## Change control guide managing changes to requirements

A **Change Request** is a document containing a request for an adjustment of / change to an architecture, [system](http://en.wikipedia.org/wiki/System) or project.

**Change Request** typically originate from one of five sources:

1. users request an enhancement to the system i.e. a new feature
2. users request a change to something that is not working as intended
3. changes in other inter-dependent systems affect the system
4. changes in legislation, policies or standards
5. may also originate from an unclear understanding of the goals and the objectives of the project

The change control process has three main goals:

1. Limiting scope creep
2. Supporting the processing of changes
3. Enabling traceability of changes

There are six main [activities](http://en.wikipedia.org/wiki/Activities) which make up the change control process. They are:

1. Identify potential change
2. Analyze change request
3. Evaluate change
4. Plan change
5. Implement change and
6. Review and close change.

These activities are executed by four different [roles](http://en.wikipedia.org/wiki/Role).

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| --- | --- |
| **Role descriptions for the change control process for feature requests** | |
| **Role** | **Description** |
| Requestor | The [requestor](http://en.wikipedia.org/wiki/Customer) asks for a change due to problems encountered or new functionality requirements; this can be a person or an organizational entity and can be internal or external. |
| Change manager | The [change manager](http://en.wikipedia.org/wiki/Project_manager) is the owner of the [project](http://en.wikipedia.org/wiki/Project) area that the Change Request concerns. |
| Change committee | The change [committee](http://en.wikipedia.org/wiki/Committee) decides whether a change request will be implemented or not. |
| Change builder | The change builder is the person who plans and implements the change. |

Not all changes have the same impact. Some are relatively easy to implement, others far more complex. Changes also have different priorities and are associated with different levels of risk.

The change request goes to the relevant person or group authorised to make a decision, based on the size of the impact.

This **Change Authority Matrix** should be determined and set out in the Project Initiation Document.

|  |  |  |
| --- | --- | --- |
| **Impact on Time** | **Impact on Cost** | **Authorised Decision Maker** |
| Less than x days | None | Technical Lead |
| More than x day but less than x days | > agreed % of budget | Technical Manager |
| More than xx days but less than xx days | > agreed % of budget | Project Team |
| More than xx days | > agreed % of budget | Change Committee |

The decision-maker can either:

* **Accept**
* **Reject**
* **Put On Hold** (to be included in a later release of the software or phase of the project)

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| **CHANGE / FEATURE REQUEST PROCESS** | | |
| **Activity** | **Sub-activity** | **Description** |
| Identify potential change | Require new functionality | A requestor desires new functionality and formulates a requirement in the **Change Request Form** |
|  | Encounter problem | A requestor encounters a problem (e.g. a [bug](http://en.wikipedia.org/wiki/Software_bug)) in the system and this leads to a problem report in the **Change Request Form**. |
|  | Request change to existing functionality | A requestor proposes a change in a **Change Request Form**. |
| Log Change Request |  | All change requests are sent to the Change Manager and logged with a unique identifier in the Change Request Log where it can be tracked. |
| Analyse change request | Determine technical feasibility | The change manager, together with the relevant project team members, then performs an analysis of the requested change and what the impact will be. They determine the technical feasibility of the proposed change request. |
|  | Analyse change impact | The change manager estimates time to implement change and therefore estimates the costs and benefits of the proposed change request, as well as what other items the change may affect. |
| Evaluate change and made decision | Make decision | Based on the change request, its technical feasibility and changes to costs/schedule, the change manager OR change committee makes the Accept/Deny/On Hold decision, and updates the Change Request Log accordingly. |
|  | Plan the change | A change plan is created for the [implementation](http://en.wikipedia.org/wiki/Implementation) of the change. It is also possible to ‘save’ changes and process them in a later release or later project phase |
| Implement change | Execute change | The change is made by the change builder. |
|  | Test change | The change builder tests whether has been developed actually works and satisfies the change request. |
|  | Update documentation | The documentation is updated to reflect the applied changes in relevant documentation ie: requirements documents, technical specifications, end-user documentation, etc. Any expected changes to the time or cost should be updated in the project plan budget and Gantt chart. |
|  | Release change | A new system release, which reflects the applied change, is implemented |
| Review and close change | Close change | This change [cycle](http://en.wikipedia.org/wiki/Instruction_cycle) is completed, i.e. the Change Request Log is updated as complete. |

Change Request Form

|  |  |
| --- | --- |
| **Project Name:** |  |
| **System:** |  |
| **Description:** | *High level description of the requested change* |
| **Document Ref:** | *Unique Change Request Number* |
| **Date Request Submitted:** | *YY/MM/DD* |
| **Submitted By:** | *Name of Requestor* |

|  |  |  |  |
| --- | --- | --- | --- |
| **Required Approvals** | | | |
| **Role:** | **Name** | **Date** | **Approve/Reject** |
|  |  | YY/MM/DD |  |
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|  |  |  |  |
|  |  |  |  |

# Description of Change Requested

*Describe what needs to be changed*

# Background and Justification

*Explain why the change is necessary i.e. what is the problem that must be solved; what are the benefits of the new features being requested; what are the needs that must be addressed.*

# Potential Impact of Change

*Who will be affected by the change? What processes will be impacted? What will the impact be on the project scope, timing, cost, staffing and risk? Will anything/anyone/any other systems be impacted?*

### 3.1 Impact on Project Schedule

*Describe and quantify the impact on the timeline / schedule*

### 3.2 Impact on Project Budget

*Describe and quantify the impact on cost*

### Impact on Scope

*Describe and quantify the impact on the scope of the system and/or project*

### Other Impacts

*Describe impact on Staffing/HR, training needs, risk, etc.*

# Implementation of change

*Suggested implementation process if the change is approved*