BOSTON UNIVERSITY

# Change Management

## Users' Guide

### Service Management and Service-now

## Service Excellence Suite

# Table of Contents

# Introduction

This document defines the Boston University Information Services & Technology (IS&T) Change Management process. It is based on the Information Technology Infrastructure Library® (ITIL) and has been adapted to address Boston University's specific requirements.

**This document should be read by all Boston University employees who are adopting the IS&T Change Management process.**

It is divided into the following sections:

| | |
|---|---|
| **Overview and Objectives** | States the objectives of the Change Management process at Boston University and what is in-scope and out-of-scope to the process. |
| **Change Management Policies** | Outlines policies that support the Change Management process. |
| **Key Attributes of a Change** | Categorizes changes into four different types with specific risk levels for each type. Approval processes and lead times between Change Request submission and implementation are determined based on the risk level. |
| **Process Definition** | Illustrates the high-level Change Management process with the following use-cases covered:<br>▪ Standard Pre-Approved<br>▪ Normal Change<br>▪ Emergency Change<br>▪ Urgent Change |
| **Roles and Responsibilities** | Identifies the roles within the Change Management process and the responsibilities for each role. |
| **CAB and CAB Meetings** | Discusses the membership of the Change Advisory Board (CAB) and the agenda for the CAB meeting. |
| **Request for Change procedures** | Specifies procedures for completing Service-now's Request for Change (RFC) form, including which fields are minimally required. |
| **Key Performance Indicators** | Identifies the metrics for measuring the success of the Change Management process. |

# Overview and Objectives

## Overview

Change Management is the process of recording, evaluating, approving, planning, and overseeing the implementation of a change in a controlled and efficient manner. A change is an addition, modification or removal of a service or service component and its associated documentation. In Service Management, the goal of Change Management is to protect the live environment. The authority for approving changes can be assigned to the Change Manager, the CAB, or other identified parties.

## Objectives

Boston University's objectives for the Change Management process are:

- Increase the number of successful changes, including reducing the number of changes with unexpected outcomes.
- Create a single documented process for all changes.
- Maintain a single repository for recording all changes.
- Ensure the process is adopted, adhered to, and escalated if there are compliance issues.
- Initiate the Change Management process to provide sufficient lead time for adequate impact analysis.
- Ensure good controls applied to changes (e.g. business approval, technical approval, QA has occurred, support is involved, etc.).
- Maintain and publish a change calendar with good visibility, measured in weeks and months.
- Communicate changes to IS&T, affected client-representatives, clients (where appropriate), and other IT organizations (where appropriate).
- Streamline the procedures so that there is an appropriate balance between the complexity of the change and the required controls.
- Harvest lessons learned from the Change Management process that could be applied to other areas of Service Management.

## Primary Benefits of Change Management

- Improve customer relations and perception through better communication, less downtime, and higher quality service
- Decrease time and resources spent 'fire-fighting'
- Reduce frequency of unplanned service interruptions
- Create a more stable infrastructure with better understanding of cross-group relations
- Improved risk assessment and mitigation
- Establish better understanding of potential user impact

- Enable more efficient resource coordination
- Improve communication within IS&T and to clients

### Current Scope and Roll-Out of Change Management

For the initial roll-out of Change Management in Service-now (Phase 1 – January, 2011), any change that affects a production service affecting the entire university, a single school, or two or more departments **must** have a request for change (RFC). However, for any change that is solely within a given department, use of the Change Management process is optional. Future phases of Change Management will incorporate those changes that are smaller in scope.

### What is Service-now

Service-now is the enterprise service management ticketing tool that will be used by IS&T and its University partners to manage change. In the future, incident, configuration, release, request fulfillment, and other service management processes will be managed through the same tool. Service-now delivers the product via the SaaS (Software as a service) model which enables IS&T to deploy more quickly, with less technical investment. Resources that would be used to manage Service-now are freed up to focus on the core mission of enabling the University's research and teaching priorities.

## Change Management Policies

- All changes within the defined scope must go through the Change Management process and must have a completed request for change (RFC) with appropriate approvals.
- Change windows will be pre-defined and published.
- All changes will be entered on the IS&T calendar.
- If a change needs to be scheduled outside of a change window, the change's implementation date/time needs approval from the appropriate parties (CAB, ECAB, Change Manager, the business, etc.).
- If the date changes for a normal change, approvers (Change Sponsor, Change Manager, and CAB) are notified, but additional approvals are not required. If the date changes for an urgent change, the ECAB is notified and existing approvals are subject to revision.
- A risk assessment must be provided for each change.
- With each change, the following Plans must be accounted for: implementation plan, test, communication, and back-out plans.

- Whenever possible, RFCs will be entered with no less than the minimum lead times for their risk and scope profiles.
- All changes will be visible to the Service Desk.
- All university/campus or significant changes that are service-impacting require communication to a broader client audience (e.g. email to techstatus list, posted on TechWeb, etc.).
- Each change should be well-tested and verified prior to implementation.
- All implementation work on the change should be completed by the completion time.
- The back-out steps must be completed within the requested change window itself; the planned end time of the change should account not only for the implementation work, but also for the back-out steps.
- Validation that the change has been completed successfully should be confirmed through post-change testing.
- All IS&T data-center power related changes must be assigned a scope of university/campus-wide.
- At the conclusion of a change, the Post Implementation Review (PIR) section of the RFC should be completed; the PIR is mandatory for the following situations:
    - University/Campus-wide - all risk levels
    - Significant - moderate, high, and very high
    - Department – high and very high
    - Minor – very high
    - Failed Changes
    - Changes that result in a Priority One incident
    - Emergency/Urgent changes to resolve an incident

## Roles and Responsibilities

A role is a set of activities. An individual can perform more than one role. The current roles and responsibilities associated with BU's Change Management process include the following:

### Change Manager

The Change Manager is the authoritative lead for Change Management and is accountable for the planning, implementation, and improvement of the process. The responsibilities for the role include:

- Lead weekly CAB meeting, including creation of an agenda, leading meeting itself, documenting action items and notes, and pursuing any other follow up activities
- Validate the accuracy of RFCs
- Participate in the authorization of changes
- Maintain and publish the change calendar
- Communicate service impacting changes to clients (e.g. E-mail weekly change announcement)
- Ensure that post-implementation reviews are conducted per the policy
- If an unauthorized change is discovered, escalate and educate as appropriate
- Report on Change Management activities
- Educate IT staff on the change management process
- Propose and implement improvements to the change management process

### CAB Member

The CAB (Change Advisory Board) member serves to support the authorization, assessment, and recommendation for or against changes from both a technical and business point of view. Each functional area should maintain representation on the CAB. The role of CAB member may be a permanent appointment or as-needed for input on a given change. The responsibilities for the CAB member include:

- Represent their team and their team's changes
- Review changes prior to the meeting
- Assess and recommend the approval or rejection of proposed changes. If a CAB member does not approve a change, explain why
- Attend to approvals in a timely manner
- Attend or send a knowledgeable representative to weekly CAB meeting
- Act as a liaison between the CAB and their team regarding Change Management policies, procedures, questions, or enhancements

### ECAB Member

The ECAB (Emergency CAB) members are a sub-set of the CAB. They authorize urgent changes when convening a regular CAB meeting is not appropriate or feasible. The role of ECAB membership is ad hoc, based on the nature of the emergency or urgent change.

Members of a given ECAB may be part of the permanent CAB or filling an as-needed role to help assess the urgent change under review. While ECAB membership does shift, the Change Manager is always part of the ECAB.

- Assess and approve or reject urgent changes of all risk types submitted and scheduled for implementation before the next scheduled CAB meeting

### Change Requester

The Change Requester is the person on whose behalf the change is being requested and corresponds to the "Requested by" field within Service-now.

- Accountable for the completion of the RFC including accurate scope, risk assessment, and change plans
- Secures appropriate business approval
- Communicates status of the change to the business as necessary
- Owns the successful outcome of the change
- Accountable for post-implementation review

### Change Implementer

The Change Implementer is the person primarily responsible for the actual implementation of the change and corresponds to the "Assigned to" field within Service-now.

- Responsible for creating the test, implementation, and back-out plans
- Responsible for executing the test plan, implementation plan, and the back-out plan, if necessary
- Documents the RFC within Service-now regarding the outcome of the change, including the PIR as appropriate

### Representatives for Externally Implemented Change

Depending on the nature of the change(s) and who will be implementing, an IS&T staff person may be appointed to coordinate change with external vendors.

- Work with the external vendor to schedule change
- Submit the appropriate request for change
- Record the outcome of the change based on change management policy

# Key Attributes of a Change

## Types of Changes

Changes are categorized into four types based on the required workflow and approval procedure. The types are:

- Standard – Pre-approved based on change model
- Normal - Change that follows normal approval flow
- Urgent – Must occur prior to prescribed lead time for approval
- Emergency – immediate incident-related change. May be documented after the fact.

## Scope of Changes

The scope of a change is determined by the range of its potential impact on services. The broader the potential impact on services, the wider the scope. Scope is categorized as follows:

- University/Campus – One or both campuses (CRC and BUMC)
- Significant – A school or 2 or more departments
- Department – A single department
- Minor – Five or less clients

## Risk Assessment for Changes

Risk assessment is based on the following 'yes or no' questions:

- Is the change service impacting?
- Does the change require more than one support group?
- Is there a single point of failure (SPOF)?
- Is this a new or high-risk routine activity?

