

# Change Management

Computing and  
Telecommunications Services

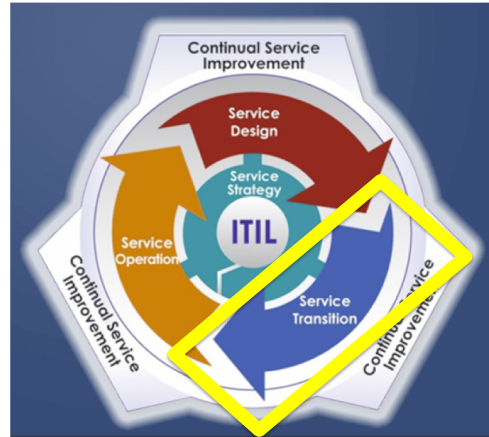


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## Agenda

- Overview
- Definitions
- Types of Changes
- Risk Assessment
- Process
- Using ServiceNow

## Overview



## Definitions

- Change
  - The addition, modification or removal of anything that could have an effect on IT services.
  - Includes, but not limited to:
    - Hardware (e.g., servers, switches, phones, projectors, printers, etc)
    - Software (e.g., installing/upgrading/removing software from a server, "Patch Tuesday")
    - Code (e.g., making changes to application code)
    - Cabling
    - Applications (e.g., upgrading to Banner 9, deprecating DARS, ServiceNow upgrade to Kingston, etc)
    - Services (e.g., Home Base, Help Desk)

## Definitions

- Change Management
  - The process responsible for controlling the lifecycle of all changes, enabling beneficial changes to be made with minimum disruption to IT services. (ITIL ST, 306)

## Definitions

- Change Advisory Board (CAB)
  - A body that exists to support the authorization of changes, and to assist the change management process in the assessment, prioritization, and scheduling of changes.
  - Approval must be unanimous

## Definitions

- Change Advisory Board (CAB)
  - Standing meeting Wednesdays @ 2pm
    - May get rescheduled depending on schedule conflicts
  - Standing members:
    - Change Manager (Jonathan Jackson)
    - Chief Information Security Office (Mike Natale)
    - Director, Client Services (Kenny Coon)
    - Director, Information Services (Michael Stankas)
    - Director, Technical Services (Larry Fox)
    - Manager, Service Desk (Reid Allen)
    - Individual performing each Change on the agenda
      - Change Coordinator
    - Others as deemed necessary

## Definitions

- Emergency Change Advisory Board (eCAB)
  - Subset of the CAB responsible to review Emergency Changes, generally on an ad hoc basis, possibly virtual.
  - Emergency Changes require approval from Director-level or higher.

## Types of Changes

Normal Change	<p>Any change that is not a routine change or an emergency change. These types of changes do not have a pre-authorized/pre-approved procedure or work instruction, are not routinely performed, or are not considered low risk. Normal Changes must be approved by the CAB each time they are performed.</p> <p>Example: Voicemail system upgrade, Upgrade to Banner 9</p>
Emergency Change	<p>A change that must be implemented as soon as possible, either to resolve a major incident, prevent a major incident, or to mitigate a security vulnerability.</p>
<p>Routine Change</p> <p><small>(Note ITIL calls this a Standard Change, so it's possible that terminology may appear in documentation, ServiceNow, etc)</small></p>	<p>A pre-authorized change that is low risk, relatively common, and follows a procedure or work instruction previously approved by the CAB.</p> <p>Example: Firewall policy changes, add/move a printer</p>

## When is a Change a Change?

- Question usually comes up regarding very low risk Routine Changes
- If what you're doing changes:
  - Consumption
  - Use
  - Function
- It is a Change

