

22 July 2019

SAMAC

**The mapping of SAMAC to/from ISO/IEC 19770-1:2012
according to ISO/IEC 19770-8**

Contents

1	Foreword	2
2	Introduction	2
2.1	SAMAC and the Software Asset Management (SAM) Standard	2
3	Software Asset Management (SAM) Standard	2
3.1	Background.....	2
3.2	Necessity and Objectives of SAM	3
3.3	Management Standard System	4
3.4	Management Standard Structure.....	5
(1)	Management objectives.....	5
(2)	Management requirements	5
(3)	Management items	5
(4)	Corresponding clauses and tiers in ISO/IEC19770-1	5
4	Mapping Structure Requirements.....	6
4.1	19770-1-2012->SAMAC4.1.....	6
4.2	SAMAC4.1->19770-1-2012.....	20

1 Foreword

This document describe the relationships between ISO/IEC 19770-1 and SAMAC (Association of Standardization for IT Asset Management Assessment & Certification).

2 Introduction

2.1 SAMAC and Software Asset Management (SAM) Standard

The operations of SAMAC (<http://www.samac.or.jp/>), a nonprofit organization established to promote the adoption of proper software asset management practices, are listed below:

- Operations to evaluate the degree to which software asset management has been adopted in organizations such as corporations and public institutions (evaluation of maturity)
- Operations such as providing training, certification standards, and other services for businesses and consultants that provide support for building structures for software asset management, and development in areas such as certification and certification management
- Various operations as needed for the proper promotion of adoption of software asset management

SAMAC also establishes and operates software asset management standards and evaluation standards for use in evaluation of software asset management. This Software Asset Management (SAM) Standard has been established within the framework of these standards. It is intended to serve both as a successor to the management standard of the Software Asset Management Consortium (SAMCon), a nonprofit organization that worked to promote the adoption of software asset management in Japan prior to SAMAC, and as a standard conforming to ISO/IEC19770 and related JIS(Japanese Industrial Standards) .

3 Software Asset Management (SAM) Standard

3.1 Background

The SAMCon was launched on May 20, 2002 for the purpose of organizing various issues and confusions surrounding software asset management in Japanese society and promoting software asset management to enhance a healthy IT environment in an organization. Many organizations do not necessarily have proper software asset management in place, although the environments surrounding organizations such as corporations have experienced significant changes, such as an increase in penetration rates of PCs, increasing use of network, and openness. One of the reasons for this is the lack of well-established management methods for software assets. Therefore, SAMCon has put an effort into establishment of *SAM Standard* to provide a management guideline for organizations interested in SAM implementation (“*Software Asset Management Standard Ver1.0*” on October 31, 2002). After that, Software Asset Management Evaluation Standard was established to confirm the management level and set goals in terms of SAM (“*Software Asset Management Evaluation Standard Ver1.0*” on November 19, 2013).

Furthermore, revisions were made to reflect the contents of “ISO/IEC 19770-1,” the international standard for SAM, which was established and published jointly by the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) in May 2006. (“*SAM Standard Ver2.0*” on November 27, 2007 and “*SAM Evaluation Standard Ver2.0*” on April 17, 2008).

In 2010, SAMCon was positively dissolved and SAMAC took over the establishment of SAM-related standards, on which SAMCon had been working. With consideration to the use of standard by SAM evaluation businesses, changes in environment surrounding SAM, and the latest developments, SAMAC established a new *SAM Standard* and *SAM Evaluation Standard* based on existing SAMCon’s standards. Since SAMAC succeeded SAMCon’s *SAM Standard*, which had a certain level of market penetration, SAMAC’s new standard was named Ver3.0 to avoid confusion. Detailed revisions, Ver3.01 and Ver3.1, were made to Ver3.

Due to the revision and publication of “ISO/IEC19770-1” in June 2012, SAMAC reviewed its standards from the overall perspective, such as consistency with the revised ISO/IEC 19770-1, operation status with Ver3,

and current situations of the various environments surrounding SAM, and came up with a revision Ver4.1 (http://www.samac.or.jp/docs/sam_standard%20v4.10.pdf).

3.2 Necessity and Objectives of SAM

With the progress of IT development, software assets have become indispensable to the operations of organizations and businesses. Lack of proper management may impact a corporation significantly. In other words, there are a lot of inherent risk factors in terms of software assets in an organization.

In particular, the following are the conceivable risks.

- Accountability cannot be fulfilled.
- Assets may become unavailable if they are not maintained properly.
- Legal issues, such as being sued for copyright infringement, may surface and result in damages such as compensation.
- Legal issues due to the lack of internal management system may surface and result in penalties.
- Public trust may be lost due to the occurrence of legal issues.
- Extra costs may be generated by inefficiencies or by purchasing licenses in excess.
- Appropriate service in terms of the software use cannot be provided and maintained.
- Security issues may be generated due to the use of inappropriate versions and settings of software.
- Competitive advantage may be lost or reduced due to inability to use software effectively.

Given the growing importance of risk management in recent years, it is necessary for an organization to implement SAM from a variety of perspectives in order to respond to various risks.

Although the levels to be achieved at each organization with regard to the management objectives should be considered based on its own factors, objectives in this management standard are organized into 3 main objectives, with an addition of competitive advantage, etc., to the 4 existing objectives, including establishment of accountability, avoidance of legal risks, response to security issues, and TCO reductions, to be consistent with the international standard.

Management Objectives

- Risk management objectives
 - ✓ Accountability
 - ✓ Asset preservation
 - ✓ Avoidance of legal risks
 - ✓ Response to security issues
 - ✓ Ensuring availability, etc.
- Cost management objectives
 - ✓ TCO Reduction¹, etc.
- Competitive advantage objectives
 - ✓ Effective applications of software, etc.

¹ TCO (Total Cost of Ownership): The total cost of owning the system throughout its life cycle, including purchasing, introduction, maintenance and management, and disposal.

3.3 Management Standard System

This management standard is composed of the following 9 management areas. The following areas are classified based on the management objectives necessary for SAM. Each domain is associated with an objective.

- (1) Pol Policy: Establishment of Policy and Regulation
- (2) Sys Systems: Establishment of a Managerial System
- (3) Comp Competence: Establishment and Maintenance of Competence in SAM
- (4) Own Ownership: Confirmation and Verification of Licenses Owned
- (5) Imp Implement'n: Confirmation of Software and Related Asset Implemented
- (6) Cost Cost Optimization
- (7) Sec Security: Compliance with Security Requirements
- (8) OM Operations Management: SAM Operations Management Processes
- (9) LC Life Cycle Processes and Interfaces

3.4 Management Standard Structure

The management standard's structure consists of management objectives, management requirements, and management items.

(1) Management objectives

Management objectives are the basic elements of implementing software asset management, indicating the tasks that must be completed in order to implement software asset management. In other words, these management objectives must be implemented in order to carry out proper software asset management.

(2) Management requirements

Management requirements are the items needed in order to achieve the management objectives. A management objective can be said to have been achieved only once all of these management requirements are satisfied. The domain to which each management requirement belongs can be checked in the tables below, which are organized by policy (Policy 1, Policy 2, etc.) and system (Sys 1, Sys 2, etc.).

(3) Management items

Management items indicate the specific content of management for satisfying each management requirement. This Standard shows the best practices that should be implemented in general to satisfy the management requirements. Since there are various conceivable methods by which management requirements can be satisfied, each organization should choose which methods are appropriate in its own case. This Management Standard describes the content that should be implemented in a standard organization as typically conceived.

(4) Corresponding clauses and tiers in ISO/IEC19770-1

This Management Standard was prepared to conform to ISO/IEC19770-1:2012. For this reason, this Management Standard shows the corresponding clauses of the international standard ISO/IEC19770-1:2012 in order to make clear the relationship between this Standard and the international standard, to assist in implementing software asset management in conformance with ISO/IEC19770-1:2012. In addition, based on the tiered approach to evaluation of conformance, ISO/IEC19770-1:2012 groups outcomes related to software asset management processes into four tiers. This Standard shows corresponding tiers together with corresponding clauses, in light of the possibilities for use of tiered evaluation of conformance in the future.

