Change Management

TOTALVIEW CHANGE MANAGEMENT USER GUIDE

**Client Version**

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# Process Overview

## Purpose and Objectives

The purpose of this guide is to provide instructions on how to use Global Technology Services (GTS) Cloud Transformation Services (formerly Verizon), hereinafter referred to as “GCTS,” Change Management TotalView portal. TotalView Change Management portal including:

* A single sign-on for all TotalView functions
* A greatly simplified user interface for submitting, approving, editing, and viewing tickets
* Integration with Remedy system that has some reporting and event correlation between problem management and Change Management

## Scope

This process applies to all IBM employees, contractors, vendors or any other agents who have been granted access to TotalView and specifies the change management process followed by Remote Application Management and Enterprise Cloud Managed Edition (ECME) Customers.

## Concepts and Relationships

Specifies process for creating the nine CR categories of change requests (Standard, Emergency, Hotfix, P1-Hotfix, Maintenance, Notification for Change (NFC), Latent, Out of Scope, Pre-Approved, see *Section 3.8*) approval and implementation.

## Alignment with IBM Corporate Standards

This document is a supplemental guideline that specifies certain requirements related to the GCTS. All documents considered for approval by the Governance of Risk, Compliance, and Quality (GRCQ) are sub-ordinate to, and supplements of, the Information Technology Corporate Standard (ITSC) 104, as well as the Business Conduct Guidelines, and World-Wide Records Management.

# TotalView Process Guide Activities

## Accessing TotalView

When you point your browser to the TotalView home page at <https://totalview.totality.com/> , you are prompted to log in to the system. Type your email address and password in the fields provided. Be sure to type your email address (for example, jsmith@company.com) and not just your user name.

When you are finished using TotalView, click **Logout** in the upper right corner of the screen. The resulting screen will tell you that the logout was successful and allows you to log back in if needed.

If you experience issues accessing TotalView, please contact the Remote Operations Center at (800) 686-8254 or contact your Service Delivery Manager.

## Setting Up Access to the New Change Management Portal

### Updating User Profiles in TotalView

You must be a TotalView Administrator to perform the following steps:

1. Login to TotalView at <https://totalview.totality.com/> using your TotalView ID and password.
2. On the TotalView **home page**, select **Tools** / **Users** from the menu bar (If you do not see this menu item then you may need to contact your Client Executive in order to enable the appropriate Administrative rights)
3. Next, choose the **Edit** link to the right of the user to be modified.
4. Near the bottom of the Edit Profile Page, select the **Edit** link (*Figure 2‑1: Edit User Profile*).
5. Finally, select the appropriate Change Management Role from the **Select a Role** down-arrow and click the **Submit** button.
6. Repeat steps above for all users requiring access to the Change Management Portal.

|  |
| --- |
|  |
| Figure ‑: Edit User Profile |

## Change Management Roles

There are four (4) roles for users in TotalView.

**Note:** Be sure to assign the correct role for all new users, as described below.

**Administrator:**

The Administrator is a designated client employee who administers TotalView from a business perspective and ensures that client employees are properly maintained within TotalView.

The Site Administrator approves, creates, activates, and manages user accounts.

**Global Support Services (GSS) Security Operation Center (SOC) Administrator:**

The SOC Administrator, [gctsi.trm@wwpdl.vnet.ibm.com](mailto:gctsi.trm@wwpdl.vnet.ibm.com),resets passwords and provides technical assistance to TotalView users.

**User:**

The User Role gives a TotalView user access to a specific client area.

**Submitter**

The Submitter role is a user with the added ability to Submit Change tickets within the Change Ticket system.

