

CCIT Change Management Process, Diagram 2.

Process Step	Item	Description	Owner
1	Verify need for change	The need for change can come from many sources. A change may come as a result of a customer issue or request, an Incident, Problem or performance issue or external sources such as University or Government mandates. As the need for a change surfaces, the CCIT staff member needs to determine if a change is needed to satisfy the need.	CCIT Staff Member/Change Initiator
2	Approval?	Once the need for a change is determined by the staff member, that staff member's Supervisor or Manager should provide approval for the need to make the change.	Supervisor or Manager/Change Owner
2a	Initiate discussion on scheduling and verify calendars	The Change Owner/Change Initiator, upon verifying the need for a change review the Critical Dates Calendar and the Forward Schedule of Changes Calendar to ensure the timeframe they desire does not conflict with any other event or approved change. At the same time, based on the impact of the needed change the CI/CO should send a message to the Change Request Discussion mailing list (CCIT_CHGD-L@clemson.edu) to communicate their need for a change. This list is comprised of all CCIT Directors and Managers and is provided to initiate discussion and verification of changes needed.	Change Owner/Change Initiator
3	Emergency?	If the implementation of a change is due to a major loss of functionality or to resolve a disruption in the delivery of the System to customers, it may be necessary to categorize the change as an emergency.	Change Owner
3a	Execute Emergency Procedures	If the change is deemed an Emergency Change, the Supervisor or Manager, referred to as the Change Owner, should proceed to the Emergency Change Management Process immediately.	Change Owner
4	Submit RFC	If the change is not deemed an emergency, the staff member should initiate a formal Request for Change (RFC). The staff member, at this point, becomes the Change Initiator for the RFC.	Change Initiator
5	Coordinate and Communicate RFC with other CCIT areas prior to meeting	Upon submission of the Request for Change, the Change Owner and/or the Change Initiator should initiate communications with other areas of CCIT, based on their dependency or involvement with the System in question. This communication should serve as the initial discussions for the implementation of the change.	Change Owner/Change Initiator

6	Record Initial Change and assign RFC#	Upon submission of the Request for Change form, the Change Management System will record the change, assign an RFC tracking number and post the request to the Requested Change logs.	Change Management System
7	Verify against Critical Dates and Forward Schedule of Changes. Catalog and Prioritize Change and add to Agenda	Upon addition of the RFC to the Requested Change log, the CCIT Change Manager (CM) should review the request ensuring all information is provided. The CM should, at this point, verify the proposed date and time of the change against the Critical Dates Calendar (which indicates those dates/times that specific Systems are required to support University activities) and the Forward Schedule of Changes which identifies those changes that have already been approved and scheduled to ensure there are no conflicts. Once this verification has been conducted, the CM will categorize the change based on the number of users affected, the length of any System outage involved and the priority of accomplishing the change.	
8	Represents Change at CCIT Change Meeting	The Change Initiator and/or the Change Owner are required to represent the RFC at the next Weekly Change Management Meeting. At this time, they present the change to the Change Advisory Board and any CCIT staff members present. The change is reviewed and verified as to the impact and any issues that are identified. The Change Management meeting is only a "last chance" check to verify everything is ready. All communications, discussions and scheduling issues should have been identified prior to the meeting by both System Owners and Customers. This meeting is just a last "check off" of the change and should not be more time consuming than necessary. Any RFC that is represented in the meeting that has not been coordinated with the various customers and CCIT units will be "postponed" from implementation until coordination and communications have been conducted.	Change Initiator/Change Owner
9	Reviews impact and schedule of change	Both prior to, and during the Change Management meeting the CAB is charged with reviewing all change requests and ensuring there is minimal negative impact. This review should be conducted in a timely manner to allow any CAB member to contact the CI or CO prior to the meeting to resolve any questions.	Change Advisory Board
10	Change reviewed in weekly meeting	Once the RFC has been presented in the Change Management Meeting CCIT staff members and CAB members are provided an opportunity to ask questions or get clarification.	CCIT Change Manager