# Risk Assessment

Dependencies + Impact + Priority + Scope = Risk Level

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

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

# Deadline for Change Submission

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

## Periods of Minimal Changes

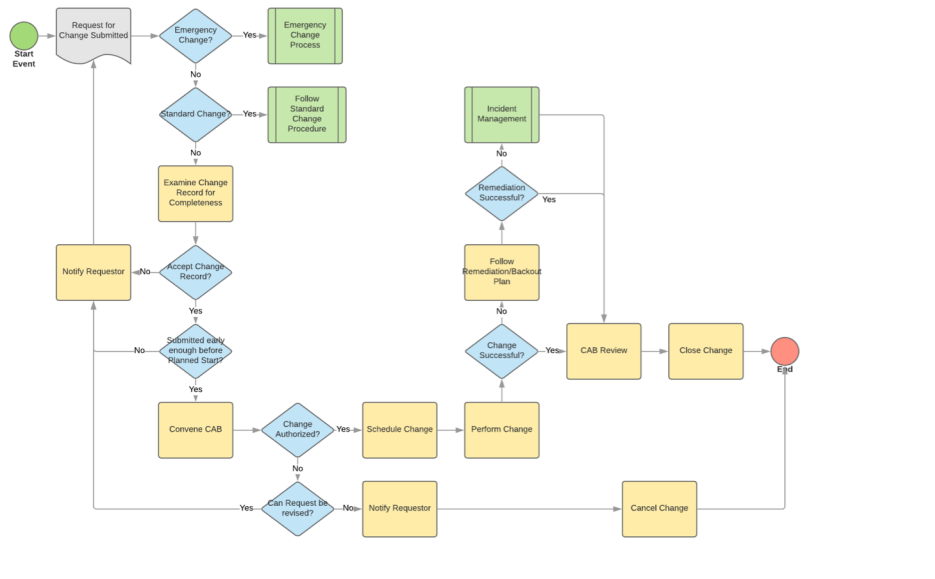
- We are not calling these “blackout windows”. Changes can still occur during these times.
- Changes occurring during times that are critical to the business of the university will receive additional scrutiny; and the CAB may require they be performed outside of these times.
- Flexibility is key. Want to avoid increased risk, but still permit necessary changes.

## Periods of Minimal Changes

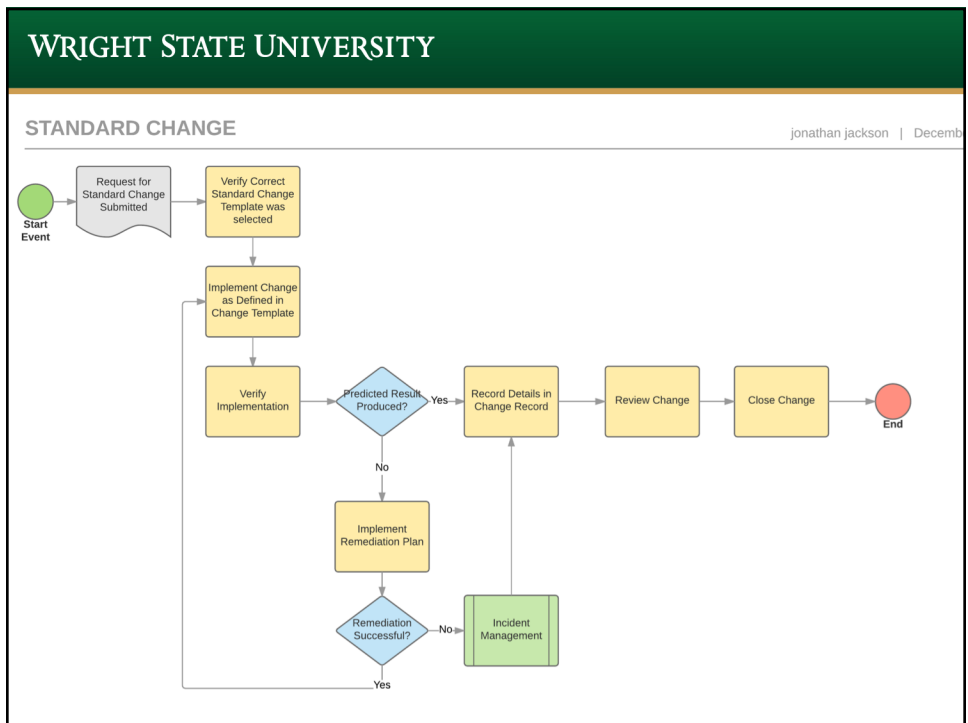
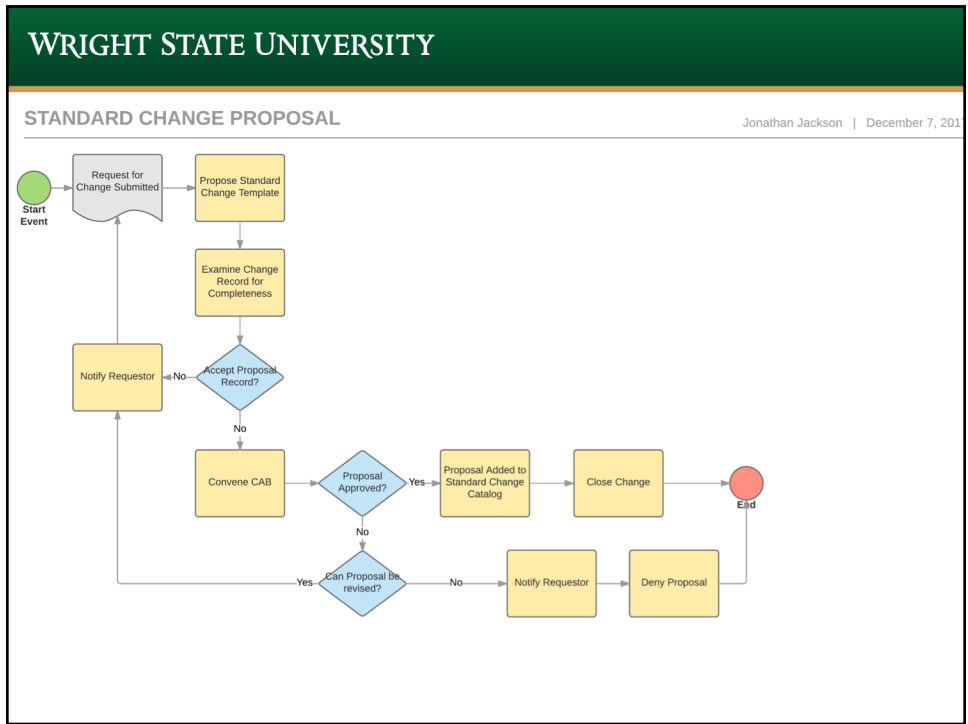
<b>Beginning of the Semester</b>	Begins:	12:01am on the day 1 week prior to the first day of Fall or Spring semester
	Ends:	11:59pm on the day 1 week after the first day of Fall or Spring semester
<b>End of the Semester</b>	Begins:	12:01am on the day 1 week prior to the start of finals week
	Ends:	11:59pm on the day of the final grade submission deadline, as determined by the Office of the Registrar.