Tiers

<ul style="list-style-type: none">■ <u>Tier 1: Trustworthy Data</u> Trustworthy records are kept concerning software asset management.■ <u>Tier 2: Practical Management</u> Practical management is implemented for software asset management.■ <u>Tier 3: Operational Integration</u> Various operations related to software asset management are integrated.■ <u>Tier 4: Full ISO/IEC Software Asset Management Conformance</u> Full conformance to ISO/IEC 19770-1:2012

4 Mapping Structure Requirements

4.1 19770-1-2012->SAMAC4.1

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1							
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption		
Organizational Management Processes for SAM	4.2 Control Environment for SAM	Corporate Governance Process for SAM	4.2.2.2.a	Organizational scope and overall responsibility		x			[Pol] 1		(1) Policies, regulations, etc., in terms of SAM are established.	[Pol]1(1)a	The scope of SAM in the organization is defined.		
			4.2.2.2.b	Recognition of responsibility for SAM			x				(6) Use of assets subjected to SAM are incorporated in corporate governance and guidelines, and documented.	[Pol]1(6)a	Responsibility for the organization's governance of assets subjected to SAM is formally approved by management.		
			4.2.2.2.c	Legislation, regulation and guidance			x					[Pol]1(6)b	Regulations or guidelines relevant to assets subjected to SAM are identified and documented in all countries within the scope of SAM and are reviewed at least annually.		
			4.2.2.2.d	Risk assessment				x			[Pol] 2	(1) Procedures are established for assessment of risks related to SAM.	[Pol]2(1)a	The risk assessment at least.	
								[Pol]2(2)	Risks associated with assets subjected to SAM are analyzed and evaluated.						
								[Pol]2(3)	Risk mitigation measures approved by management are established based on the results of risk analysis and evaluation.						
			4.2.2.2.e	Approval of SAM management objectives					x	[Pol] 1		(7) A plan is developed for the adoption and implementation of SAM.	[Pol]1(7)b	The objectives of SAM are established at least annually, and these require the approval of management.	
	Roles and Responsibilities for SAM	4.2.3.2.a	Organization-wide SAM responsibilities							[Sys] 1	[Sys] 1		[Sys] 1(1)	Management has established a system for implementing SAM throughout the entire organization.	
												[Sys] 1(2)a	The responsible of SAM owner		
													[Sys] 1(2)d	All parts of the organization are covered by the SAM owner or local SAM owners, without conflicting overlap.	
													[Sys] 1(4)a	The SAM auditor is responsible for the following: - Drafting SAM audit plans - Securing the resources needed to implement the SAM audit - Implementing the SAM audit - Reporting to management the results of the SAM audit - Following up on issues identified in the SAM audit	

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver.4.1					
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption
												Sys 1(4)b	Subjects of SAM audits include the following: - Evaluation of achievement of SAM management objectives and the SAM plan - Compliance with standards - Results on indicators specified in the SAM plan and SAM-related SLAs - Confirmation of whether SAM policies approved by the organization are effectively communicated and adopted throughout the entire organization - Summary of any exceptions identified as a result of the above process, and relevant necessary measures - Identification of opportunities for improvement concerning provision of services relevant to software-related assets - Consideration of whether there is a need for review concerning the continual appropriateness, completeness, and accuracy of policies, processes, and procedures - Confirmation of whether software is adopted and deployed in the most cost-effective ways
			4.2.3.2 .b	Local SAM responsibilities		x					(2) The person responsible for SAM throughout the entire organization (SAM owner) is identified.	Sys 1(2)c	Local SAM owners have the following responsibilities: - Obtaining resources for implementing the SAM plan - Delivering results against the SAM plan - Adoption and implementation of necessary policies, processes, and procedures - Maintaining accurate records of software-related assets - Ensuring that operational management and technical approval are required for purchase, deployment, and control of software assets - Management of contracts and relationships with suppliers and internal customers - Identifying the need for and implementing improvements
			4.2.3.2 .c	Communication of responsibilities			x					Sys 1(3)	The roles and responsibilities established are communicated to all subject parts of the organization involved in any way with SAM, in the same way other organization-wide and local policies are communicated.
		Policies, Processes and Procedures for SAM	4.2.4.2 .a	Structured approach to policies, processes and procedures			x		Pol	Pol 1	(1) Policies, regulations, etc., in terms of SAM are established.	Pol 1(1)c	Policies, regulations, and procedures related to SAM, and relevant documents are established.
												Pol 1(1)d	The following procedures and exceptional procedures when necessary are defined. - Responsibilities for corporate governance in SAM. - Compliance requirements, including copyright and data protection. - Any procurement requirement of assets subjected to SAM. - Any requirement for the use of software. - Disciplinary implications for violation of SAM policies, regulations, etc.

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1						
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption	
												Pol1(3)a	There are procedures for preparation, review, approval, etc., of policies, regulations, procedures, and relevant documents.	
											(3) Document control regarding SAM is carried out.	Pol1(3)b	These documents, including the version information, are properly controlled.	
			4.2.4.2.b	Organization of policies, processes and procedures		x						Pol1(3)c	Relevant documents can be cross-referenced.	
			4.2.4.2.c	Issues covered by policies			x				(1) Policies, regulations, etc., in terms of SAM are established.	Pol1(1)c	Policies, regulations, and procedures related to SAM, and relevant documents are established.	
												Pol1(1)d	The following procedures and exceptional procedures when necessary are defined. - Responsibilities for corporate governance in SAM. - Compliance requirements, including copyright and data protection. - Any procurement requirement of assets subjected to SAM. - Any requirement for the use of software. - Disciplinary implications for violation of SAM policies, regulations, etc.	
												Pol1(2)	Policies, regulations, etc., related to SAM are approved by the management.	
			4.2.4.2.d	Communication of policies and procedures			x					Pol1(4)	Established Policies, regulations, etc., are communicated to all personnel in a way which reaches all new personnel when they start, and continuing personnel at least annually, and are readily accessible at all times to personnel within the scope.	
												Pol1(5)	Policies, regulations, and procedures, and relevant documents are disseminated to all personnel.	
		Competence in SAM	4.2.5.2.a	Availability of training			x			Comp1.		Comp1(2)	Management annually reviews the results of education and training implemented.	
										Comp2		Comp2(2)	Management annually reviews the results of education and training implemented.	
			4.2.5.2.b	Proof of license					x				Comp1(3)	A review is undertaken at least annually to determine the appropriateness of the materials required to verify the fact that the organization holds licenses to software used.
			4.2.5.2.c	Training taken				x		Comp1	(1) SAM abilities for SAM managers and personnel subject to SAM management are defined and training on SAM as a whole and on licensing for software used is implemented for all personnel involved in SAM, including both initial training and continuing	Comp1(1)a	Content of training - SAM policies, regulation, and procedures - SAM systems - Licensing in general	

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1									
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption				
											education provided annually.						
										Comp 2		Comp 2(1)	Abilities for SAM auditing personnel are defined, and such personnel are provided annually with education and training on subjects such as the following: - Knowledge on SAM auditing - SAM policies, regulations, and procedures - SAM systems - Licensing in general				
			4.2.5.2.d	Availability of guidance from software manufacturers		x				Comp 1		Comp 1(4)	A review is undertaken at least annually to determine whether there have been any changes in the licensing terms of software vendors and the impact of new licensing terms.				
4.3 Planning and Implementation Processes for SAM	Planning for SAM	4.3.2.2.a	Development of SAM management objectives					x	Pol 1	Pol 1	(7) A plan is developed for the adoption and implementation of SAM.	Pol 1(7)b	The objectives of SAM are established at least annually, and these require the approval of management.				
											(1) Policies, regulations, etc., in terms of SAM are established.	Pol 1(1)a	The scope of SAM in the organization is defined.				
											(7) A plan is developed for the adoption and implementation of SAM.	Pol 1(7)a	A SAM plan is updated at least annually and specifies matters including the scope of SAM and assets subjected to SAM. This plan is examined from the perspective of efficiently implementing SAM.				
		4.3.2.2.b	Development of SAM plans		x									Pol 1(7)c	SAM plans are approved by management.		
		4.3.2.2.c	Approval of SAM plans		x									Pol 4(4)	Mechanisms are in place to collect information on changes, issues, and risks affecting SAM implemented.		
		4.3.3.2.a	Issue feedback					x				Pol 4					
	Implementation of SAM	4.3.3.2.b	Progress against SAM plan						x	Pol 3	Pol 3	(6) A system is in place for regular review of status reports on progress against the annual SAM plan.	Pol 3(6)a	Regular status reports (at least quarterly) on progress against the annual SAM plan are reported to management.			
												Pol 3(6)b	Any variances requiring follow-up are identified and documented.				
												Pol 3(4)	The process of auditing of SAM calls for implementation at least annually to confirm whether the SAM management items are achieved.				
		4.3.3.2.c	Follow-up on variances					x									
		Monitoring and Review of SAM	4.3.4.2.a	Annual management review of SAM								x		Pol 4		Pol 4(1)	A review of policies, regulations, etc. is conducted regularly and in response to any major changes.
															Sys 1(5)	Persons implementing SAM audits are assigned in ways that ensure their independence from the subjects of auditing.	
										Pol 3(5)	The process of auditing of SAM calls for implementation at least annually to confirm whether the SAM management items are achieved.						
4.3.4.2.b	SAM owner sign-off						x	Pol	Pol 3								

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance						["To" segment] SAMAC ver4.1							
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption
			4.3.4.2.c	Software deployment review					Cost	Cost1		Cost 1(4)	Information can be ascertained for optimization of the costs of assets subjected to SAM.
		Continual Improvement of SAM	4.3.5.2.a	Suggestions for improvement feedback				x	Pol	Pol 4		Pol 4(2)	A mechanism is in place to collect and record suggested improvements to SAM policies, regulations, etc. throughout the organization.
												Pol 4(3)	Suggestions for improvement to policies, regulations, etc. are assessed, prioritized, approved, and implemented.
			4.3.5.2.b	Suggestions for improvement execution				x	Sys	Sys 1		Sys 1(6)	A system is in place for organization-wide collection and recording of proposed SAM improvements related to systems.
										Sys 2		Sys 2(1)	Suggestions for improvement to systems are assessed, prioritized, approved, and implemented.
Core SAM Processes	4.4 Inventory Processes for SAM	Software Asset Identification	4.4.2.2.a	Initial identification of data requirements				x	Pol	Pol 1	(1) Policies, regulations, etc., in terms of SAM are established.	Pol 1(1)b	Types of assets subjected to SAM and necessary management items in an organization are defined.
									Own	Own 1	(1) Types of assets subjected to management and necessary management items are identified for owned licenses, and the necessary information is ascertained and recorded.	Own 1(1)b	Items to be managed - Licenses including underlying licenses and effective full licenses - Proof of license documentation - Contracts (including terms and conditions) relating to software assets, including both hard copy and electronic - Both physical and electronic stores of the above, as relevant - Licensing models
												Own 1(1)f	When using licenses held outside the organization, all necessary items including the name of the holder of the license are ascertained.
												Own 1(7)	Records are kept of product names and quantities of installation media held and distribution images set up on servers etc.
									Imp	Imp 1		Imp 1(1)	For the hardware on which software is used and the software installed, the types of assets subjected to management and the necessary management items and management objectives are identified and necessary information is ascertained and recorded.
											Imp 1(7)	Processes are established concerning hardware and software changes.	

