

**Systems Process**  
**Administration Function**

**Standards for  
Configuration  
Management**

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**Title**

*Standards for Configuration Management*

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**Changes and Improvements**

All documentation is subject to ongoing revision which reflects changes in procedures, process, technology and quality. All online documentation is considered to be most current. Printed documentation is considered obsolete effective from the time of printing.

**Responsibility**

It is the responsibility of the user of this documentation to ensure that the most current version of these procedures is being applied.

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## 1.0 Purpose

Configuration management supports service reliability and helps provide stability for business systems. It also enables efficient growth where change, expansion and acquisition can be implemented more rapidly.

To be effective, configuration management must be applied to the full life cycle of activity involved in building and implementing business applications and the infrastructure.

A comprehensive and up-to-date configuration repository will support many service development and service management tasks. Configuration management policies and procedures must ensure commitment to the maintenance and use of the configuration repository for all personnel who are responsible for maintaining systems, introducing or changing components within the business environment.

## 2.0 Scope

These procedures provide the standards for managing and controlling all components that are used in the operational environment. They cover both the application environment and the information infrastructure. Applying these procedures will produce and validate configuration items for the business systems environment.

Configuration management directly supports change management, but also supports most of the service management activity in some way, as the repository for configuration information. The change authorization process essentially demands commitment to the configuration management discipline, because change management covers the control of a configuration item's implementation into the system infrastructure.

System service management cannot have total control over the components within the applications and infrastructure environment. For this reason configuration management is regarded as a process that many component contributors (including suppliers) can follow.

Integration with change and problem management (together with links to the procurement system) will improve overall service management efficiency and help ensure the integrity of the configuration repository.

Automating configuration data recording can eliminate the possibility of human error when used as part of the component development, component installation and component auditing activities.

## 3.0 Definitions

<b>configuration items</b>	components of the application environment and IT infrastructure
<b>configuration repository</b>	a centralized environment for storage of information relating to inventory (software and hardware) and all other information related to configuration items within a system
<b>Inventory registry</b>	an integral part of the configuration repository, where an inventory item is an instance of one or more configuration items.

## 4.0 Procedures

Configuration management will be followed by all those who contribute components to the application environment or infrastructure of the business. Standards will be followed to ensure that the components that are provided are valid configuration items and that the information relating to those items is accurate and correct. Personnel who have direct responsibility for the production and maintenance of configuration items must apply the standards of configuration management.

### 4.1 Roles and Responsibilities

The responsibilities that directly relate to configuration management will be assigned the generic titles of process owner, process auditor, and configuration item owner.

#### 4.1.1 Process Owner

The process owner will be a senior position in the organization with authority to define staff objectives for adherence to the configuration management procedures and will:

- ensure the procedures support the business priorities
- review and maintain commitment to configuration management
- set the standards for configuration management
- ensure that the skills and culture within system management provide full commitment to configuration management

#### 4.1.2 Process Auditor

The process auditor will be responsible for checking adherence to configuration management and will:

- encourage configuration item (component) producers to work within the constraints of the configuration management standards
- show attention to detail, be organized and persistent and have the ability to work with technical staff
- ensure that all documentation meets standards as established in *P002 Documentation Management*

#### 4.1.3 Configuration Item Owner

The configuration item owner is responsible for providing information about all configuration items (components) in each system environment and will:

- have extensive knowledge and understanding of the technology
- be experienced, responsible and demonstrate commitment to process and standards
- understand configuration management standards and the tools used by the configuration management function
- review and validate the configuration item specifications and information

## 4.2 Activities in Configuration Management

Activities that contribute to configuration management will include:

- identifying infrastructure components and the relationship between components
- authorizing component changes through change control
- recording and reporting configuration item data
- auditing configuration item records and the infrastructure
- identifying configuration items through an inventory system
- identifying configuration item attributes that can assist with problem resolution
- identifying contacts, authorities or sources of information relating to the configuration items

### 4.2.1 System Configuration

Each system configuration will have defined standards to ensure that configuration items are suitable for the computing environment and for system performance. The configuration will provide the following information about the configuration items in the system, including:

- identification of all items
- replication information
- support information
- change information
- a complete description of the intended use of each item
- other items which are dependant on the state of each item
- if the properties are adjustable
- if the item will be subject to company or outside policies
- the change impact of introducing new items

## 4.3 Configuration Items

Every configuration item will have an owner who is responsible for ensuring the component definition is correct. They will also ensure that the item is subject to authorization standards from initial definition, through development, into deployment and maintenance.

Configuration items will include hardware components, software components, network components, and any part of the infrastructure or components associated with the system that require identification or will be subject to change.