Each 'yes' answer increases the risk profile of the change. The risk value assigned to the change is based on the number of 'yes' responses:

- Four equals **Very High**
- Three equals **High**
- Two or One equals **Moderate**
- Zero equals **Low**

# Approval Process and Lead Time Required

The approval and lead time required by normal and urgent changes are determined by combining the type of change, scope of change, and risk assessment.

### Approval: ECAB or CAB + AVP or CIO

The lead time required for submitting the following normal changes is a CAB meeting plus two weeks. There is no defined lead time required for urgent changes.

| Type | Scope | Risk |
|---|---|---|
| Urgent | Campus | Very High, High |
| Normal | Campus | Very High |

### Approval: ECAB or CAB

The lead time required for submitting the following normal changes is a CAB meeting plus one week unless otherwise noted. There is no lead time required for urgent changes.

| Type | Scope | Risk |
|---|---|---|
| Urgent | Campus | Moderate, Low |
| Urgent | Significant | Very High, High |
| Normal | Campus | High |
| Normal | Campus | Moderate (one week lead time) |
| Normal | Significant | Very High, High |
| Normal | Departmental | Very High (one week lead time) |

### Approval: Change Manager

The lead time required for submitting the following normal changes is two days. There is no lead time required for urgent changes.

| Type | Scope | Risk |
|---|---|---|
| Urgent | Significant | Moderate, Low |
| Urgent | Departmental | All |
| Urgent | Minor | All |
| Normal | Campus | Low |
| Normal | Significant | Moderate |
| Normal | Department | High |
| Normal | Minor | Very High |
| Normal | Significant | Low |

### Standard and Emergency Approvals

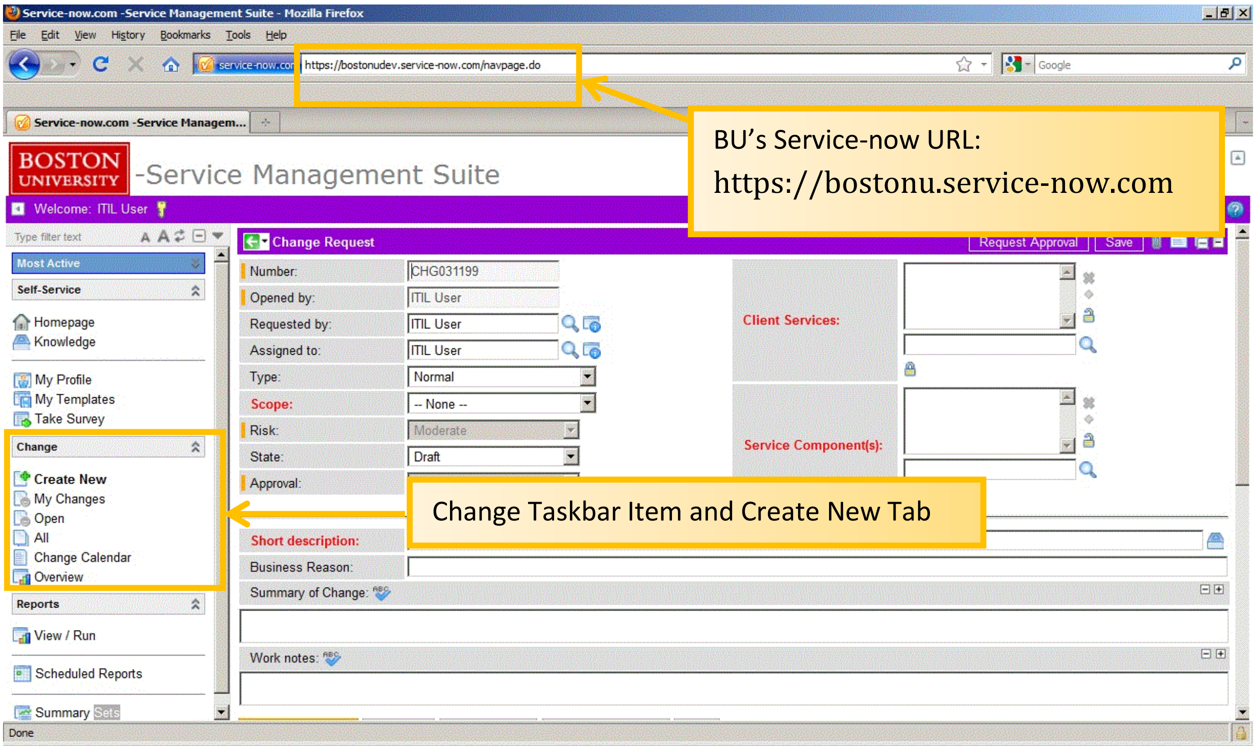
Standard changes are pre-authorized by the CAB. They follow an approved change model and may be of any scope, but must be of low risk. Approvals for standard changes may be required during change freeze periods.

Emergency changes are conducted in response to an incident. Emergency changes of any scope or risk may be documented retroactively, if necessary. The manager in charge of the Incident is responsible for approving the change.

# RFC Procedures

Use BU's service management system, Service-now, to create the RFC. To do so, follow the instructions below.

1) Using your BU username and password, login to Service-now at http://bostonu.service-now.com
2) Select 'Change' in the left hand column
3) Select 'Create new' under Change. This will create a new Change Request (or RFC) with a unique ticket number

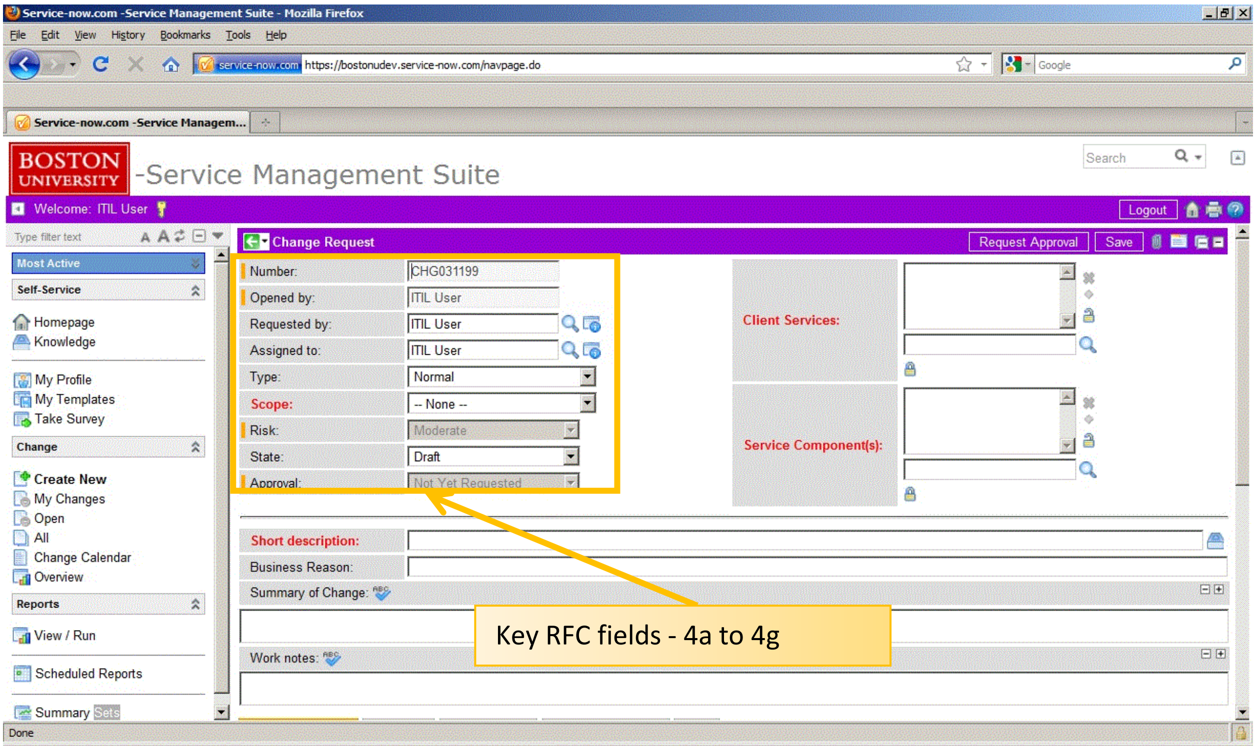


NOTE:

Some fields will be pre-populated or calculated based on information that is input. These will be grayed out; and are indicated by an orange bar to the left of the field. Other fields will are mandatory; these will be indicated as red or by a red bar to the left of the field.

