White Paper

Comparison of ISO/IEC 20000
with ASL and BiSL

Both ISO/IEC 20000 and ASL offer guidance for IT Service Providers, ISO/IEC 20000 giving broad guidance for IT Service Management and ASL focusing on the Application Management area.

ASL provides additional guidance for the maintenance and enhancement processes and strategic processes and offers a maturity model that supports organizational growth.

BiSL offers guidance for user organizations as to how to fulfil their responsibilities with respect to demand and consumption of IT Services and also non-automated use of information in organizations.

Machteld Meijer & Mark Smalley, 31 December 2010

Demand-Supply Chain

The ISO/IEC 20000 standard is the first international standard for IT Service Management. It was developed in 2005 and is based on the earlier BS 15000. ISO/IEC 20000 "promotes the adoption of an integrated process approach to effectively deliver managed services to meet the business and customer requirements".

The Application Services Library (ASL) is intended specifically for Application Management organizations and covers all processes that play a role in Application Management, at strategic, management and operational levels. The IT Service Management processes that are described in ISO 20000 in a generic manner are tailored to Application Management in ASL, by means of more detailed and specific descriptions how Application Management organizations carry out their processes.

Both ISO/IEC 20000 and ASL are intended as guidance for internal or external IT service providers that directly or indirectly provide user organizations with IT Services that fulfil their needs with respect to automated information provisioning.

The Business information Services Library (BiSL) is intended as guidance for user organizations as to how to fulfil their responsibilities with respect to demand and consumption of IT services and in general to ensure effective use of information in organizations. BiSL addresses use of both automated and non-automated information.

Positioning these three standards in a demand-supply chain (figure 1) illustrates the areas to which they contribute. The value flows from left to right: suppliers of IT components provide IT service providers with the hardware and software that the IT service providers transform into IT services that fulfil the requirements of the user organization. Usually a user organization has an internal IT service provider that has often outsourced part of its activities to one or more external IT service providers. Both internal and external service providers procure IT components such as hardware and software from external suppliers.
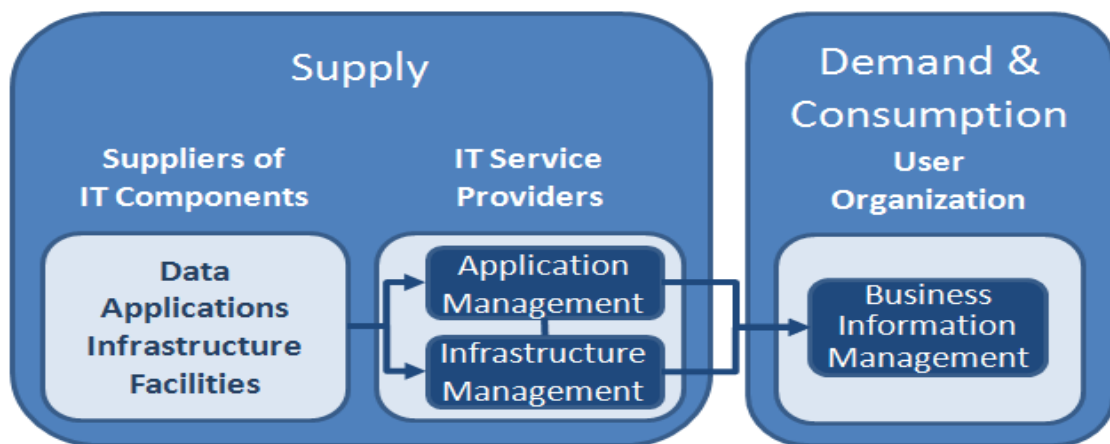

Figure 1 – Demand-Supply chain for IT services

User organizations make up the demand part of the demand-supply chain; these are organizations that need both IT services and non-automated information provisioning in order to function effectively and efficiently.

On the supply side, a distinction is made between two kinds of IT organizations:
- Suppliers of IT components (Facilities, Infrastructure, Applications and Data)
- IT service providers that ensure that the necessary IT components are procured and deployed, made available for use by the user organizations and changed whenever the functional or technical need occurs.

