

Publication 1045

NTC Change Management Policy

7104.22

INTRODUCTION

Information technology infrastructure is critical to the effective operation of the services provided to our customers. The network control center (NTC) strives to continually maintain and improve this vital resource. However, as the infrastructure (and the organization) has grown, it has become more complex. As the interdependencies - between systems, between people, and between people and systems - continue to grow, it is essential that the NTC carefully manage changes to the infrastructure. Even the most well-intentioned change can cause unexpected hardship to technology users if the implications of the change are not mapped out in advance. By implementing a controlled change management, hardships should be minimized and diagnostics and troubleshooting of problems, if it occurs can be dealt with in a systemic manner.

PURPOSE

The purpose of the change management policy is to manage changes in a rational and predictable manner so that staff can plan accordingly. Changes require serious forethought, careful monitoring, and follow-up evaluation to reduce negative impact to our customers and to increase the value of our vital information technology infrastructure. The purpose of this policy is not to frustrate change or to question the rationale of changes. Rather, it is to make sure that changes have their intended impact while avoiding unintended consequences.

SCOPE

This policy covers all changes to hardware, software, or applications in the shared IT infrastructure managed by the NTC. This include modification, changes, or additions to the network services (LAN/WAN), server hardware and software, and support facilities (such as electricity) for the IT infrastructure. Any change that might affect the IT infrastructure upon which our customers rely to conduct normal business operations are within the scope of this policy.

Changes to the IT infrastructure can be necessary for many reasons, ranging from the need to fix a hardware problem to the need to update software. Here is a non-exhaustive list of change sources:

- A. periodic maintenance (Scheduled Maintenance per SLA terms)
- B. user requests
- C. hardware and/or software upgrades
- D. acquisition of new hardware and/or software
- E. other changes or modifications to the infrastructure
- F. environmental changes (such as changes to the electrical system)
- G. operations schedule changes

CHANGE MANAGEMENT AND CONTROL GROUP

The technology network support - coordinators or designee shall comprise the Change Management and Control Group (CMC). The CMC will receive all requests for change. Requests for changes must be made through any of the following methods:

- A. Through a customer request ticket (scheduled change effect)
- B. Through an emergency master ticket open by NTC staff to correct ongoing infrastructure issues (unscheduled change effect)
- C. By filling out **Form 1045-L Request for Change Control** for scheduled requests.
- D. By filling out **Form 1045-EMT Incident Notification and Request for Emergency Change Effect** for unscheduled emergency change requests and network outages.

. The CMC will have the following terms of reference:

- A. They will meet at beginning of their respective shift hours to review all requests for change with the requestors.

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- B. They will determine if the change can be tested on a "test environment". The CMC will have to note what devices are not available on a test environment and this information is to be provided to the management team with explanations as necessary.
- C. They will be responsible for mapping out and informing the potential impact of the change, infrastructure degradation or outage to the NTC Vice President of Operations. In the absence of VP, the following corporate executive members should be contacted in the order of availability below:
 - i. Chief Technical Officer (CTO)
 - ii. Chief Operating Officer (COO)
 - iii. Chief Executive Officer (CEO)
 - iv. Controller and Secretary to the Board of Directors -- Chief Financial Officer (CFO)
 - v. Chairman of the Board of Directors
 - vi. Any available Directors of the Board
- D. They will establish the urgency and potential impact of a proposed change. High impact changes, for example, might require downtime outside of regular maintenance cycles.
- E. For changes to critical hardware and software systems, the group will establish testing and approval criteria in advance of making the change to the IT infrastructure.
- F. The group will be responsible for properly documenting all changes and will be accountable for all changes. The group will maintain a change log that documents all requests for change, plans and scheduling for the change, and outcomes.
- G. The group will establish communication and make appropriate notifications to customers about potential impact of change through notification mailing lists and other means of appropriate communications.

CHANGE CONTROL PROCESS

The change control process will include the following steps. Each of these steps must be completed for every change. If a deviation from this policy is required (e.g., emergencies, virus/denial of service attacks, immediate repair required due to a malfunctioned system), authorization must be provided from a member of the management team.

