by the business or application owner.
- The number and type of approvals required by workflow in the change management system are dependent on the risk level of the change.
- The intent of the change management system is to manage change. Separate ITIL processes such as Incident, Request, and Release and Deployment Management should be managed by systems that integrate with Change Management.
- An implementer (assignee) cannot approve their own change.
- The individual listed as the assignee on the change is expected to be the person actually implementing the change. In cases where a cross-team, collaborative effort is required to implement, the assignee is the person responsible for coordinating the implementation activities.
- A change request cannot go to Work In Progress (WIP) status before the Planned Start Date/Time. A change request is required for any change to production. The business may predefine instances where a change request is not required, but the overriding assumption is that any change to production requires a change request even if the implementer is certain that “there is no risk and the change will not impact anything.” Perceived impact does not affect the requirement.

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## Section 2. Change Management

### 2.1 Change Management Description

Change Management is the process to manage the introduction of any enhancement, modification, update, installation, or removal of any hardware, software, interface, or database, or document that will impact the existing production environment. It ensures that only approved modifications to the environment are implemented. The change process should provide high visibility and open lines of communication between functional teams and the business. It should provide common expectations and ensure accountability.

### 2.2 Change Management Objectives

#### 2.2.1 Primary Objectives

The primary objectives of change management are:

- To protect the UCSF infrastructure environment
- To control the introduction of changes to the production environment
- To ensure the outcome of the change meets expectations

#### 2.2.2 Operational Objectives

The operational objectives of a change management program are:

- Assess the impact associated with all changes
- Design to calculate the potential impact a change could have on the UCSF production environment
- Design questions to confirm, or in some cases define the type of change that is taking place
- Define the level of approval required for a change
- Minimize any negative impact resulting from a change
- Communicate all changes to affected groups
- Act as a method of accountability
- Measure and track all changes to the production environment
- Meet contractual or regulatory requirements
- Meet or exceed IT audit requirements
- Meet or exceed IT Service Level Agreements

### 2.3 When to Submit a Change Request

A change request should be submitted for all enhancements, updates, maintenance, relocations, installs, de-installs of managed configured items in the UCSF production environment including:

- Resource or System Account
- Moves, Adds, Changes and Deletes – Changes to system configuration.
- Schedule Changes – Requests for creation, deletion, or revision to job schedules, back-up schedules or other regularly scheduled jobs managed by IT.
- System hardware
- System software
- Network hardware including cabling, connectors, adapters, etc.
- Network software including configuration settings
- Database including table adds, deletes, re-organization, or maintenance as well as database content.
- Applications
- Telephony
- Adding, deleting or revising security groups

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- File permission change
  - Documentation such as Business Continuity Plans, Policy and Procedures, Maintenance agreements, Service Level and Operational Level Agreements (SLAs and OLAs).
  - For a documented, critical priority incident in an open status
    - A change should be submitted for anything that results in a change to the configuration. This ensures that all configuration changes (planned and unplanned) are documented in one place.
    - A change should be submitted if rebooting a device is required to restart one service when other services are running, or when all services on a device are stopped and a reboot is required to restart.

## 2.4 When a Change Request is **Not** Required

There are many IT tasks performed either by IT or by the end users that do not fall under the process and procedures of Change Management. Tasks that are outside the initial scope of the Enterprise Change Management process include:

- Changes to non-production elements or resources
- Changes made within the daily administrative process. Examples of daily administrative tasks include but are not limited to:
  - Password resets of non-critical user accounts
  - User add/deletes
  - User modifications
    - Adding, deleting or revising AD or Unix group changes
    - File permission change
  - Desktop support tasks (software installs/un-installs such as Word, Excel, etc.)
- For other departmental Director approved changes to production, which individual department determines as unnecessary to track via change request, they are to be documented in a knowledgebase article, signed off by Director, with notification to Enterprise Change Manager and IT Service Management Department Leadership, who will review the request.

The Change Advisory Board (CAB) may modify the scope periodically to include items in the scope of the Enterprise Change Management process.

## 2.5 Types of Changes

### 2.5.1 Standard

A change that is part of the daily routine, is considered low risk, and has a predictable outcome may be pre-approved. The business objective for a Standard, Pre-approved change is to ensure that Standard changes receive an appropriate level of review while also minimizing restrictions. The criteria for standard, pre-approved changes are, as follows:

- The change must be a repetitive, Standard activity. Examples can include (but are not limited to):
  - Regularly scheduled, recurring therapeutic server reboots
  - Firewall adds
  - Regularly scheduled maintenance activities
- The change's calculated risk level must equal Low.
- The change must meet lead time requirements.
- The change must initially be represented in CAB.
  - Pre-approved changes will not require the same level of scrutiny as other changes but must be presented at CAB for approval to convert a change to Standard.

- Any Standard change that causes an unplanned outage goes under immediate review and possibly pulled from being Standard.

### 2.5.2 Normal

A Normal change is one that is submitted, fully documented, and approved at the IT Director level (if required) and below and has an implementation date that allows discussion at the next regularly scheduled CAB meeting.

### 2.5.3 Expedited

An Expedited change is one that does not have a scheduled implementation date that allows discussion at the next scheduled CAB. An Expedited Change will need to be reviewed and approved electronically.