IT Service Management is the discipline within the domain of IT service providers that ensures that IT components are translated into IT services that are of value to the user organization. IT service providers are often divided into two closely collaborating areas of responsibility:
- Application Management
- Infrastructure Management.

These two supply-based domains interface in a supply-demand relationship with the domain Business Information Management within the user organization.

Business Information Management refers to the responsibilities of the user organization with respect to achieving and maintaining an optimal provisioning and use of (automated and non-automated) information within the user organization. Various roles are involved in fulfilling this broad spectrum of responsibilities, such as key-users, information analysts, information managers, business analysts, enterprise architects, CIO's and also regular business roles such as managers who are responsible for deciding what information they need to support their business processes.

Business Information Management addresses strategic, tactical and operational activities:
- Determining longer term information strategy and policy
- Determining Business Information Management responsibilities (governance)
- Determining and specifying information requirements that fulfil current and near-future business needs
- Designing and implementing non-automated information systems
- Acquiring automated information systems and related services
- Designing and implementing processes and procedures for use of information systems
- Supporting the end users on how to use the information systems (from a business process perspective)
- Ensuring that information systems are used appropriately

Finally, ISO/IEC 20000, ASL and BiSL are positioned graphically in the demand-supply chain.
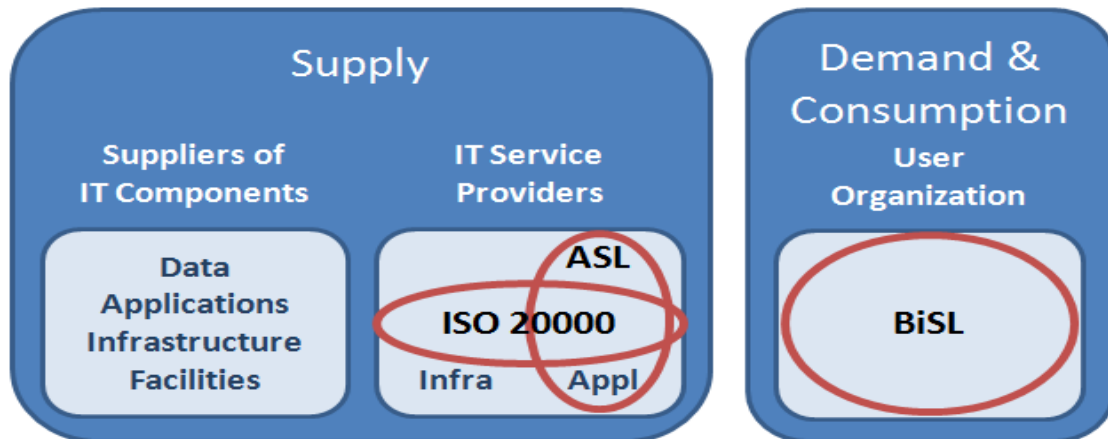

Figure 2 – Positioning of ISO/IEC 20000, ASL and BiSL in the Demand-Supply Chain

The ellipses illustrate that:
- ISO/IEC 20000 has a broad scope within the IT Service Management domain with most of its coverage on a tactical level
- ASL addresses Application Management and overlaps on a tactical level with ISO/IEC 20000 but extends its coverage in both strategic and operational directions
- BiSL compliments both ISO/IEC 20000 and ASL because it addresses the demand side of the demand-supply chain (Business Information Management) at operational, tactical and strategic levels, while ISO/IEC 20000 and ASL both fulfil supply roles.

In the following paragraphs ISO/IEC 20000, ASL and BiSL are explained and compared in more detail.