# Maintenance Windows

- Changes should be performed at the following times:
  - Every Tuesday: 5:30am - 7:30am
  - First Sunday of each month: 6:00am – Noon
  - Second Sunday of each month: 6:00am – Noon
- The CAB may authorize changes to occur outside of a maintenance window if it is deemed necessary.
- The CAB may authorize Routine Changes to be performed at times other than the defined maintenance windows, including authorizing Routine Changes to be performed at the discretion of the Change Coordinator.







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# Change Record

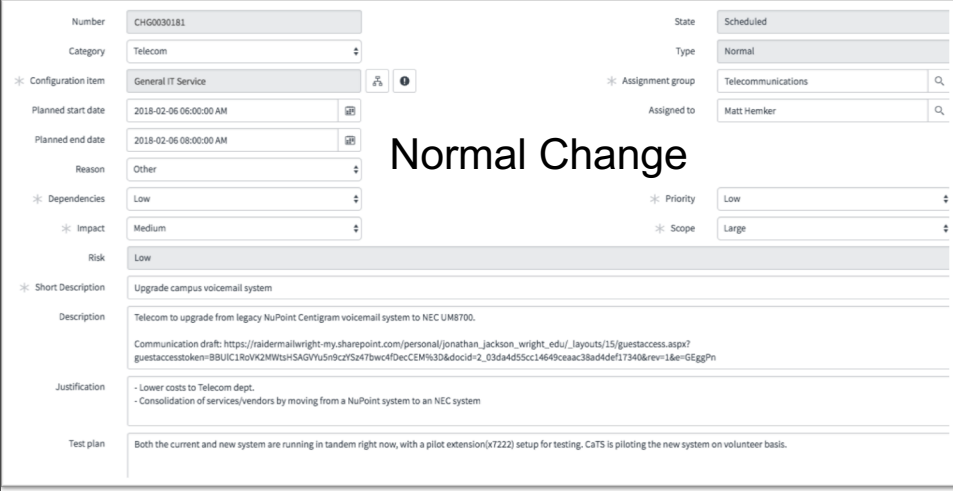
- All Changes recorded in ServiceNow



The screenshot shows a dark-themed navigation menu for 'Change'. The menu items are: Overview, CAB Overview, Create Routine Change, Create Normal Change, Create Emergency Change, and Changes (with a dropdown arrow). The 'Create Routine Change', 'Create Normal Change', and 'Create Emergency Change' items are highlighted with a red rectangular border.