### 2.5.4 Emergency

A change that is directly related to a critical priority incident and that must be implemented in order to restore service is an Emergency change. Emergency changes are auto-approved based on the following criteria

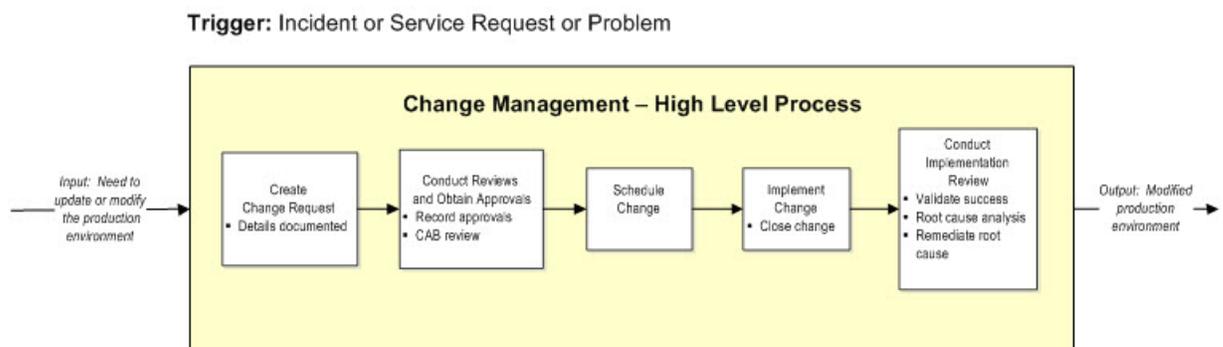
- The change is related to a high or critical priority incident
- The related incident is in a non-closed status

### 2.5.5 Latent

A change that is logged after implementation and did not follow the Change Management process. A PIR is required for latent changes and must be reviewed with Group Manager. ***Latent change is also known as an unauthorized change!***

## 2.6 Major Activities within Change Management

### 2.6.1 High level Process Map



### 2.6.2 Request a Change

A change must be recorded in the change management system. It can be initiated within the incident management process, through a formal request in a request management system, through email, project, problem record or any other method where a need for a modification to the production environment is required. The result is a numbered Change Management Record (CMR) in a change management system.

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### **2.6.3 Approve**

Modifications to the environment should only be implemented after the change is approved through a formal approval process. In some cases, changes may be pre-approved. In most cases, changes will need to be reviewed and approved by a peer and manager. With exception of Emergency Changes, which are pre-approved, all other changes are to be reviewed and approved by CAB or ECAB.

### **2.6.4 Schedule**

Approved changes should be added to a Change Calendar so IT resources and customers can plan for upcoming modifications to the environment.

### **2.6.5 Implement**

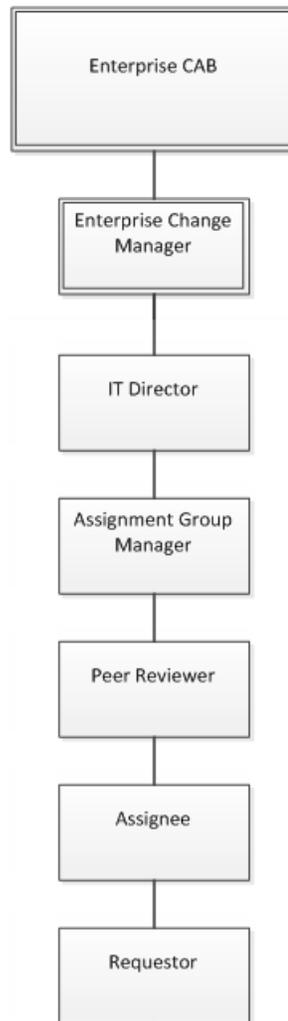
The change should be implemented within the approved window. Modifications should be limited to only those move/add/change/delete activities that were reviewed and approved. Modifications outside of the scope of the approval should not be made. Once the change has been made and validated, the assignee should place the change request in a "Closed Pending Review" or "Closed" status.

### **2.6.6 Review**

The Change Manager should review closed changes to ensure that changes were implemented as scheduled and that they produced the expected results. A regular review will ensure a continual improvement in the quality of changes.

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## Section 3. UCSF Change Management Organizational Hierarchy



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## Section 4. Roles and Responsibilities

This section describes the roles and responsibilities to be performed by the individuals participating in the Change Management process.

### 4.1 Operational Roles

#### 4.1.1 Change Requestor

An IT requestor may open a change request directly. A non-IT requestor must open a request ensuring that the details of the change are accurate and appropriately reflect what is required. The person initiating the change must have a clear rationale for the change's purpose and be able to clearly articulate that in the request or change request.

#### 4.1.2 Assignee

The person who will be executing the change (the Assignee) is ultimately responsible for successfully completing the change, as well as:

- Submit or update the change management system's Change Management record with all required information.
- Allot sufficient time for analysis, stakeholder approvals and notifications before the Planned Implementation Start Date.
- Provide detailed and accurate documentation for all proposed changes.
- Coordinate and schedule changes to occur during maintenance windows, whenever possible.
- Obtain technical Peer Review and other required approvals prior to the implementation time.
- Represent the change to the CAB or ECAB as appropriate or alternatively, arrange for someone who can adequately represent the change to attend. The delegate must be familiar enough with the details of the change to answer any of the questions asked during the CAB.
- Facilitates the review of an expedited change by alerting all required parties to the change, scheduling and facilitating the change review, and ensuring that the Change is set to scheduled status prior to its implementation time.
- Ensure that any tasks within the change are completed as planned by the task assignee.
- Implement the change as planned (no more, no less), including validation, and close the change before the scheduled end date/time if able to do so, but, no later than 24 hours of the Change execution.
- Update the change request with installation notes, status changes, and results.
- Update any Configuration Items (CIs) in the CMDB that may arise as a result of a change.
- Participate in a Post Implementation Review (PIR) for all emergency changes and changes that were Backed-Out, Incomplete, Completed with Issues, or Latent Changes.

