Data Communications Company



Switching Operational Change Management Procedures

Version: 1.0
Date: 13.05.2022
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Classification: DCC Controlled

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1. Introduction

1.1. Purpose

The purpose of this document is to define the Operational Change Management procedures that Switching Operator and Switching Data Service Providers will be required to operate end to end. This relates to all changes within the Production and DR environment within the Switching Arrangements. The overarching requirements are set out in the Switching Service Management Schedule.

This document describes at a detailed level how the Operational Change Management process is to operate end to end within the Switching Operator and how the process interfaces will align to Switching Data Service Providers.

1.1.1. Objective

This document is applicable to the Switching Arrangements and is to be used by all staff involved in the Operational Change Management process. It's applicable to any change which may affect the operational environment.

1.1.2. Outputs

- Change Record
- Change Advisory Board Approval
- Change Advisory Board Minutes
- Forward Change of Schedule
- Post Change Review
- Measurement of KPIs

2. Process Overview

2.1. Goals

The goal of the Operational Change Management Process is to enable Changes to be delivered, maintained and supported across the Switching Arrangements with minimum risk, complexity and disruption in order to maintain agreed service levels.

In addition to this, the Operational Change Management Process provides the agreed framework for the control of Changes throughout their lifecycle.

2.2. Scope of Process

The scope of the Operational Change Management Process covers all activities within the Change Management lifecycle for all types of Changes including evaluation, prioritisation, planning, testing, implementation and documentation.

The scope of the process includes proactive Changes which focus primarily on service improvement and cost reduction, and reactive Changes which may, for example, be as a result of service disruption.

2.3. Out of Scope

For the avoidance of doubt and ambiguity, the following aspects of Change Management as per the ITIL framework are not included in the process deployed by Switching Operator Operational Change Management in its delivery under the Service Provider Supplier Model:

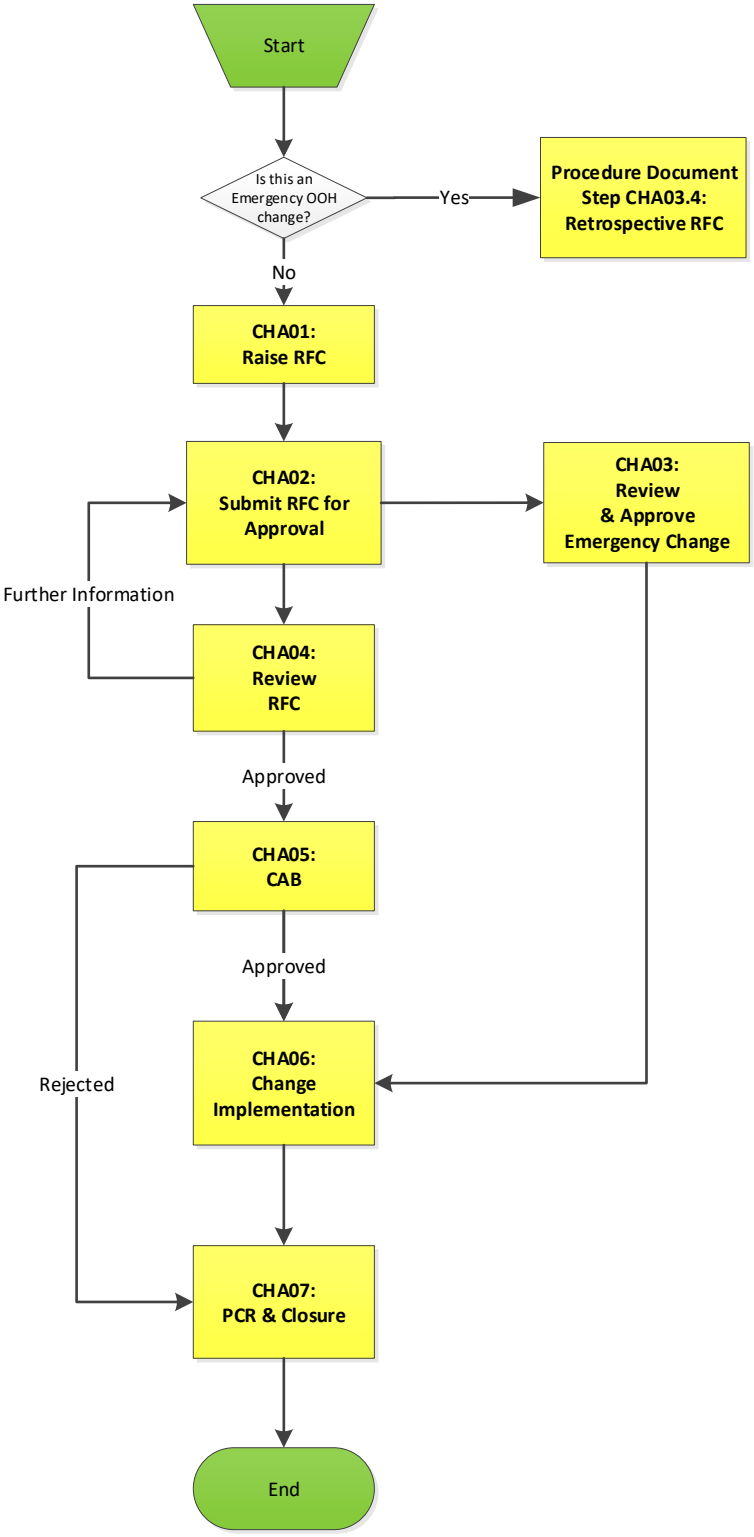
- Contractual or Business Change (part of REC Change Management Schedule process)
- Requests/Work Orders covered by Service Management Service Requests
- The design, development, build, test of releases covered by the Switching Operator Release Management Process
- Approval of Market Participants' Planned and Emergency Changes

