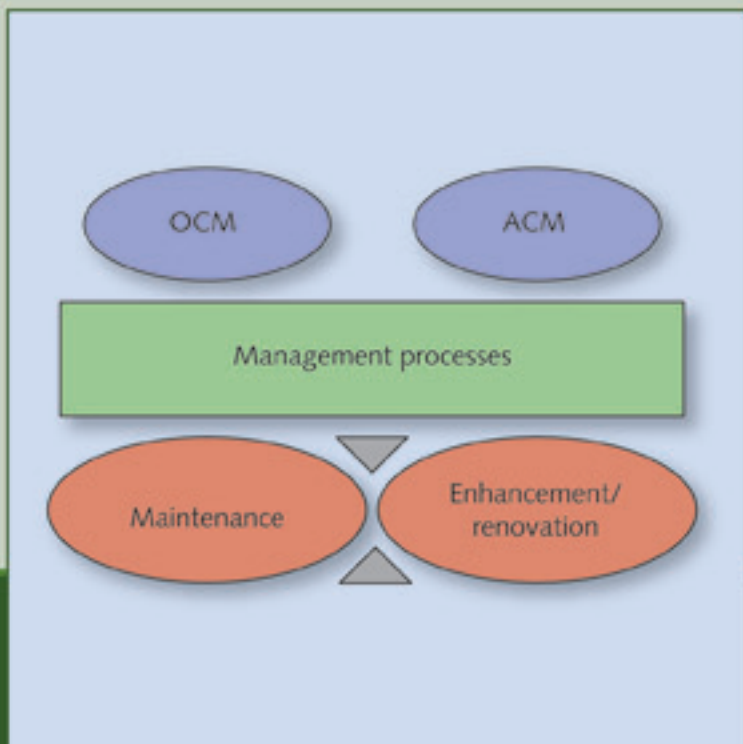


A MANAGEMENT GUIDE

ASL

Application Services Library



2nd edition

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ASL

A Management Guide

Remko van der Pols

Yvette Backer

Final editing: Herbert Boland

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Preface

Information systems have been developed, managed and maintained for decades. Every application management organization has developed its own methods over the years, but so far little serious effort has been made to maintain and control the application management processes. This is surprising given that application management accounts for a large proportion of IT expenditure. Standard work processes often lead to cost reductions. It is therefore sensible, and less expensive, to benefit from the experiences of others.

Fortunately, the tide has changed in recent years and structural consideration is now given to this subject. This has resulted in a process framework and underlying *best practices* for application management (i.e. maintenance and control, enhancement and renovation of applications). This framework is called ASL (*Application Services Library*) and is the only public domain application management standard in the world. The framework has been available for several years, and describes all the relevant processes that play a role in application management and maintenance.

By placing the Application Services Library in the public domain, both internal and external organizations can achieve maximum benefit from ASL in the standardization of the setting up of application management, renewal and maintenance through the uniformity of clear communication. Cost reductions and quality improvements in the services are the remarkable results of ASL implementation. The ASL Foundation will, among other things, be promoting ASL through advertising activities and knowledge bank developments as the de facto standard for application management. More information is available on the website: www.aslfoundation.org.

The objective of this handy book is to provide a pleasant, accessible introduction to application management and the ASL standard. It was written for business managers who are involved in information technology, IT managers, IT consultants and students and other interested parties. This *management guide* introduces the basic concepts through realistic situations that we might all encounter, involving a fictitious service provider, VGK.

The book is complemented by a number of annexes in which the reader will find references for further study. But if readers also wish to proceed with ASL, all the necessary references are provided, including the knowledge touched on via the ASL Foundation.

I believe Remko and Yvette have succeeded in making the material very readable and accessible despite the sometimes complex situations within the area of application management. The ASL Foundation is very fortunate that this book gives an excellent impression of the field of application management and ASL in particular. This *management guide* is not intended as a reference, a textbook or checklist, but as an accessible introduction to ASL.

I would like to thank everybody who has contributed to this *management guide*, particularly Remko and Yvette, the authors, as well as the reviewers Machteld Meijer, Mark Smalley, Pim Geels, Louis van Hemmen, Dick Costeris and Bert Franken.

I hope that you will become as inspired by ASL as many before you and that you will be able to benefit from it.

Bilthoven, June 2006

Gert J. van Heun, Managing Director ASL Foundation

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CHAPTER 1

Application management and ASL

1.1 Introduction

This chapter deals with the ASL framework, the domain for which it was developed, the environment in which application management operates and relations with other domains. It demonstrates the importance of good application management and thus also ASL's *raison d'être*.

1.2 What is ASL?

ASL, Application Services Library is a framework with supporting best practices for designing and carrying out application management. There are very many methodologies supporting all sorts of IT management and IT service management. Application management has, however, received little consideration over the years, in contrast to, for example, system development and infrastructure management. Application Services Library claims to bridge this gap.

1.3 What does ASL include?

Origins

The ASL framework is rooted in practice. Over the years the knowledge and best practices of ASL have taken shape within one of the biggest IT providers in Europe. In 2001, they handed over management of the ASL framework and library to the *ASL Foundation*. Within the Foundation, a number of large and smaller organizations actively contribute to the development and building of the framework and underlying best practices. From the start, the standard has developed independently. The Foundation watches over the accessibility, independence, quality, usability and level of the library. ASL is witnessing healthy growth and acceptance internationally.

Library

ASL has a library consisting of:

- generic descriptions of all ASL processes including the input and output of the processes, the activities within the processes and the mutual relations between the processes and the roles of those involved;
- templates for important documents such as annual plans, management plans, service level agreements, dossiers with agreements and procedures, etc;
- a (standard) set of agreements for reports, with examples of the results to be used (metrics) in figures;
- checklists and other forms of best practices;
- a self assessment for determining the maturity of the processes.

The library's best practices are available and accessible to everyone via the website: www.aslfoundation.org.

1.4 What is application management?

Application management ensures the maintenance of the application programmes and databanks. In other words, application management includes management adjusting and development of applications. This involves tasks such as programming, developing, testing, management of the applications and various other related activities.

Application management and system development

Such activities are also carried out within system development, involving the construction of new information systems/ applications. However, in recent decades, the difference between system development and system maintenance (within application management) has gradually disappeared and the processes of constructing and managing information systems have become more and more integrated.

New functions are also being created for system maintenance. The extent of some maintenance cycles is similar to that of completely new construction, with significant segments often replaced or rebuilt. Such maintenance is largely equal to system development, with new system construction taking place within large existing systems. An example of such activity might be the opening up of back office applications, with little or no new material, and instead, the functionality and data organization from the existing systems being the decisive element in the new system.

Application management becomes integrated

Many organizations may have a department called 'System Development'. However, it is more likely that such departments mainly carry out maintenance in the widest sense of the term. ASL is specifically aimed at this sort of department or business.

1.5 Application management as a strategic factor

Many managers and users estimate that their existing systems will last for between three and seven years. In reality, systems stay in use a lot longer, sometimes for thirty years. The replacement of large and complex systems – that are also often critical for the business process – is risky and expensive. Organizations often don't have money allocated in the correct budget, don't have enough money left over, or don't dare entertain the idea of completely new systems given the high risk. This means that the need to innovate grows from within the existing situation. This is a realistic approach, as information processes are relatively stable. The functionality of information systems changes less significantly than is often imagined. Practice shows that, generally, the functionality of the information provision in an organization over five years will retain eighty per cent or more of its current functionality, and many new information systems that replace the existing ones will actually overlap by at least eighty per cent in their functionality and detail. There are often also only limited changes in the business processes of an information-intensive organization. The setting up of an organization is usually the element that is most subject to change. This is confirmed by the longevity of many information systems.

The quality of information provision determines the competitive position

Consequently, this further demonstrates the need for careful implementation when specifying changes to the information provision, in order to ensure a good and stable basis for the future. The quality of the existing information provision is decisive for an organization's competitive position. The extent to which certain systems can adapt will decide the ease with which an organization can bring products onto the market. The accuracy with which existing information provision is improved is, therefore, very important, as the creation of new information systems is very expensive, takes a long time and is very risky.

An organization is unlikely to be competitive with a system of information provision that has been in place for perhaps five years, unless it can adapt and develop. A good starting point for the existing information system is therefore important, particularly

if the information provision is indispensable for the business process. However, often application management organizations and management themselves do not understand this. People may only look one year ahead, following the budget cycle. Whilst this is understandable from a historical perspective and with regard to the management organization, it is changing with the market demands. Application management organizations must now deliver a good service, but also with a careful eye to the future, as successful business is dependent upon this.

1.6 The application management environment

Application management in the service environment

Application never works on its own but always in an environment where it deals with technical infrastructure management and business information (systems) management. M. Looijen and G. Deelen developed the triple model of information systems management. They distinguished between application management, technical infrastructure management and business information (systems) management.

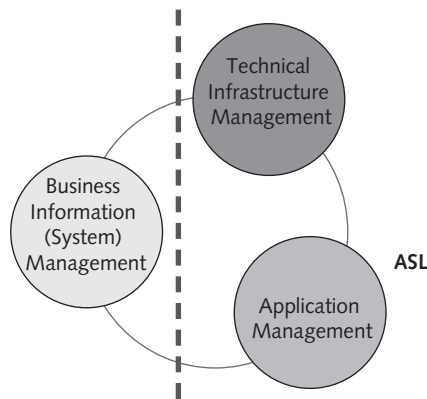


Figure 1 Triple management model

Application management and technical infrastructure management

Technical management is responsible for maintaining the operation of the information system, consisting of equipment, software and data collections that must be continually available for use. In practice, this mainly focuses on network management, office automation, management of computer centres, servers, etc. – basically management of the technical infrastructure. ITIL is often used for designing the processes.

Technical or infrastructure management is an important part of application management, as applications cannot work without infrastructures. Infrastructure management ensures that:

- the correct versions are on the infrastructure;
- the infrastructure works;
- the information systems are started up or can be started up and
- there are sufficient infrastructure resources.

Infrastructure management alone is not enough for the adequate operation of information systems. Application management is also necessary. The way in which the tables in an information system are designed or adapted, the structure of the information system, and the way in which the software is set up significantly influence the performance and reliability of the information system. Processing problems which appear to be connected with infrastructure may also be caused by application management.

Problems cannot therefore always be solved by technical infrastructure management. Experience demonstrates that a significant part of the work of application management is aimed at supporting, controlling and adjusting system usage. Therefore, application management is not just maintenance but also really management.

In order to do this well, application management needs information on the use of infrastructure and resources. This comes from technical infrastructure management. Application management and technical infrastructure management must, therefore, work well together and agree with each other to ensure good and manageable processing.

Application management and business information (systems) management

As well as technical infrastructure management and application management, there is business information (systems) management. Business information (systems) management is responsible for maintaining the functionality of the information provision on behalf of the user organization. Thus, business information (systems) management actually acts as the owner and principal of the information provision.

In the case of larger information systems, business information (systems) management always works closely with application management. In smaller organizations, the dif-

ference between application management and business information (systems) management is often more difficult to define. Further professionalism clarifies this distinction. Between application management and business information (systems) management, there is a principal-contractor relationship.

Business information (systems) management decides what functionality must be built up and what criteria this must satisfy, and application management carries out this functionality.

Greater complexity on control

Nowadays, information provision in most larger organizations is very complex: with several applications, various technology alongside one another, various types of services, several suppliers and a complex management organization. The control of the information provision is difficult for various reasons.