ISO/IEC 20000

ISO/IEC 20000 provides guidance with respect to IT Service Management processes and is applicable at a generic level to both Application Management and Infrastructure Management.
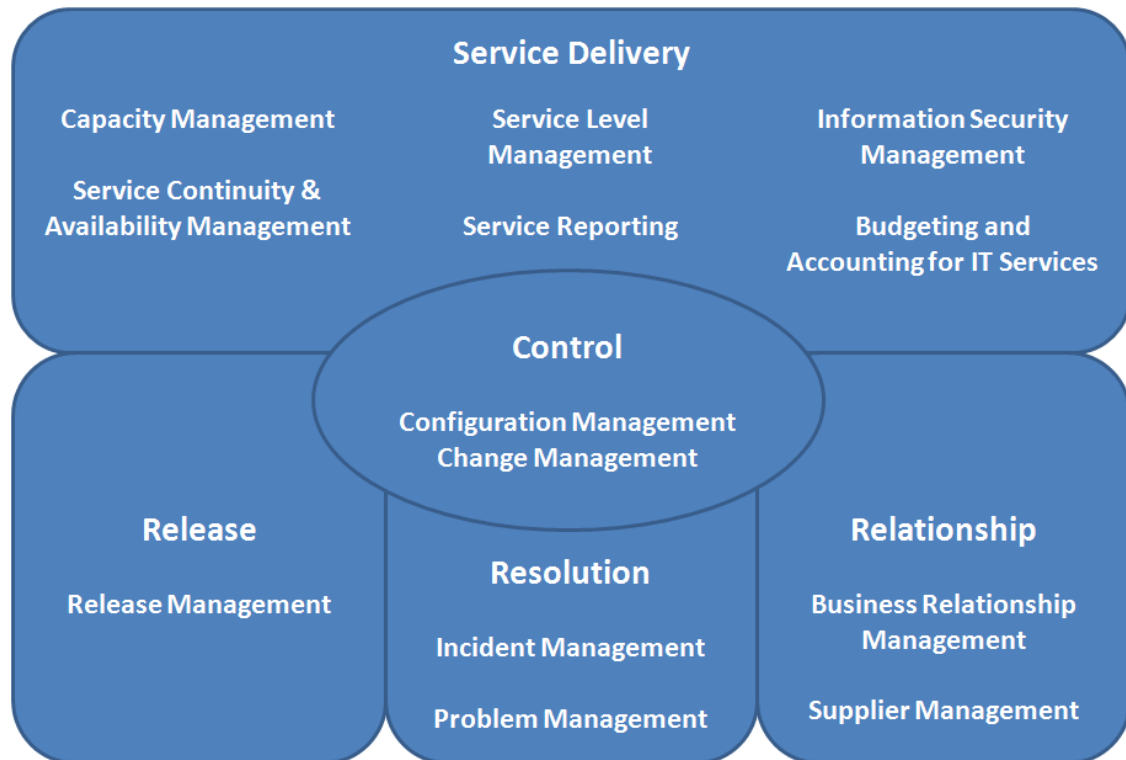

Figure 3 – ISO/IEC 20000 Processes

ISO/IEC 20000 comprises ten sections:
1. Scope
2. Terms & Definitions
3. Planning and Implementing Service Management
4. Requirements for a Management System
5. Planning & Implementing New or Changed Services
6. Service Delivery Processes
7. Relationship Processes
8. Control Processes
9. Resolution Processes
10. Release Process.

An assessment of processes in an organization can be carried out by external auditors from a registered certification body to provide a conformance report and, if successful, a certificate for the organization.