2.3.1. Process Controls

Process Control for the Operational Change Management Process is achieved through the following:

- Implementation, monitoring, reporting and review of a set of KPIs measuring process efficiency, effectiveness and adherence
- Change Management KPI performance is reviewed on a weekly basis with reports being presented to Service Management.

3. High Level Process



3.1. Minimum Data Set

In order to raise a Change Request in the Switching Service Management System the following will be required as a minimum data set:

- Organisation Raising the Change

- Service Affected
- Systems Affected
- Downtime Required
- Planned Implementation Date
- Change Type
- Back-Out Plans
- Risk and Impact Analysis
- Communication Plans
- Implementation Approach
- Any available test evidence
- Any supplementary information required to support the Change Request

3.2. Forward Schedule of Change

The Forward Schedule of Change (FSoC) is a calendar which is populated with approved changes and is presented as a calendar view on the Switching Service Management System for Switching Service Providers, Switching Data Service Providers and Switching Operator.

Market Participants will have visibility of the Forward Schedule of change via the Switching Portal. The Switching Portal will provide a view of the following:

- List of Changes that are taking place on a given day
- Summary of the Changes being undertaken
- The services impacted by the changes
- Any risks that may affect the return of Service

The FSoC will be populated at the point that a given Change is approved by CAB and will be visible to all parties with the relevant permissions as soon as it is approved.

The FSoC is maintained and updated by the Switching Operator Change Management Team as part of Change Process in conjunction with the Switching Service Providers and Switching Data Service Providers.

4. Change Types

4.1. Background

All Changes have to be approved before implementation. Approval is subject to agreed lead times, based on complexity of the proposed Change implementation. The classification of the change type will determine the lead times required.

All changes should be deployed within the designated 'test' environments, prior to authorization for deployment to Production.