There is no clear and integral control of the information provision by the organization, the business or the user organization, but there are several places where control is exercised. For example, the Finance Department will often control the financial information provision while the HR Department controls the wage processing and personnel information provision. There is, therefore, no clear principal for the overall information provision in the user organization. This situation is a logical consequence of the power relations within the organization.

In the past, there were often many dealings with tailor-made services and IT services that were clearly delivered to one client/user organization. This lack of ambiguity is no longer so obvious today. Infrastructures are regularly shared with others and the use of software packages, components or other forms of shared or re-used software has become the norm. This means that a client or user organization can less effectively control the functionality of a solution because the supplier has to take account of the interests of several clients. Therefore an IT provider is less easy for a client to control, and control takes place in the opposite direction with the IT provider starting to exercise more control over the client.

In the past, it was unusual to deal with multiple suppliers when carrying out a service. While in the past, it was usual to work with an in-house IT organization (including computer centre) and a supplier for infrastructure resources (including development environments). Today technologies, services and software solutions are obtained from a range of suppliers.

IT services by chains

These developments lead to chains of services and combinations of servers. In some types of service, business information (systems) management can control the IT provider, such as in the case of tailor-made services whereby business information (sys-

tems) management is the system owner and decides what form the functionality will take. In other cases, business information (systems) management is controlled more by application management or technical infrastructure management, as with the use of packages where the functionality is mainly determined by the supplier.

The combined action between business information (systems) management, technical infrastructure management and application management is different in each case. No basic model or standard process is possible. This means processes such as *Service Level Management* within ASL and *Contract Management* and the *Managed Supplier Relations Process* within BiSL (the framework for business information (systems) management including information management) become more important in the future. These processes decide how the service in a part of the information provision is built up, which forms of co-operation are created and how these are structured, which agreements will apply, and which control model will be used for the provision of services.

The service team

In order to make services manageable for clients business information (systems) management) and suppliers (application management and technical infrastructure management), there is a service team concept. A service team is a (virtual or real) entity that acts as an integral service provider for a defined service in the area of information provision. This means that the client has a clear point of contact for that service delivery. This concept works if the following conditions are fulfilled:

- A service team must also have a clear point of contact with complete authority from the user or client organization;
- Mechanisms and resources must be created towards which a service team can guide 'subcontractors';
- Between the various parties in the service team, there must be clear service interfaces with well established agreements and responsibility levels;
- There should be mutual respect for the various parties carrying out the services, including the subcontractors;
- Finally, the services are carried out over a longer period.

As previously discussed, a single 'deciding party' is normally not sufficient for information provision within a user or client organization. There are nearly always several decision-makers; this may include a decision-maker for infrastructure (workplaces, telecom), the financial information provision, the insurance systems with an insurer, the life assurance systems for an insurer, etc. This situation makes it nearly impossible to carry out integral IT services, simply because there is no integral IT demand.

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CHAPTER 2

The ASL framework

2.1 Introduction

In the past, the emphasis was mostly on systems development, rather than on management, maintenance and enhancement of information systems and applications. Figure 2 illustrates the dangers of this, as most of the costs are incurred during the maintenance and enhancement stages. Fortunately, many organizations are now slowly shifting their emphasis. ASL can support this by providing a thorough and effective method.

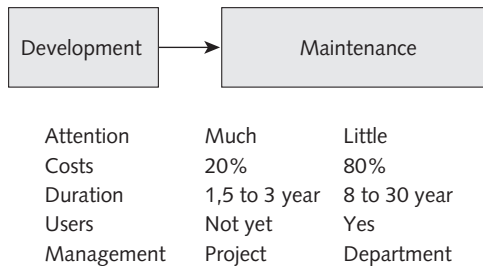


Figure 2 A comparison between development and maintenance

The ASL framework has six process clusters, at three levels (operations, management and strategy), as shown in Figure 3. The six clusters will be discussed in more detail below.

In this *management guide*, we will often refer to information systems and we use this term as a synonym for applications although it is obviously a much broader term.

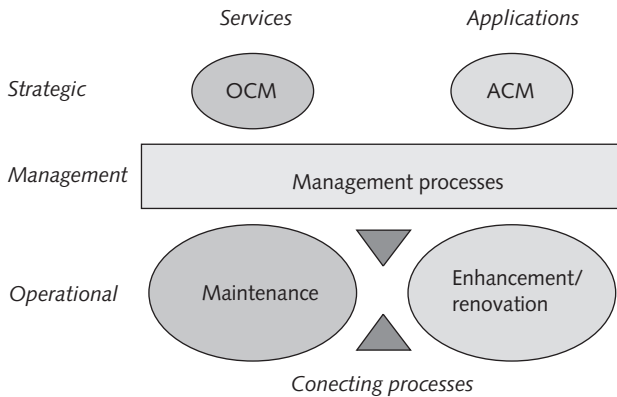


Figure 3 *The ASL model*

2.2 Operational processes

Maintenance

Information systems are created and enhanced in order to be used. This means that they are installed on one or more computer systems and are then started up and run many times, over a period of years, for the benefit of the users in the organization. The application management organization contributes to keeping the applications up and running. Within ASL, these activities are known as the maintenance activities of application management. Although the importance of these activities is often underestimated they are, in fact, essential: if the information system does not work it is quite likely that the whole user organization will grind to a halt.

For this reason, processes such as *Continuity Management*, *Incident Management*, *Capacity Management*, *Availability Management* and *Configuration Management* have a significant and important impact on the perceived quality.

Enhancement and renovation

The organizations for which the information systems were originally developed are likely to change. Consequently, their business processes will change and the information systems supporting these processes will have to adapt accordingly. This means that the systems need enhancement (others may refer to this activity as 'maintenance').

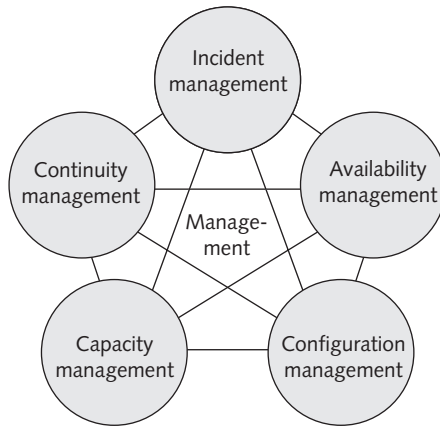


Figure 4 Maintenance processes

Both the scope and nature of enhancement can cover a wide range of options. In some cases the changes to the application will be very minor, such as changes to the screen design or report formats of the information system. However, some changes will be so far-reaching that a large part of the information system will have to be modified. Such a change may amount to a large percentage of the original investment or initial development cost of the information system.

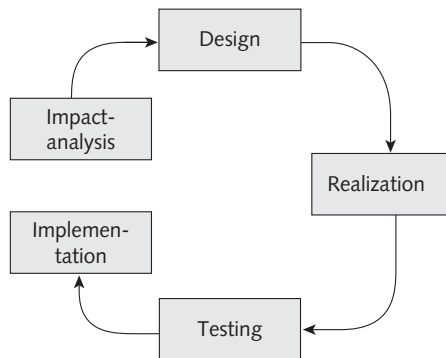


Figure 5 The enhancement and renovation processes

Most of the investments made during the life of an application relate to enhancement and are required for processes such as impact analysis, design, realization, testing and implementation.

2.3 Connecting processes

There are links between the *Enhancement and Renovation* process and the *Maintenance* processes. In fact, they will often overlap with each other, hence there are processes to co-ordinate them: the connecting processes. In this context, the connecting processes are *Change Management* and *Software Control and Distribution*.

2.4 Management processes

User organizations need the application management process to be controlled and managed. They want to know what is happening, they want controlled costs, completion dates and agreements. This is why ASL includes the Management processes.

These are *Planning and Control*, *Cost Management*, *Service Level Management* and *Quality Management*. These processes control both the *Maintenance* processes and the Connecting processes and the *Enhancement and Renovation* processes. This is important as it ensures that the products of *Enhancement and Renovation* are not simply 'thrown over the fence' to *Maintenance*. This approach also ensures that maintenance is prepared effectively, during the enhancement stage.

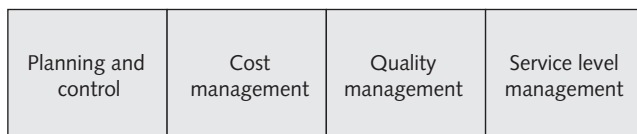


Figure 6 *The management processes*

2.5 Strategic processes

Applications Cycle Management (ACM)

One of the issues in maintenance and application management is that it is difficult to take a long-term view (e.g. five years). This is unfortunate, as over eighty per cent of applications will still be routinely used in five years time. *ACM, Applications Cycle Management*, is the cluster of processes used to develop a vision and policy for the future of the applications and the provision of information. This is done in close consultation with business information (system) management, which sets the direction of the provision of information to the user organization) and technical infrastructure management.

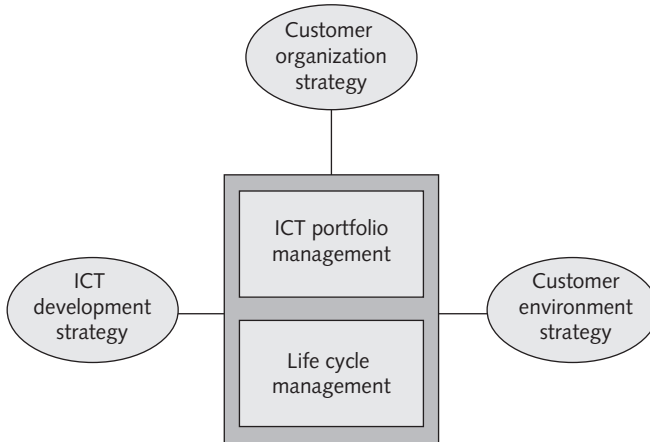


Figure 7 *The ACM processes*

The objective is to ensure that in another three to five years the applications will still adequately support the business processes of the user organization, and to interpret their requirements in terms of pragmatic and feasible improvements or innovation of the information systems.

Organization Cycle Management (OCM)

It is not only the information systems and applications, which change in line with changing requirements, the application management organization itself will also have to adapt. This is often a major weakness in application management and infrastructure management organizations.

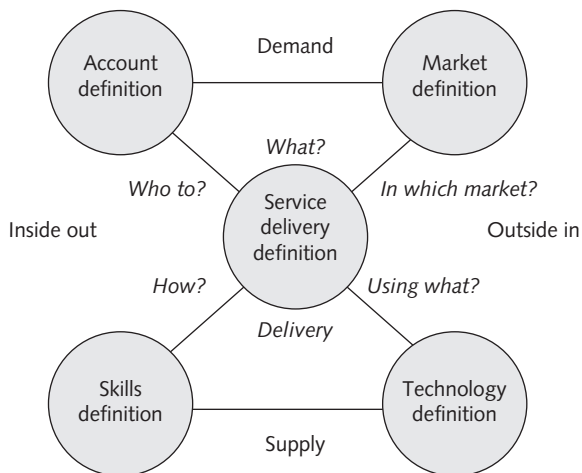


Figure 8 OCM processes

This is the main reason that ASL includes OCM, *Organization Cycle Management*, which is responsible for innovation in the application management organization. This includes the processes *Market Definition*, *Account Definition*, *Skills Definition*, *Technology Definition* and *Service Delivery Definition*.

This group of processes defines the policies that the application management organization is going to implement. The policies are then developed in terms of specific actions, e.g. in the fields of competence development, client contacts, technology innovation and the approach to the market.

