

VUIT
Change Management
Process

What is VUIT's Change Process?

It is based on the Information Technology Infrastructure Library (ITIL) and adapted to address VUIT's specific requirements such as scope, types of changes, roles and responsibilities, and lead times, just to name a few.



Objectives

The specific objectives of Change Management at VUIT are:

1. Establish a standard process and tool for managing changes
2. Ultimately, provide good, stable service to the users
3. Right-size the approval process based on the level of risk
4. Improve communications regarding changes
5. Provide greater visibility into the Change Calendar

Scope

The Change Management process will begin when the business requests the change. Requesting a change early promotes better governance, prioritization, and planning of work while increasing Change Calendar visibility.

The following types of changes are in-scope of the Change Management process:

1. Production: All hardware, operating system and software changes to data center and network infrastructure. Any shared changes with MCIT will stay in Pegasus and use that Change Management process.
2. Non-Production: All infrastructure including hardware (excluding applications) in a development, test or pre-prod environment. This includes anything that is shared by other teams or workgroups. (There is no non-production network equipment so any network changes will be considered production)
3. Changes under VUIT control with cloud service providers.
4. All changes to enterprise applications.
5. Informational changes driven by vendors or third parties

Scope

The following types of changes are out-of-scope:

- Individual desktop/laptop changes.
- Service requests including access request.
- Lab equipment that does not impact anyone other than those supporting it
- Break/fix situation where you are restoring it back to a normal state. This is handled within the Incident Management process.

Types of Changes

Type of Change	Description
Standard Change	Low risk, frequently occurring (formally a PAC)
Normal Change	Follows normal process flow; further categorized into high, medium, or low risk. Requires approval from Change Manager or Change Advisory Board (CAB). Fast Track change – submitted as a normal change but must be expedited for: <ul style="list-style-type: none">• Financial or legal reasons• Vanderbilt reputation• A critical vulnerability
Emergency Change	Resolving an outage or a pending outage or to address a regulatory security issue. Must be approved by the Director either verbally or via email or text. Must be associated with an Incident. Recorded after the Incident is resolved.
Informational Change	Promoted by a vendor or third-party that is being recorded to aid with communication, e.g. Change Calendar.
Non-Production	Performed against development, test, or pre-prod CI infrastructure. All non-production changes will go in as an Informational Change (with Non-Prod box checked on change form).

Risk Table

Normal changes are further categorized into high, medium, or low risk. To determine the risk level, refer to the following Risk Questionnaire.

Question	Score 1	Score 2	Score 4
Number of users impacted	Single user, team or department	Multiple users, teams or departments	All users in the organization
Criticality of the service to the business	If an outage occurs, core business processes can continue.	If an outage occurs, core business processes cannot be performed.	Business critical, i.e. outage results in direct loss of revenue, direct impact on brand because business VUIT uses the IT service, direct exposure to fines due to being out of compliance, etc.
Number of teams involved with implementation	Implementation activities are limited to a single IT team.	Multiple teams in the same department within IT need to coordinate activities	Multiple teams in different departments within IT need to coordinate activities
Can it be tested? Can it be backed out?	Can be tested and backed out easily.	Either cannot be tested or cannot be backed out easily.	Cannot be tested nor backed out easily.

- Low Risk: < 5
- Medium Risk: 5 to 10
- High Risk: > 10

Lead Time

Type of Change	Lead Time - Submission to Approval	Approval process
Standard Change	Same day	
Normal – Low Risk	1 business day	<ul style="list-style-type: none"> • Change Owner Manager approves online. • For Low Risk changes only, approval by the Change Owner Manager will allow the Change to move forward to be built. • Once built, the Change will go the Change Manager for Deployment approval.
Normal – Medium Risk	1 week (calendar days)	<ul style="list-style-type: none"> • A Technical Review is necessary. The need for an Architectural Review process will be determined and flagged within the TRB process activity. Approval to move forward is done on-line. • The Change Owner Manager approves on-line to build the change. • Once built, the Change Manager provides Deployment approval. • If scheduled for outside the normal maintenance window, Relationship Managers will seek customer approval.
Normal – High Risk	2 weeks (calendar days)	<ul style="list-style-type: none"> • Technical Review is tracked online. • The Change must be discussed at a CAB meeting_at least 2 weeks before implementation. • The Change Owner Manager will approve to build the change. • Once tested the Change will go to CAB for Deployment approval. • If scheduled for outside the normal maintenance window, Relationship Managers will seek customer approval.
Normal – Fast Track	Less than required lead time based on risk	<ul style="list-style-type: none"> • Technical Review as required above for Medium or High risk changes. • Have a High or Urgent Priority, and have the Fast Track box checked. • Must go to eCAB for Deployment approval.
Emergency Change	N/A	<ul style="list-style-type: none"> • Verbal/email/text approval by a Director. • The Director will consult / inform other stakeholders as they deem necessary. • The Change record is created after the fact.

