



Application Services Library

Introduction Best Practices and Framework
for Application Management

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Foreword

The idea of charting knowledge about application services, especially application management, was put forward just over a year ago. The most compelling reason for this appears now to have been lost in the mists of time. What I can say, however, is that we felt that the time was ripe for it: a favorable combination of circumstances.

I will mention a number of those circumstances without putting them in any particular order. We realized, for instance, that an application can be a durable means of production. Much to our surprise as a society, we suddenly realized that applications dating back to the beginning of the 70s would have to be made millennium-proof at the end of the twentieth century. In addition to this, new media and new technology are resulting in a growing demand for new applications. In a competitive environment, organizations that are facing the decision of whether to replace existing applications or to add new ones are more likely to go for the latter option. The existing applications are therefore regarded as a fact of life rather than as things that should in fact have been replaced long ago. Thirdly, we should consider the present shortage on the labor market. ICT professionals enjoy considerable mobility. This stimulates the need to transfer both knowledge about applications and the work done within the scope of application management.

It is also worth highlighting the rise of supply chain management and process chain automation: collaboration between organizations leads to the linking of applications, and accordingly to collaboration between (internal and external) ICT service providers. Communication is sometimes described as the art of talking marginally at cross purposes. A collective frame of reference provides a good foundation for people to work together. There is a growing collective awareness among ICT professionals that there are still no broadly accepted approaches to application management that are based on best practices. These do exist for infrastructure management and application development, being ITIL (from Pink Elephant, a division of PinkRocade, launched in the Netherlands) and SDM or CMM respectively, for instance.

It will therefore come as no surprise that the Roccade operating companies intend to actively flesh out the idea of positioning an approach to application management on the market. This is how a fruitful concept developed into the publication that you now see before you.



The Application Services Library is by no means exclusively intended for Roccade professionals. This is why we are holding discussions with other organizations (clients, suppliers, competitors) that use internal or external ICT service providers and have opted mainly to use English terms. We also intend to set up an ASL Foundation for the management of the library. A process such as this will of course take time. None the less, we feel that our findings up to now clearly justify launching an initial version.

You can view this as a collective point of departure towards a rosy future. The library and the service based on it are not however primarily dependent on the current content. It is much more important to use the service and to continuously expand and improve it with the latest practices. Our experiences with ITIL, and also with ASL up to now, have shown that you can make huge progress with a relatively small number of people. I invite you to become one of those people.

I would like to thank all of the operating company management boards, the practitioners - especially the project managers and their team members - and all other colleagues and clients that have made a contribution for their combined efforts. As the Scottish philosopher David Hume once said:

'Truth springs from arguments among friends.'

I feel that we can also see the result of that process here. I trust that you will enjoy reading this publication and hope that you will all join me in insuring the success of the ASL.

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Application management: a unique profession

Organizations will want to adopt a professional approach to the maintenance, enhancement and renovation of their applications. This chapter sets out the developments that are prompting them to do so.

1.1 THE REASON

Fifty years ago, the first major institutes in the Netherlands made a start with computerizing their administration. Since that time, the technical options have grown to such an extent that the fortunes of organizations significantly depend on how their information systems function. This dependence, but also the scope and complexity of modern applications, make the introduction of a new company-critical application an expensive and risky undertaking. Organizations therefore postpone replacement, preferring to adapt their existing applications.

The result of this goes without saying. Applications last a lot longer than was foreseen. Adaptations of adaptations make the management and renewal of these systems increasingly complex and expensive. The importance of managing ICT processes has increased markedly.

This importance is magnified by new developments such as outsourcing and Application Service Providing (ASP). Outsourcing (the contracting out of ICT work) has led to a decrease in the need of client organizations for their own, fully equipped computerization centers. ICT departments that remain in-house have to compete with the outside world. The professionalization of application management plays an important role here. ASP also leads to a greater need for application management. ASP offers organizations the ability to 'hire via the Internet' applications and the accompanying service. ASP suppliers have to decide which parts of the management and maintenance have to be kept with the client and which with the service provider. Because more clients are able to use the same application, the ASP concept means that the interests of several interested parties have to be served at the same time.

The management of client requirements, enhancement of applications, renovation projects and their financial implications are just as necessary with outsourcing and ASP as with the more familiar forms of application services. The need for professional application management is sharply increasing. In this context, application management is defined as: the management of the maintenance, the enhancement and the renovation of applications in a business-economically sound manner.

1.2 CURRENT TRENDS IN APPLICATIONS

Trends and developments in the area of applications lead to a shift in the emphasis and content of professional application management.

Applications have become production factors and operating capital

An application not only supports the company process, but also forms an integral part of it.

Without computerization, many organizations would come to an immediate standstill. ICT has become a production factor.

Furthermore, important applications are often very large, which means that the replacement costs are substantial. This increases the importance of actively controlling existing investments in applications and infrastructure. Application management should provide transparency regarding the reasons for making investments. Since recently, companies in the United States have been permitted to show the renewal of applications as an asset (in the balance sheet), provided that new functionality is added. This now applies to all applications, even if it is difficult to prove the link between the development costs and the impact of the application on the company's returns. This forms an additional reason for business managers to conscientiously assess investments in the area of maintenance. It is expected that this form of showing the value of applications as an asset on the balance sheet will also be permitted in Europe.

The costs of application management are substantial

The costs of application management are difficult to quantify, but it is safe to assume that they amount to two thirds of all costs during an application's life cycle. One of the causes of this lack of clarity is that internal and external ICT service providers often make a random distinction between system development and maintenance and enhancement. Activities involved in maintenance and enhancement such as corrective and perfective maintenance are frequently included in the ICT budget as an overhead. The distinction between enhancement and development is often based on the volume of the planned activities, rather than their nature. It is for this reason that many ICT service providers have barely any insight into these costs.

Applications affect the competitive position

People used to think that the maintenance and enhancement of applications exclusively affected operational or tactical aspects of an organization, but these days they are aware that they can also influence a company's strategy. Partly as a consequence of the millennium problem and the euro, ICT service providers, together with their clients, have discovered that information systems can have a longer life span than they ever thought possible. The condition of applications therefore becomes a critical success factor. Moreover, there is a need to respond more quickly to market developments. This implies that the necessary systems and services have to be completed faster.

The time needed to build replacement applications is increasingly being found too long. It is also difficult to steer a radical transition to a new system ('big bang') from the organization.

Evolution from the existing company-critical applications can therefore offer a good alternative. This approach also offers the advantage that it is easier for the system engineer and the user to discuss the non-functional wishes and requirements such as the performance level on the basis of their experience. This reduces the company's continuity risks. Existing applications therefore have to be able to cope with increasingly radical changes.

Process chain automation links the applications of various organizations

Information technology provides companies with opportunities for collaboration. Organizations that want to communicate with other organizations link their information systems to those belonging to others. In a network, the functioning of the one application is dependent on the other. This ensures that the application management of these applications is not of a 'stand-alone' nature, but forms part of an application - and usually organization - exceeding domain. Creating uniformity in the terminology used and coordinating the supra-organizational application management processes will play a significant role in this regard.

The need for professionalism

Applications have become part of the operating capital, and this leads to the need for a higher level of professionalism. The business manager places responsibility for his applications in the hands of internal and external ICT service providers. Organizations demand responsibility for results and guarantees in the area of their application management. A business manager must not feel inhibited by an inflexible or barely predictable provision of information. Knowledge of the business process is an important success factor here. This implies that the ICT service providers must continuously strive to improve the quality, effectiveness and efficiency of the information provision.