Table ‑: TotalView Roles and Responsibilities

|  |  |
| --- | --- |
| **Role** | **TotalView Privileges** |
| User | Access TotalView  **View Change Requests**  View & Submit Incident Request Tickets  View & Submit Service Request Tickets |
| Submitter | Access TotalView  **View & Submit Change Requests**  View & Submit Incident Request Tickets  View & Submit Service Request Tickets |
| Approver | Access TotalView  **View, Submit, & Approve Change Requests**  View & Submit Incident Request Tickets  View & Submit Service Request Tickets  **Important:** Approvers must also be added to the client’s Change Approver email clientname.change.approvers@totality.com group to receive email notifications. |
| Administrator | Access TotalView  Incident & Service Request Tickets (View & Submit)  View, Submit, & Approve Change Requests  Modify User Profiles:  Add/Modify User Profiles  Reset Passwords |

**Note:** GCTS Global Services Support (GSS) and IBM Service Delivery Manager will have Administrator privileges.

# How TotalView Change Management Portal Works

## Typical Change Request Workflow (Status)

Table ‑: Typical Change Request Workflow

|  |  |  |
| --- | --- | --- |
| Action | Status Prior to Action | Status After Action |
| User submits a new Change Request | New | Awaiting Client Approval |
| Client Approver user approves the change | Awaiting Client Approval | Awaiting Security Operations Center (SOC) Validation |
| GSS perform technical feasibility review the Change Request and assigns resources. | Awaiting SOC Validation | Awaiting Change Advisory Board (CAB) Approval |
| Change Management review, approves and schedules the change | Awaiting CAB Approval | Ready to Start |
| GSS engineer starts the change | Ready to Start | Work In Progress |
| GSS engineer completes the change | Work In Progress | Completed |
| Change Management reviews Change Request after completion | Completed | Closed |

### Typical Change Request Workflow Diagram

|  |
| --- |
|  |
| Figure ‑: Typical Change Request Workflow Diagram |

### Typical Change Request Roles and Responsibilities

Table ‑: RACI Matrix - Typical Change Request

| Process Name | USer/Client Submitter | User Client Approver | GCTS SOC | GSS Engineer | GCTS CAB | GCTS CHange Managment |
| --- | --- | --- | --- | --- | --- | --- |
| Submits a New change Request | AR | I |  |  |  |  |
| Approves Client Change Request | C | AR | I |  |  |  |
| Validates Change Request | C | C | AR | I |  |  |
| Performs Feasibility Review and Assigns Resources | I | C | C | AR | I |  |
| Approval of Change Request and Assigned Resources | I | I | C | C | AR | I |
| Reviews, Approves, and Schedules Change | I | I | I | C | C | AR |
| Starts and Completes the Change | I | I | C | AR | C | C |
| Reviews Completed Change and Closes CR | I | I | I | C | I | AR |

Table ‑: RACI Matrix Legend

| RACI | TERM | DEFINITION |
| --- | --- | --- |
| R | Responsible | The person who does the work to complete the task. They are responsible for getting the work done. |
| A | Accountable | The person who is accountable for the correct and thorough completion of the task. |
| C | Consulted | The people who provide information for the project and with whom there is a two-way communication. This is usually several people, often subject matter experts. |
| I | Informed | The people who are kept informed about progress and with whom there is a one-way communication. These people are affected by the outcome of the tasks and need to be kept up-to-date. |
| AR | Accountable and Responsible | The person who does the work to complete the task and are accountable for the correct and thorough completion of the task. |

## Notification for Change Workflow

The Change category of Notification for Change should be used for Change Requests that are being performed by the client or third parties that affect the production environment and/or GCTS’s monitoring.

Table ‑: Notification for Change Workflow

|  |  |  |
| --- | --- | --- |
| Action | Status Prior to Action | Status After Action |
| User submits a new Change Request | New | Change Request Status |
| Client Approver user approves the change | Awaiting Client Approval | Awaiting SOC Validation |
| GSS technical validates the change request. | Awaiting SOC Validation | Awaiting CAB Approval |
| GSS approves and schedules the Change Request on Change Calendar | Awaiting CAB Approval | Ready to Start |
| Client sends email notification to GSS with the information regarding the success or failure of the Change Request and the timeframes in which it was completed.. | Ready to Start | Completed |
| Change Management Reviews Completed Change and Closes CR | Completed | Closed |