#### 4.1.3 Peer Reviewer

The peer reviewer is someone on the Assignee's team with equal knowledge of the environment where the Change will take place. The peer has the following responsibilities:

- Review the details of the change plan to ensure the technical steps planned are complete and change is correct.
- Review the back out and validation plans to ensure there is sufficient detail to be effective.
- Represent the change during CAB or ECAB if the Assignee is unable to do so. The peer must be familiar enough with the change to answer any of the questions that may be asked during CAB.
- Back up the assignee during the actual implementation.

#### 4.1.4 Group Manager

Typically, the technical supervisor or team lead has the role of the Group Manager, and has the following responsibilities:

- Review all changes for the Assignment Group for accuracy and approve those that meet scheduling and resource requirements.
- Ensure that the plan includes the requirements for communicating the change to stakeholders.
- Represent the change during CAB or ECAB if the Assignee and Peer are unable to do so. The Group Manager must be familiar enough with the change to answer any of the questions that may be asked during CAB.
- Work with the Change Manager when required to coordinate or validate a change's planned implementation schedule.

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- Work with the CI Support Group to add/change/dispose of Configuration Items as required.

#### **4.1.5 IT Director**

An IT Director has responsibility to:

- For high risk changes, not related to an incident, approve, deny, or send changes back for more information.
- Ensure that high risk changes are in alignment with the business' direction and strategy.
- For Expedited changes, not related to an incident, approve, deny, or send changes back for more information.
- Ensure that Expedited changes are in alignment with the business' direction and strategy.

#### **4.1.6 Change Manager/Process Owner**

There should be one, primary Change Manager within each of the CABs. The Change Manager has the responsibility for all Change Management (CM) activities within the organization and has the following specific responsibilities:

- Facilitate the CAB meetings.
- Record a change's final approval in the change management system.
- Review the efficiency and effectiveness of the CM activity.
- Analyze change requests to determine trends or apparent problems that are occurring.
- Recommend tool enhancements to support CM.
- Share information with Problem Management.
- Coordinate release schedules with the Release Manager to minimize impact to the production environment.
- Train and develop CM resources.
- Run post-change review meetings as needed to evaluate trends, discover lessons learned, etc.
- Review changes for process compliance and enforces compliance.
- Publish change report showing changes to be discussed during CAB.
- Participate in regularly scheduled enterprise CM process review meetings
- Responsible for training

#### **4.1.7 Change Advisory Board (CAB)**

There is one Enterprise Change Advisory Board for UCSF that includes Campus, Medical Center, and School of Medicine environments. CAB members include:

- Representatives of technical disciplines such as network, Wintel, Midrange, clinical and financial applications.
- Advocates for the businesses within the CABs' scope.
- Executive leadership.
- Security
- Service Desk

The CAB has the following specific responsibilities:

- Assess proposed changes for impact.
- Approve, deny, or request more information as appropriate.
- Supports adherence to Change Management policies and processes.

A report from the change management system describing the upcoming changes schedule should be distributed far enough in advance to allow for an adequate review by stakeholders. Alternatively, an online report showing changes to be represented and discussed during CAB should be published.

#### **4.1.8 Expedited Change Advisory Board (ECAB)**

The ECAB, which is typically a subset of the CAB, convenes for Expedited Changes, which do not meet defined lead-times. The members are not necessarily the same for every change. The

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nature and scope of the change would direct who the Assignee contacts. The Group Manager and IT Director must approve Expedited Changes before they proceed.

ECAB has the following responsibilities:

- Assess proposed changes for impact.
- Approve, deny, or request more information as appropriate.
- Supports adherence to Change Management policies and processes.

## 4.2 Supporting Roles

### 4.2.1 Executive Leadership

- Defines the strategic requirements for Change Management at UCSF.
- Approves, publishes policies and procedures defining specific change management expectations.
- Enforces compliance.

### 4.2.2 Enterprise Change Management Process Committee

- Defines the Change Management process.
- Drafts policies and procedures. Submits to the Committee members and Executive Leadership for approval and publication.
- Maintains documentation pertaining to the Change Management process.
- Coordinates all modifications to the change management system as required by evolving business needs.

### 4.2.3 Configuration Item (CI) Support Group

The CI Support Group, usually includes the Assignee of a change, is responsible for making all additions and modifications to the CMDB that may arise as a result of a change, specifically:

- Create new CI's in a timely fashion.
- Search for records requiring their attention and update attributes of CI's accordingly.
- Create and maintain relationships between CI's.
- Provide ad hoc reporting on CI's if requested.

### 4.2.4 Stakeholders

A Stakeholder is any party interested in or dependent upon the outcome of a change.

Stakeholders are responsible for:

- Reviewing publicly available sources for changes that they are interested in or dependent upon.
- Attending CAB, as necessary.
- Working with the Assignee to resolve any issues that may delay implementation of the change.
- Participation during change window, including validation of a change, as requested.