Transference through labor mobility

The job market has also changed as the years pass, a job-for-life has become a thing of the past. This has given rise to the need to make knowledge and experience less dependent on individual employees. If uniform working methods and accessible documentation are introduced, systems can be transferred more smoothly to new employees. This also encourages the development of ICT professionals as for this reason they are not 'tied' to an application. Knowledge and experience of company-critical processes must be monitored like operating capital, and that therefore includes knowledge and experience of application management.

1.3 THE IMPORTANCE OF APPLICATION MANAGEMENT

These developments have led to an increase in the importance of application management, and with good reason:

- Professional application management enhances the ability to Control costs. Application management provides Insight into the services supplied, and promotes Transferability.
- Application management reflects the fact that applications lead a long life, that today's applications could still affect a company's competitive position in five years' time. Application management is future-focused. And while all these changes and innovations are being put in place, day-to-day reliability must remain a matter of course.
- Not only the organization itself will have a role to play here. Process chain automation also makes organizations dependent on others. The uniformity of application management among organizations is therefore an important success factor when it comes to mutually coordinating applications and application service providers.

1.4 READING GUIDE FOR THE REST OF THIS PUBLICATION

The interests involved in effective application management have now been set out. This represents a challenge in itself. It is clear that application management has a role to play in a broader context. This will be discussed in more detail in chapter 2. The framework for application management is the main theme of chapter 3. Chapter 4 describes the significance of application management for ICT professionals. Finally, chapter 5 puts the case for application management as part of the public domain.

Application management in a broader perspective

The world of application management was introduced in the previous chapter. We now turn to the various main players in that world. This will be followed by a discussion of the collaboration between these roles.

2.1 DIFFERENT WORLDS

The balloonist

A man is sailing a hot air balloon and realizes he is lost. He reduces height and spots a man down below. He lowers the balloon further and shouts: "Excuse me. Can you help me? I promised my friend I would meet him half an hour ago, but I don't know where I am." The man below says: "You are in a hot air balloon, hovering approximately 30 feet above the earth. Your position is 40 degrees N. Latitude and 58 degrees W. Longitude. "You must be an engineer" says the balloonist. "I am" replies the man, "How did you know?". "Well" says the balloonist, "everything you told me is technically correct, but I have no idea what to make of your information and the fact is I'm still lost". The man below says "You must be a manager". "I am" replies the balloonist, "but how did you know?" "Well", says the man below, "you don't know where you are or where you're going. You have made a promise which you have no idea how to keep and you expect me to solve your problem. The fact is, you are in exactly the same position as you were in before we met, but now it is somehow my fault."

(Found on the Internet)

This story about a manager and an engineer is a good reflection of the image that business managers and ICT professionals sometimes have of each other. People in these two worlds have different expertise, different interests and therefore view problems and solutions differently. Outlined below are the most important players in these two worlds. On the business side we have the business manager, the application owner and the functional manager. On the ICT side we can identify the application manager, the technical manager and the developer. The difference between functional, application and technical management is introduced by Looijen in his book 'Beheer van Informatiesystemen'.

2.2 THE BUSINESS SIDE

In recent years a lot has changed on the business side. Automation is increasingly steered from the business side. Organizations are also becoming convinced that automation costs should not be paid for from the overheads, and that automation is something else than simply a support service. Put simply: the organization, in the person of the business manager, has taken on more responsibility of its own. It has generally delegated the steering function to others: the system or application owner and the functional managers.

2.2.1 The business manager

Clichés about the 'business manager'

By his very nature, the business manager has a limited field of vision and concentrates on his own core business. ICT is no more than 'a follower' and is worthy only of a small amount of his time and energy. The business manager has little understanding of ICT, but does expect a lot from it. His requirements change and he expects - as he is led to believe by the ICT companies - that ICT makes everything possible at a flick of a switch. He often fails to say in advance what he wants, and blames the ICT service providers if their results fail to meet his expectations.

'Business manager' is a term that can be used to describe the person with overall responsibility for the business process in which the application or applications are used. For this purpose, the business manager has at his disposal resources and authority in all management areas, such as production management, human resources management, supply chain management, financial management, marketing management and so on, and therefore also in the domains of ICT management. These areas are mutually connected and affect each other. These areas converge at the business manager. The business manager is responsible for the decisions, and therefore makes changes if the individual parts are unable to agree with each other. The success of the business manager is promoted by strong and professional management in the sub-areas. Business managers also have to be kept informed, at least in outline form, of how the activities have to be professionally implemented in the sub-areas.

2.2.2 The application owner and the functional manager

Who is the owner of an application or a system? A deceptive question, as ownership structures differ from one situation to another. As a rule, the owner is the head of the department in which the work process supported by the application takes place. There can also be situations in which a work process cuts across various departments, or in which different work processes converge at a single application. In these cases the application owner is usually somebody at a higher level in the company.

The application owner role bears responsibility for the functioning and development of an application. He holds budgets for maintenance and enhancement and renovation. The work is done by the functional manager. The application owner has to be aware of the functionality of the application, at least in outline form. He has to know which business process (or part of it) is supported and which relevant knowledge, such as business rules or regulations, are processed in the application. It should be noted that the above concerns roles. Roles do not necessarily have to be filled by various people.

The application owner and the functional manager also have clients (such as users and superiors) and are responsible for functionality at the work station. Their activities form part of the field of functional management. Functional management shapes the responsibility for the (maintenance and enhancement of the) functionality of the information system on behalf of the client organization.

These roles sometimes occur at two places at the same time, e.g. in the case of packages and ASP. Both cases concern a standard application which runs at clients' work stations, whether or not in modified form. In this case we have two application owners: one at the organization who uses the application and one at the ICT service provider.

2.3 THE ICT SERVICE PROVIDER IN THREE WORLDS

Clichés about the ICT service provider

The ICT service provider has little understanding of the client's business and doesn't concern himself with future developments that could be important to the client's business. ICT professionals are not willing to take responsibility for results and shift their responsibilities between each other and on to clients (from pillar to post and back again!). The ICT service provider sells you a system, but doesn't mention that it will cost you a fortune to continue using it as the years pass by. They promise you the earth, and always fail to deliver.

There are also various worlds within ICT service:

- The world of 'technical management' or the 'management of the infrastructure'. Often physically present in an internal or external computer center or ICT center. This organization manages computers and networks and makes sure that they continue to function 24/7.
- The world of 'application management': the maintenance and enhancement of the information systems that run on the infrastructure mentioned above.
- The world of 'system development': in practice, this often involves building new applications. This task is usually done completely outside of the client organization, by an external service provider, for instance.

These worlds do not connect up seamlessly. Some applications are developed that cannot run in production on the hardware present, for example. The applications are 'thrown over a wall' without proper communication beforehand. This can also concern the supply of applications that are almost impossible to maintain. Neither does the communication between application managers and technical managers always run as smoothly as it might. This often results in mutual problems being shifted around from pillar to post.

2.3.1 Technical management

Technical management is responsible for the availability and maintenance of the infrastructure on which applications (among other things) run. Technical management ensures that these facilities can actually be used. This also encompasses responsibility for the overall technical infrastructure, including the network and work station infrastructure. ICT facilities therefore play a central role. Also included here are the system software and the development tools: ITIL is the generally acknowledged collection of best practices within this world.