### Notification for Change Workflow Diagram

|  |
| --- |
|  |
| Figure ‑: Notification for Change Workflow Diagram |

### Notification for Change Roles and Responsibilities

Table ‑: RACI Matrix: Notification of Change

| Process Name | USer/Client Submitter | User Client Approver | GCTS SOC | GSS Engineer | GCTS CAB | GCTS CHange Managment |
| --- | --- | --- | --- | --- | --- | --- |
| Submits a New change Request | AR | I |  |  |  |  |
| Approves Client Change Request | C | AR | I |  |  |  |
| Validates Change Request | C | C | AR | I |  |  |
| Performs Technical Review of Change Request | I | C | C | AR | I |  |
| Approval of Change Request | I | I | C | C | AR | I |
| Schedules CR on Client Change Calendar | I | I | C | AR | I | I |
| Starts and Completes the Change | AR | C | I | I |  |  |
| Sends Change Success / Failure email Notification to GSS with Completion Timeframes | AR | C |  | I |  |  |
| Reviews Completed Change and Informs Change Management that Change is Complete | C | C | I | AR | I | I |
| Reviews Completed Change and Closes CR | I | I | I | C | I | AR |

## Canceling a Change Request

Table ‑: Canceling a Change Request

|  |  |  |
| --- | --- | --- |
| Action | Status Prior to Action | Status After Action |
| Submitter, Approver or GCTS GSS cancels a Change Request | Any Status, but Closed or completed | Canceled |

## Requesting More Information

Table ‑: Requesting More Information

|  |  |  |
| --- | --- | --- |
| Action | Status Prior to Action | Status After Action |
| Client Approver, GSS Approver, GSS Technical Reviewer or Submitter request More Information for the Change Request. | Any Status prior to SOC Validation | Awaiting More information |
| Original submitter provides the information specified. | Awaiting More Information | Returns to status prior to the More Information request |

## Email Notification

GCTS’s Change Management system will send automatic notification emails to inform users of required actions and change activity.

Table ‑: Email Notification

|  |  |  |
| --- | --- | --- |
| Notification Email | When | Email Notification Sent to |
| Client Approval Requested | On Submit of the Change Request | Client Approval Distribution List (DL)  [clientname.change.approvers@totality.com](mailto:clientname.change.approvers@totality.com)  Copy (CC) to [ramopsroc@verizonbusiness.com](mailto:ramopsroc@verizonbusiness.com) |
| CAB Approval Requested | After Client Approval | CAB Approval DL  Notify primary and secondary contact  <mailto:GSD.cab_approval@one.verizon.com> |
| Approved and Scheduled | After SOC Validation | Client Change DL  Notify primary and secondary contact |
| Cancelled  Or  On Hold | When change is Canceled or when Status of the Change Request is changed to “**On Hold**” | Client Primary Contact  Client Change DL  Notify primary and secondary contact |
| Change Started | Sent when the execution of the change request begins | Client Change DL  Notify primary and secondary contact |
| Change Completed | Sent at the end of the execution of the change request | Client Change DL  Notify primary and secondary contact |
| More Information Needed | When “**More Information**” is requested at any point in the workflow | Sent to the Primary and Secondary Contact |
| More Information Received | When “**Information Returned**” is processed. | Email notification is sent to originator of the Request for More Information. |

## Submitting a New Change Request

1. From the TotalView **Home Page**, there are two ways to create a new request.
2. Select **Tickets 🡪 Submit Change Ticket** from navigation bar  
   – Or –

Select **Submit New Change Ticket** from Change Management Section on the TotalView home page

1. After completing all of the required fields, press the **Submit** button.
2. Upon submission of a Change Request, the following will happen:
3. You will access a confirmation page displaying the Change Request number.
4. The status of the change will become “**Pending Approval**” and await Client Approval.
5. An email notification is sent to the assigned Client Approver(s) for your company.

