# Availability Management Process

| **Code:** |  |
| **Version:** |  |
| **Date of version:** |  |
| **Created by:** |  |
| **Approved by:** |  |
| **Confidentiality level:** |  |

Comment [BV1]: All fields in this document marked by square brackets {} must be filled in.

Comment [BV2]: If you want to find out more about Availability Management process, see http://www.20000academy.com/Blog/Aug11/Availability-Management-calculating-for-improvement

Comment [BV3]: The document coding system should be in line with the organization's existing system for document coding; in case such a system is not in place, this line may be deleted.

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Change history

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<td>0.1</td>
<td>Branimir Valentic</td>
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1. Purpose, scope and users

The aim of this document is to define the purpose, scope, principles and activities of the Availability Management process.

This document is applied to the entire IT Service Management (ITSM) organization.

Users of this document are all employees of [organization name], as well as all external parties who have a role in ITSM.

2. Reference documents

- Incident Management Process
- Design Coordination Process
- Problem Management Process
- Change Management Process
- ISO/IEC 20000-1:2011, clauses 6.3.; 6.3.1.; 6.3.2.; 6.3.3.

3. Policy

Availability Management defines, analyzes, plans, measures and improves all aspects of the availability of IT services, ensuring that all IT infrastructure, processes, tools, roles, etc. are appropriate for the agreed availability service level targets.

The goals of Availability Management are:
- To produce and maintain Availability Plan; see Availability Plan in Appendix.
- To provide guidance for all other processes on all availability-related issues.
- To manage service and resource-related availability with the goal that service availability enhancements meet all targets.
- To assist in diagnosis of all availability-related incidents and problems.
- To assess changes from an availability point of view.
- To ensure that processes Availability Management is performed and respective measures defined.

3.1 Availability aspects and definitions

[organization name] considers availability on two levels:
- Component availability
- Service availability

Availability Management relies on Measurement, monitoring analysis and reporting (see Availability Measurement in Appendix) of the following parameters:
- Availability – calculated as follows:
Availability (%) = \( \frac{\text{Agreed Service Time (AST)} - \text{downtime}}{\text{AST}} \times 100 \)

- **Reliability** – calculated as follows:
  Reliability (MTBSI, hours) = \( \frac{\text{Available time (in hours)}}{\text{Number of breaks}} \)
  Reliability (MTBF, hours) = \( \frac{\text{Available time (in hours)} - \text{Total downtime (in hours)}}{\text{Number of breaks}} \)

- **Maintainability** – calculated as follows:
  Maintainability (MTRS, hours) = \( \frac{\text{Total downtime (in hours)}}{\text{Number of service breaks}} \)

- **Serviceability** – the ability of a third-party supplier to meet the terms of its contract.
- **Vital Business Function (VBF)** – a part of a business process that is critical to the success of a business.

3.2 **Availability Plan**

[role description] is responsible to:

- Create, implement and maintain a service availability plan; see Availability Plan in Appendix.
- **Report a Request for Change (RFC)** (see Change Record and Request for Change in Appendix of Change Management Process) if changes to the plan are needed.
- Analyze the impact of changes on service availability.
- Ensure that availability (of the service, i.e. components) is measured according to the plan (see Availability Measurement Report in Appendix).
- Use the availability measurement report (see Availability Measurement Report in Appendix) and define necessary actions.
- Investigate and define necessary actions in case of unplanned non-availability.
- Test the availability plan (once a year) against availability requirements.
- Re-test the availability plan after major changes.

4. **Process**

Comment [BV9]: This is a high-level process description. It should be adapted depending on actual situation.
4.1. Reactive activities

[organization name] uses the following reactive activities:

- Monitoring, measuring, availability reporting (see Availability Measurement in Appendix).
  [role description] is responsible for:
  - Monitoring and measuring, results that are provided and reporting
  - Investigation and definition of proceedings for unplanned un-availabilities

- Investigating all service and component unavailability and instigating remedial action.
  [role description] is responsible for:
  - Unavailability Analysis
  - Force failure analysis (FFA) - technique which identifies the underlying cause of failures to the service and component.
    performed [once in a quarter] based on Availability Measurement (see Availability Measurement in Appendix)

4.2. Proactive activities
4.2.1. Planning and designing new or changed services

[organization name] involves the Availability Management process in planning and designing of new or changed services — [Availability Manager] coordinates activities with [Design Coordination Manager].