2.3.2 Application management

Application management can be performed both by internal and by external service providers. It is usually a combination of both. The application manager is the contact person for the functional manager. He makes agreements about the desired service level, and provides the reports on the service. The application manager arranges capacity for change and renovation projects and also monitors the results of the agreed service. Deviations from the level of quality supplied are noted in the reports. He is also expected to be familiar with the client's business and to establish the added value of the applications for that business. He is therefore able to provide support in setting up the client's information policy. The Application Services Library and the framework introduced in this book belong to the world of application management.

2.3.3 Newly built applications

Unlike the field of application management, in the field of newly built applications there are many tried and tested models, such as SDM (system development methodology), CMM (capability maturity model) and so on. New building is by definition a one-off activity. For these two reasons, newly built applications are not specifically detailed in ASL. Interfaces to maintenance and enhancement are however discussed. 'Renovation' is regarded as a form of application management.

System developers build new applications. New building projects are generally of a highly innovative nature and are aimed at new technology. The projects can be extremely large and the changes that accompany the new system are often radical. Strict management is often put in place in order to deliver good quality products on time. Once the application has been completed, the project comes to an end. In this limited time perspective, the usage and management aspect often gets snowed under, even if application and technical management experts are involved in the development of the system. Foresight is the essence of management, but it is often quite a task to get new systems under maintenance.

2.4 THE COLLABORATION

Many problems in steering ICT can be traced back to communication problems between business managers, the people that conduct their business with the applications in question, and ICT service providers, the people that make those applications available.

The way in which the collaboration can be given shape is discussed below.

2.4.1 Single port of call: the service team

A business manager is responsible for business, an ICT manager for ICT service. Both business and ICT service are isolated concepts, with a lack of consciously shared values. Therein lies a significant cause of coordination problems. The solution speaks for itself. By determining the importance of an application in consultation, it is made clear to both worlds what has to be done by the application manager and what returns can be expected by the application owner. One way of reducing coordination problems between functional management, application management and technical management is to organize mutual responsibility more clearly. This is achieved by making one body responsible for the overall information provision per client. This body, the service team, bears responsibility for steering the entire life cycle of the information provision. The team thus builds a bridge between the client organization and the automation specialists. An unequivocal platform is created for the client.

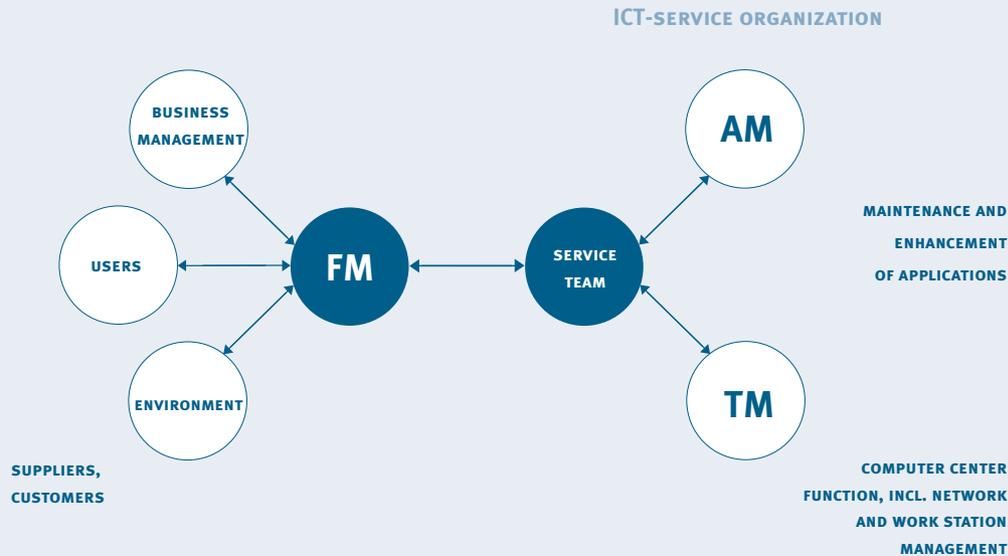
This way of working makes the ICT organization transparent for the client. He no longer has to buy his services from various 'counters'. There is one person responsible for both the exploitation and the maintenance of 'his' information provision. Through the functional manager the business manager can make (long-term) agreements with the service team about development, usage and exploitation.

Figure 1 shows this collaboration in diagram form. The service team functions initially as a partner of the client organization. The primary contact point for the service team is the functional management.

The ICT organization is therefore not set up on the basis of functional specialisms, but is divided according to clients, with service teams as the steering party. The managers involved are judged on aspects such as client satisfaction, rather than exclusively on the implementation of certain (often specialistic) activities. The central responsibility of the ICT support does not so much concern the systems, but rather the support processes that operate within the client organization.

The service team is responsible for the overall quality (technical and functional quality) of the information provision to a client, defines the desired service and supervises it. The service team coordinates mutual agreements, checks whether they are complied with and reports on this to the client organization. This is how the team manages the overall information provision: the development, the innovation, the usage and the exploitation.

figure 1



2.4.2 Clear agreements: service level agreements

A professional client-supplier relationship requires that business managers can steer their ICT service providers, especially regarding output. Services and products are then laid down in a Service Level Agreement (SLA).

An SLA defines the obligations and responsibilities of both the supplier and the purchaser of the services. The starting point is that the current and future needs of the client are met as well as possible at a realistic price.

An SLA contains guarantees regarding the service, but also sets criteria against which the quality of the service can be measured. The service team sets the criteria in consultation with the business manager. This is done as much as possible in units that the business manager (and the end user) can recognize and steer. Service levels for management and exploitation, for instance, contain requirements regarding the availability of applications, the accessibility of the service desk, the response times for certain functions and the speed at which incidents are resolved. ICT services are thus made clear, measurable, verifiable and steerable by a service level agreement.



Agreements are also laid down concerning the way in which the client organization and the ICT service provider work together. These more operational agreements and procedures structure the collaboration and determine the quality of the service to an important extent. The agreements relate to various areas, such as the submission and settlement of change proposals and/or incidents and the checking and acceptance of products. Reports and evaluations enhance the ability to steer processes.

2.4.3 A glimpse of the future: life cycle management

Anticipating developments in good time insures the continuity of the support and precludes the need for divestment's. None the less, the business manager counts on more than an acceptable service level at acceptable costs in the short term. He is often also interested in the situation over a period of three to five years. Life cycle management can be used to meet this need. This provides him with a view of the future. The efforts made are aimed not only at providing optimum support, facilitating and stimulating the current business processes of the client organization, but also at how they will function in the future. This works as follows.

Once a renewal strategy has been drawn up, it is adjusted annually in close consultation with the business manager. This strategy is based on an analysis of the current (ICT) situation, the anticipated developments (in the environment) of the business manager and the ICT developments. Analyzing these factors provides starting points for a rough sketch of the future ICT infrastructure. An annual renewal plan is drawn up on this basis. This serves to provide a continuous, systematically managed renewal of the entire ICT infrastructure. The quality and continuity of the information provision are thus guaranteed.

It is also important for the internal and external service provider to look to the future of their clients' application portfolios. This has a direct influence on the services that they will be marketing in the course of time.

Framework for ASL

The previous chapter shows that various roles have to be fulfilled for the successful management and maintenance of applications. The framework for ASL described in this chapter explains how these roles are shaped and the relationships between them.

3.1 INTRODUCTION

We know from practical experience that the ideal application service organization, or the ideal service level agreement does not exist. Each situation calls for its own organizational layout and individual agreements between the organizational sections involved.