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## Section 5. Requesting a Change

### 5.1 Submitters

#### IT Groups

Members of IT Assignment Groups will have access to a change management system so when a change is required; they will submit the record directly.

#### Non-IT Users submitting a change

Non-IT users will request a change through the Request Management system. They can use Employee Self Service (ESS), call or email the service desk to request that a specific change be made. The request will be assigned to the appropriate IT Resource who will submit a change request and manage it through completion as required.

### 5.2 Information Required to Create a Change request

To create a change request:

- Identify responsible Assignment Group and Assignee.
- Define the change window which includes a planned start/end time and duration. The change window includes separate entries for:
  - Planned Start Date/Time
  - Implementation (in hours or fractions of hours)
  - Validation (in hours or fractions of hours)
  - Back-out (in hours or fractions of hours)
- Define the Approvers.
- Document Work information such as short descriptions of the change and justification.
- Define step-by-step process of Change, Back out, and Validation plans:
  - The Change Plan should include enough detail to explain what will be done
  - Back out plans should include the trigger that will be used by the assignee to transition from the implementation to the back out procedure
  - Validation plans should include steps to verify that the change fulfilled the technical and business objectives. It should also include steps to verify that existing functionality was not unintentionally affected
- Document the impact to the business and calculate the level of risk.
- Identify the Configuration items (CIs) that will be added, removed, or modified by the change.
  - Identifying downstream, dependent CIs is not required if they are not being added, removed, or directly modified.
- Identify if notification to stakeholders is required by Assignee or Service Desk.

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## 5.3 Review and Approval

Review and approval refer to the workflow that results in evaluation of the documentation within the change request (change description, change plan, back out plan, validation plan, schedule and duration, risk assessments, etc.).

The review and approval workflow include review, evaluation, and approval by stakeholders, peer, manager, IT director, and a Change Advisory Board (CAB) or Expedited Change Advisory Board (ECAB).

### 5.3.1 Who Approves and When

The number of approvals that are required for a Normal or Expedited change are based on risk. Standard pre-approved changes and emergency changes are pre-approved and do not require a peer review or any formal approvals by a manager or IT Director.

Normal and Expedited changes will require a peer review, as well as, a Group Manager, and IT Director, if required, to record their approvals in the change management system.

	Review and Approvers Required	
Risk Level	Normal	Expedited
High	<ul style="list-style-type: none"><li>Peer Reviewer (formal)</li><li>Group Manager</li><li>CAB</li></ul>	<ul style="list-style-type: none"><li>Peer Reviewer (formal)</li><li>Group Manager</li><li>IT Director</li></ul>
Moderate	<ul style="list-style-type: none"><li>Peer Reviewer (formal)</li><li>Group Manager</li><li>CAB</li></ul>	<ul style="list-style-type: none"><li>Peer Reviewer (formal)</li><li>Group Manager</li><li>IT Director</li></ul>
Low	<ul style="list-style-type: none"><li>Peer Reviewer (formal)</li><li>Group Manager</li><li>CAB</li></ul>	<ul style="list-style-type: none"><li>Peer Reviewer (formal)</li><li>Group Manager</li><li>IT Director</li></ul>

### 5.3.2 Types of Review and Approvals

The types of review and approval include

- Peer Review – A peer of the assignee must review to ensure the technical aspects of the change request are correct. The Peer must update the RFC, indicating that they have reviewed the technical steps of the change. The peer must review all fields of the change form (including attachments) and evaluate the change, validation, and back out plans to ensure that the documentation is complete and correct. A peer review ensures that enough detail exists in the documentation for someone other than the assignee to follow and successfully implement the change. Anyone in the assignee's group can be designated the peer reviewer of the change.
- Pre-approved Changes – Changes that present no risk to the business or changes required to resolve an open, critical priority incident (emergency change) are pre-approved. Standard