ASL

The ASL framework consists of six clusters of processes, divided into three levels: the Operational and Management processes have a short to medium term perspective whereas the Strategic processes look towards a horizon a couple of years ahead.
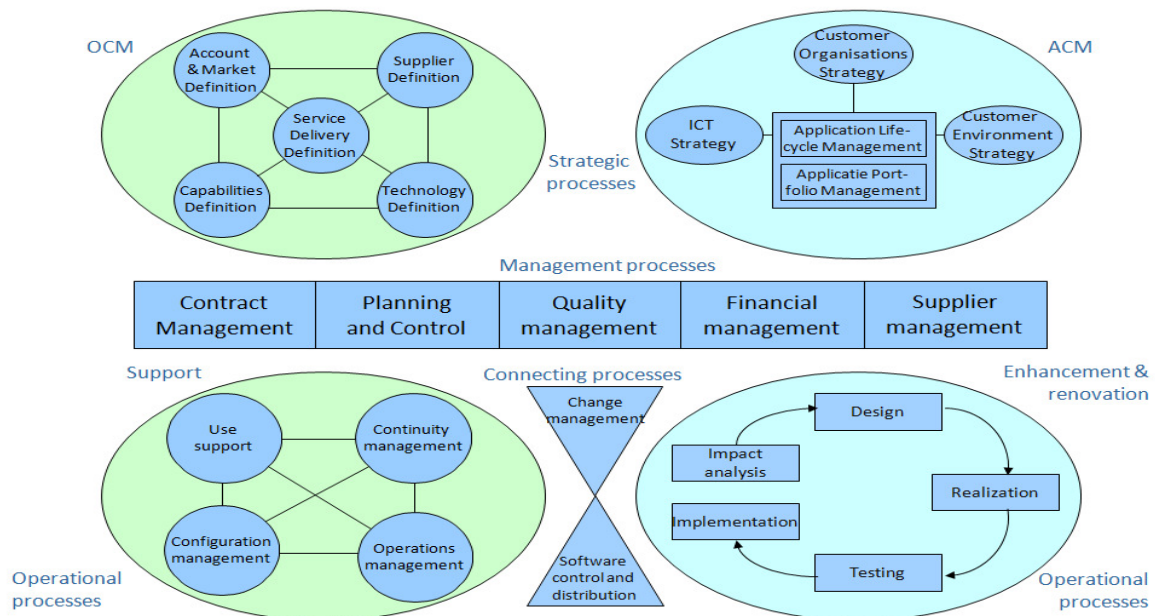

Figure 4 – ASL Process Framework

Operational Management ensures that the current applications are used in the most effective way to support the business processes, using a minimum of resources, and leading to a minimum of operational interruptions. The primary objective is to support keeping the applications up-and-running. The five processes are similar to ITIL processes with the same names and with similar objectives but different content, due to the different nature of Application Management.

Enhancement & Renovation ensures that the applications are modified in line with the changing requirements, usually as a result of changes in the business processes, keeping the applications up-to-date. This is where the modifications to the software, data models and documentation are made. These processes are similar to activities performed during the initial development of applications but there are some fundamental differences between the initial development of applications and enhancement & renovation later on in the lifecycle. Unlike development, maintenance and enhancement are affected by a number of complications:

- Heavier demands: a new release often has to be introduced at a set date in order to cope with changed legislation or because new products have to be introduced.
- Shorter feedback cycle: the designer and programmer will be quickly confronted with shoddy work, which will have to be tackled promptly.
- Fewer options for improvement: due to the restrictions imposed by choices made several years before; changes have to be made within the existing structure and the ideal solution often has to be sacrificed for a creative compromise.

Operational Management and Enhancement & Renovation are closely related as they deal with the same application objects. The two **Connecting processes** deal with transferring software and data enhancement to maintenance in a controlled manner.

The **Management processes** ensure that all of the operational process clusters are integrally managed. Attention is paid to managing human resources, deadlines, revenue and costs, internal and external quality (service levels).

Applications Cycle Management deals with business and IT alignment, developing a long-term strategy for the information systems, in line with the long-term strategies of the (business) organization. It is approached from two perspectives: that of the individual applications but also from the application portfolio, looking at all the applications in relation to each other. ACM looks mainly at business issues – developments in both the sector in which the organization operates as the organization itself – so it has to be done together with business information management. The main task that Application Management has is to get these issues addressed.

Organization Cycle Management looks at the long-term organizational development of the unit, whether this is an internal department or a commercial organization. Application Management departments are often notoriously conservative and this is a stimulus to get them thinking about the kind of Application Management services they want to provide. The services demanded by the users become so broad that it is difficult for both internal and external Application Management organizations to provide the full range. This forces a decision about the services that should be provided by the Application Management organization itself and those where a partnership might be appropriate. OCM stimulates that the Application Management department or company considers not only its customer's future needs but also its own future.

Independent certification for both individuals and organizations is available, the organizational certification being assessed against the Dutch NEN 3434 standard for Application Management, which is based on ASL. The EXIN ASL Foundation certificate is available for individuals.

ASL & ISO/IEC 20000

Where ISO/IEC 20000 addresses both Application Management and Infrastructure Management, ASL provides guidance with respect to Application Management, while recognizing and addressing the interfaces with Infrastructure Management.