What we do know for sure however, is that successful application services consist of a combination of activities or processes that have to be implemented in all situations. Not all of these processes are technical. Many of them originate from areas of management or service provision.

Another characteristic of these processes is that they always occur, independent of how the ICT organization is arranged, the number of organizations involved and whether they are internal or external ICT service providers. These processes are mutually linked, and their mutual relationships can therefore be set out in a framework.

This chapter describes the framework for the Application Services Library. The framework comprises processes in the field of 'application management' and describes the definitions of these processes and the relationships between them. A detailed description of the processes forms part of the library, which will also contain 'best practices' and resources such as forms, checklists and model documents.

The ASL framework can be used for all forms of application management, for outsourced ICT services, internal ICT services as well as and all intermediate forms. The framework can serve as a guideline for the division of tasks. Each process has an accompanying description of roles.

The ASL framework originates from an analysis of various knowledge domains related to ICT service, including ITIL and CMM (see also David S. Hinley, 2000). These domains are evaluated on their suitability for application management. The paragraphs below describe the ASL framework and the underlying processes.

3.2 THE ASL FRAMEWORK

The processes in the ASL framework can be subdivided according to the following questions:

1. Is the angle of approach 'the service' or 'the application'?
2. Are operational, tactical or strategic processes involved?

In chapter 1 application management is described as the management of the maintenance, the enhancement and the renovation of applications in a business-economically sound manner. The key principle here is to support the business processes using information systems for the life cycle of the business processes.

Two essential viewpoints can be distinguished here:

The first is the perspective of 'supporting the business processes using information systems'. This means keeping the applications up and running and making sure that they support an organization's day-to-day activities. In practical terms, this involves providing a continuous service by making firm agreements about the service level and restoring the agreed service level as soon as possible if deviations are established; creating a high level of accessibility for questions and remarks of clients about the service; preventing disruptions and facilitating new services by responding as an ICT service provider in good time. The focus is therefore on service, the service that is supplied and which (together with infrastructure management) facilitates the use of applications. In cost terms this generally amounts to 10 - 20% of the overall costs of application management.

The second viewpoint is 'the life cycle of the business processes'. Organizations evolve, environments and markets change. To continue functioning optimally, the supporting information systems have to grow with the organization. This involves enhancing the applications to the current and future technical and functional requirements. The application related processes generally account for the majority of the costs of application management.

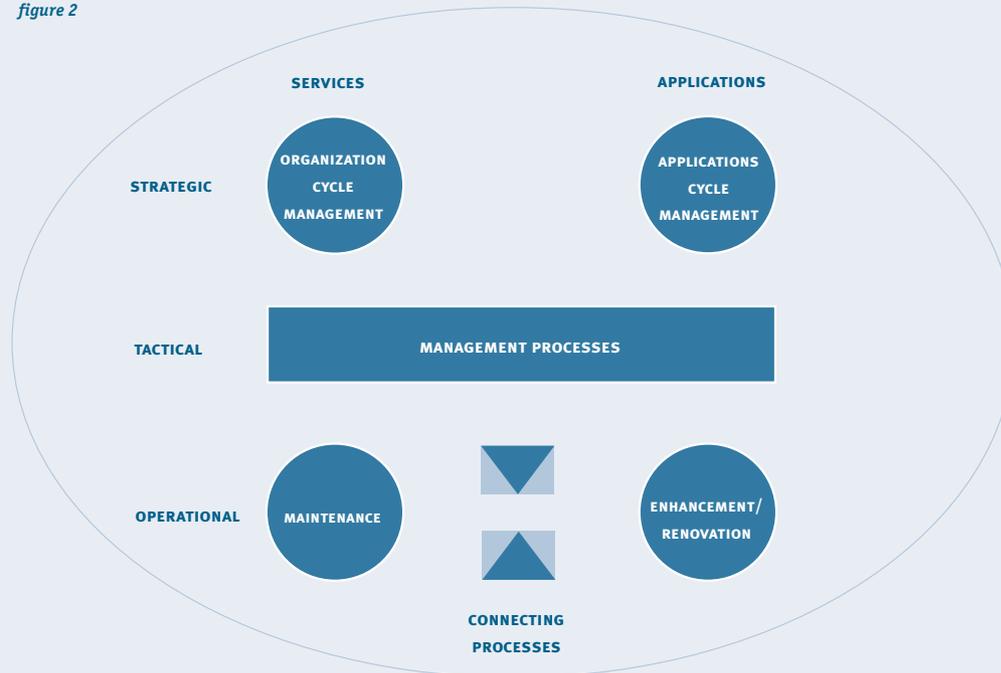
We can distinguish operational, tactical and strategic processes in these two areas. This results in the framework depicted below.

Figure 2 illustrates the ASL framework. The circles and the rectangle in the middle each represent a cluster of processes. Three levels are distinguished: operational, tactical and strategic.

The operational level recognizes two clusters of processes:

- 'maintenance' of applications: processes that ensure the optimum availability of the applications currently being used to support the business process with a minimum of resources and disruption in the operation.
- 'enhancement/renovation' of applications: processes that adapt applications to new wishes and requirements in response to changes to the organization and its environment. The necessary adjustments are made to the software, the data model and the documentation.

figure 2



The steering tactical level comprises the overall management processes. These processes provide for the collective steering of the operational processes for 'services' on the one hand and 'applications' on the other. Both the strategic and the operational level supply the management processes. The future and day-to-day reality are thus secured in these processes.

The directive strategic level also distinguishes two clusters of processes, based on the subdivision into 'service angle' and 'application angle'. In these days of making services and service providers more flexible, the service provider of today (for both operational services and systems enhancement) is not necessarily forever the service provider. There are countless reasons why these tasks could also be performed by another service provider. Competition between service providers regarding the services being supplied is increasing. Separating the two angles makes it possible to make an individual choice for each area.

The clusters of processes at strategic level are:

- Organization Cycle Management (OCM): processes that are aimed at developing a future vision of the ICT service organization and translating that vision into a policy for its renewal.
- Applications Cycle Management (ACM): processes that serve to shape a long-term strategy for the various applications that fit within the entirety of an organization's information provision in relation to the organization's long-term policy.

3.3 DESCRIPTION PER CLUSTER

This paragraph discusses the processes per cluster.

Maintenance processes at operational level

At the operational level, the following areas of attention can be identified for managing information systems:

- the identification and maintenance of various objects (e.g. application, interface between two applications, component, database, etc.) of service.
- the availability and the quality of these objects
- the deployment of the right capacities and assets, the right resources and the right quantities that are required for the service
- the questions, wishes and defects concerning the objects or the agreed service.

These areas of attention can be traced back to the definitions of the maintenance processes (see the left-hand side of *figure 3*).

- **Incident control** is the process that provides for the settlement of incidents or service calls. In this context, a service call is a question, a wish, a disruption, etc., concerning the existing application(s). Incident control provides a service desk process, for example. The service desk provides contact with the functional managers and/or end users. The service desk also provides users with information about the implications of (changes in) the ICT service. In the incident control process the service calls are taken, registered and the actions are set in motion to settle them. The settlement is also monitored. Making structural analyses of the registered service calls provides insight into the desired improvement activities.
- **Configuration management** covers the processes concerned with the registration, storing and maintenance of information about (versions of) configuration components that are being used, such as software and documentation.
- **Availability management** concerns the processes that provide, monitor and guarantee the availability of services and ICT components.
- **Capacity management** provides for the optimum deployment of resources, i.e. right time, right place, right quantity and at a realistic price.
- **Continuity management** relates to the range of measures needed to guarantee the continuity of the service, e.g. in the event of a calamity, for which fallback facilities and back-ups have to be arranged, or prevention of fraud.