## Change Request Field Descriptions

For example of Change Requests, see *Section 5* *Examples of Change Requests*

Table ‑: Change Request Field Descriptions

| Field Label | Description |
| --- | --- |
| Submitter | Your name (pre-populated) |
| Client | Your company name (Pre-populated) |
| Contact Information | Please choose the Primary and Secondary contacts from the popup window.  The name and email of the primary and/or secondary contact will be pre-populated from the User Profile.  The primary phone number will default from the User Profile, but may be changed by the submitter of the Change Request.  The Primary and Secondary contact information will be used by the GCTS GSS if there be any issues during the change or should additional information be requested.  The primary & secondary contacts must be people who understand the request as well as the ability to respond to questions about the details or logistics of executing the change. |
| Environments affected | This indicates whether the Change Request will affect Production, Quality Assurance (QA), Staging and/or Development.  Select the **CORRECT** environment, this will determining the available Affected Components loop-up field below.  Check **ONE** that apply, one environment per ticket |
| Summary of the Change: | Contains a brief description of the Change Request. |
| Please provide a detailed description of the Change | Enter a detailed description of the change and specific instructions for implementation. The information should answer the following questions:   1. To the best of your knowledge, what are the specific steps that need to be performed for the change? 2. What are some test cases GCTS can perform to verify the change has occurred correctly? 3. Is client sign-off required to begin the change? 4. Does GCTS need to verify any parameters before beginning the change?   **Note**: When the change is completed, an email will be sent to Notify the Primary, Secondary contact.  If you require additional communication, please indicate that in the field. |
| What is the type of change requested? | Select the change type from the drop-down window that that identifies or most closely identifies the type of change that will be performed.  If the change request encompasses more than 1 of the types listed, choose the type that represents 60- 80% of the work. |
| What is the category of change requested? | Select the timeframe in which the GSS should execute the change:  Notification for Change  Standard  Hot Fix  P1 Hot Fix  Emergency  Latent  Out of Scope  Maintenance  For a detailed description, see Section 3.8 |
| What is the severity of change requested? | Select the appropriate severity level from the drop-down. This identifies the potential risk that the change poses to the site. The Severity rating allows GCTS to assess the technical impact the change will have on the production site. Listed below are the categories and an example of each.  **High** – A change to the site that includes substantial code, content updates, and database changes.  **Medium** - Weekly push that includes minor code changes, content updates, and database changes.  **Low** - Updating content on site, but making no significant code or database changes. |
| What is the risk level for change requested? | Each change will have an associated risk and/or impact. (default is set at Low)   1. **High**, impact to a large number of users or business-critical service. 2. **Medium**, impact to smaller number of users or business service 3. **Low**, impact to multiple customers or impact to individual customer 4. **Routine**, Pre-approved changes and routine activities that present no user or service impact |
| This change is required by IBM (Optional) | Check this box if the change was required by GCTS and not requested by the client (for example, Security patches, monitoring updates, etc.) This information is used for reporting purposes. |
| Please indicate the components that are affected: | Use [**Select Affected Components**] live link for a list of available components. Select the specific machines that will be included in/affected by the change, such as the web servers, application servers, databases, routers, etc. Please also include the machine name. If none available from the list, use “other” and must specify any affected devices or applications. |
| Please describe the criteria for success: | Enter the validation steps for GCTS to verify the change has succeeded, be specific. For example, you may want GCTS to make a purchase on your site using a credit card number you've provided. GCTS’s ability to perform these steps indicates whether or not a rollback is necessary. |
| Please describe the business risk and/or impact: | Enter the potential business or security risks (if any) involved in implementing the change. The information should answer the following questions:  Will the change create issues for existing customers?  Will the change result in any performance problems?  Will the change create any additional security risks?  Does the change require enhanced security in the long term? |
| Please describe the backout and rollback process: | Enter a back-out plan/steps which will be implemented should the change fail.  Sample information that should be included in this field may include:  Specific instructions on how to reverse the change (if applicable)  Specific instructions on how to roll back the database if the change is unsuccessful (if known)  Specific instructions on how to revert back to the previous version of the site (if applicable) |
| Change Request Dates and Times | **Start Date/Time** - Preferred time and date for the change request to commence.  **End Date/Time** - Estimated time and date in which the change request will be completed.  Change duration longer than 8 hours may require pre agreement via your Service Manager. |
| Estimated Outage Duration | Estimate how much of the work time for your request will require your system or service to be down. For example, you may estimate that the work will take four hours, but the only effect on the system up-time may be a ten minute reboot |
| Attachments (optional) | Instructions or files to be used for the change.  Up to 6 files can be attached; max file size is 10mb each.  **Important**: If a file is greater than 10mb or there are more than 6 attachments, please put the file(s) on a staging or QA server and note the location of the file(s) in the detailed description of the change. |
| Informational (optional) | Information may be entered after CR approved (as other fields locked) for communication or reference only. This should NOT be used to replace or alter any part of the approved change instructions. Example may be as change of conference bridge number mentioned to provide in later time. |
| Third Party Information (optional) | Enter contract information of the third parties involved with the change (if applicable). |

## Change Request Categories

The Change Category field on the form is used to classify the timing, duration and urgency of a CR for the Global Support Services (GSS). Billing rates may vary by the amount of change hours at short notice levels, so customers should seek to provide 24 hours advance notice for changes.

