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**SECTION G5  
TEAM 7**

**SMART CONTRACT PRODUCT (SCP)**

**PROBLEM MANAGEMENT PLAN**

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# Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Version | Description | Author |
| 16-3-2019 | 1.0 | Initial write-up | Kenny Kwek, Ong De Lin, Janell Lee, Mark Tan, Lau Jun Rong |
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## 

# Introduction

## Purpose

The purpose of this document is to provide a general overview of the Problem Management Process. It includes Problem Management goals, objectives, scope, benefits, key terms, roles, responsibilities, authority, process diagrams and associated activity descriptions. This document is developed based on the ITIL framework.

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## Goals

The goals for the Problem Management process are to:

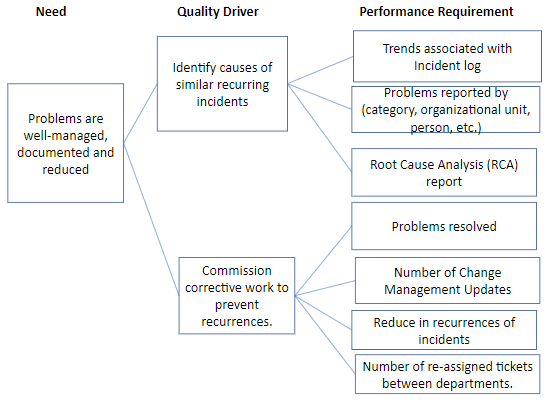
1. Identify causes of similar recurring incidents
2. Commission corrective work to prevent recurrences.

## Type of Problem Management

Problem Management can be either reactive or proactive.

1. Reactive Problem Management is the problem solving reaction that occurs when one or more incidents arise.
2. Proactive Problem Management deals with identifying and solving Problems before any Incidents have occurred.

## Critical-to-Quality (CTQs) & Key Performance Indicators (KPIs)



# Possible Problem Areas

|  |  |  |
| --- | --- | --- |
| **Area** | **Description** | **Solutions** |
| Hardware | Port down | Restart port |
| Software | Unexpected behaviour /bugs | Patch the code |

# RCA Methods

## Timeline Analysis

The solving team will analyze the timeline of the incident to gather as much information as they can. This will provide the team with a better understanding of the situation and these information will be used in the Fish-Bone diagram to explore the possible root causes.

## Fish-Bone Diagram with the 5 Whys Analysis

The team will mainly use this method to explore the different possible root causes with the use of 5 Whys analysis. The team is required to brainstorm at least four causes that contribute to the incident. They will then analyze and breakdown each cause into different possible reasons using the 5 Whys. This step will be repeated continuously until the root causes have been identified.

# Roles and Responsibilities

## IT Operations Manager & Quality Assurance

IT Operations Manager & Quality Assurance are the owners of the Problem Management process. They are responsible for all aspects of its coordination.

The role includes responsibility for:

* Acting as the liaison with personnel responsible for Problem resolution
* Ensuring Problems are resolved
* Ownership and management of the Known Error Database (KEDB)
* Closure of Problems
* Coordinating major Problem review

## Support Manager, Tier 1 - Communication, Tier 2 - Business Analyst, Tier 3 - Dev and Infrastructure & Security

Solving Problems may be handled by internal technical support team members. In situations where a serious or major Problem occurs, the IT Operations Manager & Quality Assurance may formulate a dedicated Problem Management team that is made up of resources with specific expertise.

# Process Activity

## Review incident requests

The IT Operation Manager and Quality Assurance perform an incident request review at regularly scheduled intervals. During the review, they will analyzes the incident request information to identify the problems with the services they are responsible for.

## Initiate the problem investigation

If a problem investigation already exists for an incident request, the IT Operation Manager and Quality Assurance relate that incident request to the existing problem investigation. When a new problem is identified, the IT Operation Manager and Quality Assurance will initiate a problem investigation and relates it to the corresponding incident requests. They then assign the task to the specialists (Tier 2 - Business Analyst, Tier 3 - Dev and Infrastructure & Security) to perform a root cause analysis.

Problem investigations can also be triggered by other members of the team. For example, Tier 1 - Communication can initiate a problem investigation if she think that an incident request was caused by an underlying problem.

## Perform a root-cause analysis

When a problem investigation is assigned to a specialist for root cause analysis, the specialist looks for a temporary workaround to restore the affected service. If the specialist implements a workaround, they add information about it to the problem investigation record. This helps other specialists resolve future incidents caused by the problem until a permanent or structural solution is implemented. Next, the specialist looks for the root cause of the problem. The specialist can also create a known error related to the problem investigation. If the specialist finds a root cause, they update the problem investigation with information about the root cause, workaround, and resolution.

## Identify changes

If the specialist thinks that a change is required to remove the root cause or to enable a workaround, they will need to inform the IT Operations Manager and Quality Assurance. Otherwise, the specialist implements the preferred structural solution. If the specialist cannot find the root cause or cannot propose a structural solution, the specialist adds the reason to the problem investigation record. Regardless of whether a structural solution is proposed or implemented, the specialist informs the IT Operations Manager and Quality Assurance when the root cause analysis is completed.

### **Close or reassign problem investigations**

After the root cause analysis is completed, the IT Operations Manager and Quality Assurance reviews the analysis. If they are unsatisfied with the root cause analysis, they can reassign the problem investigation for further analysis. If the problem is resolved, the IT Operations Manager and Quality Assurance close the problem investigation. During closure, the IT Operations Manager and Quality Assurance perform a final assessment of the problem investigation. If the IT Operations Manager and Quality Assurance are satisfied that the root cause of the problem has been permanently removed, they will close the problem investigation. If the root cause analysis concluded that no permanent workaround or solution to the root cause exists, and the IT Operations Manager and Quality Assurance agrees, they will indicate that the problem investigation is on hold. This indication leaves the investigation open for periodic review in the event that an appropriate solution becomes available in the future. If, however, the resolution did not remove the root cause, or if the IT Operations Manager and Quality Assurance think that an appropriate solution is available, they can reassign the problem investigation for further analysis.

The IT Operations Manager and Quality Assurance also close the investigation if the specialist performed a sound analysis but could not propose a structural solution. If the specialist did propose a structural solution but did not implement it because the specialist believes that a change is required, the IT Operations Manager and Quality Assurance must confirm that the change is required. If a change is required, the IT Operations Manager and Quality Assurance will generate a known error and will inform COO and Product Manager if necessary. This action will start the Change Management process. Later, after the change is implemented, the problem investigation will be closed.