

IT Service Management Process Reference Model

Abstract

This document describes the Process Reference Model (PRM) for the processes of IT Service Management (Service Support and Service Delivery) based on ITIL® (Information Technology Infrastructure Library) in accordance with the requirements of ISO/IEC 15504-2:2003.

DOCUMENT HISTORICAL

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I Introduction

This document has been written by the Centre de Recherche Public Henri Tudor in cooperation with Qualium.

The IT Service Management Process Reference Model (PRM) defined in this document is based on two books of the ITIL® (IT Infrastructure Library): Service Support and Service Delivery published by the Office of Government Commerce (OGC).

Those two sets of processes represent the core of ITIL®: 10 processes that an organization can use to manage the IT resources.

In this PRM, the IT Service Management processes are defined in terms of the achievements of defined Purpose and Outcomes in accordance with the requirements of ISO/IEC 15504-2:2003.

The purpose of this PRM is to define a set of processes that can be used as the process dimension for a Process Assessment Model (PAM) in accordance with the requirements of ISO/IEC 15504-2:2003.

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II PRM Approach

II.1 CONTENT OF IT SERVICE MANAGEMENT PRM

The Process Reference Model (PRM) defined is based upon the IT Service Management processes described in the Service Support and Service Delivery books published by the OGC.

The *Best Practices of IT Service Management*, especially those about Service Support and Service Delivery are intended to help organizations implement and improve their IT processes.

However there is, so far, no international method for assessing those 10 processes (apart from a short self-questionnaire provided by OGC).

The British Standard BS15000 and more recently the International standard ISO 20000 are both describing requirements for implementing the IT Service Management, but they do not provide with an approach to evaluate the effectiveness of this implementation.

The PRM for IT Service Management (and its associated PAM) defined according to ISO/IEC 15504-2:2003 requirements has been validated on the field through several ISO/IEC 15504 assessments of the processes it defines.

The PRM has also been submitted to the itSMF community for validation and feedback.

II.2 RELATIONSHIPS WITH ISO/IEC 15504

II.2.1 Conformity with ISO/IEC 15504-2 requirements for PRM

This IT Service Management PRM is meeting the requirements of ISO/IEC 15504-2:2003.

II.2.2 Correspondence with ISO/IEC 15504-5 Assessment exemplar Model

Some of the IT Service Management processes can also be found in the ISO/IEC 15504-5 (i.e. Configuration Management).

In order to prevent confusion and to make sure we are providing with a complete coverage of the practices defined in the IT Service Management, it has been decided to rewrite those processes and have a clear description of their activities and outcomes on an IT exploitation point of view (versus development point of view described in ISO/IEC 15504-5).

II.3 PRM LIST OF PROCESSES

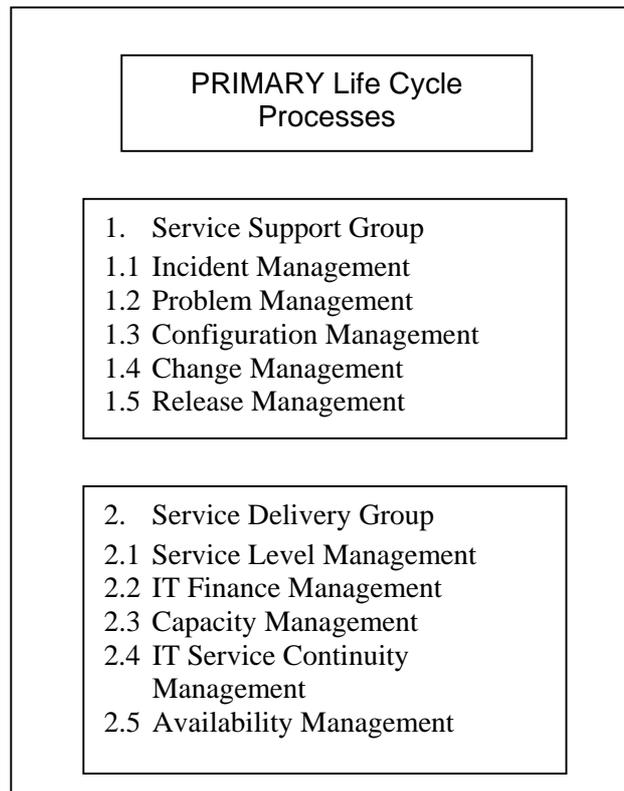


Figure 1 – The Primary life cycle processes

III List of references

- IT Infrastructure Library – Service Delivery, The Stationery Office Edition, ISBN 011 3308930, 2001
- IT Infrastructure Library – Service Support, The Stationery Office Edition, ISBN 011 3308671, 2000
- ISO/IEC 15504-2:2003, Information Technology – Process assessment – Part 2: Performing an assessment, 2003
- ISO/IEC 15504-5:2006, Information Technology – Process assessment – Part 5: An exemplar Process Assessment Model, 2006
- ISO/IEC 20000-1:2005, Information Technology – Service Management – Part 1: Specification