There is a fundamental difference between OCM and ACM: ACM is governed by the user organization and OCM by the application management organization. In other words: 'What information does the client want?' and 'What services will we be providing?'

2.6 The ASL framework

This results in the ASL framework overall looking like Figure 9. The processes in each cluster will be discussed in greater detail in the rest of this book.

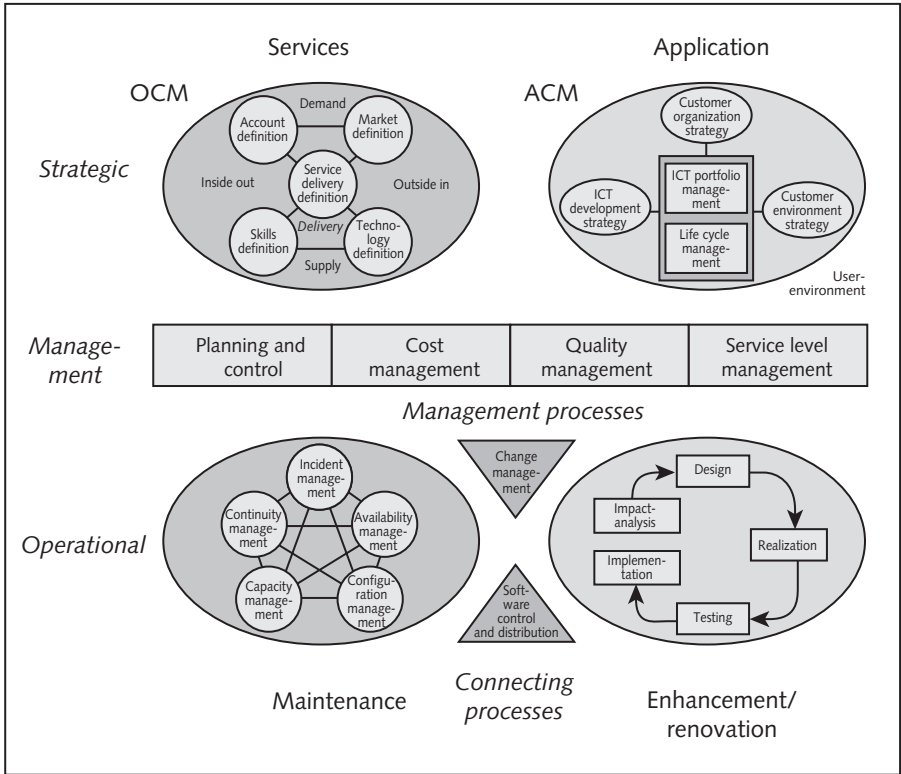
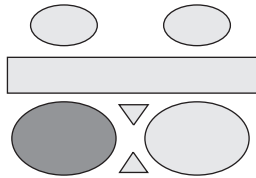


Figure 9 The full ASL framework

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CHAPTER 3

Maintenance



3.1 Introduction

The day-to-day maintenance (management) of applications is often a neglected aspect of application management, as it is normally only associated with the management of the technical infrastructure. However, that is a mistake. Application management plays a major role in the use and operation of information systems.

Some examples:

- Substantive questions about the operation of an information system cannot be answered by technical infrastructure management: the knowledge about the essence of the information for the business processes is found in the application rather than the infrastructure. Consequently, answering such a question demands thorough familiarity with the application.
- Performance is determined not only by the capacity of the infrastructure, but also by the way in which the applications are programmed and the way in which data is accessed. The system performance will be inadequate if a program uses a poor index or inefficient data access method.
- Experience shows that when dealing with custom systems a large part of the application management capacity is devoted to maintenance. This work should not and cannot be undertaken by technical infrastructure management.

The image of the application management organization is largely determined by the structure of the *Maintenance* processes and the extent to which the client's expectations are fulfilled. After all, if an information system is down or defective the fault has to be solved quickly and efficiently. The stability and correctness of an information system do not become apparent during the design stage, but while it is being used. This means that the effective maintenance of an information system is most important.

The maintenance processes are:

1. *Incident management*: the process dealing with the primary response to queries, requests and faults, including communications with users and business information (system) management;
2. *Configuration management*: maintaining up-to-date information about the use and versions of objects related to an application;
3. *Availability management*: the provision, monitoring and assurance of the availability of services and application components;
4. *Capacity management*: ensuring the best possible use of ICT resources, in the right place, at the right time, in the right quantity, and at justifiable cost;
5. *Continuity management*: ensuring the continuity of the operation and support of the provision of information based on information systems.

3.3 Incident Management

The essential issue in the *Incident Management* process is communication with the *user organization*. *Incident Management* is a process that also occurs outside application management: *Incident Management* processes are also used in technical infrastructure management and business information (system) management.

Target group

In application management, the primary group addressed by *Incident Management* is business information (system) management, or those in the user organization who undertake business information systems management tasks. This is different from technical infrastructure management and business information (system) management where the communications are primarily addressed to the end users of the infrastructure or the information systems.

These communications can be divided into:

- reactive communications;
- proactive communications with the user organization.

Reactive communications

Reactive communications are primarily responses to ‘calls’ and ‘incidents’. An incident is a question, requirement, complaint or fault report, generally from a user or end-user. application management receives these not only from business information (system) management but also from within the application management processes (e.g. when it is noticed that the system is running much more slowly than expected), or from technical infrastructure management (e.g. a notification that the application has gone down).

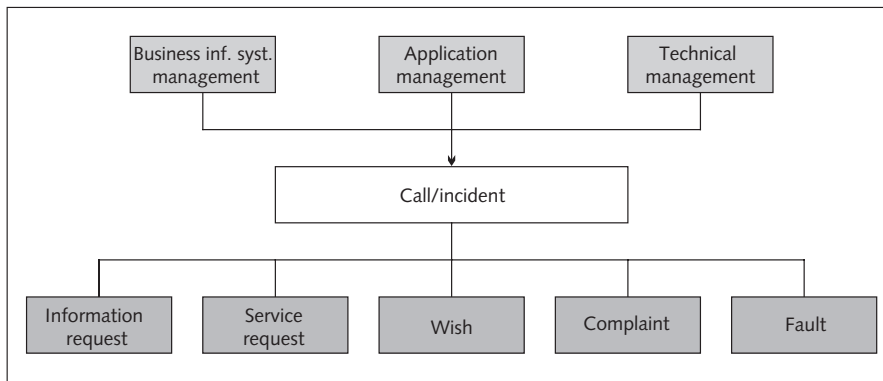


Figure 11 *Incidents*

The latter aspect underlines that effective coordination of the *Incident Management* processes between the different forms of ICT maintenance is essential, and that it has to be agreed who will make a call, and when and where.

Proactive communications

The second form of communications is proactive. For example a memo that a new release is about to enter Production, accompanied by detailed information about the new functionality and the way in which it is to be used. This form of communications can prevent much 'reactive behaviour'.

Practice at VGK

Tim McCoy only recently became the owner of VGK's Incident Management process. Previously, there was no specific owner. There was a Customer Care Center (CCC) which clients contacted with questions and problems, and the Technical Management Department (TMD) also had a help desk. It was assumed that there was no need for the Application Management Department (AMD) to do anything about this.

However, that proved to be incorrect. The CCC forwarded many questions and incidents to AMD. Normally they consulted Frederic, Henry or Tim, all three application managers who were thoroughly familiar with the application and the way it was used. However, as no allowance was made for dealing with these questions and incidents, they interrupted the routine work. Consequently, responses were often

late or incomplete. Many of the questions from users could not be resolved by the CCC as they required specialist knowledge about the application. John Hollander, AMD's line manager, decided that Frederic, Henry or Tim would have to set some time aside for this.

Furthermore, the business information systems managers of the clients who run the software on their own systems rarely consulted the CCC but instead contacted AMD's application managers with their questions, incidents and requests for change. Of course, the clients had been informed that the CCC was the initial point of contact. But as clients with questions about the PARIS software were normally put through to AMD they soon decided to bypass CCC completely. Another disadvantage of this was that questions and incidents were not logged by the CCC.

Eventually it was decided to create an Incident Management process within AMD. The department got an incident logging system to record all questions and problems.

The systems were linked so that CCC could see which incidents and questions AMD was dealing with directly. As a result, CCC could keep track of what was happening, and learn from AMD's expertise.

3.4 Configuration Management

The *Configuration Management* process shows what applications are running on what infrastructure by recording these details and providing information when required. This information concerns:

- the information system/application: what is running where?
- the agreed services: which agreements apply where?

The application

For custom applications, running on a central infrastructure, this is a fairly straightforward process, unlike configuration management in technical infrastructure management. This is because only one version is used. This process is more complex for organizations that supply packages and for organizations with information systems that run at several locations. For these organizations it is essential to know what versions have been supplied to what locations, what their components are, and what infrastructure they are running on. This information is needed to respond adequately

to problems and questions. Analogy: you can only fix a car if you know what make and model it is.

The services

A professional approach requires that it is clear what agreements have been made about particular versions of applications. Detailed agreements about the provision of services and service delivery are also becoming increasingly important. These agreements may be different for each configuration. It is therefore a logical choice to keep information about these agreements in the same place as the configuration details.

Practice at VGK

At VGK, Harvey Bennett owns the Configuration Management process. This process is particularly important as the company's clients use different versions of PARIS, and also run it on different platforms. Most of the clients have contracted the data processing out to VGK, but a few larger clients run the software on their own systems.

One of the first things Harvey did was to set up clear records. Some of the problems they had to deal with occurred because they were unaware that a few clients used older releases of PARIS and the database management system. On some occasions they had wasted a lot of time trying to find a bug in the system, only to discover that the client was using an older version and that the bug had been fixed in a later release. Some time ago they issued a new PARIS release, based on the latest version of the DBMS and using its new functions. This led to serious problems when clients used an older version of the DBMS, as VGK was not aware of that.

Last year Harvey had an argument with William, the Software Control and Distribution process owner. This happened because Harvey also kept copies of all sources supplied to clients. There were a lot of problems with that process. Harvey was missing some sources and quite often he did not receive the patches. He demanded that he should be responsible for all the different versions of the software, so that he would know which version each client was using. William responded that if Harvey really wanted to do that, he should also be responsible for all test and development versions. Eventually an external ASL consultant was asked to arbitrate. It was decided that Harvey would have to know which release each client was using, and what platform they were using. They agreed on a uniform definition of the

contents of the releases and versions of the software included in each release. As a result, if Harvey needs access to a source, he can just pick up the phone and ask William versions of the software, so that he would know which version each client was using. William responded that if Harvey really wanted to do that, he should also be responsible for all test and development versions. Eventually an external ASL consultant was asked to arbitrate. It was decided that Harvey would have to know which release each client was using, and what platform they were using. They agreed on a uniform definition of the contents of the releases and versions of the software included in each release. As a result, if Harvey needs access to a source, he can just pick up the phone and ask William.

Another problem is that nobody in CCC and AMD knows exactly what service agreements have been made. For example one evening paper publisher has access to the help desk until 7 PM, while a freesheet publisher is paying for a lower service level and only has access to the help desk until 5 PM. However, they often call outside office hours as they know the help desk will still be open.

These service items really have to be sorted out so that everybody is aware of them, but Harvey simply doesn't have time for that. Discussing this with the Service Level Manager is one of the items included in his improvement plan for next year.

3.5 Availability management

Availability Management focuses on two quality parameters: the availability of the information system and its reliability.