Change Prioritization and Fast Track Changes

The Priority of the change is determined by the following matrix:

		Impact		
		University-wide	Small Group / VIP	Individual
Urgency	Work is blocked	Urgent	Urgent	High
	Work is degraded or potentially degraded	High	High	Normal
	Work is unaffected	Normal	Low	Low

Fast Track (expedited) changes are Urgent or High priority and the lead time requirement for the change does not apply. Fast Track box MUST be checked for this process and must meet justification requirements.

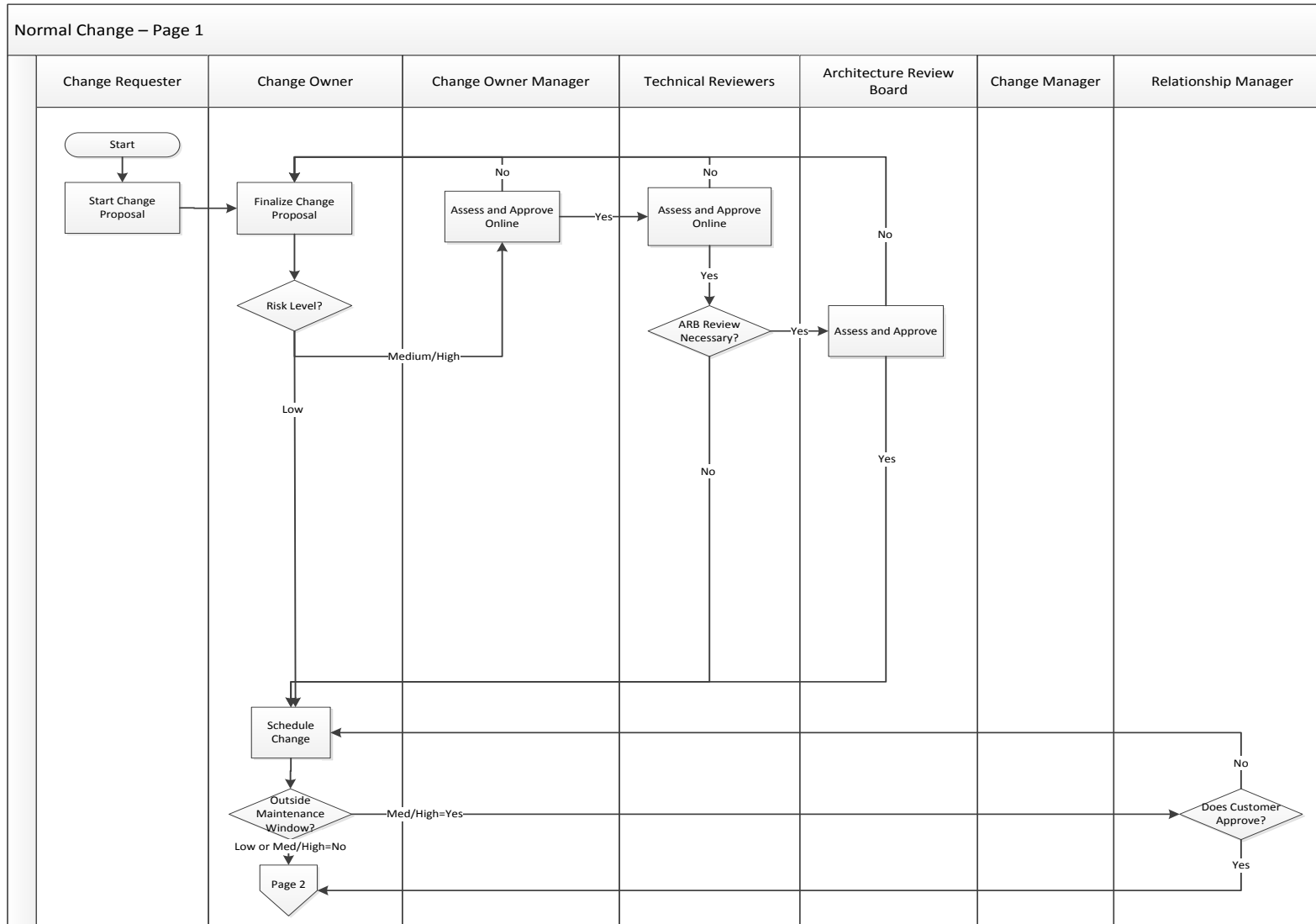
Process Flow

In the next several slides, the process flows for the following types of changes are illustrated:

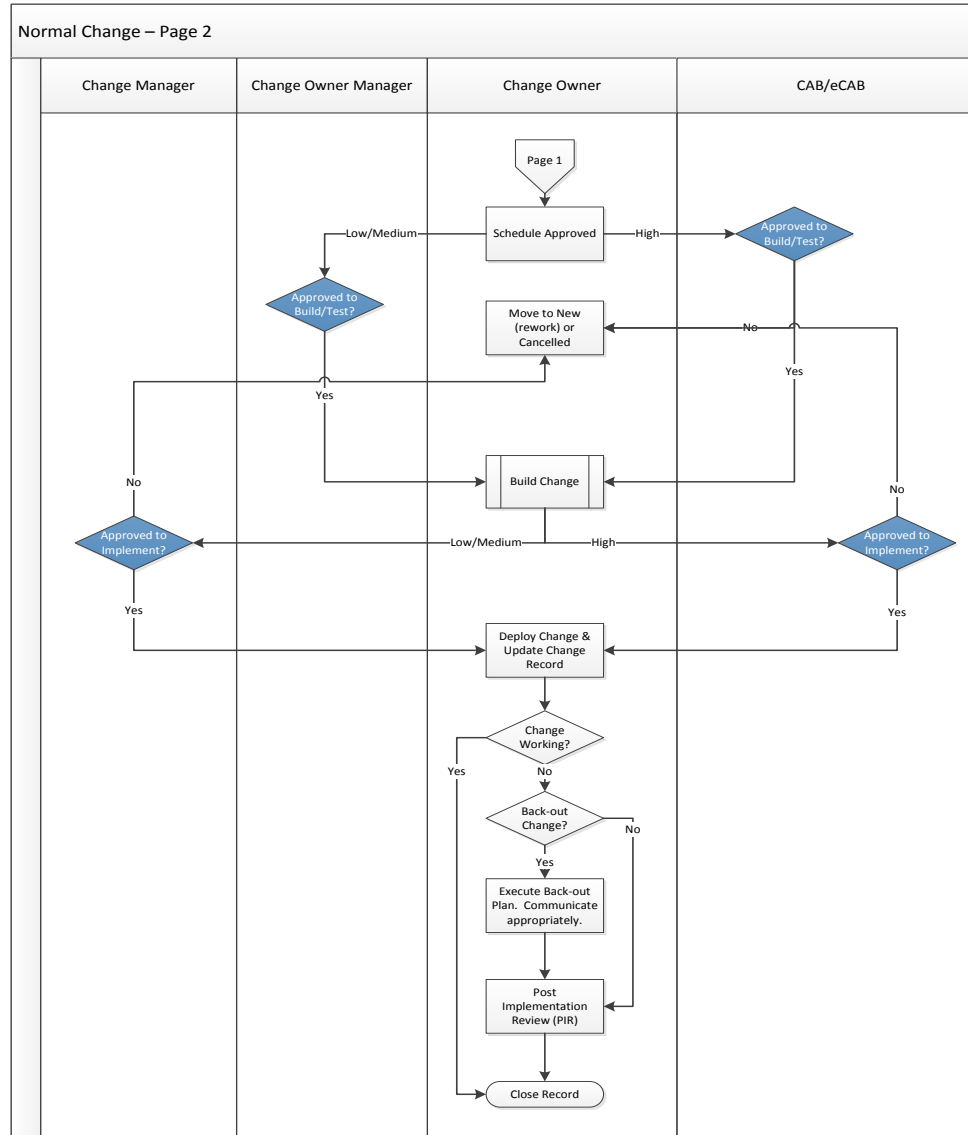
- Normal Changes – which are further categorized into Low, Medium and High Risk as well as Fast Track
- Emergency Changes

The process flows use “swim-lane diagrams” to illustrate which role is responsible for the activity.