11	Approved?	Once presented and reviewed the Change Manager may approve or disapprove the change request. This decision is made based on his/her knowledge of the overall production environments within CCIT and with the input of the Change Advisory Board. If the RFC is disapproved, it goes back to the beginning of the process for review of schedule. The only reason a change should be disapproved is due to insufficient communications or lack of coordination. The viability of any change is not within the purview of the CAB. Management determines the need for a change, Change Management only focuses on the impact of that change on the other Systems provided by CCIT and the impact on our customers.	CCIT Change Manager
12	Execute communication process if required	All approved RFC's are immediately posted on the CCIT Systems Availability web site and sent out via the Systems Notification tools. However, some changes, especially those of a larger scale and impact will require additional communications to a wider audience. In this situations the CCIT Communications Office, who should be represented in all Change Management Meetings, will get involved to ensure adequate communications are conducted.	CCIT Communications Office
13	Updates System Availability Calendar and sends notifications	Once RFC's are approved the CCIT Change Manager will update the Systems Availability Calendar and send the "approved change requests" listing out to the appropriate communications lists.	CCIT Change Manager
14	Sends AAR to Change Initiator	Once an RFC is changed to "Approved" the system will automatically send an After Action Report" or AAR to the Change Initiator. This form must be completed upon completion of the change to document any issues that may have arisen. Additionally, the AAR contains the exact times the change was initiated and completed, as well as any variations that were required in the proposed change request.	Change Management System
15	Proceed to Change Execution Process	Upon approval of the RFC the Change Initiator proceeds to the Change Execution Process to implement their Change.	Change Initiator/Change Owner

CCIT Change Management Execution Process, Diagram 3.

Process Step	Item	Description	Owner
1	Begin Change Execution Process	Initiation of this process should only commence upon completion of the RFC Initiation process outlined in the section above.	Change Initiator
2	Responsible for building Change, devising backout plan and conducting testing	The Change Initiator and Change Owner are responsible for building the change, developing the backout plan and conducting tests to ensure the implementation will meet the required results	Change Initiator/Change Owner
3	Conducts Testing	Upon completion of step 2, an independent tester should go through the process to ensure the change will be successful. Due to limitations in staffing and other resources an independent tester may not be available to perform this step. In this case, it is the Change Owner's responsibility to verify the change will perform as required, will result in the desired outcome and will meet the needs from which the change request resulted.	Independent Tester
4	Testing Failed?	If testing of the change fails the Change Initiator will be notified and implement modifications as necessary to ensure a successful test. This step and step 2 will be an iterative process until a successful implementation test is reached.	Change Initiator
5	Updates log with progress, associates and related RFCs	During the building of the change and testing process communications between the Change Initiator/Change Owner and the CCIT Change Manager should be conducted. The results of the build and the tests should be annotated within the Request for Change to ensure documentation is captured.	CCIT Change Manager
6	Coordinates Implement of Change	Once successful testing is conducted the CCIT Change Manager will coordinate implementation of the change. This will normally be through email notification to the System Owner.	CCIT Change Manager
7	Change Implemented, UOC contacted if plans have changed	Once the point of implementation of the change is reached the Change Initiator will notify the UOC. At this point, if any plans have been changed in regards to the implementation the CI will inform the UOC.	Change Initiator
8	Notifies Customer via Systems Notification if outage is eminent.	Upon notification by the Change Initiator of implementation the UOC will send an Outage Notification message informing customers of the disruption in System Availability.	University Operations Center