Availability is the extent to which an application can provide the required functionality at a particular time or during a particular period. This relates to starting up the information system, performing the operations at the required time and in the required sequence, dealing with ad-hoc processing requests, availability window of on-line operations, and file retention periods.

Reliability is the extent to which an application or application component provides the agreed or expected functionality, during the specified time window.

Both quality parameters concern both the substance (i.e. the information system or systems) and the service process. Hence, the *Availability Management* process normally controls four issues.

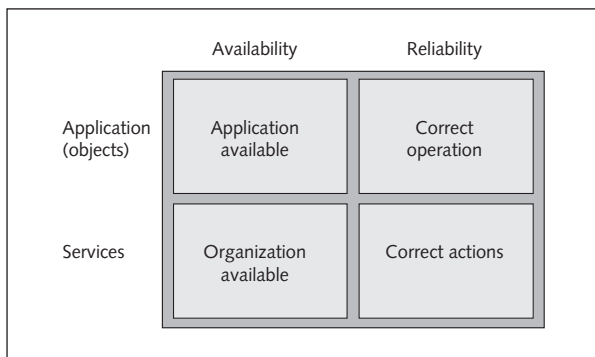


Figure 12 *Availability management*

Availability of the application

Information systems have to work: within the constraints of the agreements, the users should be able to use the information systems, and processing and other agreed operations should be undertaken at the agreed time. An important topic in *Availability Management* is ensuring that these agreements are known to those concerned, and that they are complied with.

Reliability of the application

Reliability is important, in addition to availability. It is not enough for an information system to be available, it also has to operate correctly. The number of faults and disruptions during use has a major impact on the quality perceived by the users. A professional approach and continuity therefore demand an understanding of this issue and providing appropriate control.

Availability of the services

It is not just the services that have to be available to the user organization. Agreements also have to be made regarding the services provided by the application management organization. The availability of the services refers to the extent to which the application management organization is available to the user organization or business information (system) management. Clearly, the times at which the help desk is available are relevant, but also whether or not the agreed services defined in the service catalogue (see *Service Level Management* process) are provided.

Reliability of the services

Although interruptions or the need to ask questions are normally undesirable, they will always occur. It is therefore important that appropriate solutions are provided. The reliability of the services refers to the extent to which the application management organization responds to faults, incidents, etc. in accordance with the agreements.

Examples of relevant metrics include the MTTR (Mean Time To Repair, the time needed to resolve the bug or disruption), incident response time, etc. The quality and maintainability of the applications is particularly important where these agreements are concerned.

Visibility and practical implementation

Discussions about the quality of the provision of information and application management organizations soon lead to issues such as availability and reliability. However, this is in marked contrast with the actual attention devoted to this process and these issues in these organizations. In other words: everybody talks about it, but few do anything about it.

Practice at VGK

Tim wears two hats: he is not only the owner of Incident Management (a role he was given recently when VGK realized that Incident Management is a process which should be covered by application management), but he is also the owner of Availability Management. So he spends a lot of time talking to himself. As the Incident Management owner he thinks that the Availability Management response time is far too long. However, as the Availability Management owner he thinks that it is a waste of resources that they have to start working on an incident within an hour. One of his main challenges as Availability Management owner is that he has to restore PARIS's reputation. At present many clients think that it is an unstable and unreliable application. Together with TMD he has started logging disruptions and problems. The records show that there are indeed many errors in the calculation modules. Many of the other problems are due to the confusing information which TMD receives about how and when the applications have to be run.

Tim is now using information from the CCC and the AMD Incident Management process to get a good idea of the disruptions, stability and reliability of the system when clients run it on their own hardware. Those problems are more difficult to

tackle, as it is not easy to determine the conditions under which they occurred. For TMD he has set up a production schedule defining the routine, scheduled and ad-hoc work to be done for the clients whose applications are at VGK. TMD now has a better appreciation of the requirements, as does Tim himself. This has reduced the number of problems.

All these initiatives and reports mean that VGK is now much more aware of quality issues. The reports have also provided input for clearly defined quality improvement projects such as the development of completely new calculation modules, promoted by Reuben Jones. They also want to do more about Availability Management, such as better agreements about the opening times of the help desk, but at the moment they haven't got time for that. The priority is not high enough and there are few Availability Management problems. This means that Tim is going to have a little more time for Incident Management and might feel less like he is developing a split personality.

3.6 Capacity Management

Despite the huge increases in infrastructure capacity in recent decades, capacity remains an important topic. This is because the increased capacity is often needed to meet new needs.

One tends to associate performance and capacity with technical infrastructure management, but that is only partly correct. The capacity and performance of the information system are also important in application management and this issue has to be included in *Maintenance* for the following reasons:

- The performance of an information system is largely determined by an effective design of the programs and adequate data access by the software;
- Infrastructure was often purchased for the workload estimated at that particular time. This workload may change over time, for example because more and more data is stored in the information system (and it therefore takes longer to find information) or because more complex functions and data queries are used;
- The business process often leads to great changes in the processing volume. application management knows how this will impact the infrastructure as this discipline connects the business process to the IT solution.

Consequently, application management is also involved in *Capacity Management*.

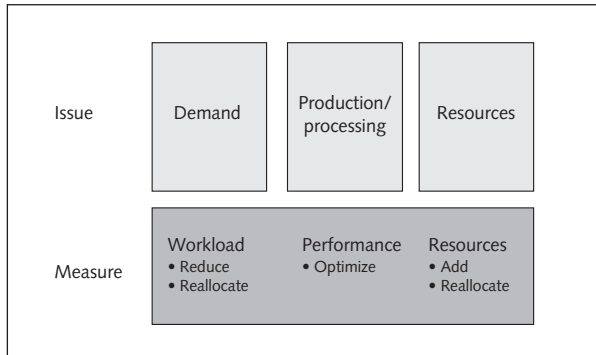


Figure 13 *Capacity management*

Particularly when dealing with larger information systems, application management has to be aware of the demand on the information system and how this affects processing. For example, in the payroll system holiday bonuses require a second processing batch, which means that the demand on the infrastructure is doubled when the bonuses are paid in June.

Hence, the cycle time through the infrastructure might be doubled, or it might be increased by a factor of four or eight. This depends on the design of the information system. Clearly, the infrastructure has to be able to provide the additional capacity. A number of measures can be taken to maintain or optimize the performance, such as deleting unused data, changing the access paths to data, making rows larger, or optimizing the software structure.

Practice at VGK

Harvey Bennett also wears two hats in AMD: he owns both Configuration Management and Capacity Management. This combination of jobs is perfectly feasible.

At VGK, Capacity Management is a process that takes little time and causes few problems. Over the past year, Harvey has been receiving monthly reports from TMD about disk space usage and the CPU time requirements of the programs, and these are normally stable and predictable. It wasn't always like that; there have been a number of incidents in the past.

For example, a year and a half ago, they had an argument with TMD. The performance of the programs running in-house had deteriorated significantly as the infrastructure was inadequate. The cost of expansion was so high that the management did not approve it. Harvey was asked to investigate cheaper options that were more likely to continue to be effective in the future.

They had known for some time that the performance was rapidly deteriorating as all data, even invoices more than ten years old, was still stored in the system. Consequently they had to develop software to delete old data. However, after the databases had been cleaned the performance did not improve as expected, and was still inadequate. A further investigation showed that a number of access paths were inefficient. They had been set up when the system was first created, and the database contained little data. They had never been updated after that.

To prevent new incidents TMD started providing reports on the software running in-house. This not only increases awareness of the system performance, but also is useful when there are disputes with clients who run the programs on their own hardware. Six months ago there was a major disagreement with some external clients, which was eventually discussed by the directors.

The problem was that the new releases had a very poor performance when these clients ran them. According to VGK the problem couldn't be due to the release because Harvey could present the reports proving that there were no problems when VGK ran the programs in house.

The two largest clients even threatened to move to a different supplier. The problems were investigated and it appeared that there were actually two causes.

Firstly, the clients were using the old version of the database and operating system. However, the optimization depended on features only provided by newer versions of the database environment, which was not used by these clients. Of course, Configuration Management should have been aware of that, and Harvey, as the process owner, dealt with that immediately.

Secondly, the job control parameters used by some clients were incorrect. For example, they did not allocate sufficient resources to the software. On top of that,

the computers of some of these clients had a fairly low capacity, actually less than required. This meant that they would have to upgrade their systems.

Two of these clients then decided to outsource the work completely to VGK.

3.7 Continuity Management

Many organizations are critically dependent on their information systems. Developing a new information system requires capital, and the business cannot operate without the applications.

Consequently, protection against emergencies and unauthorized use is essential. However, many fall into the trap of assuming that everything will be all right, that nothing will happen. Sometimes they are right, but it is not something you can rely on. This means that the continuity of the provision and processing of information is an essential issue.

Continuity Management addresses the continuity of the information system and information processing. Continuity is the extent to which the information system will continue to operate in the future, without any interruption, or with an acceptable risk of interruption.

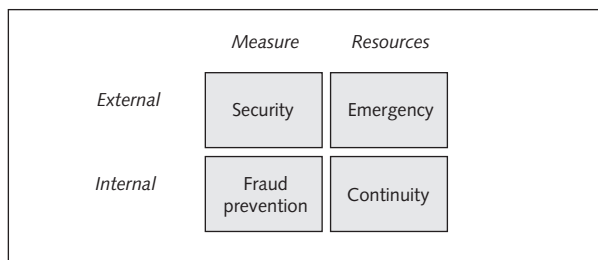


Figure 14 Continuity management

Issues in Continuity Management

- The information system or systems may be exposed to an external threat, for example someone hacking into an application and using it without authorization. Physical and logical security (effective authorizations, data security, physical security, etc.) can be used as protection against external threats;

- The information system may be used by internal users, for unauthorized purposes. Many information systems deal with large amounts of money and projection against fraud and unauthorized internal use are therefore essential. This often leads to separating functions and authorization business information within technical application (information system), clear demarcations between business information, technical and application management, etc.;
- The resources for application management and technical infrastructure management may also be exposed to external threats: fires and other emergencies might interrupt the continuity of the information processing. In that event, processing will have to continue at another location. This relates not only to operations, but also to resources such as documentation that have to be protected against such emergencies;
- The information system is exposed to an internal threat because the resources used are no longer supported. (“DOS is no longer viable”, “We’ve lost the source code”)

Technical infrastructure management and application management

A number of issues, e.g. security and off-site back-up facilities, are provided by technical infrastructure management. However, using resources effectively demands familiarity with the applications, which is why application management contributes to this area.

For example, application management will assist in determining which parts of the information systems need to have off-site back-ups, what essential functionality has to be operational again within a defined period, etc.

The application management resources and products also have to be available off-site: source code, documentation and the application development environment are all essential for enhancement activities. Separating functions, authorization structures within systems, etc. are common solutions introduced into the information systems.

Practice at VGK

Henry has been working at VGK as Application Manager and Database Administrator for over twenty years. He is a quiet and reliable guy who does his work conscientiously. He was always very enthusiastic about the ASL presentations: finally they were going to pay attention to application management. Henry was always rather annoyed that most of his colleagues thought that developing new software was much more fun than application management. He immediately got stuck in when he was asked to take responsibility for Continuity Management. There wasn't actu-

ally that much to do, but Henry rather liked the idea of documenting everything so that he could show the rest how carefully everything had been set up.