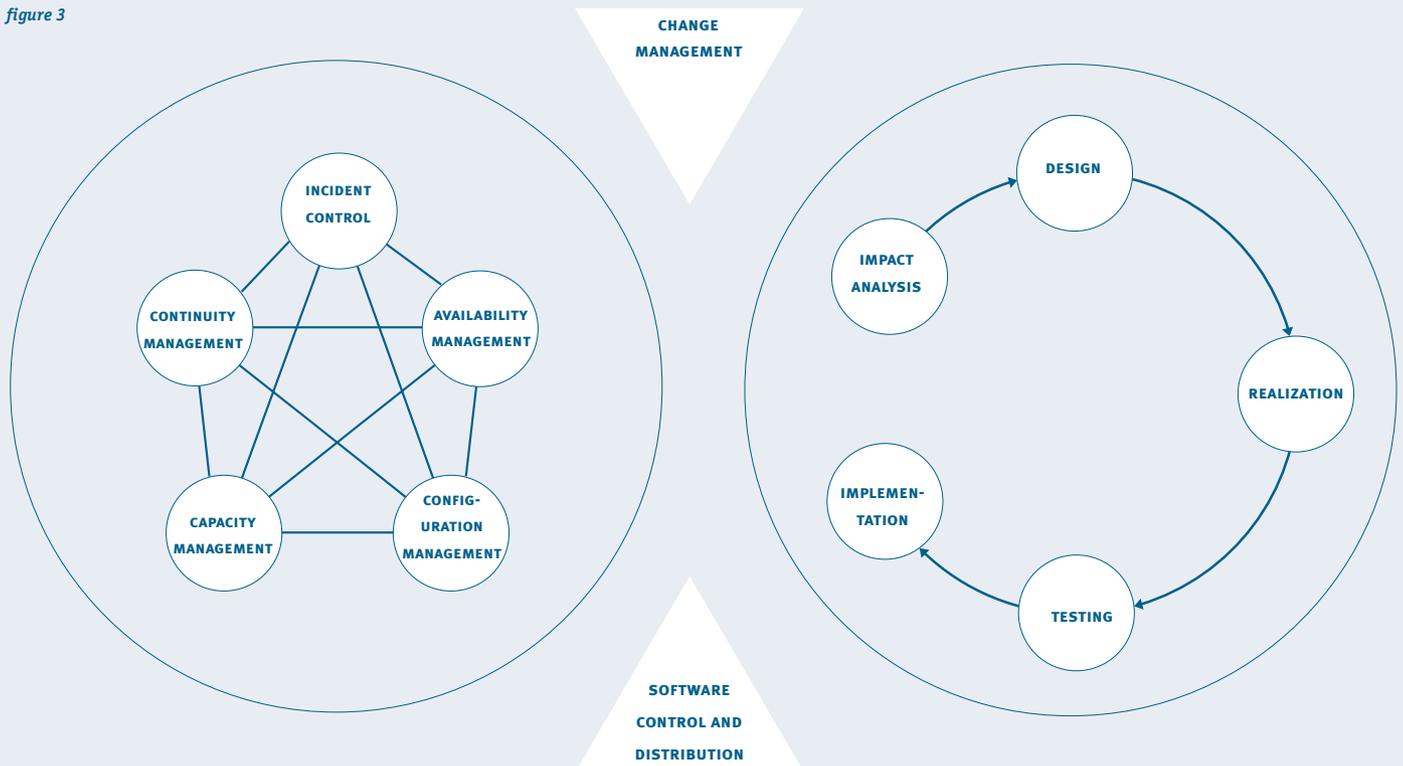
Enhancement/renovation processes at operational level

The enhancement and/or renovation of ICT objects such as software, documentation and design take place in a project-based manner within the framework of a renewal scenario. In general terms, the following activities are carried out (see right-hand side of *figure 3*):

- **impact analysis:** the activities for conditioning and charting the implications of a change proposal
- **design:** further information analysis and design
- **realization:** the realization and/or assembly of the changed objects
- **testing:** the testing of the changed objects with the following end result: completed products for acceptance, acceptance tests and discharge from the client
- **implementation:** the introduction of the changed objects focusing on conversion, training, instruction and migration, followed by discharge from the client.

Before the actual realization is started much attention is paid to the project definition and initiation: setting down the project, process and product requirements, schedule, budget and project organization.

figure 3



Connecting processes between 'maintenance' and 'enhancement/renovation'

The following processes are distinguished at operational level as connections between the maintenance cycle on the one hand and the enhancement/renovation cycle on the other (see *figure 3*):

- **change management** relates to the process that determines which requests for change are introduced in a 'release'. In consultation with the client, and validated by impact analysis, this process results in an agreement on the alterations that will be made, on the scheduling, costs and completion dates. In actual fact, change management forms the incoming channel to enhancement and renovation.
- **software control and distribution** covers the processes involved with the control and distribution of software objects and additional objects (such as documentation) during development and testing and during the transfer to operation. Control means: a safe working method that must limit the risks of unauthorized use, unauthorized change or deletion. This process can be described as the outgoing channel: adapted ICT components are transferred to the exploitation cycle.

The management processes at tactical level

The management processes at tactical level comprise the following areas of attention:

- time: delivery time, required capacity and effort
- money: finances involved in the entirety of the service provision
- the quality of the services provided and the monitoring method
- the agreements with clients and suppliers.

The results from the other process clusters provide input for the management processes. Integral planning and management are thus made possible, both for releases of the applications and the services. The situation that this creates also secures the strategy at the shop floor and translates the experiences from maintenance and enhancement back to higher levels.

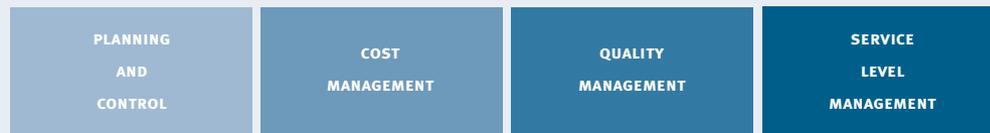
These processes have a monitoring and foreseeing angle. Identifying possible risks and taking appropriate measures (parts of risk management) form an integral part of the management processes.

The four areas of attention mentioned are reflected in the defined management processes (see *figure 4*):

- **Planning and Control**: the management of time and capacity relating to all activities that are involved in maintenance, enhancement and renovation of applications. The simultaneous steering of the project-based renewal activities and the continuous maintenance activities - often performed by the same department and people - is one of the major challenges of application management.

- **Cost management:** the processes concerned with the managing and charging of ICT costs. Cost management yields business-economic data so that an optimum balance can be found between price and quality. Good cost control, and possibly returns control, from an integral angle, highlight the financial implications of the various choices. The best choice is made in consultation with the client(s).
- **Quality management:** occupied with the quality of the application management processes, the products, the service and the organization. Testing the products, actively monitoring the application management processes and experiences of maintenance and renovation provide insight into the bottlenecks and, accordingly, into the structural improvement options. The organization-wide standards, new requirements and future developments also form input for this process. The quality of the resources deployed (including auxiliary equipment and personnel) also come under quality management.
- **Service level management:** comprises the activities that specify in more detail the desired services and lay down and monitor the desired service level. The purpose of service level management is therefore to make the service level transparent, and to control and account for it.

figure 4



Organization Cycle Management processes (OCM) at strategic level

These processes concern the life cycle of the services provided by the internal and external ICT service provider(s) and the adjustment of how the ICT service is organized. The relationship between the ICT service providers and the client organization is not a constant factor: consider outsourcing, privatization and Application Service Providing (ASP). These developments have a significant impact on the client organization, but also of course on the way in which the ICT service is organized.