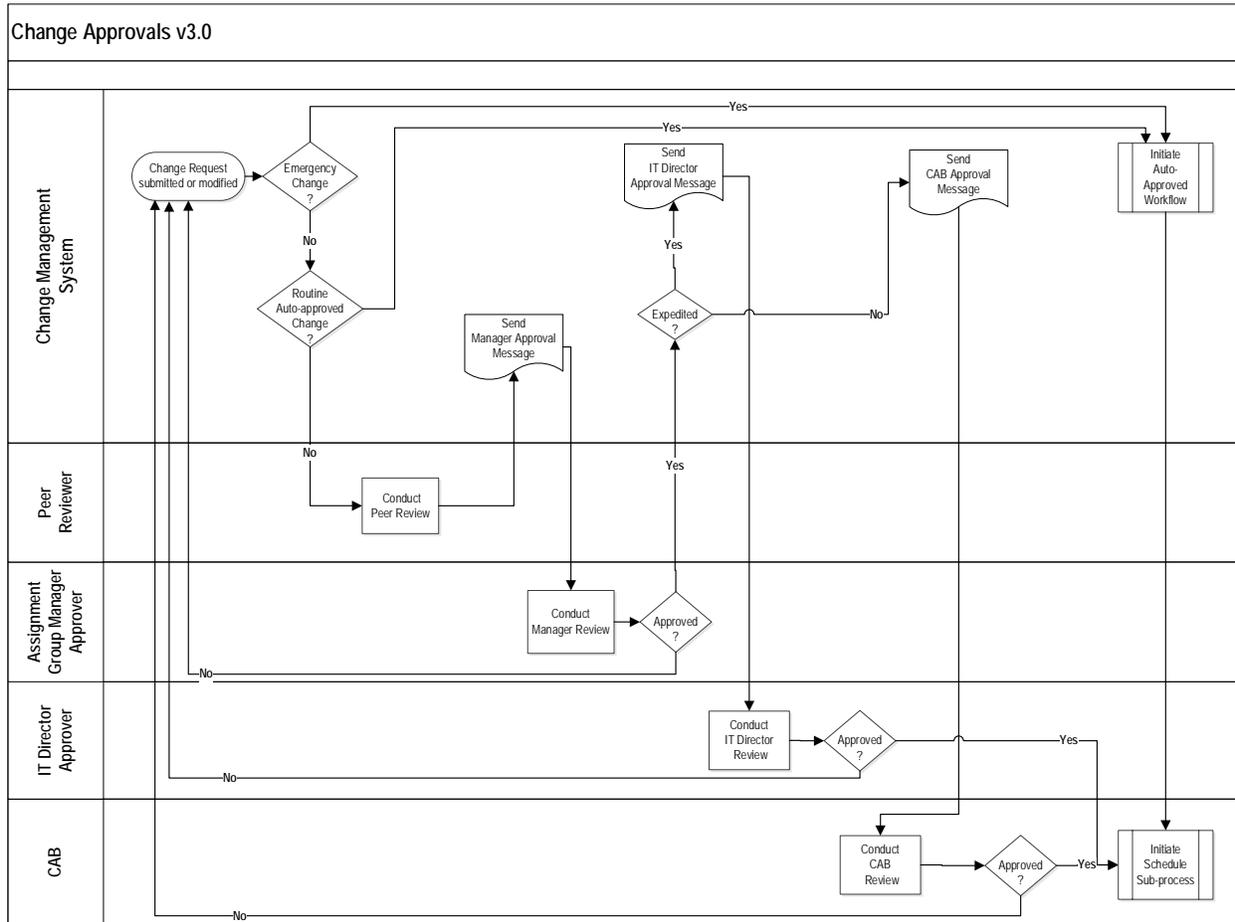
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change types require initial review by the CAB but once the type is approved do not require individual CAB review or approval\*, unless there is a need to modify the Standard Template. Standard Templates go under immediate review if they cause an Incident and may be pulled from being standard.

\* Standard change type with peer and manager approval is the exception, which require peer review *and* group manager approval.

- Group Manager Approval – A manager (or delegate) evaluates a change less on a technical level and more on a logistical level and for the accuracy of its content. They must ensure that:
  - All of the required documentation is in the change request and is of sufficient quality to be presented to the CAB or ECAB.
  - The assignee has the skill set required to successfully implement the change, that the assignee is available, and that the assignee knows that they are scheduled to implement the change.
  - Impact to the environment is fully assessed.
  - There are no scheduling conflicts, for example:
    - First or last day of the month
    - Peak usage time
    - Restricted windows
  - Business owner approvals are recorded in the change request.
  - Communication requirements and lead times are being met.
- IT Director Approval – The IT Director approval is required for Expedited changes. The director should review what is being done, why, and evaluate the Expedited change against business benefit. A Director's approval is an acceptance of risk on behalf of the business.
- Change Advisory Board (CAB) approval (including ECAB) – A CAB group provides an oversight function for changes occurring within their organization. They are responsible to ensure that changes are scheduled to minimize conflicts with other changes and to minimize disruption to the user community. There is one Enterprise CAB Group for the entire organization at UCSF, which includes Campus, Medical Center, and School of Medicine. CAB review and approval is an acknowledgement that:
  - The change's benefit outweighs the risk.
  - The change complies with the required process.
  - The required documentation is present.
  - The required communications were made (or will be made).
  - Sufficient review has taken place to ensure that stakeholders are aware of and do not object to the change.

### 5.3.3 Approval Workflow



## 5.4 Status and Status Transitions

Status documents the current state of a change request and will progress through a sequence of steps until it reaches a terminating status (Closed or Cancelled). The table shows each status and their allowable transitions.

<i>State From / State To</i>	<b>Open</b>	<b>Planning</b>	<b>Pending Approval</b>	<b>Scheduled</b>	<b>Work In Progress</b>	<b>Closed Pending Review</b>	<b>Closed</b>	<b>Cancelled</b>
<b>New ticket (not yet submitted)</b>	All Change Types	All Change Types						
<b>Draft</b>	All Change Types	All Change Types						All Change Types
<b>Planning</b>		All Change Types		Standard, Emergency, or Latent only	Standard or Emergency only			All Change Types
<b>Pending Approval</b>		Normal or Expedited Only	Normal or Expedited Only					Normal or Expedited Only
<b>Scheduled</b>		Normal, Expedited, Emergency, or Standard Only		Normal, Expedited, Emergency, or Standard Only	Normal, Expedited, Emergency, or Standard Only			Normal, Expedited, Emergency, or Standard Only
<b>Work In Progress</b>					Normal, Expedited, or Standard Only	Normal, Expedited, or Standard Only		
<b>Closed Pending Review</b>						All Change Types	All Change Types	
<b>Closed</b>		All Change Types					All Change Types	

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## **Section 6. Implementing the Change**

### **6.1 Change the Status**

Except for pre-approved changes (Standard and Emergency), a change cannot be implemented unless it has been reviewed and approved at all required levels. Once the final approval is received, the Change Manager will change the status from Pending Approval to Scheduled.