Within the Application Management domain, ASL describes IT Service Management processes that are similar to those described in ISO/IEC 20000. Many of these processes are described in a way that is more applicable to the specifics of Application Management. ASL also describes three additional process areas:

- Application Maintenance and Enhancement, ensuring that the functionality of the applications is enhanced according to the requirements of the user organization; note that 'maintenance' is not restricted to bug fixing and minor changes but also encompasses releases and projects
- Application Strategy, ensuring that the applications are aligned with the longer term needs of the user organization
- Application Management Strategy, ensuring that the IT Service Provider's organization is well equipped to provide services in the future.

Other similarities and differences between the standards are:

- ASL assumes a situation in which the services have been implemented already; ISO/IEC 20000 also describes the implementation of new or modified services
- ASL uses a maturity model for each process, checking the quality of the performance of the processes, but also of the control, management, quality assurance and improvement of the processes. This makes it useful as a growth model for Application Management organizations
- An organization that works in accordance with ISO/IEC 20000 does not by definition work in accordance to ASL. Not only are maintenance and strategy hardly included in ISO/IEC 20000, but also the actual operation of the processes in ASL are specified in such a way that only a specialized Application Management organization can comply.

ISO/IEC 20000 PROCESSES	ASL PROCESSES
Service Delivery	
Service Level Management	Contract Management
Service Reporting	Contract Management Operations Management
Service Continuity and Availability Management	Continuity Management Operations Management
Budgeting and Accounting for IT Services	Financial Management
Capacity Management	Operations Management
Information Security Management	Continuity Management
-	Planning & Control
-	Quality Management
Relationship Processes	
Business Relationship Management	Contract Management
Supplier Management	Supplier Management
Resolution	
Incident Management	Use Support
Problem Management	Quality Management
Control	
Configuration Management	Configuration Management
Change Management	Change Management
Release	
Release Management	Software Control and Distribution Implementation
Application Maintenance and Enhancement	
-	Impact Analyse
-	Design
-	Realization
-	Testing
-	Implementation
-	Software Control & Distribution
Application Strategy	
-	Customer Environment Strategy
-	Customer Organization Strategy
-	ICT Strategy
-	Application Portfolio Management
-	Application Lifecycle Management
Application Management Strategy	
-	Account & Market Definition
-	Capabilities Definition
-	Skills Definition
-	Technology Definition
-	Supplier Definition

Table 1 – Comparison of ISO/IEC 20000 and ASL processes

The following table summarizes the relationship between ISO/IEC 20000 and ASL:

	ISO/IEC 20000	ASL
Goal	Standard for IT Service Management	Standard for application management
Target group	All organizations that provide (IT) service management services - (IT) managers, quality managers, auditors	Organizations that maintain, manage, enhance and renovate applications - (IT) managers, quality managers, auditors
Scope	Service management processes, including managing en controlling these processes	Service management processes, managing processes, maintenance (enhancement) processes, strategic processes.
	Aimed at implementing and performing services and processes	Aimed at performing services and processes
Level	Operational, tactical, very little strategic	Operational, tactical, strategic
Objects that are managed	All IT Components (hardware, software etc) for providing IT Services	Applications, including data structures
Approach	Aimed at quality management principles	Aimed at process activities in which the outlines of quality management principles are incorporated
Maturity model	No	Yes
Position	International standard	Supported by national standard NEN 3434