In this cluster the strategy is defined:

- What does the ICT service provider have to do to continue to guarantee the desired service level in the long term?
- What does the ICT service provider have to do to operate successfully on the market?

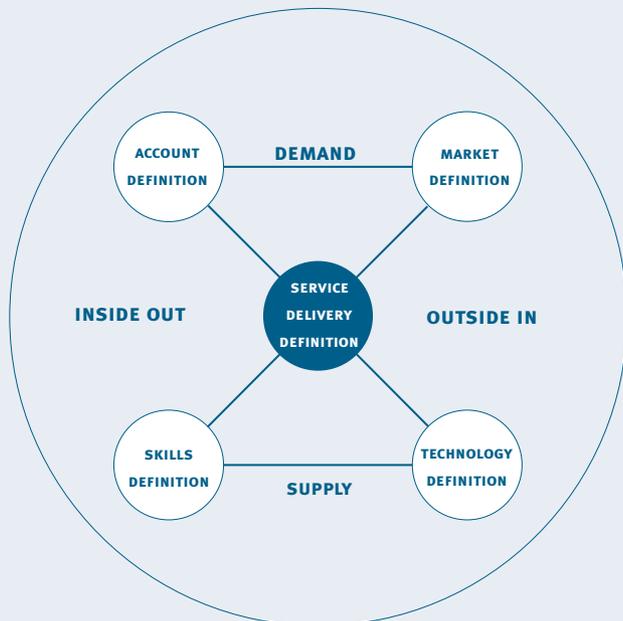
The following processes are distinguished here (see figure 5):

- **Market definition:** determines the market segments on which the services will be provided in the future on the basis of an analysis of the market, supply chain and client developments.
- **Account definition:** determines the image, strategy, organizational form for the realization of the approach to the desired markets
- **Service delivery definition:** charts the service that the market wants and that the ICT service provider can supply using his skills, and translates it into policy and strategy.
- **Skills definition:** determines skills, knowledge and expertise called for by the future service of the organization.
- **Technology definition:** determines the (development) tools, technology and methods that the organization wants to use to realize the future service.

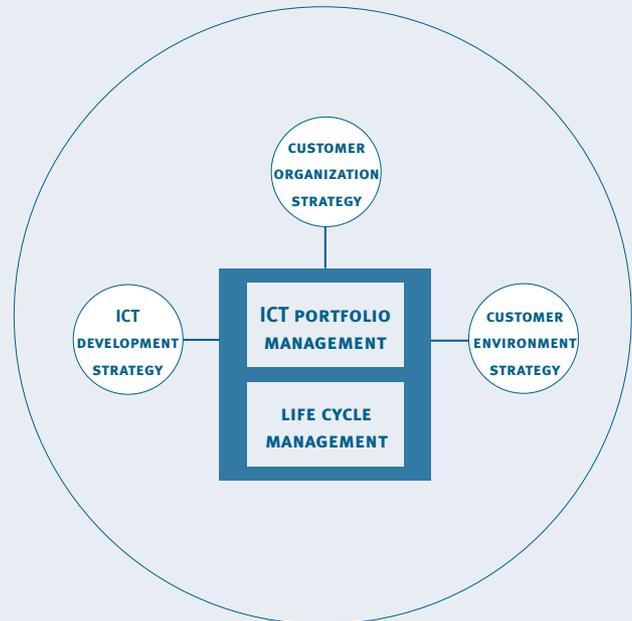
It all relates to demand, supply and delivery. The top is occupied with the demand from the market and the clients, and the bottom indicates which technologies and services are feasible and could be delivered. The delivery is the final result, in which the service profile that will be desired in due course is defined on the basis of demand, supply and resources present.

figure 5

Strategic processes within Organization Cycle Management



Strategic processes within Applications Cycle Management



Applications Cycle Management processes (ACM) at strategic level

ACM concentrates on the future of the information provision, on the life cycle of the objects in the information provision. This takes place at two levels: at the level of 'the application' and at the level of 'the complete application portfolio' that supports a business process.

ACM calls for trend watching in the areas of technology, the business processes within the client organization and the environment of the client organization - in other words the entire process chain (see *figure 5*).

The ACM processes are:

- **ICT portfolio management:** charting the significance and the performance of the various existing applications for the organizations, translating the company policy into the various objects and setting out a strategy for the future of the objects in the ICT portfolio. In many client organizations this process forms part of information management or information planning.
- **Life cycle management:** matching the existing options of and the future requirements for one or more applications that support a business process. A strategy is then drawn up in order to meet the future requirements. This process is deeper, more substantive and - in comparison with the previous process - more sharply focused on the specific business process.
- **ICT developments strategy** examines which ICT developments could be of interest to the client organization and its information provision. Application development technology, but also new infrastructures such as networking and audio/visual, could create possibilities that have an impact on the applications.
- **Customer environment strategy** provides an image of process chain developments and the resulting requirements and opportunities for the applications and information provision of the client organization. Organizations function as a link in a chain of organizations. This creates a strong mutual connection between the applications. The possibilities of the organization's own information provision determine the place and position of the organization in these chain processes.
- **Customer organization strategy** charts the developments within the client organization as well as the obstacles, the impact on the applications and the ways of responding to them.

Professionals in application management

The previous chapters discussed application management and the ASL framework. A framework is of course no more than a tool, in this case for making application management more transparent so that it runs more smoothly. This only works if people and organizations use it in a sensible manner. This chapter first examines the trends in the area of professionalization in general, followed by a discussion of the trends in application management and ASL in particular. We then set out the ASL support facilities, and finally discuss what ASL requires of professionals that work with it.

4.1 WORKING PROFESSIONALLY

'The old language of management no longer seems appropriate. It was never appropriate in some quarters. Professional organizations, doctors, architects, lawyers, academics have never used the word manager, except to apply it to more routine service functions -office-manager, catering manager. The reason was not just a perverse snobbery, but an instinctive recognition that professionals have always worked on (..) slightly different assignments: flexibility and discretion had to be built in. It was possible because the requirements of the profession, its rules and disciplines, meant that one could be reasonably sure that whatever one's colleagues (..) did in the space between (..) would be acceptable. This works well when everyone knows not only what the purpose is, but what the standards are.' (Charles Handy, *The Empty Raincoat*, 1994)

4.1.1 Professionals

Professionals are people that operate independently within their own area of responsibility. They work with specific knowledge and experience, often together with other professionals. Examples of such networks of professionals include doctors, lawyers and project managers.

An important characteristic of professionals is that they have to develop continuously. If they fail to do this, they automatically start solving their issues in a routine manner, which means that they are no longer true professionals. Professionals build routine into non-routine issues. A professional is at his most comfortable in the zone between impossibilities and routine work.

In medical science professionalization speaks for itself. The first doctors initially conducted their experiments on all their patients because they had insufficient knowledge to do otherwise. Thanks to the progress made in knowledge, standardization of work and education, these methods are now a thing of the past for most diseases, but experimentation remains the only alternative for unknown diseases. The same applies to application managers, and in fact to the entire ICT service.

A client expects a true professional who has previously solved similar problems using well-considered procedures based on previous experience. However, when clients have special wishes and are willing to take bigger risks, this professional can also enter less familiar territory.