9	Is Change Working?	Upon implementation of the change the Change Initiator verifies the change was successful.	Change Initiator
10	Initiates Backout or Workaround	If the change was not successful the Change Initiator will implement the backout procedures and notify the UOC and/or Change Manager of the issue	Change Initiator/Change Owner
11	Communicates Backout of Change	The UOC, upon receiving notification of a failed change will send the appropriate communications as required	CCIT Change Manager
12	Notifies UOC and announcements made, as necessary	If the change is successful the Change Initiator notifies the UOC at which point communications are conducted as required. This is especially true if the System was disrupted and upon successful implementation the System has been restored to production. The UOC will send a Systems Restoration Notification via the Systems Notification process.	Change Initiator/Change Owner/University Operations Center
13	AAR updated containing information on issues, times	Once the change has been successfully implemented the Change Initiator updates the AAR to include any issues that arose during the implementation, the start and end times of the change implementation and the duration of any System outage realized.	Change Initiator
14	Reviews Change and makes notes as appropriate, makes final determination of change success.	The information contained in the AAR will be reviewed by the CCIT Change Manager, making notes or modifications as needed. This data will be used to document overall Systems Availability metrics for all CCIT Systems.	CCIT Change Manager
15	Was Change Successful?	The CCIT Change Manager will, at this point determine if the change was a success, was partially successful or was unsuccessful based on the information provided by the Change Initiator/Change Owner.	CCIT Change Manager
16	RFC Closed	If the change was completed successfully, the CCIT Change Manager will close the RFC.	CCIT Change Manager
17	To start – RFC will be related to new one	If the change was not successful, or was considered partially successful, but another issue arose a new RFC will be required and the failed RFC linked to it.	Change Initiator
18	Gathers appropriate data about impact of change and does a review. CSC calls, etc. Data is logged with RFC for future reference	As part of the ongoing measurement and assessment process of the Change Management Program RFC's will be reviewed on a regular basis to identify issues requiring attention. This data will be utilized to improve the program and/or make changes to existing processes and policies.	CCIT Change Manager
19	Makes process changes based on analysis	Changes to the overall Change Management Program will be implemented as required.	CCIT Change Manager

CCIT Emergency Change Management Process, Diagram 4.

Process Step	Item	Description	Owner
1	Is a Change being made?	<p>Upon verification within the RFC Initiation Process a change may be identified as an emergency. At that point, the Change Owner initiates the Emergency Change Management Process documented here.</p> <p>Many times an emergency may not necessarily mean a true “change” is being implemented. In some cases such as a server reboot there is not really a change, as much as a System disruption. In this situation, an emergency change is not required, but rather an Unscheduled Outage. In this case the Change Owner will proceed to step 1a.</p>	Change Initiator
1a	Use Outage Notification System and contact University Operations Center	If there is not a true “change” being implemented the Change Owner will initiate an outage communication via the University Operations Center to resolve the issue or problem.	Change Owner
2	Change determined to be an emergency. Propose a date/time to implement change	If, after verification a change is required the Change Owner identifies the date/time to implement the change.	Change Owner
3	Change Owner/Change Initiator follows internal communication procedure for Division	The Divisions within CCIT will likely have internal communication processes for these instances, such as informing the Executive Director of the issue. These communications should be performed as required within each area of CCIT.	Change Initiator/Change Owner
4	Initial Contact of Emergency Change	Once the Change Owner has identified the issue and determined the date/time the change needs to be implemented, s/he should immediately contact the UOC.	University Operations Center
5	Is a Change being made?	If a change is needed and a disruption in the System’s availability will occur, the UOC will page/contact the CCIT Change Manager and CSO Operations Director	CCIT Change Manager
6	Approves Change or determines CAB/EC meeting is required	Based on the scope of the impact the CCIT Change Manager can either approve the implementation of the change or, if unsure of the impact can convene an emergency session of the change Advisory Board.	CCIT Change Manager
7	Reviews impact, schedule and urgency	The CCIT Change Manager, and if notified, the Change Advisory Board will verify the impact, schedules and urgency of the change. At this point, it is important to note that speed and responsiveness by the Change Manager and the CAB are	Change Advisory Board/Emergency Committee