4.2. Normal Change – High Risk

Any change which requires downtime/outage to the Switching Arrangements or applications, be planned outside of the following hours 16:00hrs – 01:00hrs

Normal – High Risk changes will be subject to Switching CAB approval and therefore must be raised at least 8 working days prior to the Switching CAB meeting:

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
WK1	Change must be raised for inclusion into CAB WK2	Change cut off (Operational Change at **authorise** status)	CAB issued (12:00 or COB)			N/A	N/A
WK2	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			Switching CAB - 10:00	Deploy Change		N/A	N/A

CAB cut off is 12:00 the Tuesday prior to the following weeks CAB. The agenda will be issued by close of business on Wednesday prior to the following weeks CAB. Changes/Releases can be implemented the day after CAB (Thursday).

Where a change is being deployed within the testing environments, the Production change must be raised, at the latest, at the time the change is planned for SITA deployment and must include:

- Release Note (Detailing the fixes being deployed)
- Runbook (Deployment and rollback Steps)

Post Testing and prior to CSS CAB, the Production change must be uploaded with:

- CSS Test Assurance Sign off
- Production Release Note
- Final Runbook

4.3. Normal Change – Medium/Low Risk

Any change which affects the Switching Arrangements or its users, where there is no planned DOWNTIME/OUTAGE to CSS services or applications. These changes are not discussed at the CSS CAB and will be approved within the SMS toolset; however, CSS Operational Change Management may decide the complexity/deployment plan deems CSS CAB approval required.

These changes are to be planned outside of the following hours 16:00hrs – 01:00hrs, adhere to the **3 Working Day Lead time**.

Outage to Switching Data Service Provider internal systems, where there is no impact/risk to the Switching Arrangements will be permitted via this type of change, however a clear explanation of the impacted service and Service Providers ability to support CSS must be provided within the change record.

4.4. Standard Change

A Standard Change is pre-defined and pre-approved by CSS Operational Change Management. Standard Changes are defined as routine Changes which meet all the following criteria:

- Predictable and have been successfully implemented '3' times previously
- Repeatable with documented procedures/deployment steps
- Known impact, accepted risk and agreed cross-departmental notifications
- Typically triggered by scheduled or threshold event.

Standard Changes are not subject to lead times, the lead time is based on resource availability. Standard Changes are reviewed periodically to determine if still valid and meet criteria.

4.5. Expedited Change

An Expedited Change is a Change that is required to be implemented outside agreed lead times, either for business/technical reasons or to resolve a category 3/4 Incident.

Expedited Changes will be subject to eCAB approval from the Switching Operator Service Management; DCC Incident Management; DCC CTO either via eCAB meeting or eCAB email.

All impacted and affected Service Providers must be in attendance at the ECAB meeting, alongside the CAB mandatory approvers.

4.6. Emergency Change

An Emergency Change is a Change which requires an immediate action to resolve or prevent a Major Incident (Priority 1 or 2).

Emergency Changes must be approved by the CSS Incident Manager, (who may also perform the Change Manager role in this context); CSS Service Manager and CSS Security; either via email or by convening an eCAB (Emergency CAB).

All impacted and affected Service Providers must be in attendance at the eCAB meeting, alongside the CAB mandatory approvers.

4.6.1. Retrospective Change

In some instances, Operational Changes can be recorded retrospectively, providing appropriate approval is given prior to the Change implementation, this will only take place where the Change is Implemented under an Emergency Change situation.

CSS Incident Manager will assume the Change Manager role where a change is required outside office hours in order to resolve or prevent High Severity Incidents. The Retrospective Change record is to be raised within 24hrs after the fix was implemented and email approval from CSS Major Incident Management to be uploaded to the change

Retrospective changes are logged as EMERGENCY changes within Switching SMS, however there is an option to mark the change as RETROSPECTIVE via a tick box in the Switching SMS.