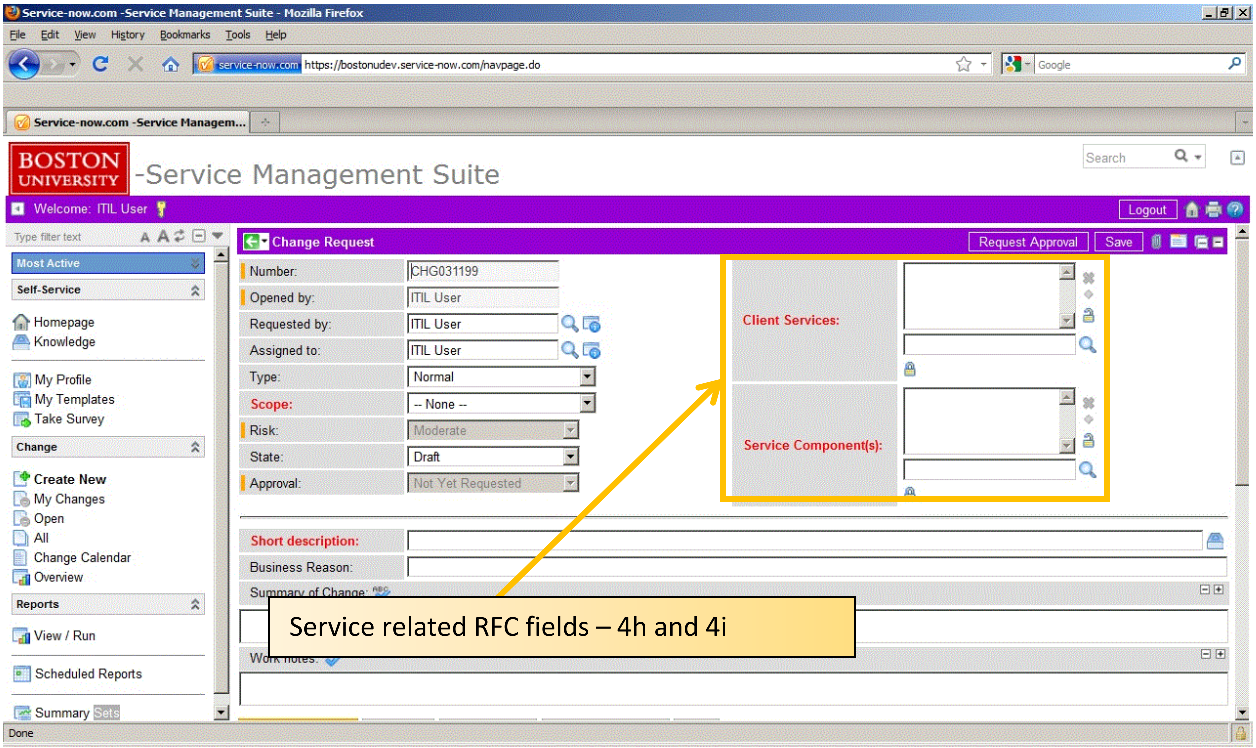
4) Fill out the appropriate fields for the RFC. The fields are as follows:

   a) Requested by: Person on whose behalf the change is being requested
   b) Assigned to: Person primarily accountable for working the change
   c) Type: Changes are categorized into four different types based on workflow and required approval
   d) Scope: An indicator for the geographical or client base impact of the change – required
   e) Risk: A calculated field based on the answers to the four risk assessment questions
   f) State: Indicates the current state of the RFC. States include: draft (pre-submission); Open (RFC is in-process); Pending (requires additional information); or Closed (change is complete).
   g) Approval: Indicates the approval status of the change. This field is based on input from the change manager, CAB, or other authorizing agent.



h) Client Services: The major service that the change is going to affect - required

i) Service Component(s): The sub-service or product within the Client Service that the change is going to affect - required

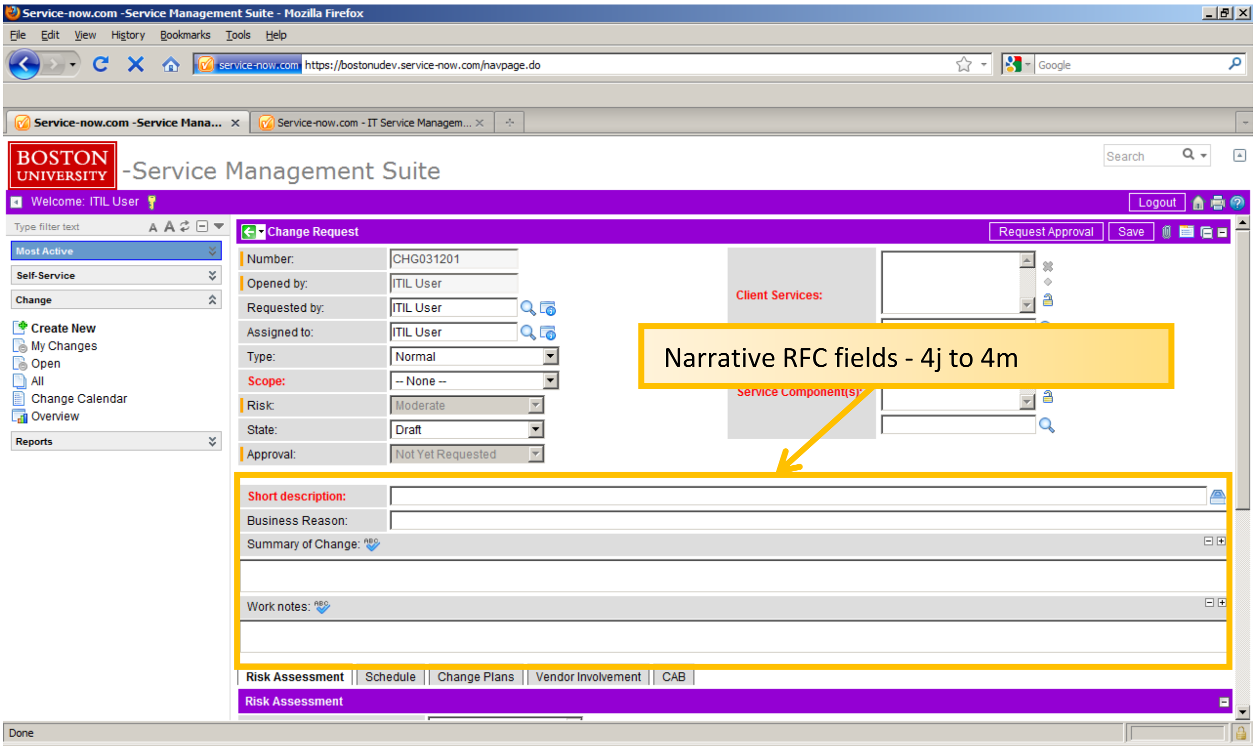



j) Short Description: A brief, meaningful title for this change - required

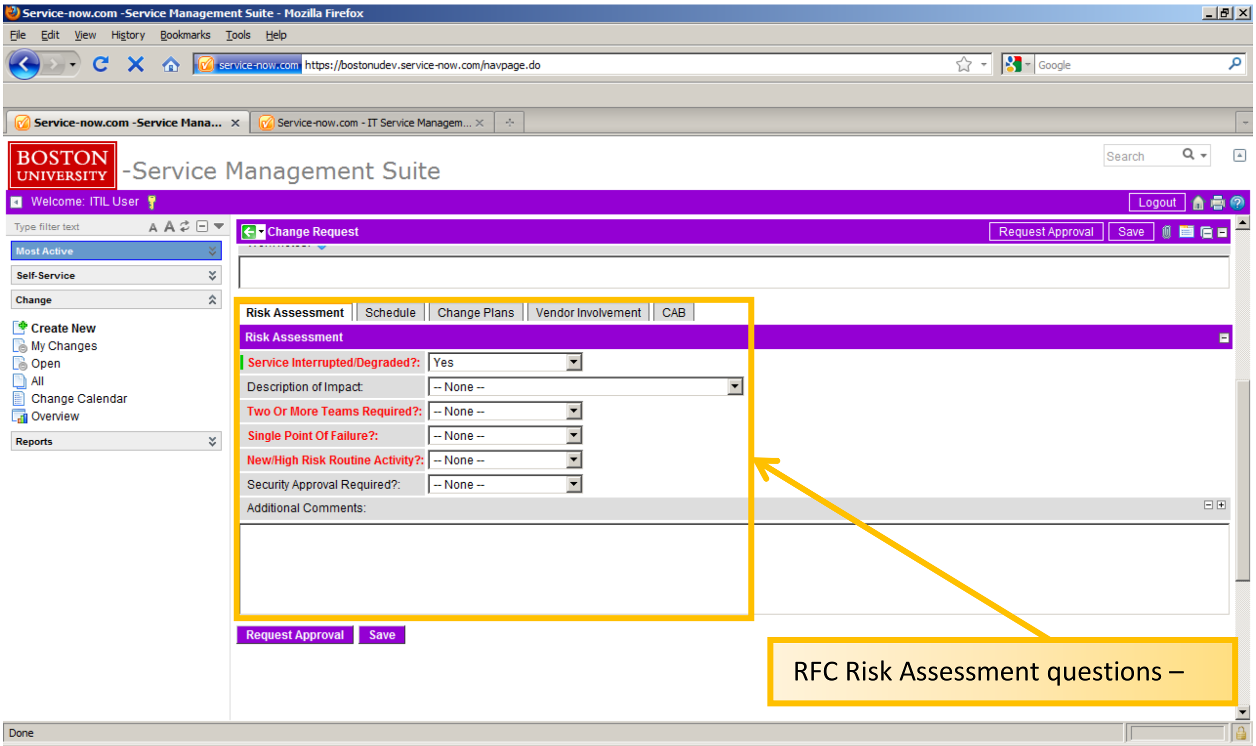
k) Business Reason: In non-technical terms, describe reason and business driver for the change

l) Summary of Change: A brief description of what needs to be done beginning with a non-technical summary followed by more technical language when needed

m) Work Notes: An optional field where any additional, relevant information regarding the change or related activities can be noted