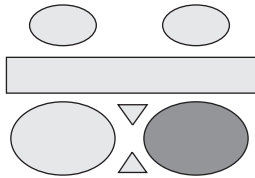
When PARIS was designed, almost 15 years ago, protecting the system against unauthorized use and fraud was carefully considered. PARIS includes a number of functions with distinct authorization levels. The clients can allocate functions to their personnel, which determine their authorizations. AMD has also taken steps to protect the system. The software is regularly backed up, not just the executables but also the sources and documentation. And of course, they check that the backup and restore procedures actually work! Henry is always amazed that there are still companies that, after a hard disk crash, discover that the back-up tapes are blank or cannot be restored.

There is also an off-site back-up arrangement for clients for whom VGK runs the software. They have a reciprocal agreement with another software supplier, a specialist in software for logistics and distribution systems, with a similar computer centre. All software and documentation back-ups are stored at the back-up location and in the event of an emergency they can install the software and run it. Whenever there is a new release, the new software and documentation are sent to the back-up site. Similarly, VGK provides off-site back-up facilities for the other company. When the agreement was first made they checked if the arrangements worked and how long it would take to resume processing for VGK's clients. Although they worked day and night, it actually took four days to get PARIS up and running again. Henry thinks that there are some opportunities for improvement, and perhaps another practice run would be a good idea.

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CHAPTER 4

Enhancement and Renovation



4.1 Introduction

The business processes of organizations change over time: they are reorganized, the products or services change, the management model changes, new products or contracts with suppliers or clients are introduced. Consequently, the provision of information also has to change quite frequently. The functionality of an information system is changed in the *Enhancement and Renovation* cluster.

These processes are very similar to those for developing a new system. That is not surprising given that modifying software requires the same activities, capacity and resources as building new software. Often, a change will amount to building new elements, small or large, for the information system.

However, there are also some fundamental differences with system development. These include:

1. *Enhancement and Renovation* occur within an existing organization, existing infrastructure and existing information system. Hence, there are fewer degrees of freedom;
2. Normally changes are made 'bottom-up'. Ideally a change should amount to only a small modification to one program. If that is not possible the scope widens to a group of programs, or even a whole system component, etc.;
3. Maintenance always happens in the line organization. Training personnel to become familiar with the functionality and structure of an information system costs a lot of time and money. This means that it is difficult to add more personnel quickly. Where possible experienced personnel have to remain active in *Enhancement and Renovation* for a longer period, to reduce the impact of the cost of the training period;
4. *Enhancement and Renovation* deadlines are often firm. In contrast with systems development, it is not possible to keep the existing information system in operation

while the new system is being developed, as it is the existing system that is being modified.

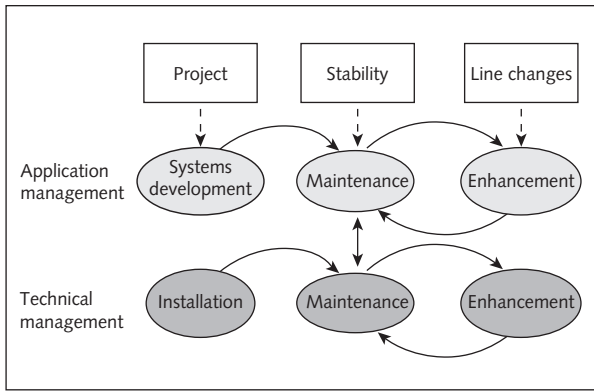


Figure 15 Systems development, maintenance and enhancement

The *Enhancement and Renovation* cluster includes five processes:

1. *Impact Analysis*: the activities to define and assess the impact of the request for change;
2. *Design*: information analysis and design. The activities related to identifying and defining the required functionality;
3. *Realization*: modifying, realizing and assembling the programs (application objects) into applications;
4. *Testing*: testing the modified components and the whole, eventually leading to acceptance and sign-off by the client of the delivered products;
5. *Implementation*: introduction and roll-out of the modified software and other service components, including dealing with issues such as conversion, acceptance, tests, training, migration, and sign-off.

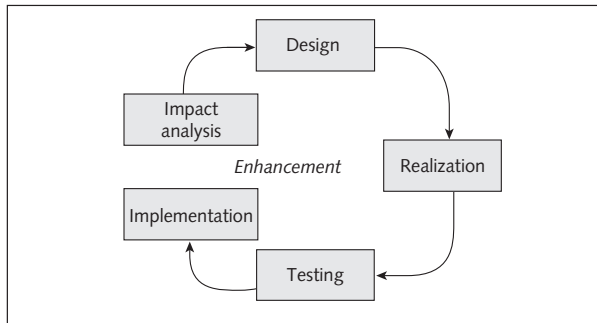


Figure 16 *Enhancement and Renovation processes*

4.2 Impact Analysis

The *Impact Analysis* process is essentially all about ‘look before you leap’. Carefully preparing a release, and considering the requirements and how it will be realized can prevent major problems and excessive costs.

Before building the modifications or the release it has to be defined exactly what the modification includes, what parts of the information system are affected by it, what alternatives there are for the realization, what solution will be used, and how the modification or the release will be realized in outline.

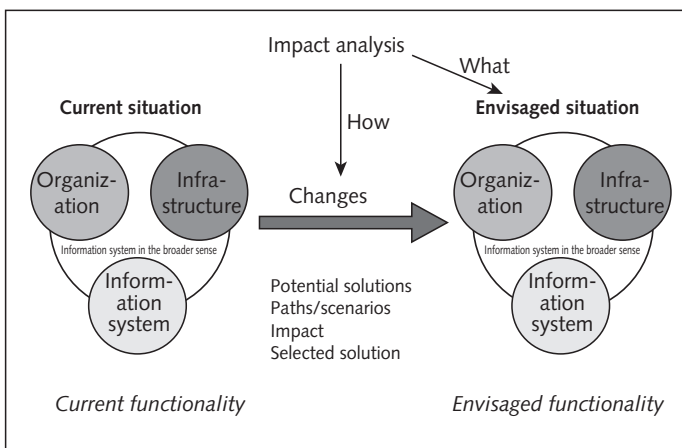


Figure 17 *Impact analysis*

The objective of *Impact Analysis* is to answer all these questions. These answers can then be used to make a definite and reliable estimate of the required capacity, cycle-time and planning of the implementation.

The Impact Analysis is not limited to the systems engineering aspects. The impact on the user organization, operational environment and long-term enhancement also affect the selected solution. For example, it might be decided to select a solution that is not perfect, and leads to slightly more work by the user organization. In essence, it is all about selecting the optimum solution.

Practice at VGK

Tony owns the Impact Analysis process and is senior designer of the PARIS team. He has been with VGK for over 15 years and did a lot of work on the original development of PARIS. Two years ago, when John Hollander proposed the introduction of ASL, Tony was not all that keen. He thought that ASL was just going to lead to a lot of paperwork and meetings, which would take up valuable time.

Up until then enhancement rounds were just started with hardly any preparation. Due to the poor definition of the scope at the start and the lack of capacity when it was needed the deadlines were sometimes greatly exceeded, but that was never a problem. The clients were happy, as long as the new functions were provided. And as nobody was concerned about the budgets it didn't matter if they were exceeded.

When ASL was introduced, Tony was responsible for planning a major PARIS release and he thought that it wasn't the right time to introduce ASL. The release was actually fairly disastrous, it looked like they wouldn't meet the deadline and they were well above budget. That led to a lot of problems, as this was the first time VGK had agreed a fixed price and couldn't ask the clients to increase the budget. The deadline was also inflexible as it was based on changes in legislation that was coming into force on January 1. All these problems led to some awkward questions from the management.

There were a number of reasons for the problems, the budget was not detailed enough, the modifications affected a larger part of the system than expected, and the planned solutions were ineffective as they had not been properly discussed with the programmers and technical managers. Finally, in the middle of the design process, one of the designers suffered heart problems and handing the work over to his replacement was difficult due to inadequate documentation. Tony regularly worked

till midnight to try and reduce the backlog, and decided he never wanted to go through that again.

During the evaluation meeting for the release it didn't take John Hollander any time to persuade Tony of the attractions of a good impact analysis and preparation for the next release. Tony's next step was to take a few weeks to write a procedure, template and check list for the impact analysis. When it was time for the next release he made a thorough impact analysis. Much to his surprise he discovered that the proposed solution would not be practical. He was relieved to discover that early, in the past they would probably only have noticed it when writing the software. He was even more surprised when the release was finished, as the actual figures were within 5% of the budget, for the first time.

4.3 Design

The *Impact Analysis* process determines the background of the change, the requirements and solution for the modification or release in general terms. The *Design* process aims to specify the change requirements such that the required information system functionality is unambiguously identified and defined.

A good design serves several purposes:

- It provides an unambiguous definition of what the (part of the) information system will have to do, so that those building it know what they have to build;
- It aids communications with the client (business information (system) management) so that they are aware of what the modification or functionality should include;
- The design and any specifications derived from it can be used as decision documents for the acceptance of the release or the system, and for sign-off.

The current trend is towards shorter and increasingly overlapping design and realization stages: rapid prototyping, incremental design, etc.

Information system designs are normally based on two or three types of requirements (the last of which is not always included in the documentation or design):

- the data, constraints, and data relationships;
- the transactions, i.e. the operations to process the data;
- the order in which everything should happen (time line), this is particularly relevant to workflow systems.

Practice at VGK

Miriam Hill, Quality Manager, took responsibility for the Design process two years ago, as this area needed a lot of improvement. There were no design guidelines, nor were any methodologies used.

One of the main problems with the PARIS software was the lack of a complete and up-to-date description of the system. When developing a new release, only the changes were described and the descriptions often referred to several functions. Of course, they always planned to update the system documentation after delivery of the release. However, that was usually the period when they were busy fixing bugs in the new software. And by the time they were finished they had to get started on the next release. As a result, they never got round to updating the system documentation.

When Miriam joined VGK two years ago, she noticed that the out of date documentation resulted in many communication problems, both with clients and within the department. It was unclear exactly what the bugs and requirements were and as a result they often developed new functions using the budget that was intended for fixing bugs. It often took a long time to solve problems, and clients regularly complained about that.

Miriam investigated what documentation would be needed to support the operations, and how long it would take to write it. As she suspected that she would not get approval for the 8000 hours it would take to update the documentation she investigated if there was a tool available for that. Unfortunately, all available tools were designed for other development environments, so she still had to make an investment proposal.

As expected, she did not get the full budget approved, but the management confirmed that updating the documentation is very important, and allocated a budget of 1500 hours per year, for the next few years.

Before starting work on a new release, they now first update the documentation of elements that will be affected by the new release. One of the advantages of this is that there is no need to include the functions that will be removed, as identified by the Impact Analysis.

After three releases they have now documented one-fifth of the system.

4.4 Realization

Obviously, the functionality of an information system should not only be designed, but also realized. We need people to set up and program the information system. Programming can include the modification of existing software or the development of new programs. Setting up relates to adjusting the environment to ensure that the whole provides the required functionality. Often the descriptions of the way in which data is stored in the information system will have to be updated.

The development methods and the quality of the work are important as they determine the quality of the software produced, and how easy or difficult it is to test. The impact on future enhancements, the extent to which the program or information system can be modified in future, is even more important.

Practice at VGK

Programming is a profession and uses clearly defined construction principles. A professional approach and standardized building and design methods are essential to facilitate transfer to other programmers. Small programs are preferred because programmers can familiarize themselves with them more quickly. However, experience shows that programs will increase in size due to the enhancements. If this is not carefully considered, current enhancements will make it more difficult to make future enhancements. If software is poorly structured it is therefore advisable to restructure it occasionally.