IV Description of processes

IV.1 SERVICE SUPPORT GROUP

IV.1.1 INC Incident Management

Process ID	INC
Process Name	Incident Management
Process Purpose	<p>The purpose of the Incident Management is to restore normal service operation as quickly as possible and minimise the adverse impact on business operations (with <i>normal service</i> defined in a Service Level Agreement -SLA- if exist).</p> <p>NOTE 1: The incidents described here are (Any event that is not part of the standard operation of a service and that causes, or may cause, an interruption to, or a reduction in, the quality of that service):</p> <ul style="list-style-type: none"> ▪ incidents (automated system incident recorded or incident notified at the Service Desk) ▪ service requests <p>NOTE 2: A service request may be a request for information/advice/documentation, or a request for a forgotten password.</p> <p>NOTE 3: Incident Management defined here is relatively similar to the Problem management described in ISO/IEC 15504-5. (Ref. <i>ISO/IEC 15504-5:2006, p. 53, SUP.9</i>).</p> <p>NOTE 4: The scope of the Incident Management depends on the strategy adopted. Most of time the ICT (Information and Communication Technology) infrastructure is concerned; telecommunication is optional.</p>
Process Outcomes	<p>As a result of successful implementation of the Incident Management process:</p> <ol style="list-style-type: none"> 1. An Event Management Strategy is developed; 2. Events are recorded and classified (e.g. Incident – Service Request); (Ref. <i>ISO/IEC 15504-5:2006, p. 53, SUP.9, extended outcome 2</i>) 3. Service Requests are treated; 4. Incidents are prioritised (Impact and urgency) and initial support is provided; (Ref. <i>ISO/IEC 15504-5:2006, p. 53, SUP.9, extended outcome 3</i>) 5. Actions are performed for incident resolution in order to restore the normal service operation as quickly as possible, if necessary a work around solution is implemented or an escalation is performed; (Ref. <i>ISO/IEC 15504-5:2006, p. 53, SUP.9, extended outcome 4</i>) 6. Incidents are tracked all along their life cycle; (Ref. <i>ISO/IEC 15504-5:2006, p. 53, SUP.9, extended outcome 5</i>) 7. Incidents and service requests are closed (with all associated records).

IV.1.2 PRO Problem Management

Process ID	PRO
Process Name	Problem Management
Process Purpose	<p>The purpose of the Problem Management is to identify the underlying cause of the Incidents (reactive problem management) and to prevent recurrence of Incidents related to the errors (proactive problem management) to minimize the adverse impact on the business.</p> <p>NOTE 1: The problem management uses the records form the incident (event) management.</p> <p>NOTE 2: Problem Management described here has no correspondence with any process described in ISO/IEC 15504-5.</p> <p>NOTE 3: The scope of the Problem Management is to manage the recurring incidents and major incidents (high impact on the business), it is mandatory that a problem is recorded as an incident first. Reporting on the incident database will help to identify problems.</p>
Process Outcomes	<p>As a result of successful implementation of the problem management process:</p> <ol style="list-style-type: none"> 1. A Problem Management Strategy is developed; 2. Problems are tracked all along the Problem life cycle (recorded, classified, prioritized, linked to all associated records); 3. Problems are analysed and assessed to identify errors (Problem Control); 4. Known Errors are tracked all along their life cycle (recorded, classified, prioritized, linked to all associated records); 5. Known Errors are analysed, assessed and Requests for Change (RFC) are raised to solve it (Error Control); 6. Known Errors and Problems are closed together with all associated records (after change validation further to the release); 7. Weak areas are identified, analysed and proactively corrected thanks to trends analysis (using incident and problem information) and to support action.