There are nine CR categories:

* Standard Change
* Emergency
* Hotfix
* P1-Hotfix
* Maintenance
* Notification for Change (NFC)
* Latent
* Out of Scope
* Pre-Approved

1. **Standard**:

Customer approval must have at least 12 hours of lead time, applies only to changes processed Monday to Friday 7am through 5pm EST/EDT. It can be implemented by any group.

1. **Emergency**:

Customer approval has less than 12 hours from requested start time. Duration restricted to eight (8) hours for Incident Management Engineering (IME) execution. The change must start within two (2) hours of the customer approval time.

1. **Hot Fix**:

Customer approval must have at least four (4) hours of lead time, and change duration restricted to 30 minutes.

1. **P1- Hot Fix**:

Same expectations as Emergency, except change duration restricted to 30 minutes.

1. **Maintenance**:

Used by JetBlue only, to replace their Pre-Approved changes. Same procedures exist as for Standard changes. They are considered to be low risk and have no impact to the business, and pre-authorized by JetBlue change advisory board.

1. **Notification for Change (NFC)**:

These are for your information (FYI) and may affect monitoring. GCTS is not expected to take any action, but is expected to know about the NFC activity and to process alerts appropriately.

1. **Latent**:

Normally used by JetBlue, a Latent change is a change submitted to document changes made to JetBlue’s IT infrastructure in order to immediately resolve or mitigate an incident. It must be submitted within 24 hours after an incident has been resolved, must attach evidence of resolve consent.

1. **Out of Scope**:

Changes to be done by GCTS non-IME resource, usually on systems/applications not yet Transition-To-Support (TTS) to IME or require special skill set; duration not restricted.

1. **Pre-Approved**:

Restricted to GCTS infrastructure changes must have CAB Pre-Approval (CABPA) number in the “Pre-Approved ID” field. For IME changes, duration limited to eight (8) hours, no restriction on Assigned Client Engineering (ACE)/PS/Implementation Engineer (IE).

Table ‑: Change Request Categories

|  |  |  |  |
| --- | --- | --- | --- |
| Estimated Change Effort Required | DEFAULT Change Request Advanced Notice | | |
| 12 hours M-F | 4 hours-7 days | 2 hours |
| Normally less than 8 hours. | Standard | N/A | Emergency |
| 30 minutes or less | N/A | Hot Fix | P1-Hot Fix |

# Approving, Canceling, Modifying, or Requesting More Information

|  |
| --- |
| TV CR 101403 |
| Figure ‑: Request for more Information |

After a Change Request is submitted to TotalView, a user may Approve, Cancel, Modify or Request More Information for a change request by choosing an active Change Request in the Change Management Section of TotalView or by clinking on a link in a notification email.

## View an Active Change Request

There are two ways to view an Active Change Request:

1. ***From the link in the approval request email notification*** - Upon submittal of a change ticket, email notification is sent to the client approver. This email contains a link to the change ticket.
2. Open the email notification of the change request and double-click the link referenced to the change ticket.
3. You will be prompted to access TotalView using your ID and password.
4. After accessing TotalView successfully, you will be shown the Change Request referenced in the notification email.
5. From TotalView
6. Log into TotalView using your ID and password.
7. Click the **View Open Requests** link under the Change Management Section of the TotalView home page.
8. On the list of Open Change Requests, you should see a list of open change requests (if any).
9. To take an action on a Change Request, click the Change Request reference number.

## Approving Change Requests

All Change Requests require Client Approval before the change is scheduled by GCTS. By approving the Change Request in TotalView, the client is authorizing the GCTS GSS to implement a change (standard) or schedule a notification for change (NFC) according to the details of the Change Request. A user must be an Approver or an Administrator to Approve Change Requests.

1. Follow the instructions in *Section 4.1* to View an active Change Request.
2. Above the Change Request form, click the **Approve** button to authorize the change according to the details of the change request and the date/time scheduled.
3. The status of the Change Request will change from **Awaiting Client Approval** to **Awaiting SOC Validation**
4. An email notification will be sent to the client’s change email group and the GCTS GSS.