Reuben Jones is the process owner of Realization, a senior developer, and a happy man. After a serious struggle, during the last three releases, he has now received approval for setting up a new structure for the PARIS calculation module.

The clients and his management withheld approval for a year, despite his sound business case. He showed that the maintenance of the calculation modules was now costing far more than expected and there were new incidents with every release. For a few years it had been impossible to get this part of the system up and running without interrupting production. As a result, the cost of any modifications was always much higher than estimated.

Reuben had developed a business case that showed that the investment in the development of a new calculation module would be recouped in two years.

But it still took him a year of insistence, and support from Miriam, to get approval. There are far less problems with the rest of the system. Of course, there are still some functions that are unwieldy, too complex and poorly documented, and cause lots of problems, but the calculation module is by far the worst and also needs lots of enhancements.

Reuben thinks that the programming of the PARIS system is actually quite good. The programmers are experienced and know how to do their job and usually develop good and structured modifications. However, he still thinks that it would be a good idea to improve the programming standards and organize a refresher course for the developers. They could improve the uniformity, as everybody tends to follow their own style. That is not a major problem, but it would be easier to hand work over to each other if there was more consistency.

However, that is something that will have to wait, as they first have to develop a new calculation module. John Hollander is also happy, they now have time to discuss other things during the departmental meeting.

4.5 Testing

Application management is labour-intensive, complex, and demands complete accuracy. Information systems are rarely built correctly the first time, and even after modification the programs are rarely completely bug-free. A single bug means that the information system does not operate correctly, and this can have extremely serious consequences. This means that the delivered products have to be tested. Effective testing is the reason that information system that has reached the enhancement stage often run smoothly.

The *Testing* process ensures that the delivered software and data definitions correspond with that which should be delivered given the specifications provided by the client, and the design. The *Testing* process can be structured and refined. There are test methods, tools and approaches that will make it fairly certain that all program bugs are identified and solved. This means that we can deliver software that is almost or completely bug-free, and many organizations do just that. The many examples where it goes wrong are due to allocating too little time, a low priority, opportunism, or plain carelessness. Especially during the development of new information systems, but also during enhancement, there is a tendency to try to make up for delays, incurred in earlier stages or processes, by taking shortcuts during testing. Some think that design overruns are acceptable and that “We’ll make up for it during testing.” However, that is

clearly unacceptable: problems at the start increase the likelihood of even more bugs that will only be revealed by testing.

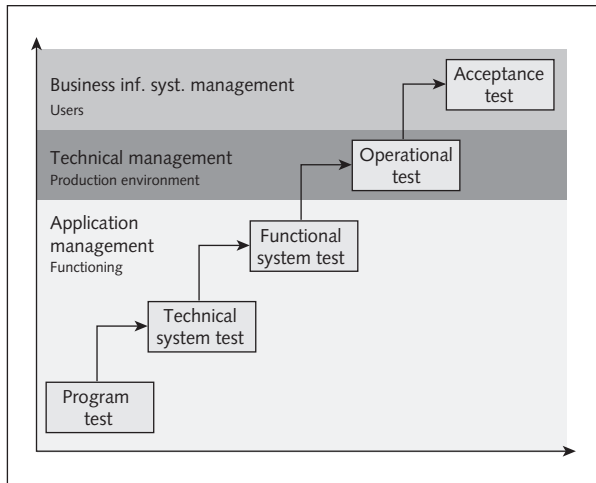


Figure 18 Tests

There are different types of tests, the most important tests are shown in figure 18. They include program tests (test of new or modified software), the technical system tests (technical test of the system as a whole), the functional system tests (testing if the system delivers the required functionality), operational tests (undertaken by technical infrastructure management to determine if the software can enter production), and the acceptance test. During the latter test, the business information system manager verifies that the product is delivered in accordance with the agreed specifications.

The last two tests are outside the scope of the ASL framework, which is limited to application management. The acceptance test is the responsibility of business information (system) management, and the operational test is the responsibility of technical infrastructure management. Of course, application management will have to support the relevant organizations during these tests. The program test is included in the *Realization* process.

Practice at VGK

Two years ago Paul Green, one of the designers, was asked to become the owner of the Testing process. He was not that keen as he thought testing was by far the least interesting aspect of enhancement, and he knew little about the latest developments in this area. Through Miriam he got into touch with a testing expert at the company she used to work for. After a chat on the phone the expert said that there would be some opportunities to improve the testing process at VGK and they arranged a meeting.

The first thing Chris, the testing expert, asked was how PARIS was actually tested. Paul explained that once the design had been handed over to the developers, the designer would draw up a test design. The test design identified the modified functions, and how they should be tested. Of course, developers would test the modified software themselves, before handing it over to the designer. The designer would then check if all changes had been made correctly, and if there were no problems the software would be handed over to the clients.

Chris then asked Paul what the clients would then do with the software, but he didn't know that. Paul thought that the clients would probably test the changes, just as VGK had done. But he also admitted that the clients would probably use different criteria, such as performance and user-friendliness. He remembered a problem that occurred a few years earlier. They had developed an advertisement-reporting module for one of VGK's other software packages. It was a comprehensive report, with all the information the layout department needed, and it was easy to understand. It had taken two developers over three months to build. The function accessed many tables and was quite complex. VGK were really proud when they presented the module to their clients. Unfortunately they got rather a cold shower, as the clients were far from happy with the reporting module. It took over an hour to generate the report, which conflicted with the layout department's tight deadlines.

Together with Chris, Paul wrote a list of potential acceptance criteria to present to the product consultants and their clients. For the eight clients running PARIS on their own systems they also included additional reliability criteria. When starting work on the next release they agreed test criteria for the new and modified functions with the clients and product consultants. The next step was to decide how to run the stress test that was necessary given the new acceptance criteria. Fortunately

that was another area where Chris had a lot of experience. Paul gradually discovered that testing was far more interesting than he had ever thought. Now, two years later, he is one of the most enthusiastic and active advocates of the Testing process.

4.6 Implementation

The last step in the development of new releases (or new systems or subsystems) is the *Implementation*. The *Implementation* process includes all activities needed to effectuate the requests for change from *Change Management* for operations and data processing. The objective of *Implementation* is to provide the conditions for the reliable use of the new application and the completion of the enhancement process.

This process is primarily focussed on realizing the required changes in the application management environment. The activities mostly concern support (the actual work is the responsibility of technical infrastructure management and business information (system) management, not application management). There are also activities focussed on completing the new release.

The introduction of a new release or system often brings with it changes to the production environment of the information system or the way in which technical infrastructure management operates the information system. Conversions (of the data stored in the information system, due to changes to the data model) may be needed or the control of the processing operations of the information system may change. Application management can often support this activity: the required changes are clearly identified, or software is written to bring those changes about. The required changes in Operations will also have to be communicated clearly, and how the inter-relationships have changed.

The new release may also have an influence on the user organization. This can result in a lot of work for business information (system) management. For example, an acceptance test will have to be carried out to test the operation of the system from the user's view, and further to which the new release will be signed off. End-users also have to be informed about future changes to the information system and how they have to deal with them. Application management will therefore often have to provide support or information.

Additionally, the change cycle has to be completed within application management. For example, the modified application objects have to be archived, the project documentation has to be finalized, and the sign-off has to be documented and communicated. The *Maintenance* processes also have to be informed of the changes and the expected impact. All these activities are included in the *Implementation* process.

Practice at VGK

Almost immediately after joining VGK, a year ago, Jim offered to become the owner of the Implementation process. As nobody else at VGK, including Miriam, knew exactly what to do with that process they were delighted with his offer. Jim is young, clever, ambitious and keen to learn. At his previous employer's he learned just what could go wrong when delivering software, and it rather looked like VGK were not doing much better.

He dived straight in. He started by setting implementation dates for the clients who relied on VGK's hardware, and the Service Level Manager was not that happy about that. It also made life more difficult for the clients, they couldn't just decide at the last minute that the release had to go into production; instead they had to draw up a schedule.

However, TMD was now able to make proper plans and allow computer time to run the conversions. This meant that they could now guarantee the time required for introducing a new release. Jim also made sure that AMD would write the required conversion software or scripts. Previously, AMD had given the conversion specifications to TMD and the clients who would then write the conversion software. Problems with the conversions often delayed the introduction of a new release. Furthermore, the external clients did not always have the resources to write the conversion software, which led to further delays.

As it was not unusual for VGK to forget to transfer some software to the production system or to the release CD-ROM, Jim introduced a new process stage "Completeness check" and wrote a checklist for it. He also introduced a "Change Newsletter" in which the Change Manager and the developers explained how the new software was controlled, and what resources it required.

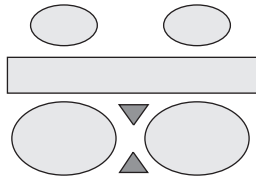
There were some who were not that keen about the energy of their new colleague, especially if it meant a lot of work for them. However, John was impressed and gave Jim his full support. In the last few months the relationship with TMD has clearly improved and the operational departments of the external clients are very happy with the delivery of the latest releases.

Jim's latest improvement is the "User Change Newsletter" which explains to business information (system) management how the changes in the upcoming release will affect the use of the system. This newsletter is published in HTML format that makes it very easy for business information (system) management to distribute it to the help desk and end users over the Internet. Jim is now planning the "Management Newsletter" to inform the management of the user organizations about the new releases. John is not so sure about that, he doesn't know if they will be really interested.

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CHAPTER 5

Connecting processes



5.1 Introduction

It was concluded in the preceding chapter that organizations change, and that these changes require changes to the information systems. These changes are made by modifying information system components in the *Enhancement and Renovation* processes. Often there will be several enhancement rounds simultaneously, rather than just one. For example there may be a serious disruption due to a program bug. In that case the disruption has to be resolved quickly. This results in two change processes, and essentially two parallel enhancement 'projects', progressing at a different pace.

During these enhancement rounds the same object may be modified twice. This will lead to overlaps: one programmer makes changes for the *Enhancement and Renovation* round while at the same time another programmer modifies the program to fix the disruption. Consequently, the change made in response to the problem will not be automatically included in the enhancement version.

This means that processes are needed to coordinate all these changes to one another and to the management. These processes are called *Connecting Processes*. These connect the *Maintenance* and the *Enhancement and Renovation* process clusters.

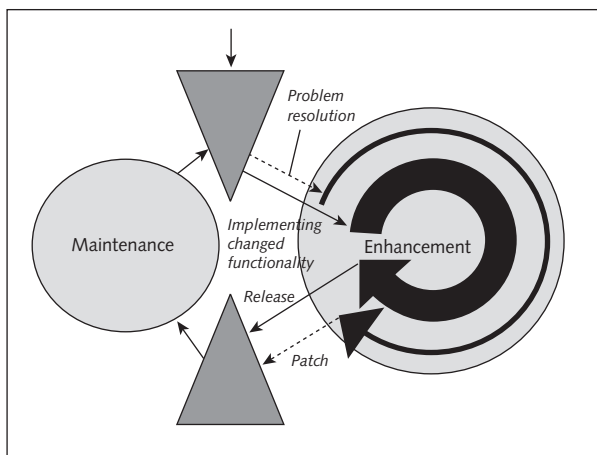


Figure 19 Complexity of the connecting processes

These connections are provided by two processes:

- *Change Management* is the process to identify, prioritize, initiate, evaluate and control the changes to the application;
- *Software Control and Distribution* consists of the activities for the control and distribution of operational application objects (e.g. programs, documentation, data definitions and test sets).