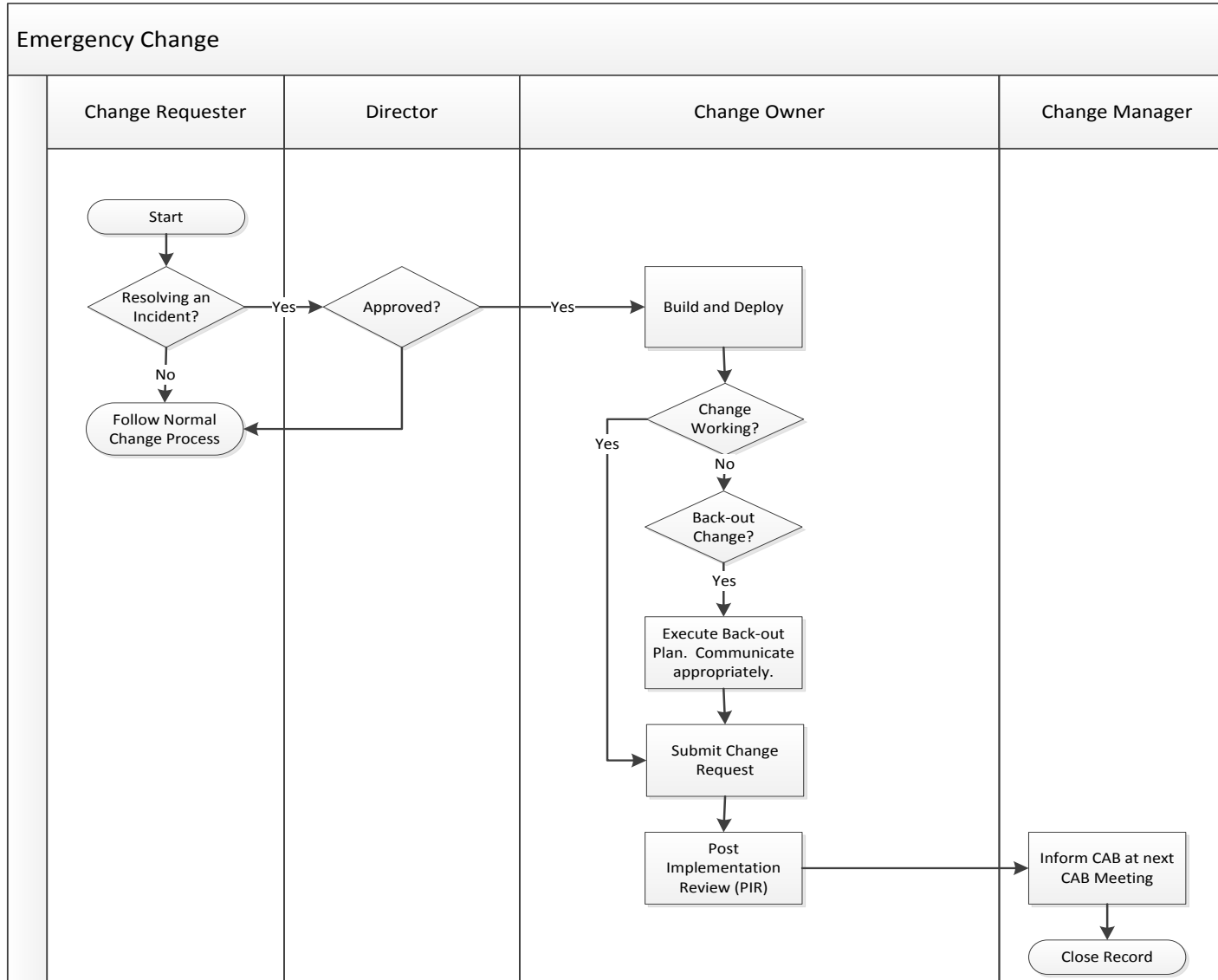
Process Flow – Normal Change



Process Flow – Normal Change



Process Flow – Emergency Change



Roles and Responsibilities

Change Requester

The Change Requester is usually an IT staff member. Their responsibilities include:

1. Starts the Change Record by entering the Change Type, Title, Description and Priority and then assigns to the Change Owner or Change Owner Team
2. Communicates status of the change back to the business

Change Owner

The Change Owner's responsibilities include:

1. Complete the information in the Change Record
2. Keep the Change Requester informed about the progress of the Change
3. If there is more than one team involved with the implementation, coordinate the efforts across the teams
4. Build the change; document the Implementation Plan, Verification Plan and Back-out Plan
5. Deploy the change during the time scheduled, indicating in the change record when the work started and finished in actual time so notifications can automatically be sent
6. Execute the Back out Plan if required
7. Conduct the Post Implementation Review (PIR), if required by the PIR policy
8. Represent their changes (or send a designate) at CAB/eCAB

Change Owner Manager

The responsibilities of the Change Owner Manager are:

1. Review and approve change requests submitted by their subordinates in a timely manner, acting as the technical review for Normal – Low Risk changes
2. Responsible for Build Approvals on Low and Medium Risk changes in a timely manner
3. Propose improvements to the Change Management process to the Change Manager

Roles and Responsibilities

Change Manager

The Change Manager's responsibilities include:

1. Validate the type and risk of the Change
2. Escalate approval delay issues
3. Chair the CAB and eCAB meetings
4. Provide Deployment approval for Low and Medium Risk Changes
5. Ensure Post-Implementation Reviews (PIRs) are conducted per the policy
6. If an unauthorized change is discovered, escalate to IT Senior Management
7. Report on Change Management activities
8. Educate IT staff on the Change Management process
9. Propose and implement improvements to the Change Management process

Roles and Responsibilities

CAB/ECAB Member

The CAB is the Change Advisory Board. eCAB is the Change Advisory Board for expedited (Fast Track) changes. Please refer to “CAB/eCAB Members and CAB/eCAB Meetings” section for a list of mandatory members that should make up the CABs. The CAB/eCAB Member’s responsibilities include:

1. Responsible for Build Approval and Deployment Approval on High Risk changes
2. Represent their team at CAB meetings
3. Review changes prior to the meeting
4. Communicate when a change will impact their area. If they do not approve a change, explain why.
5. Attend or send a knowledgeable representative to CAB meetings
6. Communicate back to their team

Technical Reviewers and Architectural Reviewers

The Technical Reviewer and Architectural Reviewer should have a deep understanding of the technology and analyze the technical feasibility and impact.

1. Provide online approvals for Technical Review in a timely manner.
2. Identify other Technical Reviewers that need to be consulted, and determine if the Architecture Review Board should be engaged.

Relationship Manager

The responsibilities of the Relationship Manager

1. Secure business approval for Normal – Medium Risk and Normal – High Risk changes that will occur outside of normal change windows.

Change Management Policies

1. All Changes, that are defined as in-scope, must follow the Change Management process and must be recorded in Cherwell.
2. The Change Manager will maintain the change freeze periods on the Change Calendar. If a change must occur within the freeze period, it must be approved by a Director.
3. Emergency changes can only be used for incidents that have caused or could cause an outage or significant degradation, or for regulatory compliance issues. The Emergency Change must be linked to the Incident.
4. Fast Track changes can only be done if the change has a priority of Urgent or High. Fast track changes do not need to conform to the outlined lead time for approvals (e.g. a normal change that is fast-tracked).
5. Post Implementation Reviews are conducted for:
 - Any change that was less than successful
 - Changes that resulted in a Priority 1 (Urgent) or Priority 2 (High) incidents
 - Or at the discretion of the Change Manager

The results of the review must be documented and attached to the Change Record.



Change Management Policies

6. Incidents caused by a Change must be linked to the appropriate Change Record.
7. All Technical Reviewers must approve the Change in order for a Change to be approved.
8. All CAB members must approve the Change in order for a Change to be approved.
9. All changes, except Informational Changes, must be associated with at least one Configuration Item (CI).
10. Standard changes are added to the Standard Change Catalog by getting approval using the normal Change Management process.



Technical and Architectural Reviewers

The Technical and Architectural Reviewers consist of the following representatives:

- Network
- Security
- Hosting
- Data center

The Change Owner, Technical Reviewers or Architectural Reviewers can add additional reviews as necessary.



CAB/eCAB Membership and Meetings

CAB/eCAB Membership

The Change Advisory Board (CAB/eCAB) is used for assessing Medium and High Risk changes.

1. Change Manager
2. Directors from each area (or their delegate)

CAB/eCAB Meetings

It is expected that the Change Manager will conduct one (1) CAB meeting a week. The actual frequency may vary depending on the volume of changes. eCAB meetings will take place daily as required.

A general outline for a CAB meeting is:

1. Check if there are any questions or concerns about any recently implemented changes
2. Review any new High Risk changes that were submitted
3. Review changes to be implemented in the next period
4. Check if there are any questions or concerns arising from any recently completed post implementation reviews
5. Review any nominated standard changes (once a month)

Key Performance Indicators

VUIT will focus on a few select Key Performance Indicators (KPIs) to measure the success and efficiency of the Change Management process. As the Change Management process matures, the KPIs may change to focus on different areas that need improvement.

1. Number of changes implemented by type, team, etc.
2. Reduction in the number and percentage of emergency changes
3. Reduction in the number and percentage of Fast Track (expedited) changes
4. Reduction in the number of failed changes / increase change success rate
5. Reduction in the number of Unauthorized changes

ANY QUESTIONS?