[role description] is responsible for:

- Requirements definition by involving Availability Management in the service design phase of the service lifecycle
- Identifying what business functions
- Designing for required availability
- Service availability design
- Analysis:
  - Component failure impact analysis (CFIA)
  - Single point of failure analysis (SPOF) — any IT which causes an incident when it fails and for which countermeasures don’t exist
  - Fault tree analysis (FTA) — a methodology which is used to determine the chain of events that has caused, or could cause, an incident
- See Availability Plan in Appendix.
-Raise a Request for Change (RFC) (see Change Record and Request for Change in Appendix of Change Management Process) if changes to the plan are needed.
- Analyze the impact of changes on service availability.
- Ensure that availability (of the service, i.e. components) is measured according to the plan (see Availability Measurement Report in Appendix).
- Use the availability measurement report (see Availability Measurement Report in Appendix) and define necessary actions.
- Investigate and take necessary actions in case of statement non-availability.
- Test the availability plan [once a year] against availability requirements.
- Re-test the availability plan after major changes.

4.2.2. Risk assessment and management

[role description] is responsible for risk assessment and risk management see Risk Assessment and Treatment in Appendix of IT Service Continuity Management Process.

4.2.3. Implementing cost-justifiable countermeasures

[role description] is responsible to see Risk Assessment and Treatment in Appendix of IT Service Continuity Management Process.

4.2.4. Reviewing all new and changed services and testing all availability and resilience mechanisms

[role description] is responsible to perform review and test activities of all elements contributing to service and component availability. Additionally, regular review and test is scheduled [once a year].

4.2.5. Continual review and improvement

[role description] will, in the scope of for an IT service.
5. Roles and responsibilities

5.1. Availability Manager

[role description] assigns the Availability Manager role.

Responsibilities of Availability Manager:

- Overall responsibility for carrying out the activities within the scope of Availability Management
- Coordinates with other Service Management roles
- Plans and manages tool requirements needed to support Availability Management process
- Responsible for reporting and managing information
- Manages work of Availability Management staff
- Develops, maintains and improves Availability Management process and procedures
- Ensures that existing services deliver availability as agreed in SLA
- Ensures that newly developed or changed services deliver availability as required, taking into consideration that a minimum level of availability is implemented
- Taking part or assisting in investigation and diagnosis of incidents and problems regarding all availability issues
- Take part in IT infrastructure design, specifying availability requirements of hardware and software components
- Specifies the reliability, maintainability and serviceability requirements for components supplied by internal and external suppliers
- Monitoring actual achievements against agreed achievements of IT services and components with regard to availability parameters
- Attending Change Advisory Board (CAB) meetings when appropriate

6. Measurement and metrics

6.1. Measurement

[role description] is responsible to produce reports.

Reports are sent to the Service Level Manager on a monthly basis.

[role description] is responsible that:

- reports are produced monthly, with quarterly and yearly summaries
- reports are evaluated
- measures for improvement are defined

6.2. Metrics

Metrics reports are produced monthly, with quarterly and yearly summaries.

Metrics to be reported:

Comment [BV13]: Or similar role. Change if needed.
Comment [BV14]:
Comment [BV15]: Example: Availability Manager, Continual Service Improvement Manager.

Comment [BV16]: Final list depends on tool’s possibilities, i.e. requirements.
6.3. **Critical Success Factors (CSF) and Key Performance Indicators (KPI)**

[role description] is responsible to define CSFs and respective KPIs. Achievements against KPIs are monitored and evaluated by [role description].

<table>
<thead>
<tr>
<th>Critical Success Factor</th>
<th>Key Performance Indicator</th>
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<tbody>
<tr>
<td>Availability of components, IT infrastructure and services provided at optimum costs</td>
<td>Reduction in service unavailability (as a percentage)</td>
</tr>
<tr>
<td></td>
<td>Service delivery costs (as a percentage)</td>
</tr>
<tr>
<td>Maintenance availability and reliability of IT systems</td>
<td>Improvement in MTBF, MTBSI, MTRS</td>
</tr>
<tr>
<td></td>
<td>Reduction in system un-availability (as a percentage)</td>
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7. **Managing records kept on the basis of this document**

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8. **Validity and document management**

This document is valid as of [date].

Owner of this document is [job title], who must at least once a year:

9. **Appendices**

- Appendix 1: Availability Plan
- Appendix 2: Availability Measurement Report