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# Change Record



The screenshot shows a ServiceNow Change Record form for a 'Normal Change'. The form includes the following fields and values:

- Number: CHG0030181
- State: Scheduled
- Category: Telecom
- Type: Normal
- Configuration Item: General IT Service
- Assignment group: Telecommunications
- Planned start date: 2018-02-06 06:00:00 AM
- Assigned to: Matt Hemker
- Planned end date: 2018-02-06 08:00:00 AM
- Reason: Other
- Dependencies: Low
- Priority: Low
- Impact: Medium
- Scope: Large
- Risk: Low
- Short Description: Upgrade campus voicemail system
- Description: Telecom to upgrade from legacy NuPoint Centigram voicemail system to NEC UM8700. Communication draft: [https://raidermailwright-my.sharepoint.com/personal/jonathan\\_jackson\\_wright\\_edu/\\_layouts/15/guestaccess.aspx?guestaccesstoken=BBUIC1RoVK2MWTsH5AGVYu5n9czYS47bwc4fDecCEM%3D&docid=2\\_03da4d55cc14649ceaac38ad4def17340&rev=1&e=GEgPn](https://raidermailwright-my.sharepoint.com/personal/jonathan_jackson_wright_edu/_layouts/15/guestaccess.aspx?guestaccesstoken=BBUIC1RoVK2MWTsH5AGVYu5n9czYS47bwc4fDecCEM%3D&docid=2_03da4d55cc14649ceaac38ad4def17340&rev=1&e=GEgPn)
- Justification:
  - Lower costs to Telecom dept.
  - Consolidation of services/vendors by moving from a NuPoint system to an NEC system
- Test plan: Both the current and new system are running in tandem right now, with a pilot extension(x7222) setup for testing. CaTS is piloting the new system on volunteer basis.

**Normal Change**

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# Change Record

## Normal Change

**Implementation plan**

- Have users set up their voicemail boxes prior to cutover, and continue to use the Centigram system
- On cutover:
  - remove serial MCI connection and plug directly into PBX via IP - redirect UM8700 to PBX IP address
  - System extensions will flip: x7222 will call the Centigram system, x1010 will call the NEC system
  - Any phones that are forwarded to x7222 on morning of cutover, will be re-forwarded to x1010 automatically (CaTS volunteer testers)

**Backout plan**

If cutover fails, the serial MCI connection to the PBX will need to be reinstalled and system extensions be flipped back to prior production status(Centigram x1010, UM8700 x7222).

**Additional comments (Customer visible)**

**Work notes**

**CAB Details** | CAB Review | Closure Details | Comments/Notes/Activity Stream

CAB date: 2018-01-17

CAB recommendation:

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# Change Record

## Normal Change States

New	Assess	Authorize	Scheduled	Implement	Review	Closed	Cancelled
<b>New</b>	Change has not yet been submitted		<b>Scheduled</b>	Change has been approved and is on the schedule			
<b>Assess</b>	Change record is being reviewed by change manager for completeness		<b>Implement</b>	Change is being implemented			
<b>Authorize</b>	Change record is being reviewed by CAB for authorization		<b>Review</b>	Change has been completed, and needs post-change review by CAB			
			<b>Closed</b>	Change has been Closed			

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## Change Record

New ✓ Assess ✓ Authorize ✓ **Scheduled** Implement Review Closed Cancelled

- Only New/Assess and Implement/Review need to be performed by Change Coordinator