IV.1.3 CHAN Change Management

Process ID	CHAN
Process Name	Change Management
Process Purpose	<p>The purpose of the Change Management is to ensure that all proposed changes are treated, rejected or accepted and effectively implemented to maintain and/or improve the level of service quality.</p> <p>NOTE 1: Change Management defined here is relatively similar to the Change request management described in ISO/IEC 15504-5 (Ref. ISO/IEC 15504-5:2006, p. 54, SUP.10).</p> <p>NOTE 2: The scope of the change management is to manage and control all changes in the environment. Impact assessment is based on financial management, availability management (risk management), and capacity management. All agreed changes would be implemented under cover of Release Management (Except the standard changes), under control of the change management and in relation with the configuration management.</p>
Process Outcomes	<p>As a result of successful implementation of the Change Management process:</p> <ol style="list-style-type: none"> 1. A Change Management Strategy is developed; 2. Requests for Change (RFC) are filtered and recorded; (Ref. ISO/IEC 15504-5:2006, p. 55, SUP.10, extended outcome 2) 3. Requests for Change (RFC) are prioritized for future handling; 4. Requests for Change (RFC) are tracked all along their life cycle (recorded, filtered, categorised, classified, prioritised, linked to all associated records); (Ref. ISO/IEC 15504-5:2006, p. 55, SUP.10, extended outcome 7) 5. Changes are approved by an authorized committee (financial approval, technical approval and business approval); (Ref. ISO/IEC 15504-5:2006, p. 55, SUP.10, extended outcome 6) 6. The effective execution of the approved changes is ensured; 7. Changes are closed (as well as all associated records).

IV.1.4 CONF Configuration Management

Process ID	CONF
Process Name	Configuration Management
Process Purpose	<p>The purpose of the Configuration Management is to ensure the integrity of all infrastructure components, with their associated documentation, including their relationships with the other components and to deliver a reference system of all SI items implicated in providing services.</p> <p>NOTE 1: Configuration Management here is relatively similar to the Configuration management described in ISO/IEC 15504-5 (Ref. <i>ISO/IEC 15504-5:2006, p. 51, SUP.8</i>).</p> <p>NOTE 2: A Configuration Item (CI) is a component of the infrastructure or an item, which is under control of the configuration management process.</p>
Process Outcomes	<p>As a result of successful implementation of the Configuration Management process:</p> <ol style="list-style-type: none"> 1. A Configuration Management Strategy is developed; 2. A configuration management system is implemented following the strategy; 3. Configuration Items (CIs) are identified, classified, labelled, assigned, described and linked as appropriate; (Ref. <i>ISO/IEC 15504-5:2006, p. 51, SUP.8, extended outcome 2</i>) 4. Modifications of the Configuration Items (CIs) are controlled all along their life cycle; (Ref. <i>ISO/IEC 15504-5:2006, p. 51, SUP.8, extended outcome 3</i>) 5. Modifications of the Configuration Items (CIs) are made available to appointed parties; (Ref. <i>ISO/IEC 15504-5:2006, p. 51, SUP.8, outcome 4</i>) 6. The reporting of all current and historical data (status) associated to CIs is kept available; (Ref. <i>ISO/IEC 15504-5:2006, p. 51, SUP.8, extended outcome 5</i>) 7. The completeness and consistency of the CIs are under control and verified; (Ref. <i>ISO/IEC 15504-5:2006, p. 51, SUP.8, extended outcome 6</i>) 8. Storage and handling of the Configuration Items (CIs) are controlled. (Ref. <i>ISO/IEC 15504-5:2006, p. 51, SUP.8, extended outcome 7</i>)

IV.1.5 REL Release Management

Process ID	REL
Process Name	Release Management
Process Purpose	<p>The purpose of the Release Management is to prepare release installation and to implement the change in the IS in maintaining its integrity.</p> <p>NOTE 1: Release Management defined here covers both processes "Product release" and "Product acceptance support" described in ISO/IEC 15504-5 (Ref. <i>ISO/IEC 15504-5:2006, p. 22-24, SPL.2, SPL3</i>).</p>
Process Outcomes	<p>As a result of successful implementation of the Release Management process:</p> <ol style="list-style-type: none"> 1. A Release Management Strategy is developed; 2. Descriptive libraries of the Information System are used for references and are updated; 3. Releases are planned and prepared, including the content definition, the high-level plans, the build procedures and the terms of the release delivery; (Ref. <i>ISO/IEC 15504-5:2006, p. 22, SPL.2, extended outcomes 1, 2</i>) 4. Releases are approved, carried out and tracked all along the Release life cycle (prepared, tested, approved, documented, distributed and installed); (Ref. <i>ISO/IEC 15504-5:2006, p. 22, SPL.2, extended outcomes 3, 4, 5</i>) 5. The service is operational for the appropriate customer and this one is trained to its use; (Ref. <i>ISO/IEC 15504-5:2006, p. 22, SPL.2, extended outcome 6</i>) 6. Review of installed releases is ensured by Change Management allowing the closure (with the Post Implementation Review); 7. Release characteristics are documented, recorded and/or updated in the descriptive libraries of the Information System.