Before initiating the actual change activity, the assignee should change the status from Scheduled to WIP. The change cannot go to WIP before the scheduled start date/time.

### **6.2 Enter the Actual Start Time**

After changing the status to WIP, the assignee should enter the actual start date/time.

### **6.3 Document activity in the Work Log**

The assignee should document the change activities in the work log. Examples of the kind of information that would be appropriate are:

- reaching key milestones in the implementation reached
- unexpected issues with the implementation
- the start/stop of validation as well as any unexpected results
- the reasons for backing out a change or closing the record as incomplete

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## Section 7. Closing a Change

### 7.1 Update the Result Codes

A Result Code records the results of the change. A code other than *Successful* is considered an exception. Result codes include:

- Successful
- Backed out
- Completed with issues
- Incomplete

### 7.2 Work Log

On closure, the assignee should document the results of the change as well as the following, as appropriate:

- the reasons for backing out a change
- issues that delayed or complicated the implementation
- issues that result in closing the record as incomplete (if appropriate)

### 7.3 Update the Configuration Item

The assignee should update the Configuration Item if any configured items were added, removed, or if any of the tracked attributes changed. Tracked attributes could include:

- Software or OS version number
- Patch level
- Serial Number
- Asset tag number
- Status change – for example, going from a “deployed” status to “decommissioned.”

### 7.4 Enter the Actual End Time

After the implementation and documenting the results of the change, the assignee should enter the actual end date/time.

### 7.5 Post Implementation Review

A Results Code of any value except *Successful* will require the approving Assignment Group Manager to perform a Root Cause Analysis (RCA) of the exception. The RCA should document

- A description summarizing why the change was not successful
- A description of the business impact
- A description of the root cause
- A description of effort that will be put in place to prevent a similar exception

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The objective of the Post Implementation Review is to:

- Define the change and events that resulted in the exception
- Identify the root cause
- Identify potential actions to mitigate future occurrences

## **7.6 Close the ticket**

After the Post Implementation Review is completed, the assignee should close the ticket.

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## **Section 8. Limited Change/Blackout & Heightened Alert-Critical Event Windows**

### **8.1 Limited Change/Blackout /Heightened Alert-Critical Event Description**

A Limited Change Request, Blackout or Heightened Alert-Critical Event Window is required when the success of a major activity may be impacted by other changes to production during the same timeframe. Approval is required by the Director of the requester and acknowledgement by affected IT Groups and Leadership (ex. CAB, Managers).

#### **8.1.1 Limited Change Window Definition**

A window that requires a limited freeze on changes. A heightened review of changes is required. An IT Director must approve any changes that must be implemented during the window. The majority of requests for a change window to be implemented are Limited Change Windows.

#### **8.1.2 Blackout Window Definition**

A window that freezes all changes. No other changes can be implemented during this window. For example, a Data Center move could require a Blackout Window since the availability of all resources would be required and no changes could be implemented.

#### **8.1.3 Heightened Alert-Critical Event Definition**

A window that is informational of highly visible activities. These are alerts to bring awareness of a critical event. Thoughtful analysis should be done for all changes during this time period. Changes that could potentially impact the event should be moved outside this window (i.e., network or wireless work at that location, etc.). Approvals – When submitting a Change Request during a Heightened Alert-Critical Event window, they will follow the standard submittal process.

### **8.2 Obtaining Initial Approval**

The Requester must obtain approval from their Director for any Heightened Alert-Critical Event, Limited Change Request or Blackout Window. For approval and communication, the request is also presented at the IT Service Management weekly Operations Meeting, with attendees from Director level and above.

In addition, the Requester must:

- Review any existing changes to occur during window
- If requested, attend IT leadership meetings to provide additional information
- Notify existing change ticket owners and coordinate modifications to their change requests that conflict with your Heightened Alert-Critical Event, Limited Change or Blackout window
- Attend affected CAB(s) to announce the window and provide additional information, as requested.

### **8.3 Submitting a Limited Change/Blackout Window Request**

A Heightened Alert-Critical Event, Limited Change request or Blackout Window request must be submitted via Incident ticket to the Change Manager a minimum of 30 days prior to the start of the

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requested window. This will allow the Change Manager sufficient time to review the request, provide notification, distribute announcement, and hard code the window in the Service Management Ticketing System.

The request must include the following information:

- Window Type (Heightened Alert-Critical Event, Limited Change Request or Blackout):
- Title of Event (ex. Interface Engine Upgrade):
- Requester:
- Approving Director:
- Window Start Date and Time:
- Window End Date and Time:
- Purpose of Window:
- Risk:
- Services Impacted:
- Customer Impact:
- Change Plan:
- Backout Plan:
- Validation Plan:

#### **8.4 Notification of Window**

When the Limited Change, Blackout Window is approved, the Change Manager coordinates an announcement to all impacted customers, IT Groups and Leadership (ex. CAB, Managers, Directors and CIO). The announcement is then distributed by the Change Manager.

Heightened Alert-Critical Event Windows do not require an announcement as alerts are provided within the ticketing system and change requests are processed normally, with no additional approvals.

The Change Manager then enters the Limited Change, Blackout or Heightened Alert-Critical Event Window into the Service Management Ticketing System; requesters are alerted when their change request conflicts with one of these windows. The requester should consider rescheduling their change outside the window and if that's not possible, then IT Director Approval is required for changes that fall within a Limited Change or Blackout Window.