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1												
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption							
			4.4.2.2.b	Master register of stores and inventories	x				Pol	Pol 5		Pol 5(1)	The SAM owner for the entire organization maintains a Master of Register that can be used to confirm the following items at a minimum: - Assets subjected to management - Register of stores and inventories relevant to SAM - Documents relevant to SAM - Names of persons in charge of managing these information, and locations where these are stored and installed - Separation of definitive source and copies - Date of updating							
									Own	Own 1 Systems are in place for recording information on changes to licenses		Own 1(1)g	Records exist clarifying which stores and types of information are held, with duplication allowed only if duplicate information can be traced back to the definitive source record.							
												Own 1(7)	Records are kept of product names and quantities of installation media held and distribution images set up on servers etc.							
									Imp	Imp 1		Imp 1(2)	All software installed on hardware is identified and ascertained.							
		Software Asset Inventory Management	4.4.3.2.a	Policies and procedures for inventory management	x				Own	Own 1	(1) Types of assets subjected to management and necessary management items are identified for owned licenses, and the necessary information is ascertained and recorded.	Own 1(1)a	Policies and procedures are developed, approved, and issued that include the management, maintenance, and storage (including access controls) of inventory lists and physical/electronic assets subjected to management							
																		Own 1(4)	Physical/electronic inventories related to licenses are stored appropriately (including management and maintenance of locations of storage)	
																			Own 1(7)	Records are kept of product names and quantities of installation media held and distribution images set up on servers etc.
																	Own 2		Own 2(1)	License certificates, terms of use, contracts, etc. are stored under the management of the SAM owner.
									Own 3	(3) Appropriateness		Own 3(3)g	Systems are in place for management of access authorization and restrictions based on such authorization.							
			4.4.3.2.b	Inventories of hardware, installed software, and licenses	x				Own 1	(1) Types of assets subjected to management and necessary management items are identified for		Own 1(1)a	Policies and procedures are developed, approved, and issued that include the management, maintenance, and storage (including access controls) of inventory lists and physical/electronic assets subjected to management							

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1					
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption
											owned licenses, and the necessary information is ascertained and recorded.	Own 1(1)c	Physical and electronic stores - Owned underlying licenses and effective full licenses - Contracts (both hard copy and electronic) relating to software assets - Proof of license documentation
												Own 1(4)	Physical/electronic inventories related to licenses are stored appropriately (including management and maintenance of locations of storage)
												Own 1(7)	Records are kept of product names and quantities of installation media held and distribution images set up on servers etc.
												Imp 1(3)	All subject hardware running the software is ascertained, including backups and other hardware not currently deployed or in use.
										Imp 1	(4) Software installed can be identified as having been installed under license.	Imp 1(4)a	Installed software and owned licenses are linked in accordance with the terms of use.
												Imp 1(4)b	As necessary, the hardware to which a license applies (such as hardware with preinstalled software or other cases that individual linkage is required) can be ascertained.
										Imp 2	(3) Appropriateness	Imp 2(3)d	When installing software, the fact that such installation is within the scope of the license is confirmed.
												Own 1(1)a	Policies and procedures are developed, approved, and issued that include the management, maintenance, and storage (including access controls) of inventory lists and physical/electronic assets subjected to management
												Own 1(1)c	Physical and electronic stores - Owned underlying licenses and effective full licenses - Contracts (both hard copy and electronic) relating to software assets - Proof of license documentation
			4.4.3.2.c	Inventories of software masters and contractual documentation	1 , 3 - 4					Own 1		Own 1(4)	Physical/electronic inventories related to licenses are stored appropriately (including management and maintenance of locations of storage)
												Own 1(7)	Records are kept of product names and quantities of installation media held and distribution images set up on servers etc.
												Own 1(8)a	Procedures are established for lending and return of media.
												Own 1(8)b	Records are kept of lending and return of media.
												Own 1(9)	All materials such as license agreements certifying licenses held and media are differentiated.
										Own 2		Own 2(1)	License certificates, terms of use, contracts, etc. are stored under the management of the SAM owner.

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1					
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption
			4.4.3.2.d	Measurement mechanisms for all other licensing metrics	x						(1) Types of assets subjected to management and necessary management items are identified for owned licenses, and the necessary information is ascertained and recorded.	Own 1(1)d	Licenses with additional terms, such as whether down-grading is permitted, whether the software may be transferred for use on other hardware, numbers of simultaneous users, and numbers of processors, are managed appropriately.
										Own 1		Own 1(1)e	Inventories, or other clearly defined analysis or metric mechanisms exist to determine any licensing usage based on criteria other than software installations.
												Own 1(6)	Licenses with additional terms, such as whether down-grading is permitted, whether the software may be transferred for use on other hardware, numbers of simultaneous users, and numbers of processors, are managed appropriately.
										Own 3	(2) Timeliness	Own 3(2)c	For licenses with expiration dates, the expiration dates are recorded and the software is not used after the expiration date.
										Imp 1		Imp 1(5)	As appropriate for the content, related information is ascertained for use of licenses based on standards other than software installation.
			4.4.3.2.e	Continuity of operations				x	Own	Own 2		Own 2(2)	Materials serving as proof of license are maintained in a state in which they can be used at any time.
									Imp	Imp 1		Imp 1(9)	The availability of the software environment is maintained in accordance with its necessity.
			4.4.3.2.f	Minimum report descriptors				x	Own	Own 1		Own 1(10)	Ledgers etc. prepared include identification of original data sources and their purposes and details.
									Imp	Imp 1		Imp 1(10)	Ledgers etc. produced include information for identifying the original data source, objectives, and details.
		Software Asset Control	4.4.4.2.a	Audit trail of changes				x	Own	Own 1	(3) Information is identified concerning changes to licenses	Own 1(3)a	Content of changes includes the following: - Changes in numbers of licenses owned due to introduction of new software, retirement and return of software - Changes in contract information due to changes in users, sections, etc. - Changes in numbers of licenses owned, media to be managed, etc. due to revision of terms of use
									Own 3		(2) Timeliness	Own 3(2)a	Information on changes in owned licenses is recorded in a timely manner.
									Imp	Imp 1.		Imp 1(6)	Software and hardware change information is recorded.

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1						
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption	
										Imp 2	(2) Timeliness	Imp 2(2)a	Information on changes in all the software and hardware included in the scope of SAM is recorded in a timely manner.	
			4.4.4.2 .b	Policies and procedures for version control				x	Own	Own 1	(3) Information is identified concerning changes to licenses	Own 1(3)a	Content of changes includes the following: - Changes in numbers of licenses owned due to introduction of new software, retirement and return of software - Changes in contract information due to changes in users, sections, etc. - Changes in numbers of licenses owned, media to be managed, etc. due to revision of terms of use	
			4.4.4.2 .c	Policies and procedures for deployment baselines				x	Own	Own 1	(3) Information is identified concerning changes to licenses	Own 1(3)a	Content of changes includes the following: - Changes in numbers of licenses owned due to introduction of new software, retirement and return of software - Changes in contract information due to changes in users, sections, etc. - Changes in numbers of licenses owned, media to be managed, etc. due to revision of terms of use	
4.5 Verification and Compliance Processes for SAM	Software Asset Record Verification	4.5.2.2 .a	Policies and procedures for record verification		1 - 3 . 8 - 9	(q u i c k w i n s)	4 - 7	Pol	Pol 3.	Pol 3(1)				Procedures are developed for verification of records related to SAM.
								Own	Own 3	(1) Accuracy, comprehensiveness	Own 3(1)a	All licenses held by the organization are verified at least annually using inventory lists, and materials certifying terms of use are verified regularly (at least annually).		
											Own 3(1)b	The completeness of contractual documents and license ledgers is verified at least annually for all licenses held by the organization.		
											Own 3(1)c	Inventory of installation media and installation images (build and distribution copies) is conducted regularly at least bi-annually, and consistency between the licensing materials required and the ledgers is verified.		
											Own 3(1)d	When a site uses decentralized management, the site's records are reconciled against overall records.		
											Own 3(1)e	There is a periodic review of invoice content to identify incorrect billing and overpayment.		
											Own 3(3)f	Corrective measures are implemented and documented for any discrepancies or issues identified when checking accuracy, comprehensiveness, and timeliness.		
								Imp	Imp 2.	(1) Accuracy, comprehensiveness	Imp 2(1)a	Reconciliation of inventories of software installed in the organization and effective licenses is implemented at least quarterly. Corrective measures are implemented appropriately for any issues arising in this process.		
											Imp 2(1)c	Verification of hardware used by the organization, including installation locations, is conducted at least bi-annually, and conformance with the hardware control ledger is verified.		
											Imp 2(1)d	There is a periodic review of invoice content to identify incorrect billing and overpayment.		