5.2 Change Management

The *Change Management* process is a central element of application management. The objective of *Change Management* is to ensure that a standardized method is used to make changes to an application, so that they can be coordinated and prioritized. In this way, the functionality of the application is improved in the long term.

Change Management schedules the key activity of the application management organization: making changes to an information system. The *Change Management* process collects, administers, prioritizes and schedules the changes to be made.

There are different types of changes: required changes to the operation of the information system, new information system functionality, emergency changes or fixes

(changes to deal with problems or faults which affect the operation of the information system).

Normally the *Change Management* process includes at least three stages to facilitate scheduling:

- changes, which have been received, but not yet rejected or scheduled (requests for change);
- changes included in the enhancement process (in progress);
- completed changes (rejected or implemented).

Application management professionals often refer to “releases”. Here, a release is a set of changes that will be implemented simultaneously, as a group. Scheduling changes as part of releases has a number of advantages:

- The use of releases results in a more considered selection of what changes will be made when it improves prioritization;
- The disciplined scheduling and combining of changes means that better use is made of the application management resources. For example, if there are two changes to be made to the same component of the information system, only one test will be required as both changes are tested together;
- The process is more disciplined and it is easier for the user organizations to schedule their work. This benefits quality (everybody knows that an acceptance test will be undertaken on date X, users know that a new release will be rolled out in July, etc.).

Practice at VGK

Pilar Rodriguez owns the Change Management process and also undertakes the necessary work for it. She took the job over last year from Mohammed Saleh, when he took early retirement. She is not quite sure about the early history of PARIS, but she has heard some interesting things about that period. Apparently, clients and users would simply call the designers to discuss changes, and in the end nobody knew exactly what was included in the upcoming release. And as nobody kept track of what parts of the system were being changed it was not uncommon for several programmers to make different changes to a module. For example, during a change round, a field was added to a screen, then in the next round a new validation was added to that screen, and finally the screen text was changed separately. All these changes were known when they started on the first round and could have been

implemented at the same time. That would have meant one test and one hand-over, instead of three. William once joked that it was rather like the public works department in the town where he lives, they would break up the road to work on the sewer, pave it, break it up again to replace the gas pipes and then pave it again.

When he became responsible for Change Management, Mohammed started by collecting all requests for change. After that they could divide them into groups. That was not too difficult, but it was much harder to allocate the changes to enhancement rounds – with 22 clients it is difficult to set priorities. AMD solved the problem by allocating that responsibility to Product Management. After a year they introduced a proper release system and now most of the changes to the new releases are planned at the start of the year so they know what resources are needed, and when. Pilar is now concentrating on the changes to be included in the releases. It is still difficult to get the clients to agree on that. She would like Product Management to take the lead in that and is planning to discuss the issue with them.

5.3 Software Control and Distribution

Software Control and Distribution can be seen as the logistics function of application management, the warehouse. *Software Control and Distribution* stores and distributes the various versions of the application objects, such as the information system documentation (e.g. the designs) and the software (the programs).

Software Control and Distribution ensures that the right versions of the right application objects are made available to the right persons at the right times. It also ensures that the right versions of the software are supplied to technical infrastructure management.

Several different releases may be prepared or take place simultaneously, as described earlier in this chapter. It is therefore quite possible that there are objects which were modified in a different release, but which have not yet been transferred to the production environment. The *Software Control and Distribution* process identifies overlaps between releases. These overlaps need special attention as the different changes made to various objects have to be synchronized in the logistics process.

Example: introducing a patch

A program is modified because a disruption occurred. A quick fix is made and introduced into production. The program will also be modified as part of a release. There is

a momentary lapse of attention and the synchronization is overlooked. When the new release is introduced the bug, which had been fixed, returns.

The *Software Control and Distribution* process can become extremely complex due to issues like this. It is also one of the most important and least visible application management processes, just like logistics and stock management are often invisible in manufacturing companies.

Practice at VGK

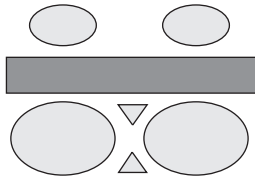
Miriam Hill, AMD's Quality Manager, had always been aware of the need for a good structure for Software Control and Distribution. They were making lots of changes and last year they were even working on two releases at once. Often a program being enhanced would crash production and require a fix immediately. Another problem was that the sources were sometimes in the wrong location so a programmer would make a change to an outdated version of the software. Miriam started a project that took two of their people a whole year. She investigated if there was an off-the-shelf tool that could be used in VGK's software environment. The first step was to define the different types of changes, such as releases, unscheduled urgent bug fixes, and intermediate releases for less pressing problems. The next step was to define the workflows used at AMD. For example, there is the "Urgent fix" workflow for modifying and supplying a program independent of the releases. Another workflow is "Urgent fix 3" which is similar, but covers all supported versions of the system. Similar workflows were defined for regular enhancements and custom developments.

The activities and checks to be carried out are now structured with the tool's workflow. If a patch has to be made they now use the appropriate workflow. As a result, they now no longer lose any source code. The introduction of all this took AMD some getting used to, and they had to become more disciplined. However, the discipline is actually the least of their problems, as they can no longer bypass the process.

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CHAPTER 6

Management processes



6.1 Introduction

In the past ten years there has been a gradual change in application management methods. Clients clearly need services that are effectively controlled and managed. Clients now demand clarity and fixed price contracts. Clients want to know what they are getting for the money they spend on application management.

This has led to the need for clear processes for application management and the way it is managed. In ASL, this is provided by the *Management processes* that address four issues:

- *Time and capacity*: application management depends mainly on people. Consequently, managing the human resources, in relation to time spent and hand-over dates, is essential;
- *Cost*: the financial aspects of the provision of information are becoming more and more important. In ASL this is reflected in issues such as cost, cost management and a focus on results and fixed prices;
- *Quality*: the quality of the process and the product (the information system) are essential to success in the short and long term;
- *Service levels and agreements*: making explicit the expectations of the clients and users about the services, and considering these in the management efforts, is an important element in raising application management to a higher professional level.

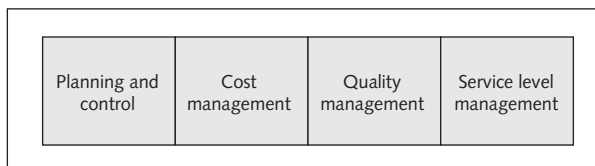


Figure 20 The Management processes

Correspondingly, there are four management processes in ASL:

1. *Planning and Control* addresses the use of resources in terms of planning, control and reporting;
2. *Cost Management* is the process that addresses cost control;
3. *Quality Management* is focussed on internal quality, the quality of the organization, products, methods and resources;
4. *Service Level Management* is focussed on managing external quality and the agreements made with the client.

6.2 Planning and Control

There are often fixed deadlines for information systems in the enhancement stage, for example, new legislation might come into force on January 1, a new insurance policy is launched on May 1, or a new invoicing system starts on July 1. This means that the timely hand-over of new versions of the information system is essential. In the enhancement stage there is no fall-back, the work simply has to be completed in time. The *Planning and Control* process aims to ensure that deadlines are met by the effective deployment of human and other resources at the required time.

Planning and Control essentially amounts to management of time and human resources in the broader sense. The deadlines for the delivery of the new services are set in consultation with the client. This means that this process is tightly connected to the *Change Management* process.

Planning and Control monitors both project work (*Enhancement and Renovation* processes) and continuous activities (the *Maintenance* processes). Controlling these simultaneously, often by the same department and the same people, is the major challenge of application management. Furthermore, it becomes more complex as there are often additional, non-operational jobs to be done. Examples include improvement projects for *Quality Management* or *Service Level Management* and work for the strategic processes included in *ACM* and *OCM*.

All these activities demand human resources, *Planning and Control* is the process to manage them.

This process often occurs at several levels simultaneously: depending on the organization and its size, we have to deal with planning and monitoring a release, planning and monitoring the activities for an application, and planning and monitoring the activities

for a release at both the departmental level and that of the application management organization as a whole.

The work has to be carried out under many constraints:

- The number of people who are familiar with the information system is limited. It can take a long time for new personnel to become familiar with a system. This means that the enhancement capacity is limited;
- If there is a longer period during which no human resources are dedicated to enhancement of information systems then the expertise will erode. This means that there has to be a minimum capacity (effort) to ensure that future enhancements can be implemented effectively;
- Some skills are not easily interchangeable: good developers are not always good designers or the other way round;
- There are various less interchangeable disciplines: people who can develop cannot always design and vice versa;
- The deadlines are often inflexible, as explained above;
- The level of *Maintenance* activities is fairly stable throughout the year, but peaks may occur due to major disruptions.

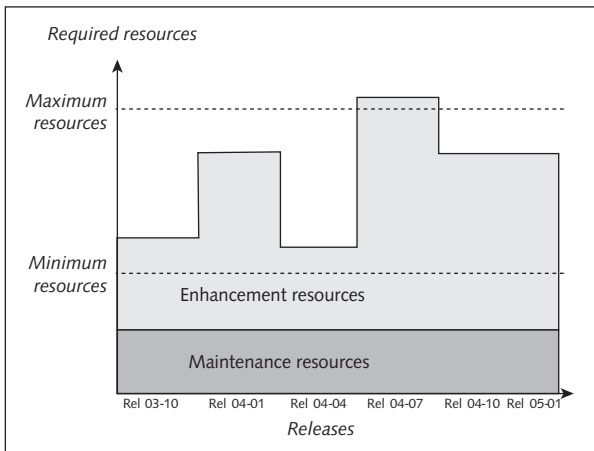


Figure 21 Human resources needs during the life of a release

This means that effective *Change Management* is often a prerequisite for *Planning and Control* as it will reduce the peak workload.

Practice at VGK

As the line manager with final responsibility, John Hollander is the process owner of Planning and Control. He took on this job two years ago when he initiated an improvement project at VGK. He had always been interested in improving professional practices, and apart from that, the schedules and costs caused major problems.

His first step was to make a separate budget for the maintenance activities. This was because whenever there was a problem, developers had to stop work on the new release and try to fix the problem. That meant the releases were often seriously delayed. Another problem was that other people would not be able to continue working on the release because they were dependent on the input from their colleague who was busy fire fighting.

When planning the last release, John did not commit all of the time of some of his people, so they would be able to deal with problems without delaying their work on the release. The second issue concerned the enhancement budgets. Not only did the projects take longer, they often required several times the planned number of person hours. John had noticed that at the start of a release project they didn't spend enough time and attention on the Impact Analysis. Initially, it took him some effort to get Tony, the process owner of Impact Analysis, to support the improvement efforts. Tony was working on a complex release, which, was taking much longer than planned and was way over budget. However, the bright side of that was that it didn't take long to convince Tony that budgeting and planning deserved a high priority.

The evaluation of the release showed that the initial assessment of the project was wrong and that they had not recognized the risks. Of course, that clearly showed the importance of an effective and comprehensive impact analysis.

John has now introduced enhancement function scores and standards. The first impression is that they are quite different from what happens in practice, primarily because the complexity of the software is not fully understood. However, John has decided to continue on this track, and undertake a continuous assessment of each release so that they can become more familiar with the new working method.

6.3 Cost Management

Often neither the clients nor the business information systems managers fully appreciate the costs of the provision of information, and the client has little control over these costs. It is often impossible to link the costs to the services provided.