One of the differences between the world of medicine and the ICT world is that people that have trouble walking, for example, want a solution to the problem, but do not expect to win dancing competitions as soon as they have been treated. The ICT world can learn something from the medical profession when it comes to creating realistic expectations. A professional therefore has to possess special qualities. He always takes the initiative and gives his client sensible advice (solicited and unsolicited) based on knowledge and expertise. The professional does not re-invent the wheel, but gathers knowledge by making use of other peoples' expertise. And when the professional gains relevant experience, he shares the knowledge he acquires with others.

4.1.2 Why an ASL alone is not enough

Neither ASL nor the underlying practice will ever be able to give professionals a one hundred percent 'search and replace' answer to all questions about application management. ASL helps to avoid known pitfalls and inspires people to look for tested solutions. A fool with a tool is still a fool, and is perhaps more dangerous with it than without it. This concerns the combination of using knowledge and deciding what can be applied in a given situation. For further reading on this subject we recommend 'Zen and the Art of Motorcycle Maintenance', in which the world of intangible romantic abstraction and classic rational mechanics are not depicted as opposites, but as inter-linked domains.

A good ASL calls for professionals that work with it and are willing to invest in it. Professionals that simply repeat the things they are good at probably do not learn much and have little to contribute. The challenge to the professional must be found in exploring the limits and improving weak points. This will enable ASL to continue to grow. Or, as David Maister, author of 'Managing the professional service firm', puts it: 'In professional life, if you're comfortable, you're heading for trouble'.

4.1.3 The significance of experience

Knowledge and experience are the most important ingredients of personal development. Experiences from the practical situation are transferred to collective knowledge sources, such as the collection of 'best practices' now being created within ASL. David Maister, himself a professional consultant, sees it this way: 'Professionals get paid for their time, but that's not what we sell. We sell knowledge and skill.'

It is necessary to lay down this expertise and to be able to share it. And even that is not enough. There is an art to using this expertise and experience. Not everything can always be used, and a best practice will sometimes work, but not always. The question of 'why we work in this way' is therefore always relevant. But sharing and gaining experiences with others makes life a lot easier and can prevent errors.

'The trouble is that some people have five years' experience, and other people have one year's experience five times'. More words of wisdom by David Maister.

4.1.4 Knowledge as culture: giving and taking

Professionals want to acquire knowledge that they can subsequently make optimum use of. They also want to share knowledge. Knowledge of applications, knowledge of the professional field, knowledge of how things are done or organized. Not only taking, but also giving. This means that ASL should not be regarded as a fixed element either. Everyone can build on it, work out elements in more detail and change it.

4.2 ASL AND THE FACILITIES

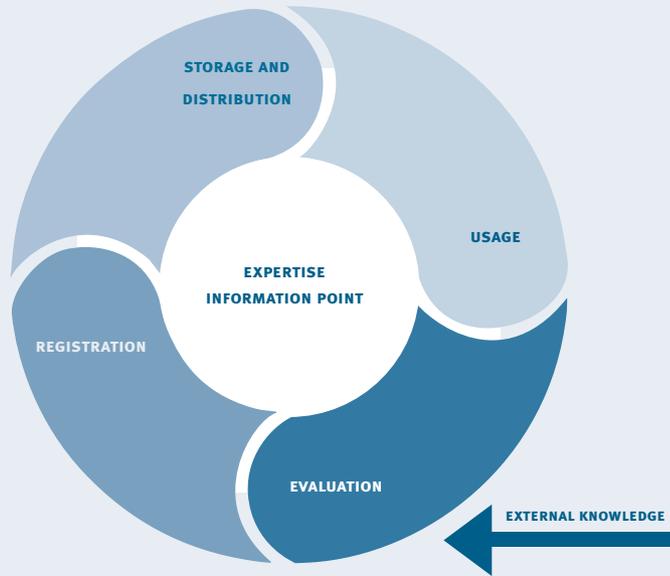
The life cycle of knowledge can be divided into four phases (see *figure 6*). First we have the 'registration of knowledge'. In other words, the translation of knowledge 'in people's heads' to generally accessible and usable knowledge. The 'storage and distribution' phase responds to the volatile nature of knowledge. That knowledge arrives at the right time and place at which it can actually be used. During the third phase, 'usage', new insights can come about and often the applicability of the knowledge can be implicitly tested in practice. This experience and these new insights are laid down by a formal evaluation. This evaluation ultimately leads to their being registered as knowledge in the knowledge repository. Experiences and insights then form part of the framework.

In all the life phases of knowledge, there are resources that can be used to support the cycle. The resources that are already available to ASL are explained in more detail in the rest of this paragraph.

The available resources are:

- The ASL knowledge repository
- ASL courses
- The ASL expertise information point
- Additional literature and books.

Figure 6



4.2.1 The ASL knowledge repository: interaction between individual and collective

The ASL knowledge repository is the central storage medium and contains both information about the framework itself and experiences with the method. It also provides sufficient starting points to apply knowledge in the form of best practices. This makes it an important instrument for applying the ASL. The knowledge in the knowledge repository will be distributed via the ASL website (notyetasl.com) to its users.

The use of the knowledge repository is free. The collective and individual accumulation of knowledge calls for dynamic interaction. Collective knowledge accumulation is crucial to the further development of the library, and therefore contributes to the individual knowledge accumulation of the ASL user. But at least as important is that the individual knowledge acquired when using the library must also contribute to the growth of collective knowledge. The users of the knowledge repository also bear responsibility for sharing their usage experiences with the collective.

4.2.2 ASL courses

An ASL Foundation course is already available. This is a two-day course in which trainees are taught about the method and working with the method in outline form. Further specialization in the processes forming the basis of the method will be promoted by means of specialist courses in which the trainee learns how a process works and how the work within that process can be organized.

4.2.3 The ASL Expertise Information point

The Expertise Information point (EI) is the contact point for knowledge management. If people fail to find the information they require in the knowledge repository, they can call on assistance from the ASL Expertise Information point. This helpdesk functions as an 'encyclopaedia' and provides assistance in locating the required information.

The EI also gathers experiences gained and new 'best practices'. The EI insures that these matters are passed on to the right people. The people involved can then evaluate them and incorporate them in the knowledge repository. The expertise information point can be contacted via ei@notyetasl.com.

4.2.4 ASL literature

Various documents are available, containing information such as the relationship between ASL and ITIL, Prince 2, CMM, LCE or R2C. These articles are also held in the knowledge repository.

A number of articles about application management have already been published in specialist journals. To a certain extent ASL will make use of this existing knowledge. For many processes there are references to books containing more information on the subject in question.

4.3 ASL AND WORKING PROFESSIONALLY

ASL helps professionals to do their work. It is an important starting point for the search for 'best practices' in the area of application management. If there is nothing to be found about the subject being sought, the professional knows that there is a big chance that he is dealing with something new. The ASL framework improves the ability to gear operations to clients. The framework provides an overview of all processes in the area of application management. All of the processes mentioned are implemented in accordance with the wishes and abilities of the application owner. The framework helps to place subjects on the agenda and then to professionally settle them. ASL provides a collective basis for professionals in application management. This implies that it is becoming easier to work together with professionals from other organizations, such as clients and internal and external ICT service providers. ASL contributes to identifying the roles of application owner and application manager. It provides a certain link, continuity and offers a hallmark of quality. In the ITIL world recruitment advertisements regularly call for knowledge and experience of ITIL. ASL can provide this in the application management environment.