5. Change Lead Times

CSS Change Management adhere to the following lead times:

Change Type	Lead Times
Normal – High Risk	8 Working Days
Normal – Low Risk	3 Working Days
Standard	Pre-Approved / Must be Raised prior to Implementation Date/Time
Expedited	24 Hours
Emergency	No Lead Time
Emergency (Retrospective)	Must be raised within 24 Hours of Implementation

6. Change Risk / Impact / Urgency

The size, complexity and the risk of changes can vary widely. The amount of control should be adjusted in such a way that there is a balance between costs and benefit. Several types of changes are defined and dependent on the impact of the change and the risks involved.

6.1. Risk

The risk level of a change is an assessment used to determine the likelihood of the risk of an unintended service disruption when assessing the impact of a change.

6.2. Impact

The impact of the change is assessed from criticality of the Service or Function and the number of users impacted.

Change impact reflects both intended service impact to business, security and IT services during the change window as well as the unintended impact should the change fail.

Impact Rating		Description
1	High (Complete service outage)	Results in a complete and total outage of a core service or infrastructure element Prevents switches from taking place
2	Medium (Partial or degradation of service	Loss of resilience or an outage to a backend system but the end to end switching service from an end user perspective is not impacted
3	Low	No customer/service impact, no outage

7. Operations CAB

7.1. Operational CAB Overview

The Change Advisory Board is a weekly, empowered, forum which will discuss, technically assess and approve Change/Release requests for scheduling and implementation into the Production and DR environment.

The agenda will be prepared prior to the meeting by the Switching Operator (Operational Change Manager) and distributed accordingly. Following the meeting, minutes detailing all actions and approvals will be published.

7.2. Attendees

The Operational CAB members will be those who are capable of ensuring that all Change/Release Requests have been adequately assessed from both a business and a technical viewpoint. To achieve this mix, the Operations CAB needs to include people with a clear understanding of the business requirements and the impact on the user community and other Services.

The key attendees: -

- REC Code Manager (Chairperson)*
- Switching Operator Change Manager
- Switching Operator Service Managers*
- Switching Operator Release Manager*
- Switching Operator Information Security
- Switching Operator Incident Manager*
- Switching Data Service Provider Change Manager*
- Originator(s) of the Change (Project Manager & Technical Subject Matter Expert) *

* Mandatory member at Switching CAB

7.3. Meeting Preparation

The meeting will be prepared by the Switching Operator - Operations Change Manager.

Each operational change is presented at the Operations CAB by the Change Requester. Failure to attend CAB will result in the change being deferred from CAB.

7.3.1. Operations CAB Cut off

Change to be raised within Switching Service Management System and in 'Authorise Status' by 12:00hrs Tuesday

Switching Operator Change Management function expect all CAB changes to have been through each Switching Data Service Provider's internal change approval process and the change to be raised and

received Service Provider 'peer review approval' by 12:00 on Tuesday, within the Switching Service Management System, to meet the Switching Operator CAB lead times

Switching Operator – Operations Change Manager will issue agenda by 18:00hrs Wednesday for discussion at Switching Operations CAB meeting the following Wednesday

Switching Operations CAB meeting -Wednesday 10:00 – 11:00

7.4. Operations CAB Core Responsibilities

The fundamental responsibilities of the Operations CAB are defined as:

- To review and assess Operational Change Requests and supporting documentation in order to authorise implementation into the live environment or to defer/reject the operational change
- To review the evidence that any conditions of approval have been met
- Ensure any 'cross service provider' impacts are identified to ensure the relevant 'cross service provider' impact assessment is gained
- To review any operational changes to the impact, risk or resource availability
- To be aware of the details of all operational change requests involving live operational service including any Business agreements or comments
- To agree planning & schedule of Operational Change Requests for implementation
- Implementation dates are achievable and that the operational change will be supportable in the live environment
- Approve technical requirement

7.5. Operations CAB meetings

Normal Class (High Risk) changes are in scope for discussion and are presented to the Operational CAB meetings.