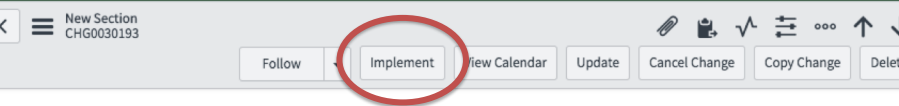
New Section  
New record

New Assess Authorize **Scheduled** Implement Review Closed

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## Change Record

New ✓ Assess ✓ Authorize ✓ **Scheduled** Implement Review Closed Cancelled



New Section  
CHG0030193

Follow **Implement** View Calendar Update Cancel Change Copy Change Delete

- Click “Implement” when you start performing the change

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## Change Record

New ✓ Assess ✓ Authorize ✓ **Scheduled** Implement Review Closed Canceled

< ☰ New Section  
CHG0030193

Follow **Complete Change** View Calendar Update Cancel Change Copy Change Delete

ⓘ Risk Condition applied: Calculate Risk; Risk: Moderate; Impact: Medium ✕

New ✓ Assess ✓ Authorize ✓ Scheduled ✓ **Implement** Review Closed Canceled

- Click “Complete Change” when you finish performing the change

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## Change Record

New ✓ Assess ✓ Authorize ✓ **Scheduled** Implement Review Closed Canceled

- Close code and Close notes are required to complete a change

CAB Details CAB Review **Closure Details** Comments/Notes/Activity Stream

Close code Successful with issues

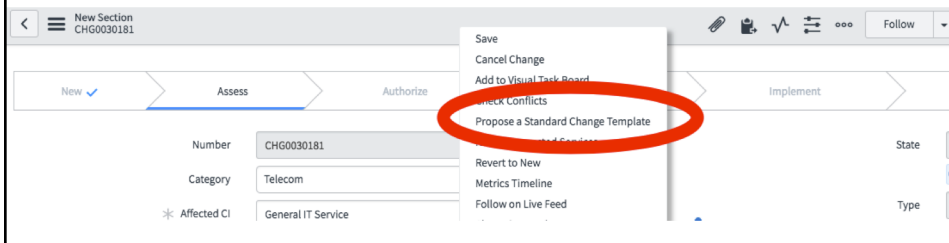
Close notes  
The updates have been applied to all servers. In the future we'll need to be aware that cognos doesn't use the system version of httpd, although we've put measures in place to nullify this going forward. We'll also need to bear in mind that when servers running PHP are updated, we need to monitor the messages file for SELinux alerts that PHP isn't able to use something (i.e. domain name resolution) and resolve that quickly. Would be helpful to have test scenarios for the various servers that need to be updated to verify a successful update, but my requests for this have been for the most part unanswered.

## Routine Change Proposal

- All routine changes must first receive CAB approval to be considered routine.
- Changes must have a defined and consistent process to implement.
- Must be low risk

## Routine Change Proposal

- Easiest way to create:
  1. Create a Normal Change
  2. Right-click in header, select “Propose Standard Change Template”



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Propose a new Standard Change Template

Standard Changes are those with repeatable implementation steps that have a proven history of success and are considered by Change Management to be low risk. Use this request to propose a Standard Change for your Change Management team to confirm.

Short description  
Upgrade campus voicemail system

Category

Sample Change Requests

More information

CHG0032181

Change Request values

More information

Short Description Upgrade campus voicemail system

Description  
Communication draft: [https://redmail@wright-my.sharepoint.com/personal/jonathan\\_jackson\\_wright\\_edu/\\_layouts/15/guestaccess.aspx?guestaccesskey=884C2467C28909546784682572478e4f39cc23f446d0c1d2\\_0384455cc146f60a6c38a4e617140&rev=1&e=QJgpm](https://redmail@wright-my.sharepoint.com/personal/jonathan_jackson_wright_edu/_layouts/15/guestaccess.aspx?guestaccesskey=884C2467C28909546784682572478e4f39cc23f446d0c1d2_0384455cc146f60a6c38a4e617140&rev=1&e=QJgpm)

Implementation plan  
- Have users set up their voicemail boxes prior to outage, and continue to use the Centigram system  
- On outage  
- Remove serial MC connection and plug directly into PBX via IP - redirect UM8700 to PBX IP address

Results or other

To add change tasks to this proposal, click Save and use the Change Task Templates related list to define the tasks

Request Approval Save

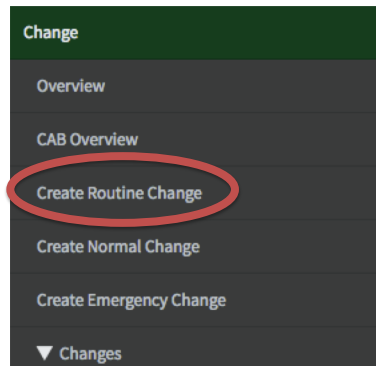
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## Routine Change Proposal