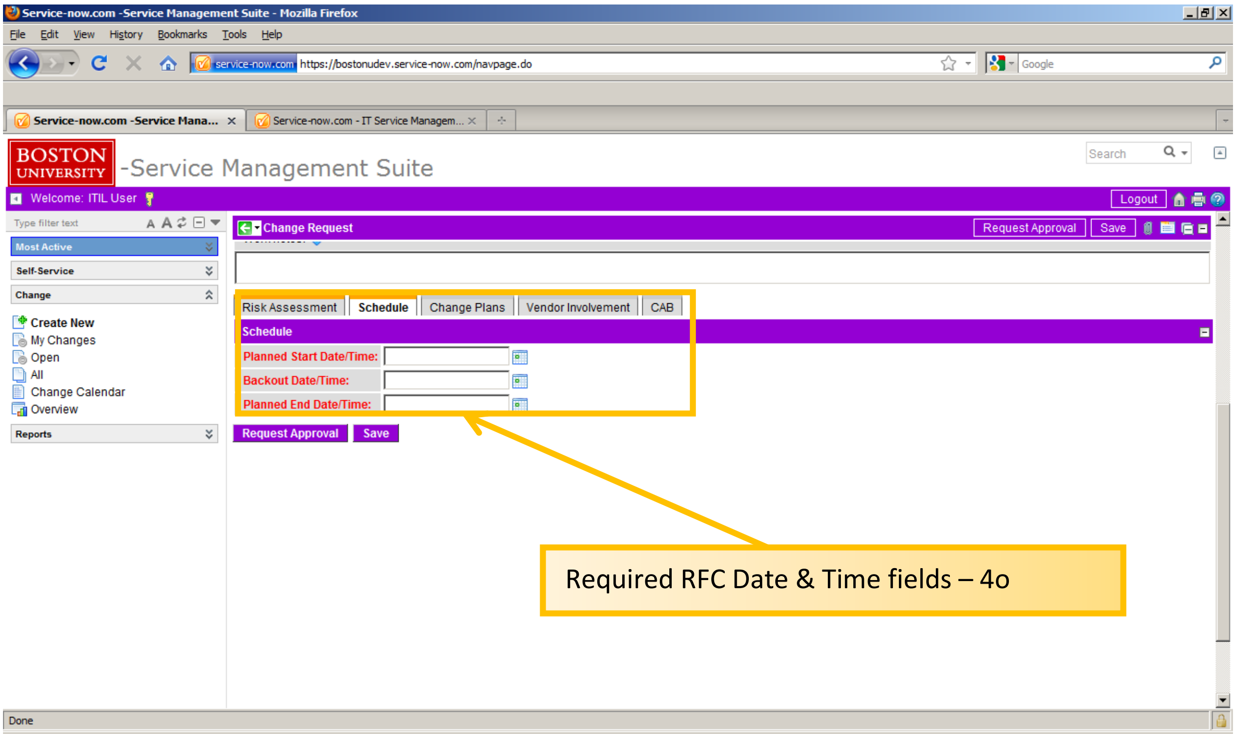



n) Risk Assessment: Four questions must be answered which are then used to calculate the Risk Value for the change – required

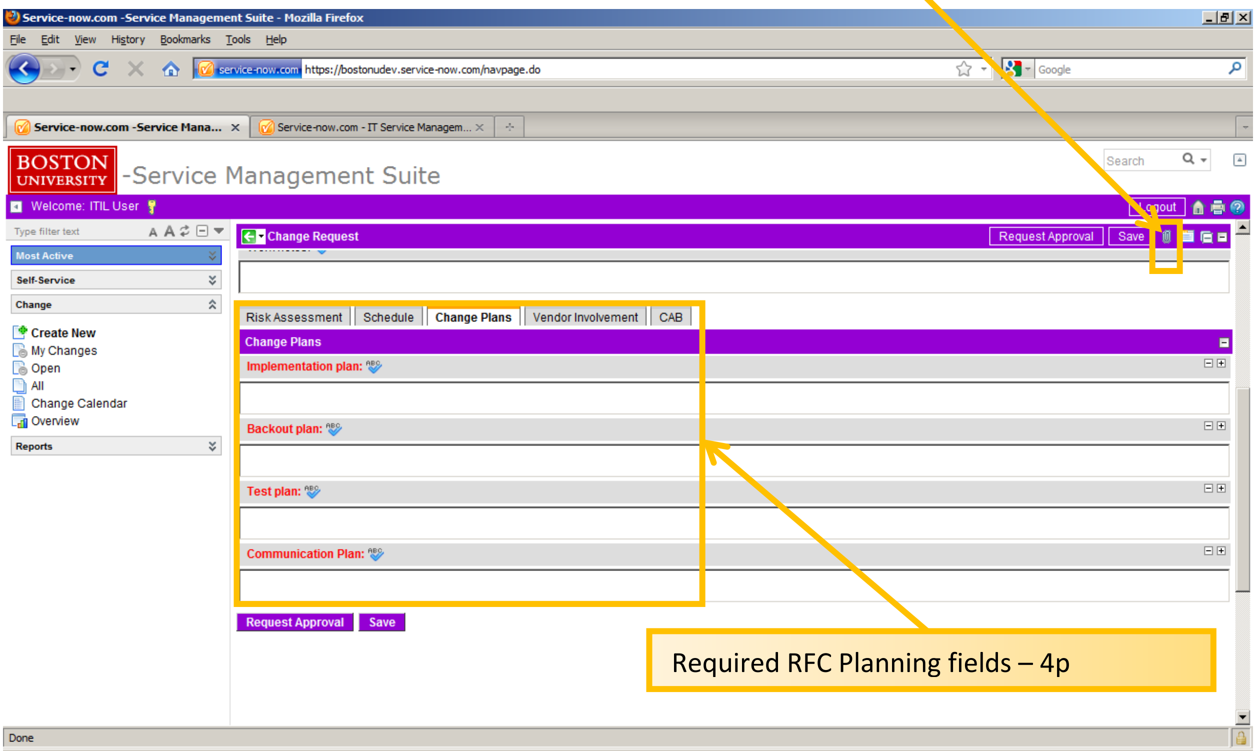



NOTE: The Risk Assessment, Schedule, Change Plans, Vendor Involvement, and CAB fields are all tabs at the bottom of the ticket. To complete each field, select the appropriate tab.

o) Schedule: Dates and Times are required –




p) Change Plans: The four sets of plans that must be accounted for are: implementation, back-out, test, and communication. The plans may be entered into the fields as text or may be attached to the RFC as multiple documents or a single document using the paper clip button– required.

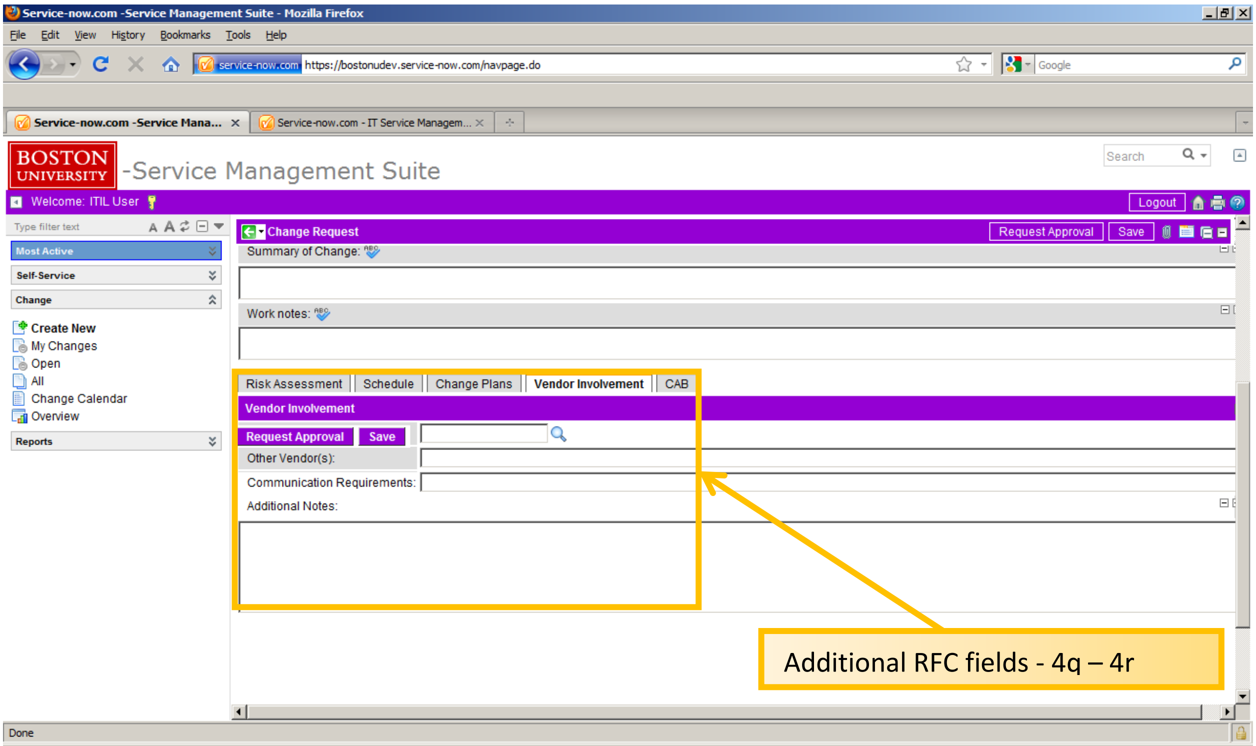



NOTE:

To attach docuements to the RFC, select the paper clip icon in the upper right corner of the window.