#### **8.5 Submitting a Change Request during a Window**

If a change is necessary during an existing Limited Change or Blackout Window, a requester must:

- Consult with their customers/stakeholders about their change and possible impact during the window.
- Consult with the Limited Change or Blackout Window Requester
- Obtain approval from their Group Manager and Director.

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## Section 9. Measuring Success

An assignee will document in a change request who is modifying the environment, what is being modified, and when is it being modified. To measure success, an evaluation should be made to verify that:

- The change was implemented by the person or group defined in the record.
- All of the components approved for the change were implemented – no more, no less.  
For example:
  - If a change is approved to make specific changes to system A, B, C, and D and all of the objectives are met, then the change is successful.
  - If the assignee makes changes to A, B, and C only, then the change would be flagged as an exception because it didn't accomplish all of the objectives that were defined, reviewed, and approved.
  - If the assignee makes changes to A, B, C, D and is making such good progress that they decide to also make a change to E, then the change should be flagged as an exception because making a change to E falls outside of the approval.
- The change was completed and the record closed within the approved window. Assuming that all of the approved objectives are met:
  - If a change request is reviewed and approved with a window that closes at 1:00:00 PM and the record goes to a closed status before 1:00:00 PM, the change is successful.
  - If the change request closes at 1:00:01, it was closed outside of the approved window and as a result, would be flagged as an exception.

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## Section 10. Reporting

- Change Schedule
- CAB report should present:
  - Short description
  - Assignee data
  - Change window durations
  - Change details
  - Change plan
  - Validation plan
  - Back out plan
  - CI data
- Number of changes in x period:
  - Summarized by assignee group
  - Summarized by assignment group with a calculation showing percentage of success
- Change Success:
  - Status = closed, disposition = successful AND status history closed time is less than planned end time
    - Summary chart showing overall success for changes in the last x days or last calendar month?
- Number of changes in x period by type:
  - Count and percentage of Standard Changes
  - Count and percentage of Normal changes (meets lead time)
  - Count and percentage of Expedited changes (does not meet lead time)
  - Count and percentage of Emergency changes (satisfies criteria for an emergency change)
  - Count and percentage of changes by results code
- Orphaned changes:
  - Count of changes in x period with a status of Scheduled where the planned end date/time is less than the report run time.

## Section 11. Definitions

Term	Description
Attribute	A piece of information about a configuration item, i.e. serial number, OS version number, patch level, etc.
Change Ticket	A record in the change management system that documents the specific details of a modification to the production environment. The Change Ticket is reviewed by all levels of approvers and presented to CAB or ECAB for final authorization to move the change into production. A Change Ticket is the byproduct of a Request for Change (RFC).
Change Schedule (CS) (formerly known as the Forward Schedule of Change)	Defines the changes that are to be delivered in the future. Details such as the nature of the change and the expected date and time and duration of any service outage are included as part of the CS. The document is distributed to stakeholders (customers, suppliers, vendors and the Service Desk).
Configuration Item (CI)	IT infrastructure components are called Configuration Items (CIs). CIs include hardware items, software components, network items, documentation and any part of the IT infrastructure or items associated with it which the organization wishes to control. CIs can be defined down to the lowest level at which a component can be independently installed, replaced or modified. Configured Items often have multiple attributes.
Lead Time	The interval of time between CAB review and implementation. If a change's planned implementation date/time is after the next CAB, the change meets lead time and the change follows the standard approval workflow. If a change's planned implementation date/time is before the next CAB, the change does not meet lead time. It is an expedited change and must follow the expedited approval workflow.
Change Request	A formal request to effect a modification to the production environment. The request can be made through a request management system, incident management system, through email, or any other method that creates an audit trail. The result is a numbered Change Management Record (CMR) in a change management system.

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## Section 12. **Process Advisory Team / Governance**

See ITSM website: <http://itsm.ucsf.edu/change-management>

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## Document Version Control

<b>Document Name</b>		Enterprise Change Management Process	
<b>IT Change Management Process Owner</b>		Lynn Bosworth	
<b>File Location</b>		Service Management Website: <a href="http://itsm.ucsf.edu/change-management">http://itsm.ucsf.edu/change-management</a>	
<b>Version Number</b>	<b>Issue Date</b>	<b>Prepared By</b>	<b>Reason for Change</b>
1.0	9/6/11	Rebecca Nguyen	First draft
1.1	9/8/11	Rebecca Nguyen	Updated draft after 9/8/11 review meeting with Lynn Bosworth and Peter Stampfer.
1.2	9/9/11	Rebecca Nguyen	Added additional process maps and changes from 9/9/11 requirements review meeting.
1.3	9/14/11	Francine Sneddon	Added roles, process maps and various edits
1.4	9/20/11	Rebecca Nguyen	Added additional process maps and sections under Implementation phase
1.5	9/22/11	Francine Sneddon	Added new roles, removed priority and updated glossary.
1.6	10/27/11	Francine Sneddon	Updated field values (ex. Risk), removed Lead Times.
1.7	11/15/11	David Hosea	Updated roles and responsibilities
1.8	11/16//11	David Hosea	Updated process descriptions, re-arranged, reformatted
1.9	11/28/2011	David Hosea	Updated terminology to maintain consistency through the document, added definitions, made slight corrections to the vendor, main change activity, and approval swim lane diagrams.
1.10	11/30/2011	David Hosea	Corrected the Status Transition table, added "pending review"
1.11	12/2/2011	David Hosea	Moved two bullet items for "when a change is not required" to "when to submit a change." The bullet items are security group adds/deletes and file permission changes. Updated a paragraph in "Information required to create a change request." Added bullet items to more clearly define the change window.