## Canceling a Request

A Change Request may be cancelled in TotalView by performing the following steps. A user must be an approver or an Administrator to Cancel Change Requests. A Cancelled Change Request cannot be “re-opened” but may be copied into a new request (*Section 4.7 Copying a Change Request*).

1. Follow the instructions in *Section 4.1* to View an active Change Request.
2. Above the Change Request form, enter a brief description of why the Change Request should be canceled.
3. Click the **Cancel Change** button.
4. The status of the Change Request will change to **Canceled** and the reason for the cancellation will be added to the Change Request’s work log.
5. An email notification will be sent to the client change email group.

## Requesting More Information

If a Change Request does not have sufficient information to be approved or scheduled a user may Request More Information from the primary contact by performing the following tasks:

1. Follow the instructions in *Section 4.1* to View an active Change Request.
2. Above the Change Request form in the Request for Information section, specify the type of information that you require from the primary contact to approve the change request.
3. Click the **Request More Information** button.
4. The status of the Change Request will change to **Awaiting More Information**.
5. An email notification will be sent to the primary contact.

## Responding to a Request for More Information

To respond to a Request for More Information, a primary contact should perform the following tasks:

1. Follow the instructions in *Section 4.1* to View an active Change Request.
2. Above the Change Request form in the More Information Box, view the Request for More Information by double-clicking the **View Question** link.
3. Respond to the Request for More Information in the Answer text box.
4. Click the **Provide Info** button.
5. The status of the Change Request will return to the status that it was prior to when the **Request More Information** was executed.
6. An email notification will be sent to the email address of the person who requested the additional information.

## Modifying a Change Request

Prior to Client Approval, users may modify any of the information in the change request. To modify a request:

1. Follow the instructions in *Section 3.7* Change Request Field Descriptions to review a Change Request.
2. Modify any of the open fields within the Change Request.
3. Click the **Save Edits** button above the Change Request Form.

## Copying a Change Request

The information in a Change Request may be copied to a new Change Request. This function may be helpful in creating recurring change requests in which the procedures do not change. To copy the information from an existing Change Request:

1. Click the **View Open Requests** link under the Change Management section of the TotalView home page.
2. On the list of Open Change Requests, you should see a list of open change requests (if any).
3. To copy a Change Request, click **Copy to New**.
4. A new Change Request will be opened with all of the information from the Change Request that was copied.

**Note**: The new Change request will not copy the start and end date/times of the copied Change Request.

|  |
| --- |
| TV List 101403 |
| Figure ‑: Copying Change Request |

# Examples of Change Requests

The following Section provides examples of the most frequent client changes and provides prompting questions that should be answered by the Change Request for each field.

## Code Push

Table ‑: Code Push Example

| Change Request Field | Questions the entry should address: |
| --- | --- |
| Summary of the Change | PRD & DR: Deploy PRODUCTION\_CODE.0XXX.tar.gz to app servers |
| Please provide a detailed description of the Change | 1. To what environment(s)? 2. What is the exact TAR ball file name? 3. Does the commencement or success of this CR depend upon the completion of another CR? 4. Who can answer questions about this change if problems are encountered? 5. Who should the GSS notify (if anyone other than the Change Distribution List recipients) when the change is completed? |
| Success Criteria | 1. What can the GSS do to confirm the application code was properly deployed? (Answer: usually just bring up the System Message Page and validate that it loads) |
| Back-out Procedures | 1. What should the GSS do to fail-back an unsuccessful change? (Answer: deploy the prior code tar ball). |