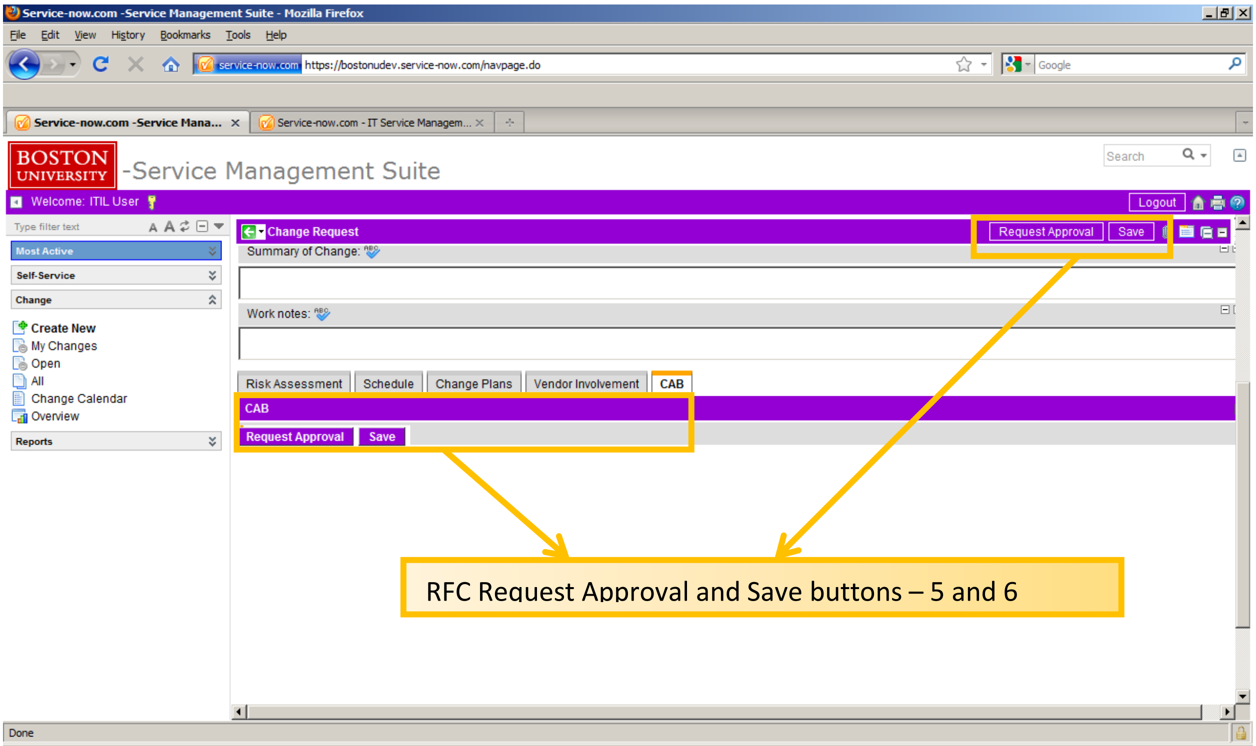
q) Vendor Involvement: Optional field that should be completed as necessary.

r) CAB: This tab will display notes from the CAB after the request has been submitted. The field cannot be edited by non-CAB members.




5) Click the 'Save' button to save a draft without submitting for approval

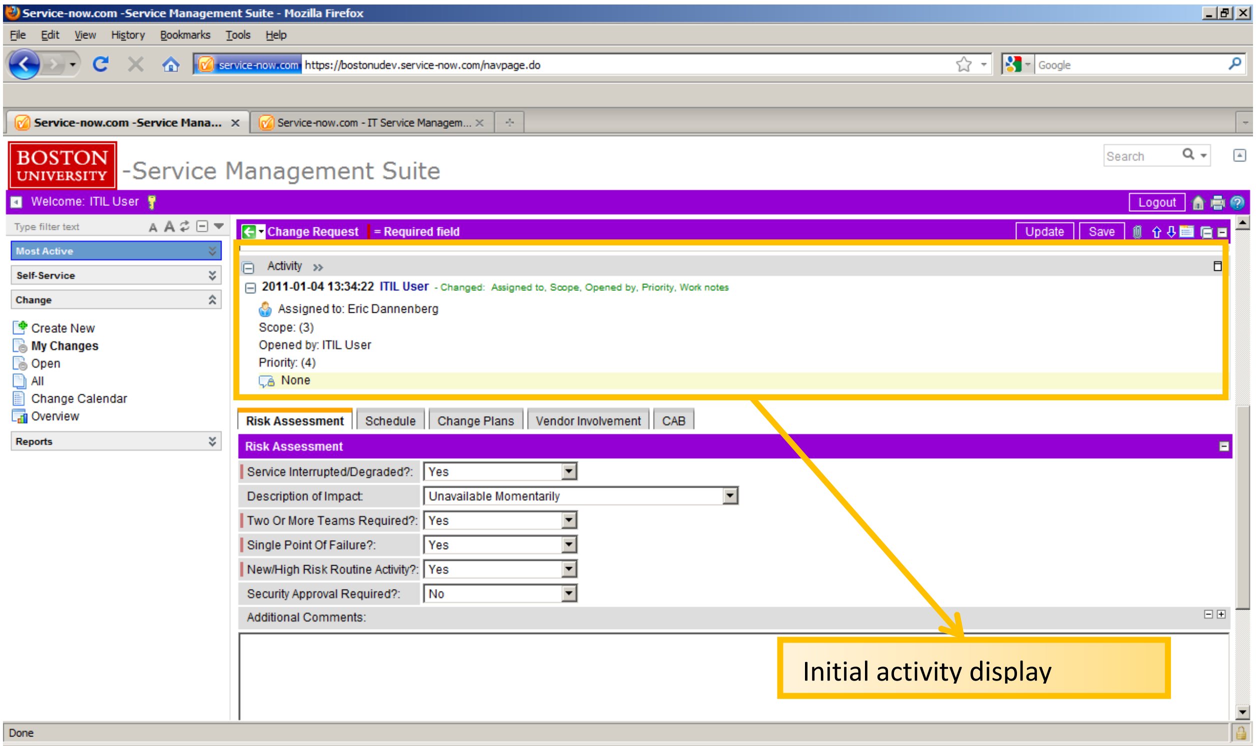
6) Click the 'Request for Approval' button to submit the RFC



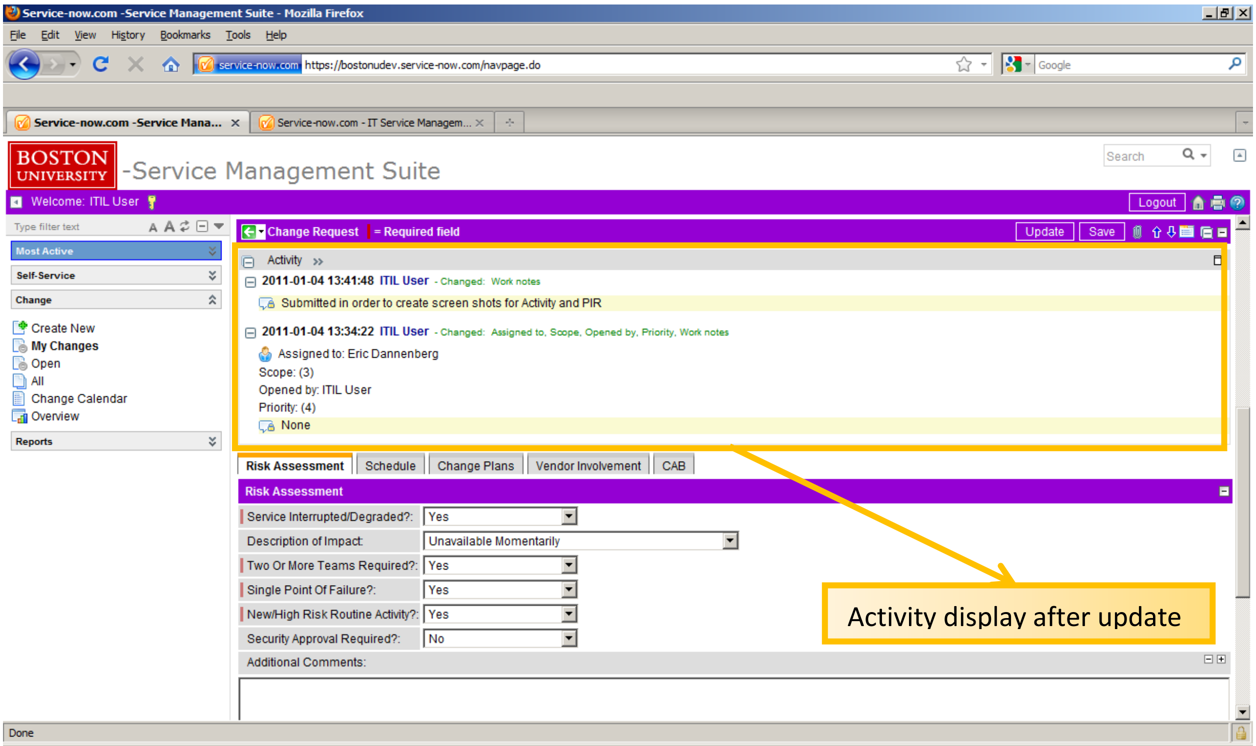
7) Submitting the RFC will trigger process workflows related to Type, Scope, and Risk Calculation that determine if approval is necessary.

## Activity Display

The Activity display first appears in the RFC after the 'Request for Approval' action is taken.