Table 2 – Comparison of ISO/IEC 20000 and ASL

BiSL

BiSL comprises processes at three levels:
- Operations – the implementation or operational processes involve the day-to-day use of the information provisioning, and determining and effecting changes to the information provisioning;
- Management – the management of income, expenditure, planning, the quality of the information provisioning and making agreements with IT suppliers;
- Strategy – defining the nature of the information provisioning in the long-term and how its management should be structured.
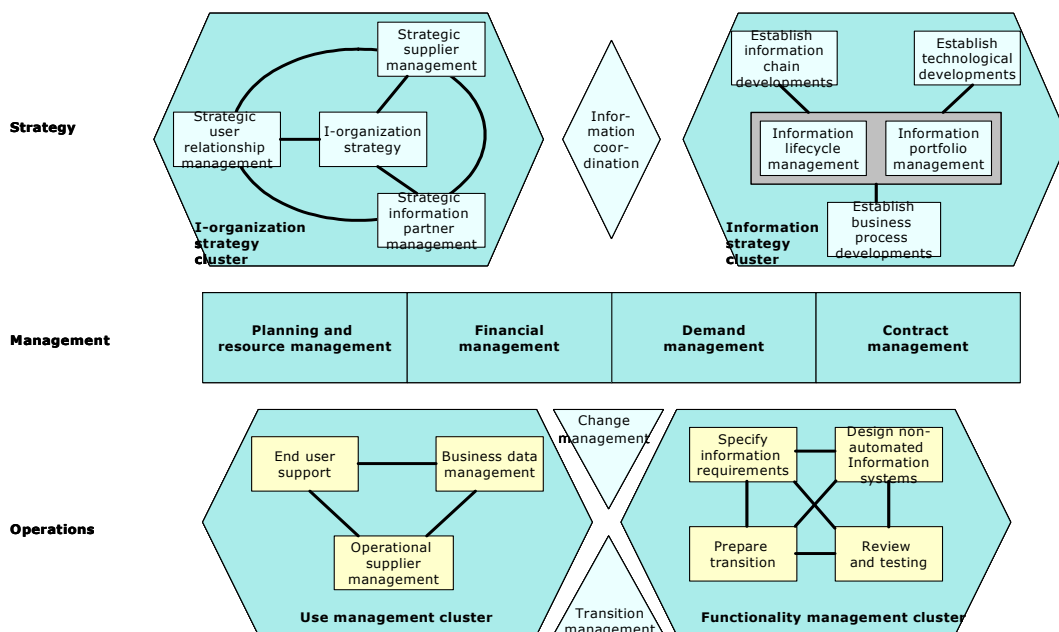

Figure 5 The BiSL Process Framework

Within these three levels the various processes are grouped in seven process clusters, three at the operational level, one at the managerial level and three at the strategic level. These clusters are discussed in detail in the following section.

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Operational level
- Use management – the purposes of the processes in these classes is to provide optimum, ongoing support for the relevant business processes. The use management processes focus on providing support to users for the use of the information provisioning, the operational management of IT suppliers and the control of data administration. The key question for use management is: Is the operational information provisioning being used and managed properly?
- Functionality management – the aim of the processes in the functionality management cluster is to structure and effect changes in the information provisioning. The key question here is: What will the modified information provisioning look like?
- Connecting processes at the operational level – the goal of the processes in this cluster is decision making about which changes need to be made to the information provisioning and their actual implementation in the information provisioning within the user organization. The key question: Why and how should we modify the information provisioning?

Management level
The management processes are umbrella processes: they are situated above the operational processes. These managerial processes act as a bridge linking the strategic level and the operational processes. The processes at the managerial level ensure the comprehensive management of the implementation of the information provisioning. Viewed from the perspective of planning, cost-effectiveness, needs, contracts and service levels, direction is given to administrative work, and maintenance, innovation and the linking processes. The key question pertaining to the managerial processes is: How do we manage the information provisioning?

Strategic level
The three clusters of processes at the strategic level address the formulation of policy concerning the information provisioning and the organizations involved in this.
- Information strategy – the purpose of the processes in the information strategy cluster is to translate developments affecting business processes, the organization's surroundings, and technology into a view of the nature of the information provisioning in future. The key question here is: What will the information provisioning look like in the medium and long term?
- Information organization strategy – the processes in this cluster focus on coordinating the communication, management, structures and methods of all the parties involved in making decisions about the information provisioning. Key question: How should the management of the information provisioning be structured?
- Connecting process at the strategic level – the aim of the linking process at the strategic level is the coordination of all of the parties involved in and the plans of the various subsidiary elements of the information provisioning. The key question: How can we act together?

Independent certification for individuals is available: the EXIN BiSL Foundation certificate.

BiSL & ISO/IEC 20000

As mentioned in the introduction, BiSL is intended as guidance for user organizations as to how to fulfil their responsibilities with respect to IT Services and in general to ensure effective use of information in organizations.