- Routine Change Proposal will be reviewed by CAB
- Once approved, routine changes can be performed without further CAB approval
  - Only during agreed maintenance windows
  - Each Routine Change still gets logged

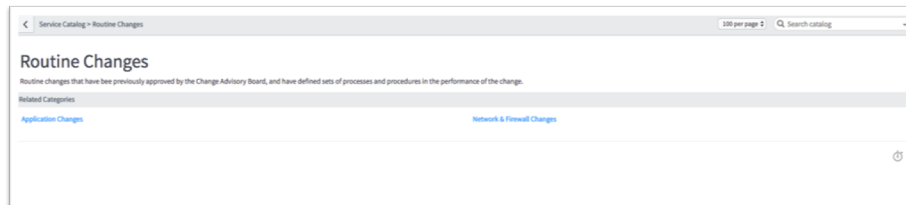
## Routine Change

- After a Routine Change has been approved, it will appear in the Routine Change catalog



## Routine Change

- Changes are placed into categories





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## Routine Change

< Service Catalog > Routine Changes > Application Changes

### Application Changes

Items

- ads
- ServiceNow Release
- SN

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## Routine Change

- Clicking a change created a new Routine Change record
- All information in the original proposal gets copied into the change record

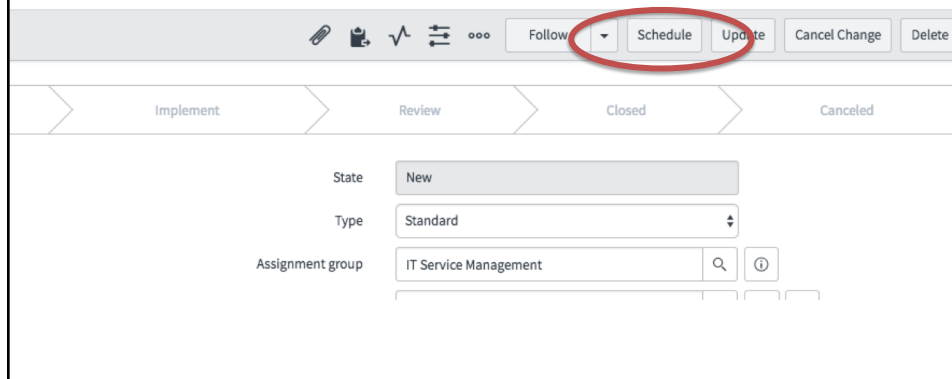
# Routine Change

# Routine Change

- Update fields as necessary for the change

## Routine Change

- Click “Schedule” to schedule the change

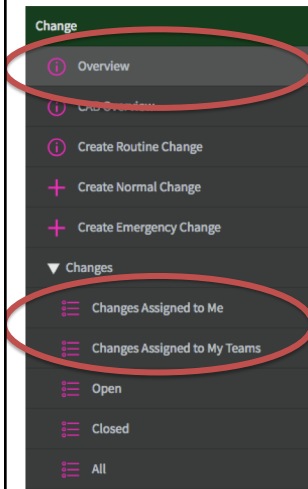


The screenshot shows a software interface for managing routine changes. At the top, there is a dark green header with the text "WRIGHT STATE UNIVERSITY". Below the header, the title "Routine Change" is displayed. A list of instructions follows, with the first item being "Click 'Schedule' to schedule the change". Below the text, a toolbar contains several icons and buttons. The "Schedule" button is highlighted with a red circle. Other buttons in the toolbar include "Follow", "Update", "Cancel Change", and "Delete". Below the toolbar, a progress bar shows four stages: "Implement", "Review", "Closed", and "Canceled". The "Implement" stage is currently active. Below the progress bar, there are three input fields: "State" with a dropdown menu set to "New", "Type" with a dropdown menu set to "Standard", and "Assignment group" with a text input field containing "IT Service Management" and a search icon.