Activity display after updates to 'Work Notes'




# Post Implementation Review (PIR)

The Post Implementation Review (PIR) of an RFC is a mandatory step in the RFC process for certain changes of specific Scope and Risk

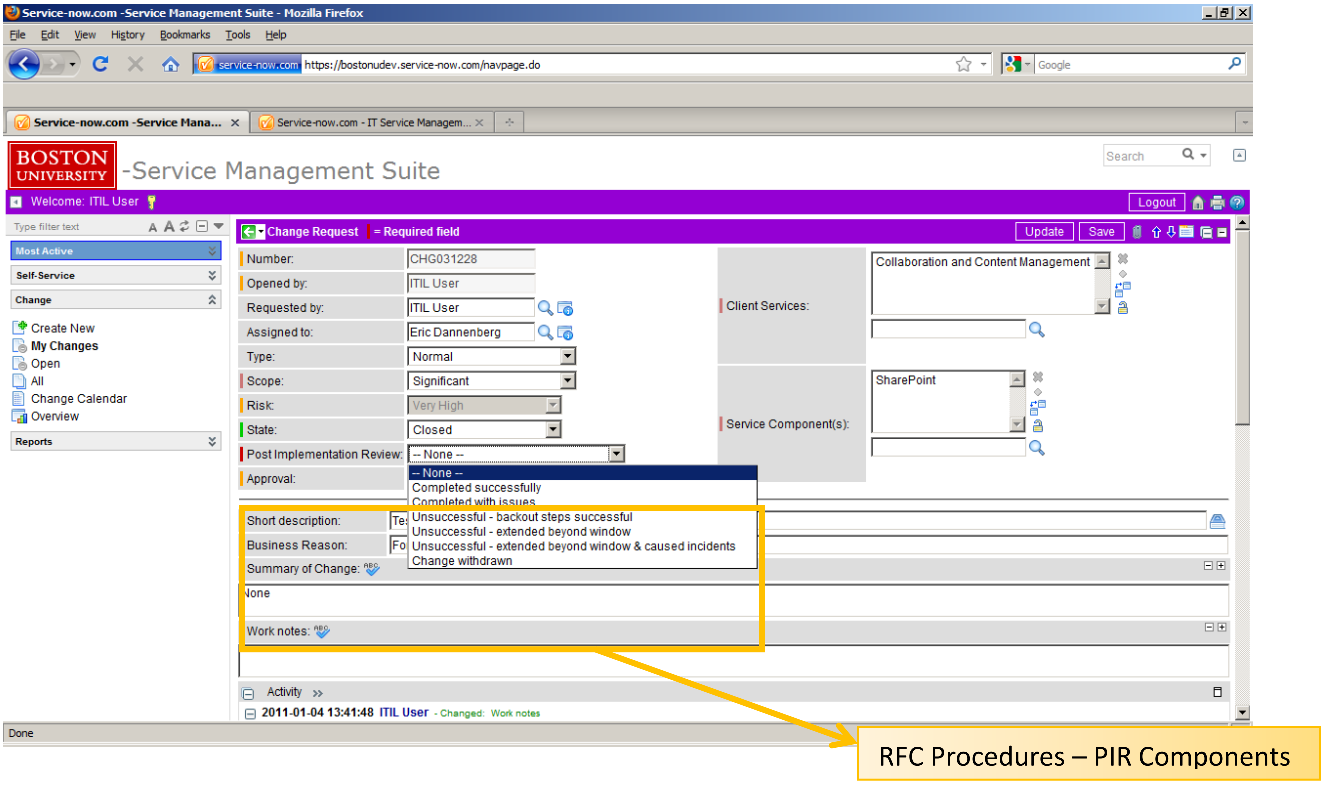
- Campus wide - all risk levels
- Significant - moderate, high, and very high
- Department – high and very high
- Minor – very high

In addition, changes that meet the following criteria require a completed PIR

- Failed Changes
- Changes that result in a Priority One incident
- Emergency changes to resolve an incident

The Change Implementer will be notified if changes meeting the above scope of change do not have a completed PIR within one day after the completion of the change.

Upon marking the State of the change as 'Closed' the required Post Implementation Review field will appear. The Change Requester shall open the selection box and select the appropriate PIR criteria.


Service-now.com -Service Management Suite - Mozilla Firefox
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Service-now.com -Service Mana...
Service-now.com - IT Service Managem...
BOSTON UNIVERSITY -Service Management Suite
Welcome: ITIL User
Logout
Most Active
Self-Service
Change
Create New
My Changes
Open
All
Change Calendar
Overview
Reports
Change Request = Required field
Update Save
Number: CHG031228
Opened by: ITIL User
Requested by: ITIL User
Assigned to: Eric Dannenberg
Type: Normal
Scope: Significant
Risk: Very High
State: Closed
Post Implementation Review: -- None --
Approval:
Client Services: Collaboration and Content Management
Service Component(s): SharePoint
-- None --
Completed successfully
Completed with issues
Unsuccessful - backout steps successful
Unsuccessful - extended beyond window
Unsuccessful - extended beyond window & caused incidents
Change withdrawn
Short description:
Business Reason:
Summary of Change:
None
Work notes:
Activity
2011-01-04 13:41:48 ITIL User - Changed: Work notes
Done
RFC Procedures – PIR Components

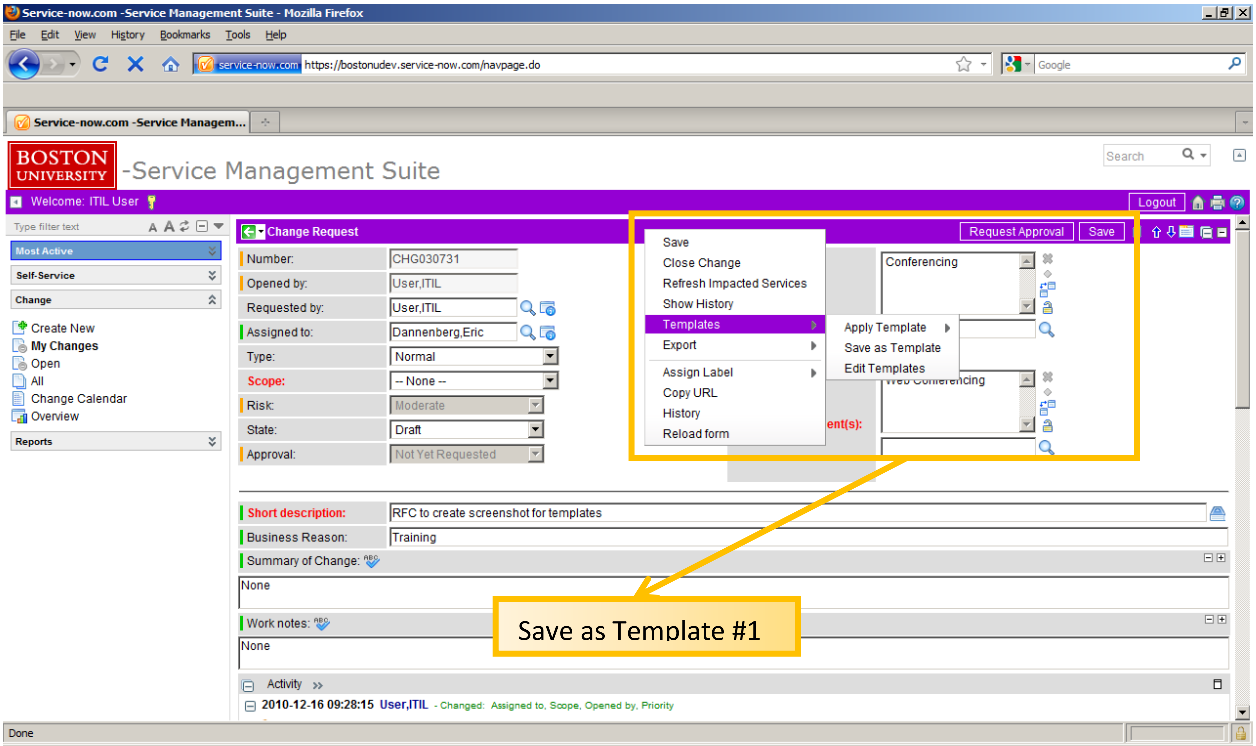
# Appendix A

## Templates

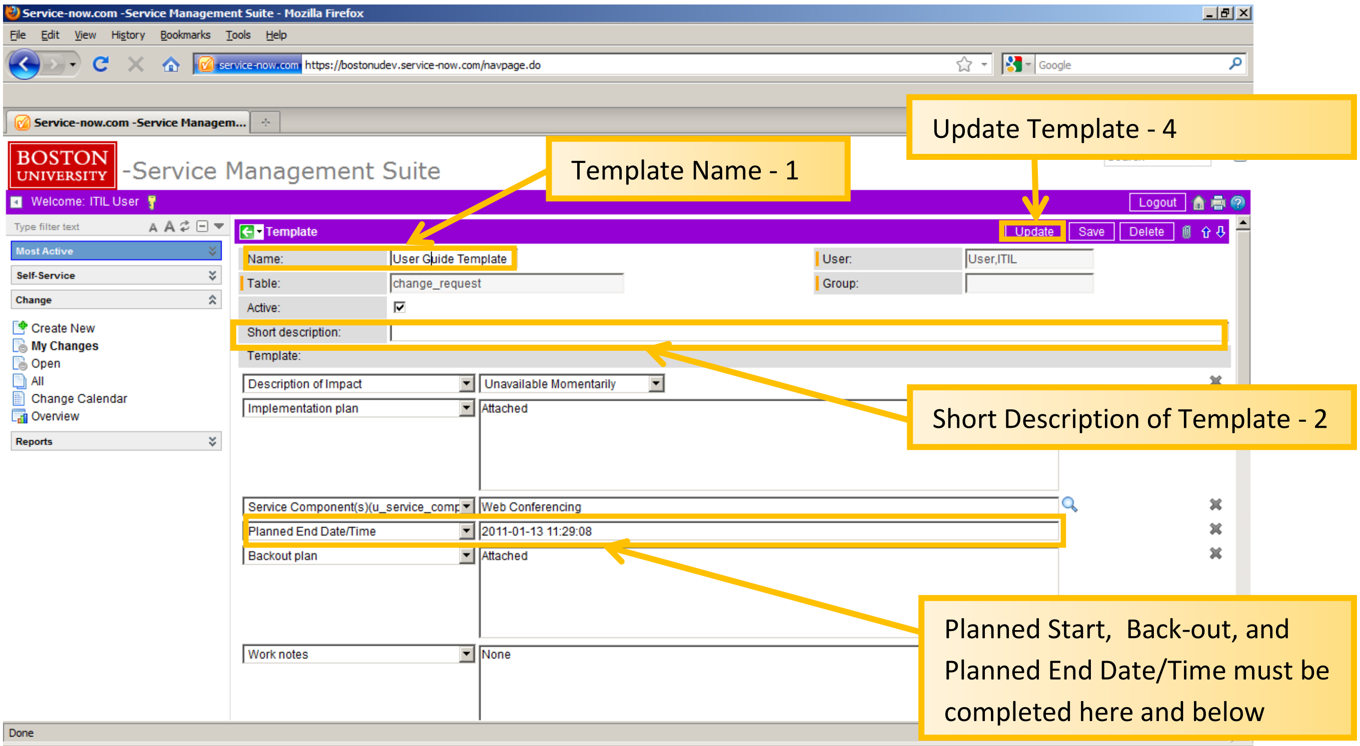
Creating and utilizing templates for submitting a change is strongly recommended for those IS&T staff who will be submitting a high volume of Change Requests. The following is an overview of how to create a template.