Location and detailing of configuration items for existing systems will follow the procedures in *S010 Standards for System Information Discovery*.

### 4.3.1 Life Cycle

Configuration management will consider the full life cycle of the components that are used to build business applications and the system infrastructure for those applications. This life cycle covers initial development, production, implementation and eventual retirement of the configuration item.

### **4.3.2 Attributes**

Attributes of all configuration items will include any or all of the following, as applicable:

- definition (name and purpose)
- intended use
- physical items that make up the configuration item (which may include other configuration items)
- installation and removal procedures
- position in the configuration item hierarchy
- ownership and authority
- relationship with other configuration items
- known faults and issues
- version identification
- valid states (development, testing, release and retirement stages)
- attribute changes that would force a new definition
- use and change authorization

### **4.3.3 Maintenance**

All configuration items will be maintained as follows:

- the owner or system administrator is responsible for ensuring that all information is correct
- configuration items are subject to change authorization
- attribute changes can force a new definition

### **4.3.4 Validation**

All configuration items will be validated according to the following:

- known state checks
- instance checks
- license compliance

## **4.4 New System Development**

Development of new systems will follow configuration management standards and the standards in *S016 Standards for System Design and Implementation*. Throughout the development life cycle, there will be a requirement to update or refer to the configuration repository items to ensure new configuration items are compatible with existing components.

### **4.4.1 Ownership**

Development staff will be considered configuration item owners within the component development stages but ownership may be passed on to system administration staff as the configuration item is prepared for change management and implementation in the operational environment.

## 4.5 Configuration Repository

A configuration repository will be developed together with application tools supporting the maintenance of the information. The configuration repository will accurately represent the infrastructure of a system, but only as far as it is practical and necessary.

All components that are to become part of the systems environment (including inventory information) will be deposited and maintained within a configuration repository where the information can be referenced by other service management functions. The configuration information within the configuration repository will accurately represent the specifications and the state of the systems being managed.

### 4.5.1 Tools

The repository will use the appropriate tools to support registration and status tracking of components as well as tools for maintenance of inventory information. It will use tools to provide automated data collection of component and inventory information to support the auditing and validation of the application architecture and system infrastructure.

The technology that supports the configuration repository will provide a discrete set of capabilities, with databases providing some information while file or intranet-addressable storage supports other parts.

### 4.5.2 Support

This repository will support both the configuration items and the inventory information. For all configuration items, information on status, owner, and relationship with other configuration items will be maintained in the configuration repository.

## 4.6 Application of Configuration Management

Configuration items, automated reporting and information from the configuration repository will be used in the production and maintenance of configuration management documents, including System Management Documentation (SMD), System Management Procedures (SMP) and System Management Reports (SMR).

Development and production of all SMD, SMP and SMR documents will follow the standards in *S002 Standards for Documentation Management*.

## **4.7 System Management Documentation**

### **4.7.1 New Documentation Development**

All System Management Documentation of configuration items and the configuration repository content will contain the following section divisions and content at minimum:

- 1.0 Purpose (as per the SMD templates)
- 2.0 Scope (as per the SMD templates)
- 3.0 Definitions (terms relating to the documentation)
- 4.0 Overview and Description (general system description and scope of services)
- 5.0 System Information (system identification, roles and responsibilities)
- 6.0 Procedures (unique procedures relating to the system or systems)
- 7.0 System Configuration (hardware and software setup)
- 8.0 Related Documents (reference to other resources, including instructions)
- 9.0 Revision History

### **4.7.2 SMD Section Content**

Content of each section may vary slightly, but will follow a standard style so that users become familiar with the layout.

*Section 1.0 Purpose* will contain an introduction, objectives and responsibility.

*Section 2.0 Scope* will contain inputs, outputs, intent and limitations.

*Section 3.0 Definitions* will contain definitions and abbreviations, if required. If there are no definitions, the section should still be included and the text under the heading will state "None".

*Section 4.0 Overview and Description* will include a general description of the system or systems and the scope of services for the identified system or systems.

*Section 5.0 System Information* will identify the owner and support personnel responsible for the configuration information. This section will also have specific identification for each system. It will also define the roles and responsibilities of personnel responsible for the system or systems.

*Section 6.0 Procedures* will list any standards and exceptions from the standard management procedures.

*Section 7.0 System Configuration* will list the hardware and software configurations for the system or systems.

*Section 8.0 Related Documents* will refer to forms, library documents, and other procedures documents.