## Routine Change

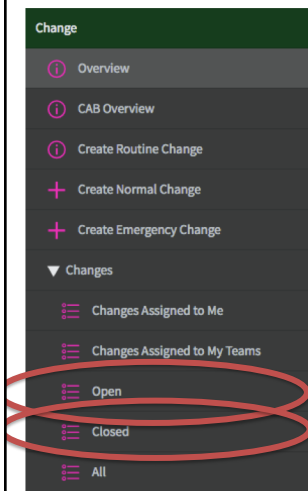
- Just like a Normal Change:
  - Click "Implement" when you start the change
  - Click "Complete Change" when you are done

## Viewing Change Records



- **Overview:** dashboard of changes scheduled this week and last week
- **Changes Assigned to Me/Team:** list of changes assigned to you or to members of any of your teams/groups

## Viewing Change Records



- **Open:** list of all changes in an Open state
- **Closed:** list of changes in a closed stated

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# Viewing Change Records

- Overview

Add content Change Overview Change Layout

Changes Being Implemented

Number	Type	Short Description	Planned start date	Planned end date	Configuration Item
No records to display					

Change Requests planned for this week

Number	Type	Category	Assigned to	Short Description	State	Planned start date	Planned end date	Approval
No records to display								

Change Requests planned for next week

Number	Type	Category	Assigned to	Short Description	Planned start date	Planned end date	Approval
CHG0030219	Standard	Applications Software	Jonathan Jackson	Bi-Weekly ServiceNow Release: 20180403	2018-04-03 07:30:00 AM	2018-04-03 08:30:00 AM	Approved

Change Requests Conducted Last Week

Number	Type	Category	Assigned to	Short Description	Actual start	Actual end
CHG0030213	Standard	Applications Software	Jonathan Jackson	Bi-Weekly ServiceNow Release: 20180320	2018-03-20 07:54:55 AM	2018-03-20 08:47:57 AM

Conflicted Changes Starting in the Next 7 Days

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# Viewing Change Records

- List of Open Changes

Change Requests New Go to

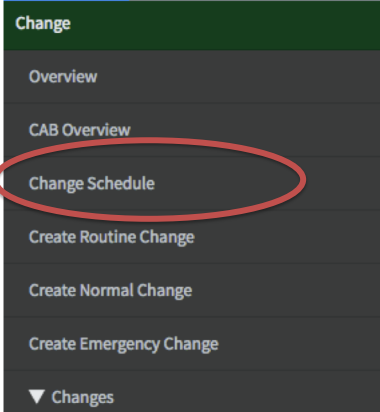
All > Active = true

Number	Short Description	Description	Configuration item	Type	State	Planned start date	Planned end date	Assigned to
CHG0030219	Bi-Weekly ServiceNow Release: 20180403	Deploy the following update sets: 201...	Application_Services	Standard	Scheduled	2018-04-03 07:30:00 AM	2018-04-03 08:30:00 AM	
CHG0030208	Upgrade vcenter 6 to 6.5 (VCSA) in the VDI environment.	Upgrade vcenter 6 update 1 to 6.5 (VCSA)...	General.IT_Service	Normal	Scheduled	2018-04-28 07:00:00 PM	2018-04-29 05:00:00 AM	Carey_Kaufmann

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# Change Schedule

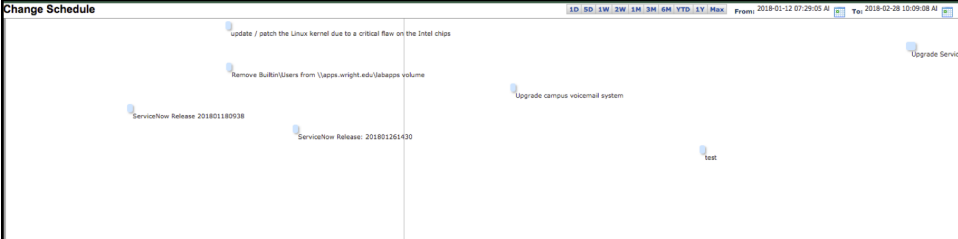
- Shows a timeline view of changes



The screenshot shows a dark-themed navigation menu with the following items: Change, Overview, CAB Overview, Change Schedule (circled in red), Create Routine Change, Create Normal Change, Create Emergency Change, and a collapsed 'Changes' section.

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# Change Schedule



The screenshot displays a 'Change Schedule' timeline. The timeline includes several entries: 'update / patch the Linux kernel due to a critical flaw on the Intel chips', 'Remove BulletinUsers from \\apps.wright.edu\labapps-volume', 'ServiceNow Release: 201801180938', 'ServiceNow Release: 201801261430', 'Upgrade campus voicemail system', 'test', and 'Upgrade Servo'. The timeline is set from 2018-01-12 07:29:03 AM to 2018-02-28 10:09:08 AM.