### *Creating a Template*

1. To create a template for a change, follow steps 1-7 in the RFC Procedures section of this guide (Make note of the assigned RFC number)
2. Open the RFC number that was just created
3. Right click on change request on the upper bar
4. Select 'Templates'
5. Select 'Save as Template'

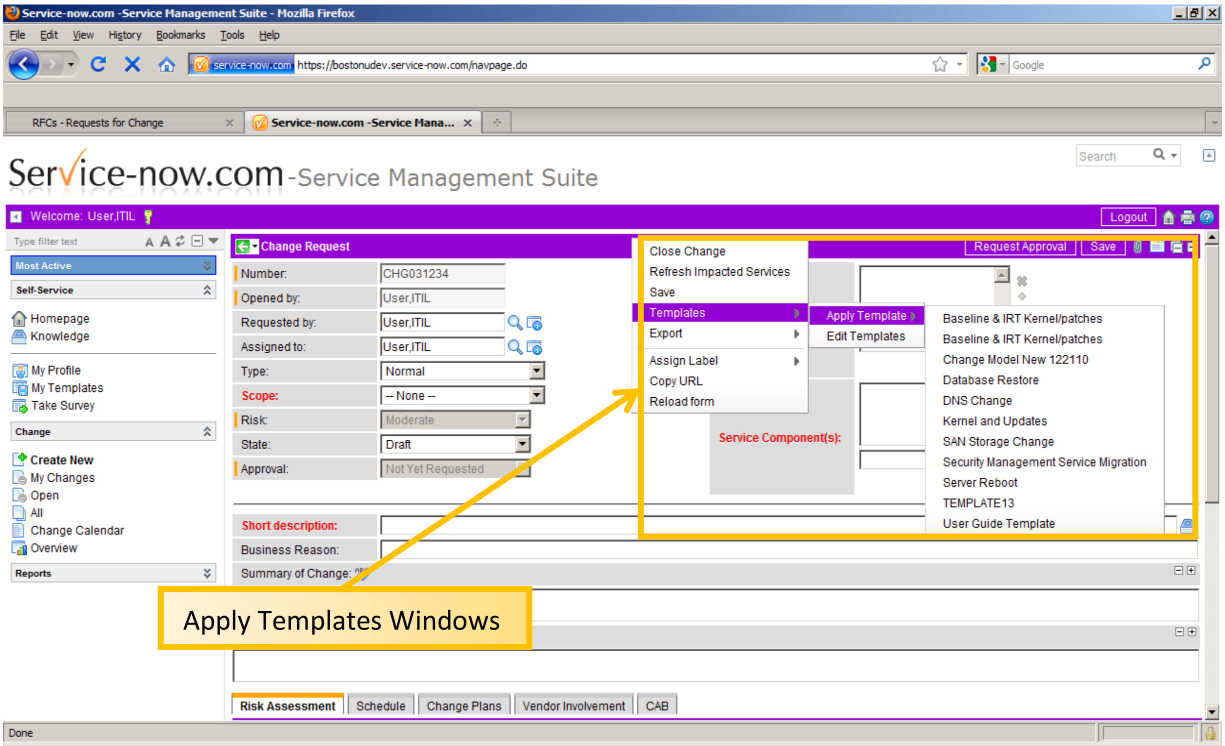



6. Create a descriptive, non-technical name for the template
7. In the 'Short Description 'field, type 'Template for' and then copy the text from the Short Description' field in the body of the template into the field
8. Clear the Planned End, Back-Out, and Planned Start date and time fields
9. Click on the update box in the lower left or upper right part of the screen to save the template




## Utilizing Templates

1. Click on the 'Create New'
2. Right click on 'Change Request' on the upper bar
3. Select Templates, Apply Templates, and the Template that you wish to use (previously named)



4. The RFC will populate with the values from the template selected
5. Complete the required fields in the RFC (Dates and Times) and update those fields that need to be changed
6. Either Request Approval or Save using the appropriate selection box

# Appendix B

### Frequently Asked Questions

Q. Where can I get a description of a field within an RFC?

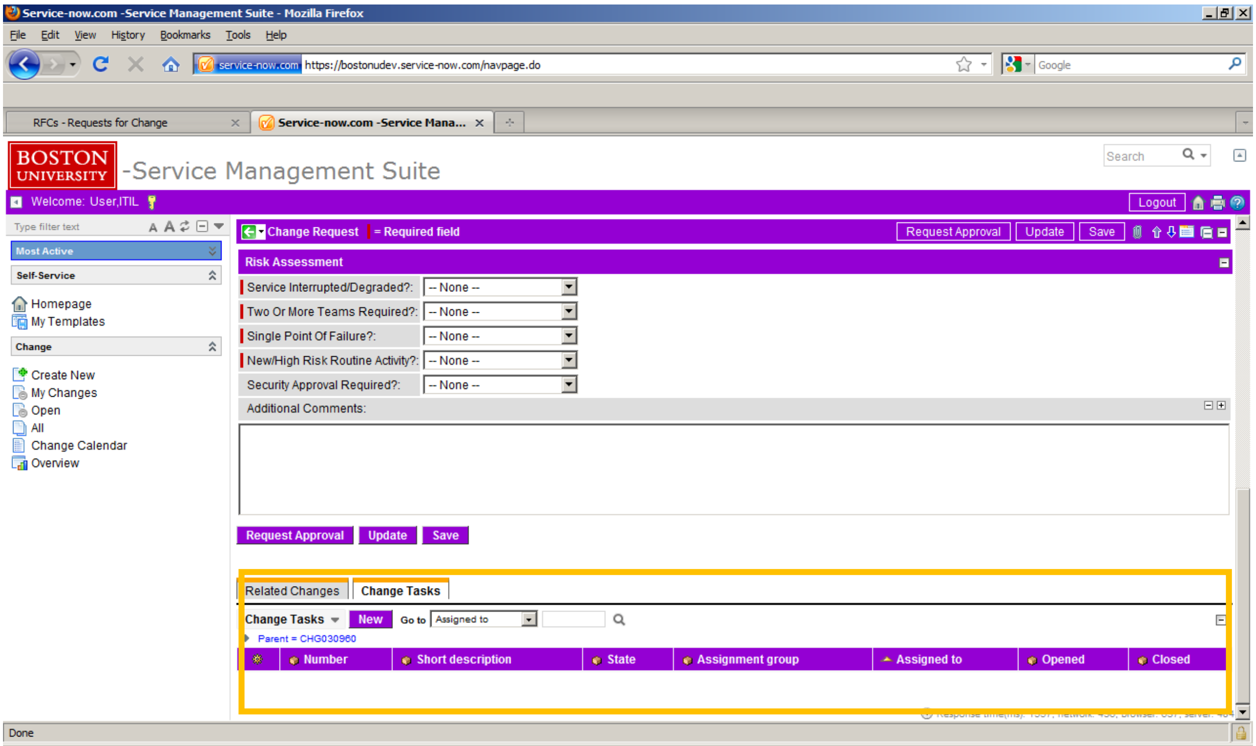
A. A description balloon will appear for a particular field when the cursor is held over that field for more than a second or two.

Q. How does notification of a University or Campus-wide change get sent out to the campus?

A. An internal IS&T mailing list exists through which subscribers to the list are notified of the week's upcoming service impacting changes, which were approved at the weekly CAB meeting. Service impacting changes that are requested and approved outside of the CAB meeting are sent to the same list.