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1							
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption		
		Software Licensing Compliance										(3) Appropriateness	Imp 2(3)a	The SAM owner approves hardware and software changes and records thereof.	
												(3) Appropriateness	Imp 2(3)c	Corrective measures are implemented and documented for any discrepancies or issues identified when checking accuracy, comprehensiveness, and timeliness.	
			4.5.3.2.a	Policies and procedures for software licensing compliance	x						Own	Own 2	(3) The fact is confirmed that certificates etc. are stored appropriately	Own 2(3)a	Reconciliation of numbers of licenses owned and terms of use is conducted at least annually.
											Own 3	(2) Timeliness	Own 3(2)c	For licenses with expiration dates, the expiration dates are recorded and the software is not used after the expiration date.	
		Software Asset Security Compliance	4.5.4.2.a	Execution of SAM security policy checks							Sec	Sec 1		Sec 1(1)	The organization's security requirements related to assets subjected to SAM are ascertained.
														Sec 1(2)	Systems are in place for confirming the state of compliance with the organization's security requirements related to assets subjected to SAM.
														Sec 1(5)	Review is conducted and recorded at least annually to identify any security policy exceptions.
			4.5.4.2.b	Follow-up on exceptions identified							Sec	Sec 1		Sec 1(1)	The organization's security requirements related to assets subjected to SAM are ascertained.
														Sec 1(2)	Systems are in place for confirming the state of compliance with the organization's security requirements related to assets subjected to SAM.
														Sec 1(5)	Review is conducted and recorded at least annually to identify any security policy exceptions.
		Conformance Verification for SAM	4.5.5.2.a	Policies and procedures for conformance verification	x	x	x	x		Pol	Pol 3		Pol 3(2)	Compliance with the requirements of this Standard is verified.	
			4.5.5.2.b	Execution of conformance verification	x	x	x	x		Pol	Pol 3		Pol 3(3)	Procedures are established for corrective measures until resolution of any issues discovered.	
		4.6 Operations Management Processes and Interfaces for SAM	Relationship and Contract Management for SAM	4.6.2.2.a	Policies and procedures for supplier relationship management				x		OM	OM 1		OM 1(1)	The following matters are specified for management of contracts with internal and external service providers: - The persons responsible for management of service providers and their responsibilities - Establishment of purchasing specifications for software or related services, with consideration for the requirements of this Standard - Review, at least bi-annually, of service provider performance and related issues
				4.6.2.2.b	Policies and procedures for customer-side relationship management					x		OM	OM 1		OM 1(2)

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1						
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption	
													performance, customer satisfaction, achievements, and issues	
			4.6.2.2.c	Policies and procedures for contract management		partial (quick wins)		full				OM 1(3)	Policies and procedures are established for managing contracts. - Reliable recording of contractual details in an ongoing contract management system - Holding copies of signed contractual documentation security with copies kept in a document management system - Review, at least every six months, of contracts related to assets subjected to SAM and related services, and review of results (documents and records) of verification upon contract expiry	
		Financial Management for SAM	4.6.3.2.a	Definition of financial information required				x				OM 2(1)	Financial categories related to management of assets subjected to SAM and SAM asset categories are linked and documented. * The costs of purchase of assets subjected to SAM can be categorized by SAM asset type.	
			4.6.3.2.b	Budgets					x				OM 2(2)	Costs of purchase and management of assets subjected to SAM are budgeted.
			4.6.3.2.c	Reporting of actual against budget					x		OM 2		OM 2(3)	Expenditures on assets subjected to SAM can be ascertained against the budget.
			4.6.3.2.d	Availability of asset value information					x				OM 2(4)	The asset values of assets subjected to SAM (including historical cost and depreciated cost) can be obtained as clearly documented information as needed.
			4.6.3.2.e	Reviews of actual against budget and follow-up					x				OM 2(5)	There are formal, documented reviews at least quarterly of actual expenditure against budget, including actions to be taken as necessary.
			4.6.3.2.f	License optimization			partial (quick wins)		full				Cost 1(3)	Purchasing policies are established that take into consideration the costs of purchase and operation, for example by developing purchasing specifications that include licensing models.
										Cost 1		Cost 1(4)	Information can be ascertained for optimization of the costs of assets subjected to SAM.	
		Service Level Management for SAM	4.6.4.2.a	Definition of service level agreements				x				OM 3	OM 3(1)	Service level agreements are developed and approved for services performed within the scope of SAM. - Services related to acquisition and moves of assets subjected to SAM are defined and agreed to with the corresponding service level targets and workload characteristics. - Customer and user obligations and responsibilities in relation to SAM are defined and agreed to. - Services related to acquisition and moves of assets subjected to SAM are

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1					
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption
													defined and agreed to with the corresponding service level targets and workload characteristics. - Customer and user obligations and responsibilities in relation to SAM are defined and agreed to.
			4.6.4.2 .b	Reporting of actuals against targets			x					OM 3(2)	Service levels and actual workloads for achievement of service levels are analyzed and reported regularly (at least quarterly).
			4.6.4.2 .c	Reviews of performance				x				OM 3(3)	Regular review (at least quarterly) by the relevant parties is conducted to review analysis of service levels and actual workloads for achievement of service levels as necessary, decisions are made on any actions to be taken, and these are documented.
		Security Management for SAM	4.6.5.2 .a	Security policy for SAM resources				x				Sec 1(3)	Access control policies are established for assets subjected to SAM.
			4.6.5.2 .b	Specification of access controls for SAM resources				x	Sec	Sec 1.		Sec 1(4)	Physical and logical access controls are designated and recorded.
			4.6.5.2 .c	Execution of access controls					x				
Primary Process Interfaces for SAM	4.7 Life Cycle Process Interfaces for SAM	Change Management Process	4.7.2.2 .a	Change management process definition				x	Own	Own 1	(3) Information is identified concerning changes to licenses	Own 1(3)a	Content of changes includes the following: - Changes in numbers of licenses owned due to introduction of new software, retirement and return of software - Changes in contract information due to changes in users, sections, etc. - Changes in numbers of licenses owned, media to be managed, etc. due to revision of terms of use
									Own 3	(3) Appropriateness	Own 3(3)a	The SAM owner approves license changes and records thereof.	
									Imp	Imp 2	(3) Appropriateness	Imp 2(3)b	A system is in place for checking whether the content of hardware and software changes is appropriate in light of the actual facts of the matter.
									9. Life Cycle Processes and Interfaces	LC 1		LC 1(1)	All change requests that affect processes related to assets subjected to SAM are identified and recorded, assessed for possible impacts, prioritized, approved by management, reviewed, and recorded.
					LC 1(2)	Processes of changes to assets subjected to SAM are implemented as approved and recorded.							
			LC 1(3)	The success or failure of changes is documented and periodically reviewed.									
		Acquisition Process	4.7.3.2 .a	Standard architectures			x	Cost	Cost 1.		Cost 1(2)	Standard architectures are defined for hardware including infrastructure for use of software by the organization.	

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1						
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption	
									LC	LC 2		LC 2(1)	Standard architectures are defined for the provision of software services.	
			4.7.3.2 .b	Standard configurations			x					Cost 1(1)	Software usable by the organization, such as standard software configurations, is defined.	
			4.7.3.2 .c	Procurement policies and procedures					Cost	Cost 1		Cost 1(5)	Usable licenses can be identified and used/reused.	
													Cost 1(6)	Policies for identical processes are unified (standardized).
													Cost 1(7)	Purchase of assets subjected to SAM is approved following consideration of managerial and technical aspects
									x	Imp	Imp 2		Imp 2(1)b	Licenses that can be reported and paid after deployment can be ascertained.
			4.7.3.2 .d	Policies and procedures for receipt processing					LC	LC 2		LC 2(2)	Requirements are defined related to acquisition of assets subjected to SAM.	
										Own 3	(2) Timeliness	Own 3(2)d	Licenses that may be ordered after installation of the software are ordered in a timely manner, and records are kept of such licenses.	
										Own	Own 1	(2) When a license is acquired, its content is confirmed	Own 1(2)a	Confirmation of physical and electronic content, such as contracts and media
									x	Own 2	(3) The fact is confirmed that certificates etc. are stored appropriately	Own 2(3)c	Own 1(2)b	Confirmation of terms of use
			4.7.4.2 .a	Software development process definition for consideration of SAM requirements								LC 2(3)	Procedures are established for receipt-processing functions related to acquisition of assets subjected to SAM.	
										LC 2			LC 2(4)	Records related to acquisition of assets subjected to SAM are maintained, and the necessary electronic and physical media are subjected to safe-keeping.
		Software Development Process	4.7.4.2 .b	Software development process definition for asset control					LC	LC 3	(1) There is a formal process for software development	LC 3(1)a	Standard architecture and standard configurations are established for development.	
												LC 3(1)b	Consideration is given to license constraints and dependencies.	
												LC 3(2)	A process is established for reliable management of prerelease software.	
		Software Release Management Process	4.7.5.2 .a	Software release management process definition						LC 4	(1) There is a release process for assets subjected to SAM.	LC 4(1)a	Development of a controlled acceptance environment for testing prerelease software.	
												LC 4(1)b	The frequency and type of releases are agreed to between the business and customers.	
												LC 4(1)c	The planned release dates and deliverables are recorded with references to change requests or issues on which the release was	