Minutes will be issued by COB after each meeting, detailing the Operational CAB outcome, i.e. Approved/Conditional Approval/ Rejected/Deferred/Withdrawn, giving clear timelines for completion of actions

Minutes will be held within Switching Operator Change Management SharePoint Area.

7.6. Operations eCAB meetings

Emergency and Expedited changes are in scope for discussion at an ECAB meeting.

The ECAB meeting will be arranged by Switching Operator – Change Management team on an adhoc basis.

All impacted and affected Service Providers must be in attendance at the ECAB meeting, alongside the CAB mandatory approvers.

Minutes will be issued after each ECAB meeting, detailing the ECAB outcome, i.e. Approved/Conditional Approval/Rejected/Deferred, giving clear timelines for completions of actions.

Minutes will be uploaded to the Operational Change within the Switching Service Management System.

7.7. Operations CAB/eCAB Roles and Responsibilities

7.7.1. Role of Switching Operator Change Management

- Convene Operations CAB /ECAB meeting
- Invites attendees to CAB/ECAB meetings
- Distributes CAB/ECAB Agenda and CAB Pack
- Chair ECAB meeting
- Ensures Changes are complete before inclusion on CAB agenda e.g. Implementation Plans (incl. dates), Test Reports etc.
- Produces minutes for CAB/ECAB – to include actions, approvals, queries
- Attach CAB minutes to toolset Changes scheduled for deployment within the current week
- Approve Changes within toolset
- Create the next CAB agenda

7.7.2. Role of Change Requestor

- Ensure all Change documentation is fully complete and available e.g. Change overview, Implementation Plans (incl. dates), Test Report etc.
- Ensure Technical Documentation has been reviewed and amended to reflect the Change being implemented
- Ensure 'Cross Service Provider' impact is documented and understood
- Ensure resources are in place for implementation dates before Change is submitted to Change Management
- Confirm no conflicts against the Change Schedule
- Respond to any additional information requested by Change Management within the timeframes set
- Respond to issues/queries raised prior to CAB
- Advise Change Management of any amendments, including withdrawals, to the Change
- Represent Change at DCC CABs for approval

7.7.3. Role of CAB/eCAB Approver

- Attend all CABs (send representative when unavailable)
- Provide high level technical and service approval
- Ensure content and timing of the change is acceptable, in terms of planned outage and risk to service
- Provide a change decision
- Not approve changes if in any doubt as to its content or the associated risks
- Utilising their specialist knowledge to highlight any potential conflict
- Perform a review of Change detail
- Review/identify any Cross-Service Provider Impact
- Review and validate Impact and Risk detail
- Review and validate Test Plans
- Review and validate Implementation & Backout Plan
- Check for conflicts against the Change Schedule
- Raise any issues/queries with both the Change Requestor and DCC Change Management
- Approve / Reject the change
- Mandatory Approvers: -

- Switching Operator Service Delivery Manager
- Switching Operator Technical Architect
- Switching Operator Security
- Switching Operator Change Management
- Any impacted parties

8. Change Closure Codes

All changes are to be closed within the Switching Service Management System with the relevant closure code

Switching Data Service Providers to update the change within the Switching Service Management System with the change outcome within '5' working days of the approved scheduled end date/time, by completing the implementation task. This will timestamp the 'COMPLETED DATE' within the change ticket

DCC Change Management to ensure all COMPLETED changes are closed with the relevant Closure Code within 1 working day of the change 'completed' date.