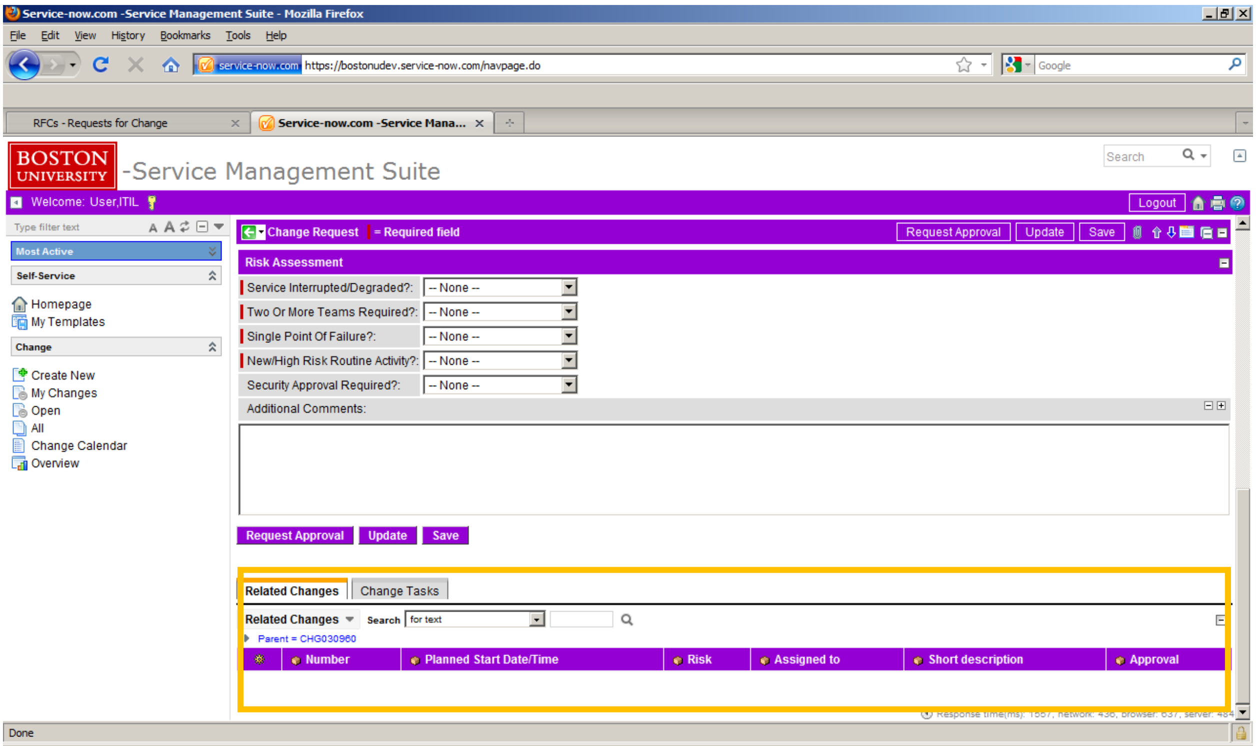
Q. What are Change Tasks?

A. Tasks can be used to track activities as part of the implementation. They should be used to help coordinate between groups. For example, if a server needs to be physically installed and then separately configured, one task may be created for one group to physically install and cable the server, with a second task created for the configuration of the server by a different group.



Q. What are Related Changes?

A. Related Changes can be used to create parent/child or hierarchical relationships between RFC's.



# Appendix C

## Glossary of Key Terms

### Categorization

Changes are categorized into four types.

- Normal – Change that will follow normal approval flow
- Standard Pre-Authorized – Change that is pre-approved based on a model
- Urgent – Change that must occur prior to the prescribed lead-time
- Emergency – Change made to resolve an incident; may be documented after the fact

### Impact

Impact assessment is based on the scope of the change as expressed in University-related terms.

- University/Campus – one or both campuses (CRC & BUMC)
- Significant – A school or two or more departments
- Department – A single department
- Minor – Five or fewer clients

### Risk

Risk is an assessed field which assigns a value to the change based on the answers to four questions, and then converts that value to a statement.

- Will service be interrupted or degraded?
- Are two or more teams required to implement the change?
- Is there a single point of failure (SPOF)?
- Is this a new or high-risk routine activity?

For each 'yes' answer a point is assigned. The total points, or risk value, of the change is equated to a risk assessment that gets assigned to the change

- Four equals 'very High'
- Three equals 'High'
- Two or One equals 'Moderate'
- Zero equals 'Low'

All risks are assigned a default value of 'Moderate' when opened

### Change Advisory Board (CAB)

The CAB (Change Advisory Board) is comprised of members who serve to support the authorization, assessment, and recommendation for or against changes from both a technical and business point of view. Each functional area should maintain representation on the CAB. The role of CAB member may be a permanent appointment or as-needed for input on a given change.

- Represent their team and their team's changes
- Review changes prior to the meeting
- Assess and recommend the approval or rejection of proposed changes. If a CAB member does not approve a change, explain wh
- Attend to approvals in a timely manner
- Attend or send a knowledgeable representative to weekly CAB meeting
- Act as a liaison between the CAB and their team regarding Change Management policies, procedures, questions, or enhancements

### Emergency Change Advisory Board (ECAB)

The ECAB (Emergency CAB) is a sub-set of the CAB. ECAB members authorize urgent changes when convening a regular CAB meeting is not appropriate or feasible. The role of ECAB membership is ad hoc, based on the nature of the emergency or urgent change. Members of a given ECAB may be part of the permanent CAB or filling an as-needed role to help assess the urgent change under review. While ECAB membership does shift, the Change Manager is always part of the ECAB. ECAB members will assess and approve or reject urgent changes of all risk types submitted and scheduled for implementation before the next scheduled CAB meeting

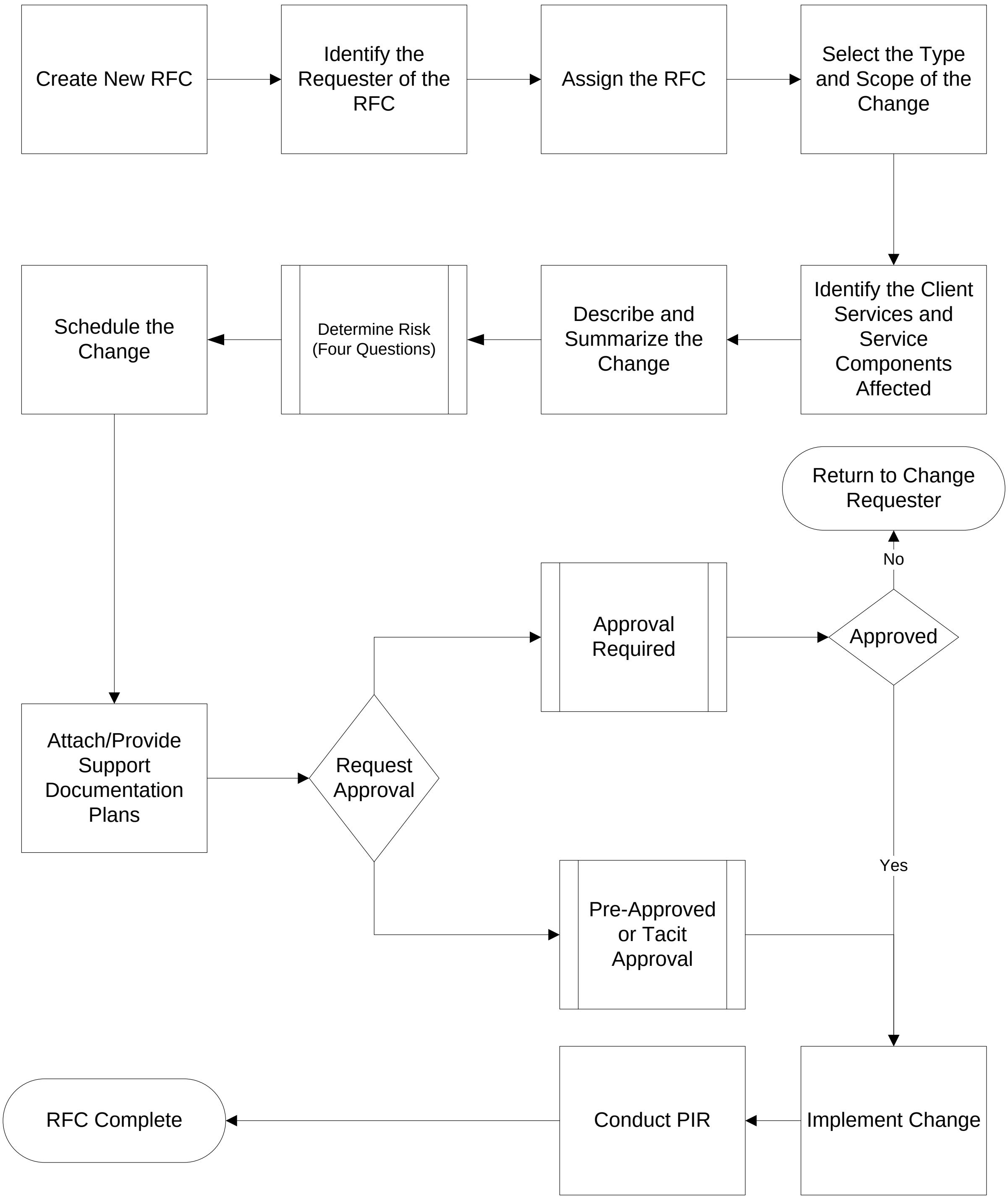
### Change Freeze

A change freeze is a period of time during which changes of <u>all</u> type, scope, and risk submitted for implementation are reviewed and subject to approval by the CAB or ECAB. Change freezes are typically associated with high profile University events such as registration, semester start up, and graduation.

# Appendix D

## Process Flows – Generic RFC Work Flow for:

**Normal Change:** Having a low, moderate, high, or very-high level of risk
**Urgent Change:** Must happen prior to a prescribed lead time (next CAB Meeting)
**Standard Pre-Approved Change:** Pre-approved based on change model



**Emergency Change:** For changes that are required to resolve incidents. These changes can be submitted after the fact. Approval comes from management.