*Section 9.0 Revision History* defines revisions which have occurred over the life of the procedure document and may refer to archived documents using the table format shown below:

Version	Changed Sections	Revision Date	Tracking

## 4.8 System Management Procedures

### 4.8.1 New Procedures Development

All System Management Procedures documents will contain the following section divisions and content at minimum:

- 1.0 Purpose (introduction, objectives, and responsibility)
- 2.0 Scope (intent, inputs, outputs and limitations)
- 3.0 Definitions (terms relating to the documentation)
- 4.0 Overview and Description (ownership and system description)
- 5.0 Contacts (internal, customer, vendor and others)
- 6.0 Procedures (escalation and other relevant procedures)
- 7.0 Related Documents (reference to other resources, including instructions)
- 8.0 Revision History

### 4.8.2 SMP Section Content

Content of each section may vary slightly, but a standard style be followed so that users become familiar with the layout.

A procedure document may contain separate sections, the first detailing generic procedures and other following sections which define specific procedures. These sections should be inserted into section 6.0 using standard headings.

*Section 1.0 Purpose* will provide a brief description of the content of the document and any information required prior to use. It is important that the information found in the introduction is accurate and brief.

The objectives, if they are brief, can be defined in the introduction. Otherwise, they should be included in section *4.0 Overview and Description* or section *6.0 Procedures*.

*Section 2.0 Scope* should identify the intent of the procedures and what will be achieved through their use. It should also define the inputs and outputs of the process and any limitations that may exist.

*Section 3.0 Definitions* will contain definitions and abbreviations, if required. If there are no definitions, the section should still be included and the text under the heading will state "None".

*Section 4.0 Overview and Description* will identify the personnel appointed to the system or systems described in the document. It will also state the Work Time Entry codes against which time devoted to the system or systems should be charged. It will also include a general description of the system and the software described in this document.

*Section 5.0 Contacts* will list the companies, departments, or persons to contact when supporting the system or systems described in this document. Any relevant contact information, such as office hours, should be included in this section.

*Section 6.0 Procedures* will describe the callout and escalation procedures and any unique procedures relating to the system or systems.

Procedure section numbering should continue in logical sequence using main section numbers for discrete topics and subsection numbers for sub-topics.

*Section 7.0 Related Documents* will refer to forms, library documents, and other procedures documents.

*Section 8.0 Revision History* defines revisions which have occurred over the life of the procedure document and may refer to archived documents using the table format shown below:

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### **4.8.3 Cross Support**

Information relating to a specific system which exists in a current SMD will not be repeated in the matching SMP, but will be referenced to the existing information.

## **4.9 Revisions to Existing Documentation and Procedures**

System Management Documentation and System Management Procedures which require revisions will be identified at the beginning of each month. Each document will be printed and reviewed to identify sections requiring specific attention and review.

### **4.9.1 Initiating Review**

Form *F031 Documentation Services Transmittal/Worksheet* will be completed for each report that will be reviewed. Two (2) copies of each form will be printed and one (1) copy will be temporarily filed in the Infrastructure Team records binder. Attach one (1) copy of the form to the printed report and submit to the appointed personnel for review.

#### **4.9.2 Processing Reviewed Documents**

The report documents must be reviewed and returned within seven (7) days. If the documents have not been returned within the established time period, contact the reviewer. If the documents are not returned within two (2) days of the reminder, escalate to the Team Lead or Department Manager.

#### **4.9.3 Completing the Revisions**

On return of the documents, ensure that *F031 Documentation Services Transmittal/Worksheet* has been signed. Dispose of the filed copy of the form and replace it with the signed copy.

Complete all revisions as indicated and ensure that all of the points on the back of *F031 Documentation Services Transmittal/Worksheet* are checked and completed.

Conduct a peer review and submit to the Infrastructure Team Lead for final review. Once returned, convert it to PDF format, password protect it and publish it to the intranet.

Documentation or Procedures which have been selected for extensive review will be examined in detail and reassembled, if necessary, according to the established styles and templates.

All copies of *F031 Documentation Services Transmittal/Worksheet* will be filed in the appropriate records binder which is kept by the Infrastructure Team Lead. All forms will contain a tracking number which will be recorded in the configuration repository along with the date of revision.

### **4.10 System Management Reports**

Reports will be prepared from the information located in the configuration repository and from other reporting processes for delivery to customers.

#### **4.10.1 New Report Development**

The first report for a customer/project should be managed as follows:

1. Customer Solutioning will hold a preliminary meeting following notification or schedule information.
2. Customer Solutioning will obtain information from system and database account representatives. The appropriate service manager will provide information for the report detailing upcoming significant events.
3. Documentation Services group will create a draft report.
4. Documentation Services group will have a peer review and edit the report for consistency

5. Customer Solutioning will circulate the draft document and hold a review meeting.
6. Documentation Services group will perform revisions and produce a penultimate draft.
7. Customer Solutioning will circulate the report and hold a final validation and sign-off meeting.
8. Documentation Services group will perform any final revisions and submit the finished report to the Infrastructure team lead for approval.
9. Documentation Services group will convert the finished report to PDF format and ensure that the report is published to the intranet.