IV.2 SERVICE DELIVERY GROUP

IV.2.1 SLM Service Level Management

Process ID	SLM
Process Name	Service Level Management
Process Purpose	<p>The purpose of the Service Level Management is to maintain and improve IT Service quality, through a repetitive cycle in agreeing, monitoring and reporting upon IT Service achievements and through corrective and progressive actions.</p> <p>NOTE 1: Changes can optimize or eradicate poor service in line with business requirements.</p>
Process Outcomes	<p>As a result of successful implementation of the Service Level Management process:</p> <ol style="list-style-type: none"> 1. A Service Level Management Strategy is developed; 2. Service Level Agreements (SLA) are established and applied all along the SLA life cycle (created, negotiated, agreed, implemented, tracked, monitored and amended); 3. The involved parties by the delivery of the services are informed and agreed to the commitments; 4. SLA and Service Level Requirements are reviewed and (re)negotiated with the Customer; 5. A Service Improvement Programme is produced and implemented continuously.

IV.2.2 ITFM IT Financial Management

Process ID	ITFM
Process Name	IT Financial Management
Process Purpose	<p>The purpose of the IT Financial Management is:</p> <ul style="list-style-type: none"> ▪ to be able to account fully for the expenditure on IT Services and to attribute these costs to the services delivered to the organisation's Customers ▪ to assist management decisions on IT investment. <p>NOTE 1: IT Financial Management has 3 main activities: Budgeting, IT accounting and charging.</p> <p>NOTE 2: This activity (IT Accounting) is optional and is not systematically examined and considered as an outcome. In fact, the IT Financial strategy allows to justify the strategy to not implement IT Accounting.</p> <p>NOTE 3: IT Charging is divided in three sub-activities: Pricing, billing and invoicing.</p>
Process Outcomes	<p>As a result of successful implementation of the IT Financial Management process:</p> <ol style="list-style-type: none"> 1. An IT Financial Management Strategy is developed; <p>Budgeting outcome:</p> <ol style="list-style-type: none"> 2. A budget, a planning of spending and guidelines of defined budget items are defined; <p>IT Accounting outcome:</p> <ol style="list-style-type: none"> 3. Account ledgers and accounting data are managed and available; <p>Charging outcome (optional: depends on the company's strategy):</p> <ol style="list-style-type: none"> 4. A list of the prices for the services is established; 5. Invoices, ledgers, evidence of payments are managed. <p>NOTE 1: The IT organization can be a cost centre, a profit centre and any intermediate levels in between.</p>

IV.2.3 CAP Capacity Management

Process ID	CAP
Process Name	Capacity Management
Process Purpose	The purpose of the Capacity Management is to forecast all the current and future Capacity and performance aspects of the business requirements and to provide it cost-effectively.
Process Outcomes	<p>As a result of successful implementation of the Capacity Management process:</p> <ol style="list-style-type: none"> 1. A Capacity Management Strategy is developed concerning the business, the services, the resources according to the business goals negotiated; 2. Capacity Management data are collected, analysed, compared with thresholds and stored for later use; 3. Evolutions or specific requests are identified and taken into account; 4. A Capacity Plan is produced and implemented based on the data collected and specific requests; 5. The capacity plan is used as reference, and capacity exceptions are recorded to take appropriate action.

IV.2.4 ITSCM IT Service Continuity Management

Process ID	ITSCM
Process Name	IT Service Continuity Management
Process Purpose	The purpose of the IT Service Continuity Management is to support the overall Business Continuity process (BCM) by ensuring that the required IT technical and services facilities (identified as critical by the business) can be recovered within required and agreed business timescales.
Process Outcomes	<p>As a result of successful implementation of the IT Service Continuity Management process:</p> <ol style="list-style-type: none"> 1. An IT Service Continuity Management strategy to contribute to BCM (Business Continuity Management) is developed for the services identified as critical; 2. Critical services are subjected to a business Impact Analysis (BIA) and an identification of the risks to define some countermeasures to implement; 3. Countermeasures are implemented to ensure the availability of the services; 4. Different IT Service Continuity Management plans (network, telecom) are defined, implemented, tested, and communicated; 5. Arrangements to maintain the continuity of the services are periodically reviewed and maintained.

IV.2.5 AVA Availability Management

Process ID	AVA
Process Name	Availability Management
Process Purpose	The purpose of the Availability Management is optimise the capability of the IT Infrastructure, services and supporting organisation to deliver a Cost effective and sustained level of Availability that enables the business to satisfy its objectives.
Process Outcomes	As a result of successful implementation of the Availability Management process: <ul style="list-style-type: none"> 1. An Availability Management strategy is developed; 2. IT Services are designed to meet the IT Availability requirements determined from the business; 3. The impact of component failure is assessed in cooperation with the IT Service Continuity Management; 4. The levels of Availability required are agreed, monitored, reviewed to fully support Service Level Management; 5. An Availability plan is produced and updated.