## Configuration or Properties File Change

Table ‑: Configuration Change Example

| Change Request Field | Questions the entry should address: |
| --- | --- |
| Summary of the Change | PRD & DR: Add and edit parameters to logx.properties file |
| **Please provide a detailed description of the Change** | 1. What is the change’s purpose? 2. To what environment(s)? 3. What are the full filename(s) and path(s)? Be sure to specify [1/2] differences. 4. Does the commencement or success of this CR depend upon the completion of another CR? 5. What is the pre-change backup step the GSS should perform (Answer: copy the existing properties file to /var/tmp/) 6. What is the exact change to be performed (**Answer**: either make edits to an existing file or replace a new file for the old one.) 7. If making edits to some lines of a file, show the full lines being changed in context before and after the change) 8. What ownership and permissions should the file have at the completion of the change? 9. Who can answer questions about this change if problems are encountered? 10. Who should the GSS notify (if anyone other than the Change Distribution List recipients) 11. When the change is completed? |
| **Success Criteria** | 1. How should the GSS confirm that the change was done properly? 2. (**Answer for an edits change:** Do a diff on the old backup copy of the file in /var/tmp and the new version of the file and confirm that the only changes made are those in the change request.) 3. (**Answer for a full file overwrite change**: Confirm that the installed file’s checksum and the file time stamp are the same that of the proposed change file attachment). |
| **Back-out Procedures** | 1. How should the GSS restore the pre-change environment? (**Answer**: restore the pre-change backup copy). |

## Database Change

Table ‑: Database Change Example

| Change Request Field | Questions the entry should address: |
| --- | --- |
| Summary of the Change | STAGING: Change Database (DB) analyse job times |
| Please provide a detailed description of the Change | 1. What is the change’s purpose? 2. To what environment(s)? 3. Does the commencement or success of this CR depend upon the completion of another CR? 4. What are the pre-change validation setup steps? (Answer: if the change is dropping or adding objects, try a pre-change object count as a baseline, or export the table structure and data to a flat file backup). 5. What is the change procedure? (Answer: run the attached script, remove these DBMS jobs or table spaces, etc.) 6. What clean-up is required after the change? 7. If the change may cause errors that the Database Analyst (DBA) should fix real-time, what are the error conditions the DBA should look for? Where should s/he look for them? How should s/he fix them? Which steps are milestones that, if completed successfully, do not have to be rolled back in order to fix a downstream step’s problems and which steps must be rolled back, even if successful, in order to solve a downstream step’s problems? How can s/he rerun a validation test to ensure that fixes were applied properly? |
| Success Criteria | 1. What post change validation can the DBA do? (**Answer**: recount the objects and compare old, new, and change object counts; or check a script’s output log for error conditions; review job schedule for times, count rows in a table, etc.) |
| Back-out Procedures | 1. How can this change be rolled back? (Answer: for data and table structure changes, restore the pre-change data & table export. For jobs or schedules…). |

## Network Changes

Table ‑: Network Change Example

| **Change Request Field** | **Questions the entry should address:** |
| --- | --- |
| **Summary of the Changes** | **Production: upgrade 2621 router IOS to v4.5.1** |
| Please provide a detailed description of the Change | 1. What is the change’s purpose? 2. What environment(s)? 3. What host(s) and Internet Protocol (IP) address (es)? 4. What network(s) and/or circuits are impacted? 5. Define the “to” network and IPs and the “from” network and IPs and whether the route is unidirectional or bidirectional? For firewall changes, specify the port, protocol and the intended use. 6. Does the commencement or success of this CR depend upon the completion of another CR? 7. What pre-change backup steps should be taken. (Answer: download pre-change configuration to loghost /var/tmp with fully qualified filename, such as: <devicename>config.backup.[cr#].txt). |
| Validation Steps | 1. Telnet or Ping to the port, host IP. 2. Check w/ GSS to confirm that no new network alerts arouse from change. 3. If the change impacts a network external to EqualLogic (EQL), specify IPs for testing against AND remote network on-duty technical resources and their real-time contact information for testing and troubleshooting. 4. [Other change specific tests to confirm new change works and pre-change configurations were unaffected]. |
| Back-out Procedures | 1. How can the pre-change configuration be restored to the device? 2. How can the pre-change network functionality be validated? |

## CRON Schedule Change

Table ‑: CRON Schedule Change Example

| Change Request Field | Questions the entry should address: |
| --- | --- |
| Summary of the Changes | PROD: Change the Rsynch job frequency to every 10 minutes (depends on completion of CR 12345). |
| Please provide a detailed description of the Change | 1. What is the change’s purpose? 2. What environment(s)? 3. What host(s)? 4. Does the commencement or success of this CR depend upon the completion of another CR? 5. Pre-change step should always be:   crontab -l >> /tmp/cron.backup[cr#], where cr# is the change request number.   1. What is the schedule change to be made? – Be sure to specify the full path(s) and filenames of the job to be invoked. Do NOT write out the change in CRON tab format, just use plain English “This job should run every night at 02:05 AM GMT” |
| Validation Steps | 1. Post-change validation step should always be:   crontab -l >> /tmp/cron.new[cr#], where cr# is the change request number.   1. Then,   diff /tmp/cron.backup[cr#]/tmp/cron.new[cr#] |
| Back-out Procedures | 1. Restore /tmp/cron.backup[cr#] |