- A. Requestor fills out **Form 1045-L Request for Change Control**. The form includes space for a detailed description of the proposed change, the systems involved, the business units impacted, and the location impacted. The requestor also makes an initial estimation of the urgency and potential risk of the change, how much implementing the change will cost, and how much downtime the change may require.
- B. In the event that a verbal authorization for change is issued by the management team (i.e. due to an urgent or otherwise emergency situation), **Form 1045-EMT Incident Notification and Request for Emergency Change Effect** must be filled out and filed with the CMC. The form does not have to be filled out immediately, as efforts should be focused in resolving the ongoing emergency. However, the form should be filed within reasonable amount of period as deemed by the CMC and the requestor. Policy recommendation is five business days after closure of the master ticket relating to the incident.
- C. If the requested change falls under a customer request ticket and is applicable under categorized pre-authorized change activities (i.e. customer NTU/router/switch interface change work, DNS requests) outlined by **Publication 990 – Technical Support Staff: Implementing Customer Request for Changes**, CMC approval is not required. However, the change should be documented in the customer ticket. Refer to Publication 990 for further information.
- D. The CMC reviews and approves/rejects the change. CMC staff reviews requests for change at least three times a day. The group will evaluate the requestor's proposal in light of their knowledge of the NTC technologies, business processes, and interdependencies. They may adjust some of the estimates.
- E. The CMC can send the request back to the requestor for further detail and study, if needed. Reasons for sending a request back can include the following:
 - 1. inadequate planning
 - 2. inadequate fall back plans (in case change fails)



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3. the timing of the change will negatively impact a key business process, such as year-end accounting or holiday break where vendor support may be limited
 4. adequate resources are not readily available for the project
 5. staff is not available to make the change in the time specified
- F. The CMC assigns responsibility for making the change. If the request is approved, the CMC will assign responsibility for making the change to qualified personnel thru the use of the NTC ticketing system. Identified within the ticketing system is the device or system requiring change, description of expected changes, and eventually, the outcome of the change. They will establish specifications and testing requirements depending on the nature of the change.
- G. The CMC will establish communication and/or send maintenance notification to customers. The CMC will make sure that all customers are aware of the nature and potential impact of the proposed change. For changes requiring downtime outside of regular maintenance cycles the group will also get feedback from customers on appropriate scheduling of downtime.
- H. The CMC will track progress on the proposed changes and have final approval. Personnel tasked with working on the change will report back to the group regarding progress on planning and testing. When the proposed change has been tested, and appropriate fallback has been planned in case of a problem, the group will approve the change. They will schedule the change - if it requires time outside of regular maintenance cycles - and will notify customers.
- I. The CMC will perform a follow-up on all changes. At their regular change management meetings, the CMC will perform post-mortems on all changes. Successful changes, as well as reasons why a change did not go through as planned, as lessons learned from the experience will be included in the change log.

SUBMITTING CHANGE CONTROL FORMS

Forms 1045-L and 1045-EMT

The completed change control forms can be electronically filed on the NTC OSS interface. Alternatively, following methods are acceptable:

- A. Excel spreadsheet version of Form 1045 is available. Completed forms can be e-mailed to cmc@towardex.com.
- B. Print out PDF version of the form and fax it to +1 432-225-3784 if the form needs to be filed from a field location and electronic access is not available.
- C. In the event that requestor is busy or otherwise occupied with resolving ongoing network emergencies or implementing an unscheduled change, the CMC should assist the requestor in filling out the form and submitting it as appropriate. The change control process must never get in the way of resolving an ongoing network emergency or providing service to customers. The CMC must ensure that change control process is at all times appropriately adopted and that business processes are not impacted by it. This includes gaining better knowledge of the requestor's change request and assisting where needed in filling out the appropriate forms when needed.
- D. The NTC Vice President of Operations will keep track of all filed change request forms and a statistic and overview of the change log should be presented to the board during quarterly infrastructure planning meetings.