ISO/IEC 20000 is intended as guidance for internal or external IT Service Providers that directly or indirectly provide user organizations with IT Services that fulfil their needs with respect to automated information provisioning.

These two standards are therefore complimentary, BiSL addressing user organizations and ISO/IEC 20000 addressing the processes of IT Service Providers.

ISO/IEC 20000 PROCESSES		BiSL PROCESSES
Service Delivery		
Service Level Management	⇔	Contract Management
Service Reporting	⇔	Contract Management
Service Continuity and Availability Management	⇔	Operational Supplier Management
Budgeting and Accounting for IT Services	⇔	N/A
Capacity Management	⇔	Operational Supplier Management
Information Security Management	⇔	Contract Management
Relationship Processes		
Business Relationship Management	⇔	Strategic Supplier Management (Strategic) Contract Management (Tactical)
Supplier Management		N/A
Resolution		
Incident Management	⇔	End User Support
Problem Management		N/A
Control		
Configuration Management		N/A
Change Management	⇔	Change Management
Release		
Release Management	⇔	Prepare Transition Transition

Table 3 – Interfaces between ISO/IEC 20000 and BiSL

Although most of the BiSL processes that interface with IT Service Providers can be mapped to ISO/IEC 20000, an interface to align information strategy is not explicitly described in ISO/IEC 20000.

Conclusions & Recommendations

Both ISO/IEC 20000 and ASL offer guidance for IT Service Providers, ISO/IEC 20000 giving broad guidance and ASL focusing on the Application Management area.
While there is a degree of overlap with ISO/IEC 20000, ASL also describes the maintenance (enhancement) processes and strategic processes and offers a maturity model that supports organizational growth.
BiSL offers guidance for user organizations as to how to fulfil their responsibilities both with respect to demand and consumption of IT Services and to non-automated use of information in organizations. BiSL has a similar structure to ASL and therefore interfaces seamlessly; BiSL also interfaces well with ISO/IEC 20000, except at the level of information (technology) strategy.

The following recommendations are made with respect to the amount of knowledge and experience various roles should have about these three standards:

- IT Service Managers who are responsible for delivering infrastructure management services should have in depth knowledge of ISO/IEC 20000 to support their own activities and should be familiar with the basic principles of ASL and BiSL in order that they can interact effectively with those responsible for Application Management and Business Information Management.
- IT Service Managers who are responsible for delivering application management services should have in depth knowledge of both ISO/IEC 20000 and ASL to support their own activities and should be familiar with the basic principles of BiSL in order that they can interact effectively with those responsible for Business Information Management.
- Application management practitioners should have Foundation level knowledge of ASL to support their own activities and should be familiar with the basic principles of BiSL in order that they can interact effectively with those responsible for Business Information Management. Familiarity with the basics of ISO/IEC 20000 will improve communication with professionals in other areas of IT supply.
- Representatives of user organisations who have responsibilities in the areas of business information management and demand management of IT services should be proficient in BiSL. Basic knowledge of ISO/IEC 20000 and ASL will improve communication with their counterparts on the other (supply) side of the demand-supply chain.

	ISO/IEC 20000	ASL	BiSL
IT Service Managers who provide infrastructure management services	✓✓✓	✓	✓✓
IT Service Managers who provide application management services	✓✓✓	✓✓✓	✓✓
Application Management Practitioners (e.g. developers, testers)	✓	✓✓	✓
Members of user organizations who are responsible for, or support, effective business information management incl. demand management for IT services	✓	✓	✓✓✓

Table 4 – Recommended knowledge of ISO/IEC 20000, ASL and BiSL

Authors

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Further details and publications at http://www.maise.nl.

Mark Smalley is director of international affairs at not-for-profit ASL BiSL Foundation. He publishes and speaks about Application Management and related topics (ASL, BiSL, IT Governance, Business IT Alignment) on a regular basis and has reached out to several thousand people in four continents.
He works as an IT Management Consultant for Capgemini in the Netherlands and contributes to EXIN certification material.
He also lectures in Brussels, Hangzhou and Rotterdam.

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