["From" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								["To" segment] SAMAC ver4.1					
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption
													based, and these are communicated to incident management.
												LC 4(1)d	The release of assets subjected to SAM is subjected to formal approval.
												LC 4(1)e	The success or failure of software releases is recorded and periodically reviewed.
		Software Deployment Process	4.7.6.2.a	Software deployment process definition					Imp	Imp 1.	(8) Procedures are established for distribution (deployment) of hardware and software, including the following items.	Imp 1(8)a	Management approves preparation of distribution copies, such as installation images.
							Imp 1(8)b	Procedures are established for cases in which deployment is not successful.					
							Imp 1(8)c	Security requirements are taken into consideration in distribution of hardware and software, and results of deployment are recorded and reviewed.					
							LC 5(1)	Procedures are established for changes in conditions such as distribution and installation of assets subjected to SAM. In addition, the status of approval is defined for all deployment procedures and an audit trail is kept of changes in conditions.					
							LC 5(2)	There are documented controls to verify that deployed assets subjected to SAM are the same as those authorized to be deployed or there is a difference between deployed assets and those authorized, or to identify a case in which it cannot be verified that the assets were deployed on time. Review of deployment vs. authorization is immediately conducted when authorization has changed. Also, records of any exceptions are documented.					
							x					LC 5(3)	The success or failure of deployment is recorded and periodically reviewed.
		Incident Management Process	4.7.7.2.a	Incident management process definition								LC 6(1)	All incidents and accidents related to assets subjected to SAM are recorded and resolved in accordance with their priority, and then their resolution measures are documented.
		Problem Management Process	4.7.8.2.a	Problem management process definition								LC 7(1)	To prevent and identify the causes of incidents and accidents related to assets subjected to SAM, all such incidents and accidents are recorded, their root causes are documented, and this information is communicated to incident management.
		Retirement Process	4.7.9.2.a	Retirement process definition				x	Own	Own 3	(2) Timeliness	Own 3(2)b	For software for which the license cannot be redistributed, such as in cases of software licenses combined with hardware licenses at time of purchase under terms of use or other terms, the software license is retired at the same time the hardware is retired.

4.2 SAMAC4.1->19770-1-2012

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance												
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4				
[Po] Policy: Establishment of Policy and Regulation	[Po] 1 SAM policies, regulations, and procedures of the organization are identified and disseminated	(1) Policies, regulations, etc., in terms of SAM are established.	[Po]1(1)a	The scope of SAM in the organization is defined.	Organizational Management Processes for SAM	4.2 Control Environment for SAM	Corporate Governance Process for SAM	4.2.2.2 a)1)2)	Organizational scope and overall responsibility		x						
						4.3 Planning and Implementation Processes for SAM	Planning for SAM	4.3.2.2 b)1)	Development of SAM plans		x						
			[Po]1(1)b	Types of assets subjected to SAM and necessary management items in an organization are defined.	Core SAM Processes	4.4 Inventory Processes for SAM	Software Asset Identification	4.4.2.2 a)	Initial identification of data requirements					x			
			[Po]1(1)c	Policies, regulations, and procedures related to SAM, and relevant documents are established.								4.2.4.2 a)	Structured approach to policies, processes and procedures			x	
		[Po]1(1)d	The following procedures and exceptional procedures when necessary are defined. - Responsibilities for corporate governance in SAM. - Compliance requirements, including copyright and data protection. - Any procurement requirement of assets subjected to SAM. - Any requirement for the use of software. - Disciplinary implications for violation of SAM policies, regulations, etc.				4.2.4.2 a)	Structured approach to policies, processes and procedures			x						
		[Po]1(2)	Policies, regulations, etc., related to SAM are approved by the management.				4.2.4.2 c)	Issues covered by policies			x						
		(3) Document control regarding SAM is carried out.	[Po]1(3)a	There are procedures for preparation, review, approval, etc., of policies, regulations, procedures, and relevant documents.	Organizational Management Processes for SAM	4.2 Control Environment for SAM	Policies, Processes and Procedures for SAM	4.2.4.2 a)	Structured approach to policies, processes and procedures				x				
			[Po]1(3)b	These documents, including the version information, are properly controlled.								4.2.4.2 b)	Organization of policies, processes and procedures			x	
			[Po]1(3)c	Relevant documents can be cross-referenced.								4.2.4.2 d)	Communication of policies and procedures			x	
		[Po]1(4)	Established Policies, regulations, etc., are communicated to all personnel in a way which reaches all new personnel when they start, and continuing personnel at least annually, and are readily accessible at all times to personnel within the scope.														
		[Po]1(5)	Policies, regulations, and procedures, and relevant documents are disseminated to all personnel.														
		(6) Use of assets subjected to SAM are incorporated in corporate governance and guidelines, and documented.	[Po]1(6)a	Responsibility for the organization's governance of assets subjected to SAM is formally approved by management.		4.2 Control Environment for SAM	Corporate Governance Process for SAM	4.2.2.2 b)	Recognition of responsibility for SAM				x				
			[Po]1(6)b	Regulations or guidelines relevant to assets subjected to SAM are identified and documented in all countries within the scope of SAM and are reviewed at least annually.								4.2.2.2 c)	Legislation, regulation and guidance			x	

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance																										
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4																		
	(7) A plan is developed for the adoption and implementation of SAM.	[Pol]1(7)a	A SAM plan is updated at least annually and specifies matters including the scope of SAM and assets subjected to SAM. This plan is examined from the perspective of efficiently implementing SAM.		Core SAM Processes	4.3 Planning and Implementation Processes for SAM	Planning for SAM	4.3.2.2 b)	Development of SAM plans			x																			
								4.3.2.2 a)	Development of SAM management objectives			x																			
								4.2.2.2 e)	Approval of SAM management objectives					x																	
		[Pol]1(7)b	The objectives of SAM are established at least annually, and these require the approval of management.				4.2 Control Environment for SAM	Corporate Governance Process for SAM			4.2.2.2 e)	Approval of SAM management objectives				x															
											4.3.2.2 c)	Approval of SAM plans			x																
											4.2.2.2 d)	Risk assessment			x																
		[Pol]1(7)c	SAM plans are approved by management.				4.3 Planning and Implementation Processes for SAM	Planning for SAM			4.3.2.2 c)	Approval of SAM plans			x																
											4.2.2.2 a)	Software Asset Record Verification	4.5.2.2 a)	Policies and procedures for record verification		x															
											4.5.2.2 a)	Conformance Verification for SAM	4.5.5.2 a)	Policies and procedures for conformance verification	x	x	x	x													
	[Pol]2	(1) Procedures are established for assessment of risks related to SAM.	[Pol]2(1)a	The risk assessment at least.		Organizational Management Processes for SAM	4.5 Verification and Compliance Processes for SAM																								
															[Pol]2(2)	Risks associated with assets subjected to SAM are analyzed and evaluated.															
															[Pol]2(3)	Risk mitigation measures approved by management are established based on the results of risk analysis and evaluation.															
	[Pol]3	SAM is subjected to monitoring and auditing.	[Pol]3(1)	Procedures are developed for verification of records related to SAM.		4.3 Planning and Implementation Processes for SAM	Implementation of SAM																								
															[Pol]3(2)	Compliance with the requirements of this Standard is verified.															
															[Pol]3(3)	Procedures are established for corrective measures until resolution of any issues discovered.															
															[Pol]3(4)	The process of auditing of SAM calls for implementation at least annually to confirm whether the SAM management items are achieved.															
															[Pol]3(5)	The process of auditing of SAM calls for implementation at least annually to confirm whether the SAM management items are achieved.															
	[Pol]3(6)a	Regular status reports (at least quarterly) on progress against the annual SAM plan are reported to management.																													
													[Pol]3(6)b	Any variances requiring follow-up are identified and documented.																	
	[Pol]4	SAM policies, regulations, and procedures are reviewed.	[Pol]4(1)	A review of policies, regulations, etc. is conducted regularly and in response to any major changes.		4.3 Planning and Implementation Processes for SAM	Monitoring and Review of SAM																								
[Pol]4(2)															A mechanism is in place to collect and record suggested improvements to SAM policies, regulations, etc. throughout the organization.																
[Pol]4(3)															Suggestions for improvement to policies, regulations, etc. are assessed, prioritized,																
																															4.3.3.2 b)
4.3.3.2 c)	Follow-up on variances																														
4.3.4.2 a)	Annual management review of SAM																														
4.3.5.2 a)	Suggestions for improvement feedback																														
4.3.5.2 b)	Suggestions for improvement execution																														

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4
				approved, and implemented.									
			Pol4(4)	Mechanisms are in place to collect information on changes, issues, and risks affecting SAM implemented.			Implementation of SAM	4.3.3.2 a)	Issue feedback				x
	Pol 5 SAM documents and records are controlled.		Pol5(1)	The SAM owner for the entire organization maintains a Master of Register that can be used to confirm the following items at a minimum: - Assets subjected to management - Register of stores and inventories relevant to SAM - Documents relevant to SAM - Names of persons in charge of managing these information, and locations where these are stored and installed - Separation of definitive source and copies - Date of updating									
			Pol5(2)	Information documenting the requirements of this Standard is controlled to ensure the following: - That the documented information is accessible when and where needed and is in a usable condition - That the documented information is protected sufficiently	Core SAM Processes	4.4 Inventory Processes for SAM	Software Asset Identification	4.4.2.2 b)	Master register of stores and inventories	x			
			Pol5(3)	Control of documented information by the organization includes the following items: - Distribution, access, searching, and use - Storage and preservation, including maintaining legibility - Control of changes - Maintenance and disposal									
			Pol5(4)	Documented information from outside the organization determined by the organization to be necessary for planning and management of SAM is identified and controlled as necessary.									
Sys Systems: Establishment of a Managerial System	Sys 1 The managerial system and responsibilities for SAM are established.	(2) The person responsible for SAM throughout the entire organization (SAM owner) is identified.	Sys 1(1)	Management has established a system for implementing SAM throughout the entire organization.									
			Sys 1(2)a	The SAM owner is responsible for the following: - Proposal of SAM management objectives - Supervising SAM planning - Securing the resources needed to implement the SAM plan - Achievement of the SAM plan	Organizational Management Processes for SAM	4.2 Control Environment for SAM	Roles and Responsibilities for SAM	4.2.3.2 a)	Organization-wide SAM responsibilities		x		
			Sys 1(2)b	In cases such as where decentralized management is employed, local SAM owners are assigned in accordance with the organization's management structure.- Section roles and responsibilities related to corporate governance are documented to ensure that the specified SAM is implemented reliably.				4.2.3.2 a)5)					