1.12	12/20/11	Terrie Coleman	Reformatted document and update process diagrams
1.13	2/2/12	Terrie Coleman	Formatting, grammar and revisions based on recent even regarding vendor changes.
1.20	7/27/12	Francine Sneddon	Added information regarding Latent changes and Process owner responsibilities.
2.00	7/1/13	Francine Sneddon	Updated Document Version Control, Process Advisory Team, Approvers and Added Limited Change/Blackout Window Process
3.00	11/18/13	Lynn Bosworth / Margaret Hom	Updates throughout, removing outdated processes and adding content, where necessary, in regard to enhancements since last revision. All of which is needed prior to LMS online mandatory Change Management Training go-live, Dec 2013.
3.01	03/04/16	Lynn Bosworth	Migrated document to new ITSM format/template. Minor updates; removed process advisory team table (reference ITSM website and moved to end of doc); updated hierarchy diagram; moved version control to last page.
3.1	04/30/16	Lynn Bosworth	Renamed references for the following Change Types to comply with ITIL & industry best practice, which will be effective as of 05/04/16: Comprehensive, Expedited Comprehensive and Routine. New Names with May ServiceNow Release: Normal, Expedited and Standard, respectively.  Section 4.1.7 – no longer independent CABs, so removed that reference in this section and throughout document.  Elaborated on 'pre-approved changes' section and removed references to Expedited CAB specific to Campus, which no longer pertains to policy and peer review 'informal' role, as was noted in Sections 4.1.8 and 5.3.1.
3.2	10/19/16	Lynn Bosworth	Section 4.1.2 addition: Coordinate and schedule changes to occur during maintenance windows, whenever possible.
3.3	02/28/17	Lynn Bosworth	The following was agreed to with onboarding of HCL and at the Enterprise Change Management Process Committee on 02/28/17:  Section 2.3, Removed:  A change <i>is not</i> required when all services on a device are stopped and a reboot is required to restart. Added: "..., or when all services on a device are stopped and a reboot is required to restart."

3.4	06/23/17	Lynn Bosworth	<p>Additions/modifications as per audit requirements to be more explicit; made during meeting with Eric Krayton, HCL Auditor. Jane Wong, Ryan Ball, John Chin, and other IT &amp; HCL Leadership involved.</p> <p>1.2 – Assumptions: Added first two bullets: Two circumvent paragraphs and bullet point that Standard Change Requests only authorized to be used for purpose in which they were approved.</p> <p>2.6.2: A change must be recorded in the change management system.</p> <p>2.6.3: With exception of Emergency Changes, which are pre-approved, high risk changes must be approved by an IT Director and with the exception of Standard and Expedited Changes, all other changes are to be reviewed and approved by CAB or ECAB</p>
4.0	11/17/20	Lynn Bosworth	<p>John Chin review and email sign-off on 11/25/20 on document revisions.</p> <p>2.4 Added bullet point for other departmental Director approved changes to production, which they determine do not require change request.</p> <p>2.5.1 Modified wording: “The criteria for standard, pre-approved changes are, as follows:”, It was: “The criteria for a standard, pre-approved change are”. Added bullet, <i>Regularly scheduled maintenance activities</i>.</p> <p>2.5.1 The change must <i>initially</i> be represented in CAB. <ul style="list-style-type: none"> <li>o Pre-approved changes will not require the same level of scrutiny as other changes but must be presented at CAB for approval to convert a change to Standard.</li> </ul> </p> <p>2.5.5 Latent CHGs no longer reviewed at CAB; removed reference.</p> <p>2.6.3 High Risk CHGs no longer require IT Director Approver; removed reference.</p> <p>4.1.5 Changed ‘high risk’ to ‘Expedited’ in two sections re: IT Director role.</p> <p>4.1.6 Participate in <del>monthly</del> <i>regularly scheduled</i> enterprise CM process review meetings”</p> <p>4.2.4 Stakeholders section. Corrected spelling of publicly. And revised wording of “Attending CAB”. Modified to “Attending CAB, as necessary”. As stakeholders are often involved during change window, formalized by adding bullet: “Participation during change window, including validation of a change, as requested.”</p> <p>5.2 Revised from “Define Change, back out, and validation plans:” to “Define step-by-step process of Change, Back out, and Validation plans:” as step-by-step process is regularly requested by CAB.</p> <p>5.3.1 &amp; 5.3.2 removed IT Director from chart for high risk CHGs and modified ‘high risk’ to ‘Expedited’.</p> <p>5.3.2 The peer <i>must review all fields of the change form (including attachments) and should</i> evaluate the change.</p> <p>5.3.2 Added: * Standard change type with peer and manager approval is the exception, which require peer review <i>and</i> group manager approval.</p>

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			<p>5.3.3 Approval Workflow – Updated Visio diagram to remove workflow for (a) Expedited High Risk CHGs and IT Director Approval and (b) Medical Center and ECAB, which were both old processes.</p> <p>8.1-8.5 Limited Change/Blackout /Heightened Alert-Critical Event Description. Modifications throughout to reflect current process and added section and references for Heightened Alert-Critical Event Windows.</p>
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