Change Closure Status Reason	Meaning	Criteria
Backed Out	Failed	During Implementation issues occurred and no further activities could be performed due to technical constraints
		OR an incident caused by the change was reported;
		OR the implementation was completed successfully but issues were found during post-testing and the change had to be backed out
		The change had to be fully backed out and the environment was restored to its initial state
Successful	Successful	Change implemented within the approved Change Window
		All implementation steps completed as planned
		Back out was not needed
		Post-testing completed without any issues
		No related Incidents or Problems detected or raised by the time all post-testing and PIR activities are completed
		The Change met its original purpose
Successful with Issues	Failed	Some of the planned implementation steps could not be completed or failed due to unexpected issues

		Issues were found during post-testing
		Change was implemented outside of the approved Change Window, for example due to technical constraints that did not allow for the Change to be paused
		Issues were either accepted by the business as minor or will be fixed through a new Change record, Normal or Emergency type, depending on urgency
		The Change did not meet its original purpose, but the defects are acceptable or acknowledged by the DCC as an exception
		IMPORTANT: details of the issues must be documented in the Change record with corrective actions that were deployed or how the situation will be rectified to prevent a recurrence in the future.
Unsuccessful	Failed	Planned implementation steps could not be completed for technical reasons
		Post-testing could not be completed successfully
		The approved Change Window could not be met
		Incidents were detected and/or Problem records raised as caused by the Change
		IMPORTANT: details of the issues must be documented in the Change record with corrective actions that were deployed or how the situation will be rectified to prevent a recurrence in the future.

9. Switching Operator Process Performance Management KPIs

The effectiveness, efficiency and adherence of the process will be regularly monitored, and service reports produced.

These KPIs do not replace any existing Service Level Targets relating to this process but are supplementary to them.

KPIs have been defined as being either Internal or External; this simply determines whether the measure is being used by the Service Provider Supplier Model in order to drive operational effectiveness of the process and therefore for internal consumption.

9.1. Process Effectiveness

Name:	Successfully Implemented Changes
Description:	Percentage of all Changes implemented deemed as successful: where successful is implemented at the agreed date and time to the agreed functionality without Incident or back out.
Value to the business:	Stability across the Switching Arrangementsdelivered and supported Services, Customer Satisfaction and high success rates in Change enable more Changes to take place to satisfy business requirements.
Main category:	Performance
Target:	>=95%
Measurement Period:	Monthly
Internal/External:	External

Name:	Adverse Impact of Change
Description:	Percentage of all Changes implemented that cause a high severity Incident. The calculation is based upon the number of high severity Incidents and critical Incidents caused by Change against the number of Changes implemented for the period.
Value to the business:	Stability across the Switching Arrangements delivered and supported Services, Customer Satisfaction and maturity of the Change process.
Main category:	Performance

Target:	<=5% of Changes implemented
Measurement Period:	Calendar month
Internal / External:	External

9.2. Process Efficiency

Name:	% Expedited Changes
Description:	The percentage of all Changes raised in the period that are raised as Expedited Changes.
Value to the business:	Expedited Changes are of higher risk of causing service impact, due to the reduced time. The use of Expedited Changes needs to be minimised as much as feasibly possible.
Main category:	Process
Target:	<=5% of Changes
Measurement Period:	Monthly
Internal/External:	Internal

Name:	% Standard Changes
Description:	The percentage of all Changes raised in the period that are raised as a standard (pre-approved) Change.
Value to the business:	Use of standard Changes, reduces ongoing operational effort, reduces lead times, allows for quicker implementation of standard repeatable Changes. The use of standard Changes reduces time at CAB.
Main category:	Efficiency
Target:	>= 40% of Changes
Measurement Period:	Monthly
Internal/External:	Internal

Name:	% Emergency Changes
Description:	The percentage of all Changes raised in the period that are raised as Emergency Changes.
Value to the business:	This measure also confirms adherence to process.
Main category:	Efficiency

Target:	<=5% of Changes
Measurement Period:	Monthly
Internal/External:	Internal

9.3. Process Adherence

Name:	% Breached Changes
Description:	This is the percentage of Changes approved and implemented where updates have not been received in 24hours.
Value to the business:	Clear visibility of Changes implemented with understood outcomes and assists in Incident Management process.
Main category:	Process
Target:	<=5% of Changes
Measurement Period:	Monthly
Internal/External:	Internal