		critical. Disruptions in Systems availability and unscheduled changes should take the highest priority in all instances, often requiring emergency phone calls and coordination	
8	Emergency?	Is the requested change an emergency?	
9	Change reverts to normal CCIT Change Procedures	If it is determined by the Change Manager and/or CAB that the issue does not require emergency procedures the change reverts to an standard change and goes through the normal RFC process. This may be the case based on Systems usage, production schedules or if a System is realizing only a small degradation in service. At times, it is better to hold off on disrupting a System until a lunch hour or after business hours to implement a change. The Change Manager must be aware of all schedules for Systems and CCIT's production environments in order to make this call. If the Change Owner disagrees with this decision the Change Manager will work with him/her to find an agreeable solution	Change Owner
10	Contacts UOC and Change Owner	If a change is deemed an emergency the CCIT Change Manager will notify the UOC and Change Owner of approval of implementation	CCIT Change Manager
10a	Prepares emergency notification for distribution via Outage Systems	Upon notification of approved implementation the UOC will prepare an emergency notification message for distribution via the System Notification tool	University Operations Center
10b	System prepares initial RFC, notifies System Owner and CI/CO	The change system, upon creation of an emergency RFC will notify the System Owner of the impending emergency change and system disruption in availability.	CCIT Change Management System
11	Prepares/updates RFC, if not already done	As time allows, the Change Owner/Change Initiator should complete an RFC to ensure the change has been documented. In many emergency situations it may not be possible to complete this step at this point. If so, the RFC can be completed after the change is implemented.	Change Owner
12	Able to test?	Depending on the severity of the problem and the circumstances it is not always feasible to conduct testing of a change. This will be incident-specific.	Change Initiator/Change Owner
13	Conduct Urgent Testing	If time is available to conduct tests on the change, these should be completed at this point.	Change Initiator/Change Owner
14	Test Successful? Update Change Manager	If tests were conducted and were completed the CCIT Change Manager should be notified. If time to test is not available the Change Owner should notify the Change Manager when s/he is ready to implement the change.	Change Initiator/Change Owner
15	Coordinates Change Implementation. Notifies UOC and gives final go-ahead	The CCIT Change Manager will coordinate the implementation with the Communications Office if needed and	CCIT Change Manager

		inform the UOC to proceed.	
16	Notifies UOC that System will be going down	The Change Owner/Change Initiator will notify the UOC when they are ready to take the System offline to conduct the change	Change Initiator/Change Owner
16a	Send notification via Outage Notification System that System will be going down	The UOC, upon notification from the Change Owner/Change Initiator will send a System Disruption notification to customers of the impending outage	University Operations Center
17	Implement Change	The Change Initiator implements the required changes	Change Initiator
18	Change Successful?	The Change Initiator/Change Owner must verify the change resolved the issue and was implemented as expected	Change Initiator/Change Owner
19	Initiates Backout	If the change fails to resolve the problem or does not produce the desired result, the change is backed out and the UOC/Change Manager are notified of the failed change	Change Initiator/Change Owner
20	Communicates backout plan to appropriate areas	The Change Manager will notify appropriate personnel of the failed change and ensuing backout	CCIT Change Manager
21	Notifies UOC that System is running. Updates Change Manager	If, upon implementation the change results in the desired outcome the Change Initiator/Change Owner notifies the UOC of a successful implementation	Change Initiator/Change Owner
22	Sends outage resolution notification	The UOC will initiate an Outage Resolution notification to customers informing them the System in question has been restored	University Operations Center
23	Updates RFC, sends AAR and notifies CAB/EC	If the Change Owner/Change Initiator did not have time at step 11 to complete a Request for Change they should do so at this point. Once the RFC has been submitted the CCIT Change Manager should update the RFC and categorize the change as an emergency. Also, the AAR should be sent to the Change Initiator and the CAB/EC notified of the resolution as appropriate	CCIT Change Manager
24	Completes and submits AAR	The Change Initiator/Change Owner update the AAR with the start and end times of the change, the duration of any outage realized and submit the AAR to the CCIT Change Manager	Change Initiator/Change Owner
25	Reviews AAR and closes RFC	The CCIT Change Manager reviews the AAR for completeness and accuracy and closes the RFC	CCIT Change Manager
26	RFC Closed and System Owner Notified	Upon closure of the RFC the System Owner is notified of the completed change and provided the After Action Report for record-keeping purposes	CCIT Change Manager/Change Management System