## Notification of Change

Table ‑: Notification of Change Example

| Change Request Field | Questions the entry should address: |
| --- | --- |
| Summary of the Changes | PROD: Change the Rsynch job frequency to every 10 minutes (depends on completion of CR 12345). |
| Please provide a detailed description of the Change | 1. What is the purpose of the change? 2. What components of the production system will be impacted by the change? (Answer: Member name, router name, circuit name, site name, etc.) 3. Who or what organization is responsible for the change? (Answer: datacenter, department). 4. What is the full name of the resource doing the change? 5. What is the contact information of the resource doing the change ***during the change period*** (i.e., do not provide office numbers, unless the resource will be at his/her desk when executing the change). 6. What is the change window? 7. Will the change organization call the GSS at the start and completion of the change to inform the GSS? (Answer: They must.) 8. Is the GSS’s participation required during the change? |
| Validation Steps | 1. Are there any post-change validation steps required of the GSS? If so, specify. |
| Back-out Procedures | N/A |

1. **Responsibility**

The GCTS (BO) or Information Resource Custodian (IRC) of record is responsible and held accountable for enforcement of published policy, process, and procedure documentation.

1. **Exceptions**

Exceptions to this process must be approved by the GCTS BO or IRC of record as defined by the governing/serving Lightweight Enterprise Governance Organization (LEGO) as defined by LEGO Program Charter and the LEGO Knowledge Management Charter.

1. **Expiration**

Unless readopted, this document expires three (3) years from the date of approval.

1. **Enforcement**

Any employee found to have violated these procedures may be subject to disciplinary action, up to and including termination of employment.

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Appendix - Terms and Definitions

Table A‑‑: Terms and Definitions

| Term | Definition |
| --- | --- |
| BO | Business Owner |
| CAB | Change Advisory Board |
| CR | Change Request |
| CRON | Unix based Job Scheduler process |
| DB | Database |
| DBA | Database Analyst |
| DL | Distribution List |
| EQL | EqualLogic |
| GSS | Global Services Support |
| IP | Internet Protocol |
| IRC | Information Resource Custodian |
| NFC | Notification for Change |
| QA | Quality Assurance |
| SOC | Security Operations Center |
|  |  |

Appendix - References

Table B‑1: References

| Document Number | Document Title |
| --- | --- |
| IBM BCG | IBM Business Conduct Guidelines |
| CIO 122 | IBM Worldwide Records Management |
| ITCS 104 | IBM Information Technology Corporate Standard 104 |
|  |  |
|  |  |
|  |  |
|  |  |

Appendix - Distribution

Table C‑1: Distribution Contacts

| Name/Role | Contact Information |
| --- | --- |
| Document Management | [Document\_management@wwpdl.vnet.ibm.com](mailto:Document_management@wwpdl.vnet.ibm.com) |
| Global Service Support | [Global.GTCS.GSS.ALL@wwpdl.vnet.ibm.com](mailto:Global.GTCS.GSS.ALL@wwpdl.vnet.ibm.com) |
| Service Delivery Managers Leadership | [Tonsmeire\_Directs@wwpdl.vnet.ibm.com](mailto:Tonsmeire_Directs@wwpdl.vnet.ibm.com) |
| Global Operations Change Management | [GRP\_Change\_Management@wwpdl.vnet.ibm.com](mailto:GRP_Change_Management@wwpdl.vnet.ibm.com) |
| Totalview Support | [Totalview.Dev@wwpdl.vnet.ibm.com](mailto:Totalview.Dev@wwpdl.vnet.ibm.com) |
| GCTS India Tactical Response Managers | [gctsi.trm@wwpdl.vnet.ibm.com](mailto:gctsi.trm@wwpdl.vnet.ibm.com) |