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4
			Sys 1(2)c	Local SAM owners have the following responsibilities: - Obtaining resources for implementing the SAM plan - Delivering results against the SAM plan - Adoption and implementation of necessary policies, processes, and procedures - Maintaining accurate records of software-related assets - Ensuring that operational management and technical approval are required for purchase, deployment, and control of software assets - Management of contracts and relationships with suppliers and internal customers - Identifying the need for and implementing improvements				4.2.3.2 b)	Local SAM responsibilities		x		
			Sys 1(2)d	All parts of the organization are covered by the SAM owner or local SAM owners, without conflicting overlap.				4.2.3.2 a)5)	Organization-wide SAM responsibilities			x	
			Sys 1(3)	The roles and responsibilities established are communicated to all subject parts of the organization involved in any way with SAM, in the same way other organization-wide and local policies are communicated.				4.2.3.2 c)	Communication of responsibilities			x	
		(4) The person responsible for auditing of SAM (SAM auditor) and SAM auditing personnel suited to the organization's managerial system are appointed.	Sys 1(4)a	The SAM auditor is responsible for the following: - Drafting SAM audit plans - Securing the resources needed to implement the SAM audit - Implementing the SAM audit - Reporting to management the results of the SAM audit - Following up on issues identified in the SAM audit				4.2.3.2 a)					x

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4
			Sys 1(4)b	Subjects of SAM audits include the following: - Evaluation of achievement of SAM management objectives and the SAM plan - Compliance with standards - Results on indicators specified in the SAM plan and SAM-related SLAs - Confirmation of whether SAM policies approved by the organization are effectively communicated and adopted throughout the entire organization - Summary of any exceptions identified as a result of the above process, and relevant necessary measures - Identification of opportunities for improvement concerning provision of services relevant to software-related assets - Consideration of whether there is a need for review concerning the continual appropriateness, completeness, and accuracy of policies, processes, and procedures - Confirmation of whether software is adopted and deployed in the most cost-effective ways									
			Sys 1(5)	Persons implementing SAM audits are assigned in ways that ensure their independence from the subjects of auditing.		4.3 Planning and Implementation for SAM	Monitoring and Review of SAM	4.3.4.2 a)	Annual management review of SAM				x
			Sys 1(6)	A system is in place for organization-wide collection and recording of proposed SAM improvements related to systems.		4.3 Planning and Implementation for SAM	Continual Improvement of SAM	4.3.5.2 a)	Suggestions for improvement feedback				x
	Sys 2 Systems are subjected to review.		Sys 2(1)	Suggestions for improvement to systems are assessed, prioritized, approved, and implemented.				4.3.5.2 b)	Suggestions for improvement execution				x
Comp Competence: Establishment and Maintenance of Competence in SAM	Comp 1 SAM abilities for managers and personnel subject to management are defined and training is implemented as necessary.	(1) SAM abilities for SAM managers and personnel subject to SAM management are defined and training on SAM as a whole and on licensing for software used is implemented for all personnel involved in SAM, including both initial training and continuing education provided annually.	Comp 1(1)a	Content of training- SAM policies, regulation, and procedures- SAM systems- Licensing in general		4.2 Control Environment for SAM	Competence in SAM	4.2.5.2 c)	Training taken		x		
			Comp 1(2)	Management annually reviews the results of education and training implemented.				4.2.5.2 a) 1)2)	Availability of training		x		
			Comp 1(3)	A review is undertaken at least annually to determine the appropriateness of the materials required to verify the fact that the organization holds				4.2.5.2 b)	Proof of license				x

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance									
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	
				licenses to software used.										
			Comp 1(4)	A review is undertaken at least annually to determine whether there have been any changes in the licensing terms of software vendors and the impact of new licensing terms.				4.2.5.2 d)	Availability of guidance from software manufacturers		x			
	Comp 2 Abilities for SAM auditing personnel are defined and training implemented as necessary.		Comp 2(1)	Abilities for SAM auditing personnel are defined, and such personnel are provided annually with education and training on subjects such as the following: - Knowledge on SAM auditing - SAM policies, regulations, and procedures - SAM systems - Licensing in general				4.2.5.2 c)	Training taken			x		
			Comp 2(2)	Management annually reviews the results of education and training implemented.				4.2.5.2 a) 1)2)	Availability of training			x		
Own	Own 1 Systems are in place for recording information on changes to licenses	(1) Types of assets subjected to management and necessary management items are identified for owned licenses, and the necessary information is ascertained and recorded.	Own 1(1)a	Policies and procedures are developed, approved, and issued that include the management, maintenance, and storage (including access controls) of inventory lists and physical/electronic assets subjected to management	Core SAM Processes	4.4 Inventory Processes for SAM	Software Asset Inventory Management	4.4.3.2 a)	Software Asset Inventory Management	x				
			Own 1(1)b	Items to be managed - Licenses including underlying licenses and effective full licenses - Proof of license documentation - Contracts (including terms and conditions) relating to software assets, including both hard copy and electronic - Both physical and electronic stores of the above, as relevant - Licensing models				4.4.3.2 b)3)	Inventories of hardware, installed software, and licenses	x				
			Own 1(1)c	Physical and electronic stores - Owned underlying licenses and effective full licenses - Contracts (both hard copy and electronic) relating to software assets - Proof of license documentation				4.4.3.2 c)	Inventories of software masters and contractual documentation	x				2)
			Own 1(1)d	Licenses with additional terms, such as whether down-grading is permitted, whether the software may be transferred for use on other hardware, numbers of simultaneous users, and numbers of processors, are managed appropriately.			4.4.2.2 a)	Initial identification of data requirements						x
							4.4.3.2 b)3)	Inventories of hardware, installed software, and licenses	x					
							4.4.3.2 c)	Inventories of software masters and contractual documentation	x					2)
							4.4.3.2 d)	Measurement mechanisms for all other licensing metrics	x					

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4
			Own 1(1)e	Inventories, or other clearly defined analysis or metric mechanisms exist to determine any licensing usage based on criteria other than software installations.									
			Own 1(1)f	When using licenses held outside the organization, all necessary items including the name of the holder of the license are ascertained.			Software Asset Identification	4.4.2.2 a)	Initial identification of data requirements				x
			Own 1(1)g	Records exist clarifying which stores and types of information are held, with duplication allowed only if duplicate information can be traced back to the definitive source record.				4.4.2.2 b)	Master register of stores and inventories	x			
		(2) When a license is acquired, its content is confirmed.	Own 1(2)a	Confirmation of physical and electronic content, such as contracts and media		4.7 Life Cycle Process Interfaces for SAM	Acquisition Process	4.7.3.2 d)2)3)	Policies and procedures for receipt processing			x	
			Own 1(2)b	Confirmation of terms of use			Change Management Process	4.7.2.2 a)	Change management process definition				x
		(3) Information is identified concerning changes to licenses	Own 1(3)a	Content of changes includes the following: - Changes in numbers of licenses owned due to introduction of new software, retirement and return of software - Changes in contract information due to changes in users, sections, etc. - Changes in numbers of licenses owned, media to be managed, etc. due to revision of terms of use			Software Asset Control	4.4.4.2 a)	Audit trail of changes				x
								4.4.4.2 b)	Policies and procedures for version control				x
								4.4.4.2 c)	Policies and procedures for deployment baselines				x
			Own 1(4)	Physical/electronic inventories related to licenses are stored appropriately (including management and maintenance of locations of storage)		4.4 Inventory Processes for SAM	Software Asset Inventory Management	4.4.3.2 a)	Policies and procedures for inventory management	x			
								4.4.3.2 b)3)	Inventories of hardware, installed software, and licenses	x			
								4.4.3.2 c)	Inventories of software masters and contractual documentation				
			Own 1(5)	Upgrade licenses are linked to pre-upgrade licenses.				4.4.3.2 b)3)	Inventories of hardware, installed software, and licenses	x			
						4.5 Verification and Compliance Processes for SAM	Software Asset Record Verification	4.5.2.2 a)7)	Policies and procedures for record verification	x			
			Own 1(6)	Licenses with additional terms, such as whether down-grading is permitted, whether the software may be transferred for use on other hardware, numbers of simultaneous users, and numbers of processors, are managed appropriately.			Software Licensing Compliance	4.5.3.2 a)1)	Policies and procedures for software licensing compliance	x			
			Own 1(7)	Records are kept of product names and quantities of installation media held and distribution images set up on servers etc.		4.4 Inventory Processes for SAM	Software Asset Inventory Management	4.4.3.2 d)	Measurement mechanisms for all other licensing metrics				
							Software Asset Identification	4.4.2.2 a)	Initial identification of data requirements	x			
								4.4.2.2 b)	Master register of stores and inventories	x			
							Software Asset Inventory Management	4.4.3.2 a)	Policies and procedures for inventory management	x			
								4.4.3.2 b)	Inventories of hardware, installed	x			