ASL & Public Domain:

the art of letting go

This chapter discusses the question of why ASL should preferably be a public domain framework. This chapter also explains what is involved in placing a method in the public domain, followed by an explanation of the steps that need to be taken to place ASL in a public domain.

Jim Warren (organizer of the West Coast Computer Faire, early nineteen-seventies):

And the whole spirit there was working together, was sharing. You shared your dope, you shared your bed, you shared your life, you shared your hopes. And a whole bunch of us had the same community spirit and that permeated the whole Home Brew Computer Club ('one of the clubs formed by nerds to talk about their new toy, the personal computer'). As soon as somebody would solve a problem they'd come running down to the Home Brew Computer Club's next meeting and say 'hey everybody, you know that problem that all of us have been trying to figure out how to solve, here's the solution, isn't this wonderful? Aren't I a great guy? And it's my contention that that is a major component of why Silicon Valley was able to develop the technology as rapidly as it did, because we were all sharing - everybody won. (From the TV documentary Triumph of the Nerds, The Transcripts, Part I, <http://www.pbs.org/nerds/part1.html>)

5.1 PUBLIC DOMAIN

The public domain offers free access to information. It does not belong to anyone. At most, there is an administrator. Legal public domains are found in two types: domains with information to which no intellectual property rights can apply (such as old stories and classical music) and domains containing information which providers have decided not to cover by intellectual property rights, or in any event to charge a fee for that information.

A public domain must always be primarily about 'the making available' of information as such. The contributing parties are not looking for a direct result, but place their faith in the principle of sharing, in the art of letting go. There can of course be more 'ulterior' motives for participating in public domain activities. Examples include raising one's profile, developing subsequent commercial services or making use of spin-offs from public domain contributions.

Example of Pink Elephant and ITIL

At the beginning of the 90s Pink Elephant introduced in the Netherlands a cohesive collection of experiences in the area of ICT infrastructure management: the Information Technology Infrastructure Library (ITIL). ITIL originates from the CCTA in England (a semi-public institute in the ICT area), and was originally intended to collect best practices in the area of the ICT infrastructure. ITIL is now widely known in the Netherlands. Both ICT service providers (internal and external) and clients are familiar with concepts such as Service Level Agreement, incident, problem, change and known error. ITIL has made a contribution in the infrastructure world to the professionalization of the service, the mobility of the professionals and the collaboration between infrastructure management departments.

PinkRoccade and the public domain

Inspired by the success of ITIL - not only at Pink Elephant but also throughout the Netherlands - Roccade (the application label of the PinkRoccade group) decided to use or develop public domain material wherever possible. The public domain guarantees quality and - perhaps even more important these days - facilitates a form of standardization in the implementation of processes and the way in which ICT professionals communicate about them. PinkRoccade's wide-ranging portfolio and the collaboration with internal and external service providers makes communication between professionals and agreements about the division of tasks one of the critical success factors. In addition to ITIL, in 1997 PinkRoccade opted for Prince 2, Projects IN Controlled Environments - also public domain - as the project management standard. This partly explains efforts made by PinkRoccade to work on an ASL for public domain in application management.

5.2 APPLICATION SERVICES LIBRARY: PUBLIC DOMAIN

Why is it so important that ASL is a public domain framework?

Automation is a collective issue of the internal and external ICT service providers and their clients. Many misunderstandings in the automation process are caused by miscommunication. For smooth communication, the parties have to speak the same language.

Chapter 1 discussed the issue of supply chain integration. Here too, collaboration and communication between organizations play a crucial role. Mergers and takeovers lead to the merging of various ICT departments. Pieces of puzzles have to be fitted together. And that process is a good deal easier if the pieces of the puzzles match up.

The most important reason, however, is that ICT service providers, regardless of whether ICT is their core business or whether they offer ICT support as part of a bigger organization, benefit from the collective accumulation of knowledge and development of the professional field.

5.3 PROVISIONAL SOLUTION: NOTYETASL.COM

The propagation of ASL as the framework for application management in the public domain has the biggest chance of success if the method is adopted by a 'public domain authority'. Adoption processes of this nature take a lot of time. However, a number of products have already been prepared. This is why a decision was made to proceed at this stage.

The starting signal is the incorporation of an ASL Foundation that can administrate that knowledge. This foundation can be joined by individuals and organizations that are known in the professional area and can contribute to the development. In its current manifestation, the library is published on the Internet, notyetasl.com. This includes the study of, maintenance, enhancement and renovation models that have culminated in the framework in its present form (Barracuda Content Design, a methodology for the provision of Application Services, David S. Hinley, 2000, PinkRocade).

The title of the site, notyetasl.com indicates that the library is still under development. Once clients, service providers and universities have navigated notyetasl.com and processed their comments, the library will grow and new versions of the primary model will come about in the future.

The ASL practitioners board monitors the knowledge in the ASL on behalf of the ASL Foundation. The practitioners board comprises professionals that play a key role in their companies' or institutes' ICT services for applications. In the future, the board will also provide the continuous supply, evaluation and updating of best practices for the ASL.

The expertise information point previously referred to also plays an important, pivotal role in the further development of knowledge in the field of ASL. This helpdesk for ASL matters can pass on questions, remarks and proposals for new sections to the right people and organizations. The expertise information point can be contacted via ei@notyetasl.com.

Afterword

The previous chapters set out the result of our efforts to bring into being an authoritative collection of knowledge in the area of application management. During the course of our work last year we became increasingly convinced of the usefulness of and need for - to put it in political terms - an Application Services Library. What we now need is a critical approach on the part of everyone involved in this subject. This book represents an onset for every professional involved in application management to make a contribution to the further development of the profession. For this reason, we invite you to contribute your remarks and ideas. You can send them personally to the undersigned, but also via the Expertise Information point, via notyetasl.com or via the knowledge repository of PinkRoccade if you have access to it.

We are presently working on the second phase of the ASL project. This phase will be characterized by intensifying contact with clients, universities, internal and external ICT service providers and competitors, for example. We will also be introducing ASL compliance for our products and services and providing courses in this area.

We are of course striving for recognition of application management as a profession, a profession whose value can thus be evaluated by the outside world. And a profession within which professionals can work together on continuous development and improvement. Roccade has taken the first step. I know that we have the quality we need in-house and will do everything possible to propagate it to the world beyond. This is a big challenge, but certainly a worthwhile one!

Henk Huisman (h.huisman@pinkroccade.nl)
Member of the group management board of PinkRoccade

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EXPERTISE INFORMATION POINT ASL:

E mail: ei@notyetasl.com / asl@pinkroccade.nl

AFTERWORD PROGRAM MANAGER

ASL 1.0 is the result of a program that Roccade set in motion a year ago. I am grateful to the following people whose efforts contributed to the writing of this book:

The project managers

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As program manager I have enjoyed watching the ideas about a library develop from a modest project for PinkRocade into the ambitious result that has now been achieved. The hardest part is yet to come, but we have taken the first step. We are however already enjoying the initial benefits: there is a knowledge repository and a knowledge organization, and we have a framework that is looking good. Within the scope of this program various parts of the operating companies were drawn closer together, and the various angles of approach have led to creative and exciting results. The next step will be to expand on what has already been done by showing clients, ICT service providers, subcontractors and so on the advantages of ASL for managing their applications.

Marco Pastors
Program manager ASL

application services library

A decorative graphic consisting of a horizontal row of ten elements. The first three are circles of varying shades of blue and grey, and the remaining seven are squares of varying shades of blue and grey.

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