#### **4.10.2 Preliminary Report Meeting**

When producing a first report, Customer Solutioning will send an invitation to attend a report meeting no less than two (2) days before the meeting is to occur. This may be through email or according to an established schedule of reporting dates. All involved personnel must be made aware of the schedule.

The preliminary meeting will include, but not be limited to:

- appropriate managers
- the customer service manager
- report coordinators
- account primes
- database representatives

The outcomes of the meeting will itemize the content of the report and assign responsibility and deadlines for the delivery of content information from the appropriate service groups.

Deadlines will be established for the completion and delivery of a finished report no more than fourteen (14) working days following the preliminary meeting.

Representatives will be identified who will be responsible for reviewing, annotating and returning draft documents within the established deadlines.

#### **4.10.3 Subsequent Reports**

For subsequent reports, Customer Solutioning will notify the contributors at least three (3) days prior to the established cut-off date of the:

- cut-off date
- contribution deadline
- report completion date

The following will then occur:

1. Customer Solutioning will obtain information from system and database account representatives.
2. Customer Solutioning will create a draft report which will be copy-edited by Documentation Services group.
3. If Customer Solutioning is to edit a softcopy of the report, Documentation Services group must ensure that the 'mark all changes' option is turned on in Microsoft Word before sending the file.
4. Documentation Services group will have a peer review and edit the report for consistency.
5. Customer Solutioning will circulate the draft document to all personnel identified as members of the report review committee at least four (4) days before the report completion date. Review committee members will review the draft document, including any feedback or other information from other members of their team, and will return the revised copy to Customer Solutioning before the cut-off date.

Review committee members will assist Customer Solutioning in reviewing and providing revision information for the report. Revisions and changes to the document will be by consensus of the review committee.

6. Documentation Services group will perform all changes as recommended by the review committee within two (2) working days and produce a penultimate draft. They will ensure that the document is edited for spelling, punctuation and structure errors. They will also ensure that the document conforms to this manual's standards for consistency.
7. Customer Solutioning will circulate the penultimate draft for sign-off. Review committee members will receive a copy of the penultimate draft at least two (2) days before the report completion date. They will review the penultimate draft, including any feedback or other information from other members of their team and validate that the necessary changes have been made. Review committee members will indicate their acceptance of the content of the report by signing the attached transmittal sheet.
8. Documentation Services group will ensure that all required changes and modifications resulting from the final review are performed on the report. They will copy-edit the document to ensure that all errors are corrected and that the document conforms to the standards for consistency and style. They will perform any final revisions, have the Infrastructure Team Lead conduct a review, and deliver the finished report.

9. Documentation Services group will convert the finished report to PDF format and ensure that the report is published to the intranet. They will ensure that the appropriate personnel are informed that the report has been placed and must be included in the intranet for access by other personnel. They will produce and provide the required number of copies of the report to the appropriate service managers.

10. Customer Solutioning will maintain records of email communications for auditing purposes.

#### **4.10.4 Report Data**

Content data for the report will be provided by appointed representatives from the Midrange/Unix Division, service managers and the database group. Content data will be delivered by the date specified in the notification message.

System Administrators will provide a one (1) page summary and no more than three (3) pages of information for each individual system. Database group will provide a full database report which will be summarized into a table for each system.

Files will be delivered as text only or as Microsoft Word documents (using a template provided by Documentation Services) and will be emailed to the Documentation Services Group mailbox.

## **5.0 Related Documents**

*S002 Standards for Documentation Management*  
*S010 Standards for System Information Discovery*  
*S016 Standards for System Design and Implementation*  
*F031 Documentation Services Transmittal/Worksheet*

## **6.0 Quality Records**

Configuration documentation (SMD and SMP) will be reviewed and revised quarterly according to an established schedule. Validity of information will be audited by annual comparison of the revision schedule dates with the date inside the documents. Revisions will be audited by comparing tracking numbers with the filed forms and documentation revision dates.

Validity of the configuration item information will be checked using random sampling of data to ensure that the information is being updated as required.

## **7.0 Approvals and Ownership**

<b>Owner/Approver</b>	<b>Version</b>	<b>Approval Date</b>	<b>Implementation Date</b>

## 8.0 Revision History

Version	Changed Sections	Revision Date	Tracking