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4
				records are reconciled against overall records.									
			Own 3(1)e	There is a periodic review of invoice content to identify incorrect billing and overpayment.				4.5.2.2 a)10)	Policies and procedures for record verification		x		
		(2) Timeliness	Own 3(2)a	Information on changes in owned licenses is recorded in a timely manner.		4.4 Inventory Processes for SAM	Software Asset Control	4.4.4.2 a)	Audit trail of changes				x
			Own 3(2)b	For software for which the license cannot be redistributed, such as in cases of software licenses combined with hardware licenses at time of purchase under terms of use or other terms, the software license is retired at the same time the hardware is retired.		4.7 Life Cycle Process Interfaces for SAM	Retirement Process	4.7.9.2 a)	Retirement process definition			x	
			Own 3(2)c	For licenses with expiration dates, the expiration dates are recorded and the software is not used after the expiration date.		4.4 Inventory Processes for SAM	Software Asset Inventory Management	4.4.3.2 d)	Measurement mechanisms for all other licensing metrics	x			
						4.5 Verification and Compliance Processes for SAM	Software Licensing Compliance	4.5.3.2 a)1)	Policies and procedures for software licensing compliance				
			Own 3(2)d	Licenses that may be ordered after installation of the software are ordered in a timely manner, and records are kept of such licenses.			Acquisition Process	4.7.3.2 c)4)	Procurement policies and procedures		x		
		(3) Appropriateness	Own 3(3)a	The SAM owner approves license changes and records thereof.		4.7 Life Cycle Process Interfaces for SAM	Change Management Process	4.7.2.2 a)	Change management process definition				x
			Own 3(3)b	A system is in place for checking whether the content of a change to a license is appropriate in light of the actual facts of the matter.									
			Own 3(3)c	A system is in place for recording license changes under the approved access authorization and the log of such records is checked.									
			Own 3(3)d	Procedures are established, approved, and documented for all of the following: license changes including retirement and return, checking actual assets, reconciliation, and recording.									
			Own 3(3)e	Procedures are established for actions such as application for and approval of copying and disposal of media and preparation and removal of installation images.									
			Own 3(3)f	Corrective measures are implemented and documented for any discrepancies or issues identified when checking accuracy, comprehensiveness, and timeliness.		4.5 Verification and Compliance Processes for SAM	Software Asset Record Verification	4.5.2.2 a)11)	Policies and procedures for record verification		x		
			Own 3(3)g	Systems are in place for management of access authorization and restrictions based on such authorization.		4.4 Inventory Processes for SAM	Software Asset Inventory Management	4.4.3.2 a)	Policies and procedures for inventory management	x			
			Own 3(3)h	The appropriateness of access authorization to assets subjected to SAM is reviewed periodically.									

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance									
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	
Imp 1	Systems are in place for recording information on changes to hardware and software.		Imp 1(1)	For the hardware on which software is used and the software installed, the types of assets subjected to management and the necessary management items and management objectives are identified and necessary information is ascertained and recorded.			Software Asset Identification	4.4.2.2 a)	Initial identification of data requirements				x	
			Imp 1(2)	All software installed on hardware is identified and ascertained.					x					
			Imp 1(3)	All subject hardware running the software is ascertained, including backups and other hardware not currently deployed or in use.						x				
			(4) Software installed can be identified as having been installed under license.	Imp 1(4)a				Installed software and owned licenses are linked in accordance with the terms of use.			x			
				Imp 1(4)b				As necessary, the hardware to which a license applies (such as hardware with preinstalled software or other cases that individual linkage is required) can be ascertained.			x			
			Imp 1(5)	As appropriate for the content, related information is ascertained for use of licenses based on standards other than software installation.						x				
			Imp 1(6)	Software and hardware change information is recorded.									x	
			Imp 1(7)	Processes are established concerning hardware and software changes.									x	
			(8) Procedures are established for distribution (deployment) of hardware and software, including the following items.	Imp 1(8)a				Management approves preparation of distribution copies, such as installation images.					x	
				Imp 1(8)b				Procedures are established for cases in which deployment is not successful.					x	
	Imp 1(8)c	Security requirements are taken into consideration in distribution of hardware and software, and results of deployment are recorded and reviewed.						x						
	Imp 1(9)	The availability of the software environment is maintained in accordance with its necessity.						x						
	Imp 1(10)	Ledgers etc. produced include information for identifying the original data source, objectives, and details.						x						
	Imp 2 The status of management of installed hardware and software is verified.	(1) Accuracy, comprehensive ness	Imp 2(1)a	Reconciliation of inventories of software installed in the organization and effective licenses is implemented at least quarterly. Corrective measures are implemented appropriately for any issues arising in this process.				Software Asset Record Verification	4.5.2.2 a)1)2)	Policies and procedures for record verification	x			
			Imp 2(1)b	Licenses that can be reported and paid after deployment can be ascertained.				Acquisition Process	4.7.3.2 c)4)	Procurement policies and procedures			x	

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance									
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	
			<u>Imp</u> 2(1)c	Verification of hardware used by the organization, including installation locations, is conducted at least bi-annually, and conformance with the hardware control ledger is verified.		4.5 Verification and Compliance Processes for SAM	Software Asset Record Verification	4.5.2.2 a)3)	Policies and procedures for record verification				x	
			<u>Imp</u> 2(1)d	There is a periodic review of invoice content to identify incorrect billing and overpayment.				4.5.2.2 a)10)			x			
		(2) Timeliness	<u>Imp</u> 2(2)a	Information on changes in all the software and hardware included in the scope of SAM is recorded in a timely manner.		4.4 Inventory Processes for SAM	Software Asset Control	4.4.4.2 a)	Audit trail of changes				x	
		(3) Appropriateness	<u>Imp</u> 2(3)a	The SAM owner approves hardware and software changes and records thereof.		4.5 Verification and Compliance Processes for SAM	Software Asset Record Verification	4.5.2.2 a)1)	Policies and procedures for record verification	x				
			<u>Imp</u> 2(3)b	A system is in place for checking whether the content of hardware and software changes is appropriate in light of the actual facts of the matter.		4.7 Life Cycle Process Interfaces for SAM	Change Management Process	4.7.2.2 a)	Change management process definition				x	
			<u>Imp</u> 2(3)c	Corrective measures are implemented and documented for any discrepancies or issues identified when checking accuracy, comprehensiveness, and timeliness.		4.5 Verification and Compliance Processes for SAM	Software Asset Record Verification	4.5.2.2 a)11)	Policies and procedures for record verification	x	x			
			<u>Imp</u> 2(3)d	When installing software, the fact that such installation is within the scope of the license is confirmed.		4.4 Inventory Processes for SAM	Software Asset Inventory Management	4.4.3.2 b)2)	Inventories of hardware, installed software, and licenses				x	
<u>Cost</u>	<u>Cost</u> 1 Consideration is given to optimization of the costs of assets subjected to SAM.		<u>Cost</u> 1(1)	Software usable by the organization, such as standard software configurations, is defined.		4.7 Life Cycle Process Interfaces for SAM	Acquisition Process	4.7.3.2 b)	Standard configurations				x	
			<u>Cost</u> 1(2)	Standard architectures are defined for hardware including infrastructure for use of software by the organization.				4.7.3.2 a)	Standard architectures				x	
			<u>Cost</u> 1(3)	Purchasing policies are established that take into consideration the costs of purchase and operation, for example by developing purchasing specifications that include licensing models.		4.6 Operations Management Processes and Interfaces for SAM	Financial Management for SAM	4.6.3.2 f)	License optimization		x	x		
			<u>Cost</u> 1(4)	Information can be ascertained for optimization of the costs of assets subjected to SAM.				4.6.3.2 f)						
			<u>Cost</u> 1(5)	Usable licenses can be identified and used/reused.				4.7.3.2 c)3)	Procurement policies and procedures				x	
			<u>Cost</u> 1(6)	Policies for identical processes are unified (standardized).		4.7 Life Cycle Process Interfaces for SAM	Acquisition Process	4.7.3.2 c)1)						x
			<u>Cost</u> 1(7)	Purchase of assets subjected to SAM is approved following consideration of managerial and technical aspects				4.7.3.2 c)2)						x
<u>Sec</u>	<u>Sec</u> 1 Security requirements related to assets subjected to SAM are complied with.		<u>Sec</u> 1(1)	The organization's security requirements related to assets subjected to SAM are ascertained.		4.5 Verification and Compliance Processes for SAM	Software Asset Security Compliance	4.5.4.2 a)	Execution of SAM security policy checks				x	
			<u>Sec</u> 1(2)	Systems are in place for confirming the state of compliance with the organization's security requirements related to assets subjected to SAM.				4.5.4.2 b)	Follow-up on exceptions identified				x	
								4.5.4.2 a)	Execution of SAM security policy checks				x	
								4.5.4.2 b)	Follow-up on exceptions identified				x	
			<u>Sec</u> 1(3)	Access control policies are established for assets subjected to SAM.		4.6 Operations Management	Security Management	4.6.5.2 a)	Security policy for SAM resources				x	

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4
			Sec 1(4)	Physical and logical access controls are designated and recorded.		Processes and Interfaces for SAM	ent for SAM	4.6.5.2 b)	Specification of access controls for SAM resources				x
			Sec 1(5)	Review is conducted and recorded at least annually to identify any security policy exceptions.		4.5 Verification and Compliance Processes for SAM	Software Asset Security Compliance	4.5.4.2 a)	Execution of SAM security policy checks			x	
								4.5.4.2 b)	Follow-up on exceptions identified			x	
OM	OM 1 Procedures are established and implemented concerning SAM-related relationships and contract management.		OM 1(1)	The following matters are specified for management of contracts with internal and external service providers: - The persons responsible for management of service providers and their responsibilities - Establishment of purchasing specifications for software or related services, with consideration for the requirements of this Standard - Review, at least bi-annually, of service provider performance and related issues				4.6.2.2 a)1)-3)	Policies and procedures for supplier relationship management			x	
			OM 1(2)	Policies and procedures are established for management of relationships with customers (service recipients).- Responsibilities for assets subjected to SAM and provision of related services- Review, at least annually, of current and future software requirements of customers (service recipients)- Review, at least annually, of results (documents and records) of verification of performance, customer satisfaction, achievements, and issues		4.6 Operations Management Processes and Interfaces for SAM	Relationship and Contract Management for SAM	4.6.2.2 b)1)-3)	Policies and procedures for customer-side relationship management				x
			OM 1(3)	Policies and procedures are established for managing contracts. - Reliable recording of contractual details in an ongoing contract management system - Holding copies of signed contractual documentation security with copies kept in a document management system - Review, at least every six months, of contracts related to assets subjected to SAM and related services, and review of results (documents and records) of verification upon contract expiry				4.6.2.2 c)1)-3)	Policies and procedures for contract management			x	
	OM 2 Systems are in place to make it possible to obtain financial information related to assets subjected to SAM as needed.		OM 2(1)	Financial categories related to management of assets subjected to SAM and SAM asset categories are linked and documented. * The costs of purchase of assets subjected to SAM can be categorized by SAM asset type.			Financial Management for SAM	4.6.3.2 a)	Definition of financial information required			x	
			OM 2(2)	Costs of purchase and management of assets subjected to SAM are budgeted.				4.6.3.2 b)	Budgets			x	

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance									
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	
			OM 2(3)	Expenditures on assets subjected to SAM can be ascertained against the budget.				4.6.3.2 c)	Reporting of actual against budget			x		
			OM 2(4)	The asset values of assets subjected to SAM (including historical cost and depreciated cost) can be obtained as clearly documented information as needed.				4.6.3.2 d)	Availability of asset value information			x		
			OM 2(5)	There are formal, documented reviews at least quarterly of actual expenditure against budget, including actions to be taken as necessary.				4.6.3.2 e)	Reviews of actual against budget and follow-up			x		
	OM 3 Service levels related to SAM are defined, recorded, and managed.		OM 3(1)	Service level agreements are developed and approved for services performed within the scope of SAM. - Services related to acquisition and moves of assets subjected to SAM are defined and agreed to with the corresponding service level targets and workload characteristics. - Customer and user obligations and responsibilities in relation to SAM are defined and agreed to. - Services related to acquisition and moves of assets subjected to SAM are defined and agreed to with the corresponding service level targets and workload characteristics. - Customer and user obligations and responsibilities in relation to SAM are defined and agreed to.			Service Level Management for SAM	4.6.4.2 a)1)2)	Definition of service level agreements			x		
			OM 3(2)	Service levels and actual workloads for achievement of service levels are analyzed and reported regularly (at least quarterly).				4.6.4.2 b)	Reporting of actuals against targets			x		
			OM 3(3)	Regular review (at least quarterly) by the relevant parties is conducted to review analysis of service levels and actual workloads for achievement of service levels as necessary, decisions are made on any actions to be taken, and these are documented.				4.6.4.2 c)	Reviews of performance			x		
LC	LC 1 Procedures are established and implemented to ascertain, manage, and record all changes related to SAM.		LC 1(1)	All change requests that affect processes related to assets subjected to SAM are identified and recorded, assessed for possible impacts, prioritized, approved by management, reviewed, and recorded.		4.7 Life Cycle Process Interfaces for SAM	Change Management Process	4.7.2.2 a)1)2)	Change management process definition				x	
			LC 1(2)	Processes of changes to assets subjected to SAM are implemented as approved and recorded.			4.7.2.2 a)3)4)							x
			LC 1(3)	The success or failure of changes is documented and periodically reviewed.			4.7.2.2 a)5)							x
	LC 2 Procedures are established and implemented for management of all information obtained related to SAM.		LC 2(1)	Standard architectures are defined for the provision of software services.			Acquisition Process	4.7.3.2 a)	Standard architectures					
			LC 2(2)	Requirements are defined related to acquisition of assets subjected to SAM.				4.7.3.2 c)	Procurement policies and procedures					
			LC 2(3)	Procedures are established for receipt-processing functions related to acquisition of assets subjected to SAM.				4.7.3.2 d)	Policies and procedures for receipt processing					

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4
			LC 2(4)	Records related to acquisition of assets subjected to SAM are maintained, and the necessary electronic and physical media are subjected to safe-keeping.				4.7.3.2 d)2)3)					
	LC 3 Procedures are established and implemented for software development.	(1) There is a formal process for software development.	LC 3(1)a	Standard architecture and standard configurations are established for development.			Software Development Process	4.7.4.2 a)	Software development process definition for consideration of SAM requirements				x
LC 3(1)b			Consideration is given to license constraints and dependencies.			4.7.4.2 a)				x			
LC 3(2)			A process is established for reliable management of prerelease software.			4.7.4.2 b)		Software development process definition for asset control			x		
	LC 4 Procedures are established and implemented for release of assets subjected to SAM.	(1) There is a release process for assets subjected to SAM.	LC 4(1)a	Development of a controlled acceptance environment for testing prerelease software.			Software Release Management Process	4.7.5.2 a)1)-5)	Software release management process definition				x
LC 4(1)b			The frequency and type of releases are agreed to between the business and customers.			4.7.5.2 a)1)-5)				x			
LC 4(1)c			The planned release dates and deliverables are recorded with references to change requests or issues on which the release was based, and these are communicated to incident management.			4.7.5.2 a)1)-5)				x			
LC 4(1)d			The release of assets subjected to SAM is subjected to formal approval.			4.7.5.2 a)1)-5)				x			
LC 4(1)e			The success or failure of software releases is recorded and periodically reviewed.			4.7.5.2 a)1)-5)				x			
	LC 5 Procedures are established and implemented for deployment of assets subjected to SAM.		LC 5(1)	Procedures are established for changes in conditions such as distribution and installation of assets subjected to SAM. In addition, the status of approval is defined for all deployment procedures and an audit trail is kept of changes in conditions.			Software Deployment Process	4.7.6.2 a)4)	Software deployment process definition			x	
LC 5(2)			There are documented controls to verify that deployed assets subjected to SAM are the same as those authorized to be deployed or there is a difference between deployed assets and those authorized, or to identify a case in which it cannot be verified that the assets were deployed on time. Review of deployment vs. authorization is immediately conducted when authorization has changed. Also, records of any exceptions are documented.			4.7.6.2 a)5)				x			
LC 5(3)			The success or failure of deployment is recorded and periodically reviewed.			4.7.6.2 a)6)				x			
	LC 6 Procedures are established and implemented for management of all SAM-related incidents.		LC 6(1)	All incidents and accidents related to assets subjected to SAM are recorded and resolved in accordance with their priority, and then their resolution measures are documented.			Incident Management Process	4.7.7.2 a)	Incident management process definition				x

["From" segment] SAMAC ver4.1					["To" segment] ISO 19770-1:2012 Information Technology - Software Asset Management - Part 1: Processes and tiered assessment of conformance								
Level I area name Management objectives	Level II area name Management requirements	Level III area name Management items	Section # reference	Caption (Management item)	Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4
	LC 7 Procedures are established and implemented for management of all SAM-related issues.		LC 7(1)	To prevent and identify the causes of incidents and accidents related to assets subjected to SAM, all such incidents and accidents are recorded, their root causes are documented, and this information is communicated to incident management.			Problem Management Process	4.7.8.2 a)	Problem management process definition				x
	LC 8 Procedures are established and implemented for retirement, return, and sale of assets subjected to SAM.	(1) Systems are established and approved for retirement, return, and sale of assets subjected to SAM.	LC 8(1)a	Software is removed as appropriate from retired or returned hardware. For the purposes of this requirement, retirement refers to hardware being transferred outside the organization, potentially to be used by others. It does not include cases explicitly authorized by management after due consideration of any software licensing and data confidentiality implications.			Retirement Process	4.7.9.2 a1)	Retirement process definition			x	
LC 8(1)b			As necessary, adjustments are made to the numbers of licenses held and licenses available for use in order to reflect the licenses of software removed from hardware.			4.7.9.2 a2)				x			
LC 8(1)c			Software that must be retired together with hardware, such as standard preinstalled software, is identified and retirement procedures are implemented.			4.7.9.2 a1)				x			
LC 8(1)d			The above licenses are processed appropriately at the same time as the retirement or return of the hardware.			4.7.9.2 a4)				x			
LC 8(1)e			When assets subjected to SAM are sold to other related parties, such sale is conducted appropriately in accordance with contractual requirements.			4.7.9.2 a3)				x			
LC 8(1)f			Records are updated to reflect the changes above, and audit trails of the changes are maintained.			4.7.9.2 a5)				x			