Cost Management aims to make these costs visible and controllable. In ASL, *Cost Management* includes the processes for controlling and charging the costs of providing ICT services. This enables *business information (system) management* to take effective business decisions.

Policy-related financial issues are outside the scope of ASL. Examples of these include depreciation policies and the cost structure of the hourly rates.

Fixed price contracts

The trend is towards *fixed price* contracts for services, rather than time and materials contracts as this provides more certainty to clients and business information systems managers. It also provides ICT organizations an opportunity to benefit from any improvements in the processes. However, the disadvantage to the providers is that they are now exposed to risks. It is therefore essential that they set up effective processes. There will also be additional *Cost Management* tasks.

In this situation, the costs of providing the services will have to be managed, and charging methods that suit the client will have to be developed (e.g. the cost per pay slip or insurance policy, or a fee per user). The actual costs will also have to be compared with the amounts charged to the clients.

Fixed price models

This development has resulted in a number of different charging and control models for the ICT organization and the user organization.

	Providing	Servicing	Organizing	Networking
Focus	Aimed at technology	Aimed at service delivery	Aimed at business process of customer organization	Aimed at environment of customer organization and customer's customer
Service	Deliver people	Deliver services	Deliver partnership	Clearing house
Control focus	Quantity	Quality, process organization, metrics	Flexibility, efficiency, effectiveness	Innovation, added value, social responsibility
Financial	Post-calculation	Fixed price	Business units	Customer units
Step to make	Setting up processes	Focus on customers	Globalizing: focus on customer's customer	?

Figuur 22 *Types of services and growth model*

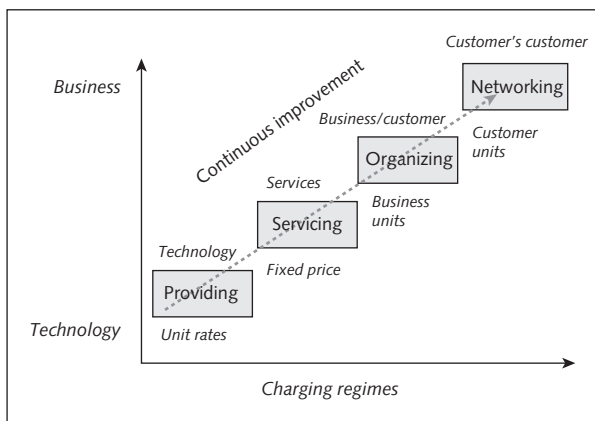


Figure 23 *Services and growth model*

The way in which *Cost Management* is implemented also depends greatly on the way in which application management is funded (e.g. as a cost centre, profit centre with neutral budget, profit centre) and the cost allocation system. This means that the charging system for the services has to be considered in the context of the way in which appli-

ation management is funded. For example the “servicing” and “organizing” charging models are incompatible with an ICT function funded as a cost centre (overhead costs).

Practice at VGK

Cost Management was introduced relatively late at VGK. Before focussing on the costs they wanted to identify the activities and processes, and control them. Another reason was that VGK was not entirely sure about the cost structures in AMD and PMD. Historically, the situation was quite complex as some clients paid for custom changes. They are now becoming better able to provide cost transparency to the client. Now that they are more aware of the costs it is becoming easier to give their clients more certainty.

Six months ago, after discussions with the clients, they decided on a better allocation of the risks. The arrangements depend on the type of contract: internal or external. For the internal contracts, PARIS runs in VGK's computer centre, and for the external contracts it runs on the client's own system. There are now clear agreements about application management and technical infrastructure management for the internal contracts. It was decided to charge this on the basis of the number of subscribers covered by PARIS. This means that VGK now bears the risk of optimizing the use of computer resources. The external contracts are based on licenses. The license fee includes a fixed element for the use of the software, and a variable charge based on the number of subscribers.

The charging arrangements for the new releases are still under consideration. It is still unclear who bears the final responsibility for the costs of the new release. Within VGK, PMD and AMD disagree about this, and VGK has also to reach an agreement with its clients. On the one hand, the clients want VGK to charge fixed prices, but they also want to have a say in what is included in the new releases.

All these agreements have had a significant impact on the way VGK works. They have had to develop spreadsheets to determine if the costs are actually exceeded by the revenues. They also need to improve their awareness of how the costs arise and improve control. It has already become clear that VGK is losing money on the maintenance activities. Fortunately, the improvement efforts are reducing the deficit and in the coming year they even expect a small profit.

6.4 Quality Management

Quality Management often has a thankless task. This is because in the past *Quality Management* rarely had tangible benefits. Clients and management were often less than cooperative because they thought “it only costs money” and “it just introduces constraints and procedures”. However, for a number of reasons, this attitude is now changing.

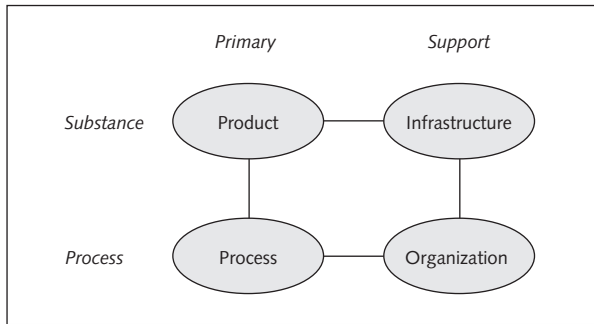


Figure 24 *Quality Management*

Quality Management becomes more practical

It is increasingly appreciated that *Quality Management* should not be limited to a high level and only be concerned with policies. Quality can become more accepted on the shop floor if the emphasis is placed on practical problems that affect the product and process. Therefore there should be regular reviews within the operational processes to ensure that *Quality Management* can focus on problems affecting the products and processes, and implement solutions and improvements. This form of problem management is an important element of the *Quality Management* process.

Internal quality determines the opportunities for the future

The internal quality of the information system largely determines how flexible the information system is, and how easy it is to modify the application. In the longer term this determines the competitive strength of the business process supported by the information system. Clients and users are increasingly aware that overhauls are sometimes necessary. We can distinguish the visible external quality (defined in service levels) and the less visible internal quality. This provides greater support in the organization for quality as a concept.

Issues in Quality Management

The objective of *Quality Management* is to assure the internal quality of the process and product. It covers four issues:

1. Product quality: the technical and functional quality of the information system and its operation. Normally there are few opportunities for major changes in the short term, as the investments are generally high and the benefits take a long time to materialize. However, in the longer term this quality aspect determines everything else;
2. Process quality: the structure of the delivery process. The enhancement, maintenance and management of application management. This is the primary issue when making the organization more professional and improving the services;
3. Infrastructure quality: the quality of the infrastructure used to produce the product and which supports the processes. This relates to a broad definition of the quality system, such as the methods and techniques, and system development tools. In essence the “engine” of application management. Policies of ICT suppliers and developments on the market often necessitate action, such as conversions to upgraded versions and migrations;
4. Organizational quality: this includes the quality of personnel, expertise and the consistency, cohesion and place of application management in the organization and its surroundings;

Practice at VGK

Miriam Hill was hired two years ago, at John’s request. Her brief was to introduce ASL to improve the quality of the organization and the processes. One of the first things she did was to identify the owners of the major processes within AMD. The idea was that instead of imposing a method on the organization, she would allow those concerned to structure the processes themselves, based on the ASL *best practices*. However, it took quite a lot of effort to identify the process owners and to define their tasks, without impinging on their day-to-day work. Miriam usually managed to work quite effectively with John, but they had also had some conflicts as John had a habit of speaking on behalf of the process owners and found it difficult to delegate. On some occasions a process owner had identified and designed a process while John had made different arrangements at the next higher level. That resulted in a lot of tension between Miriam and John. However, after the rather difficult start they now get on very well.

The start of the improvement program was also anything but straightforward: some actions did not lead to the expected result and others were only partly successful. But after a year or so the changes were becoming more successful and there were measurable improvements. So Miriam is actually quite satisfied. Their clients and the PARIS users also confirm the success, although they had little confidence at the start of the improvement program. Right now, Miriam is expecting that there will be major gains from the automated support for the maintenance and enhancement processes and continuing improvement of PARIS. However, the investments required for this are so high that she will have to present some convincing arguments.

6.5 Service Level Management

Service Level Management is the process in which the agreements with the client are made and monitored. Central to this is the quality experience of the client: what the client experiences as quality. This is opposed to the process of *Quality Management*, whereby internal quality of application and application management organization are central.

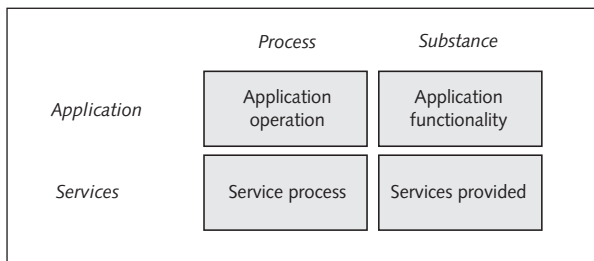


Figure 25 Service levels

Elements within service level management

The agreements with the clients normally refer to four areas:

1. The operation of the information system: these are agreements over the manner in which the application should work while being used. These are therefore mainly agreements referring to the results of the management processes within ASL. These agreements deal for example with the availability, performance, reliability and safety of the information system and applications;

2. The functionality of the information system: these agreements deal with the functionality of the application and the changes to the functionality. These are in the practice of application management often well monitored as these 'service levels' are specified (in agreed subjects) and checked by acceptance tests and suchlike;
3. The service process: these are agreements on the functioning of the services and the application management organization. Here, agreements are made on the accessibility and availability of the organization itself, the operational speed in case of disturbance, the manner in which the software is delivered, the schedules along which the processes take place, etc.;
4. The service delivered: this refers to services delivered and the additional services available with additional conditions or the organization's service catalogue.

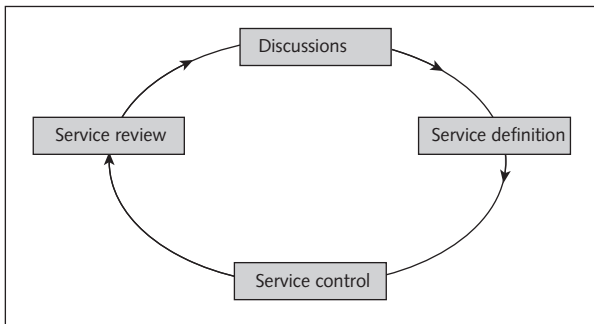


Figure 26 *The Service Level Management process*

Activities

As with all management processes within ASL, with Service Level Management, there are three activities:

- *Defining* the service levels: agreeing and determining the quality criteria and the respective levels;
- *Monitoring* the service levels: monitoring to ensure that these agreements are also met;
- *Evaluating* the service levels: looking into underlying reasons as to why agreements have not been met and deciding whether existing agreements need changing.

Related to or before the defining of service levels, there is of course a negotiating process with business information (system) management (the system owner).

Higher demands normally lead to higher costs. The results of these negotiations such as a contract and SLAs (Service Level Agreements) are therefore important products of service level management. It should also be clear that *Service Level Management* is also closely related to *Cost Management*.

Practice at VGK

About one-and-half years ago, VGK started concluding service level agreements for the two types of PARIS clients. On the one hand, there are the external clients who receive the package, install it themselves and run it on the computers in their own automation centres. Then there are the internal clients who outsource the processing of PARIS to VGK. The external clients take just the package plus support in the form of the helpdesk (CCC). The internal clients subscribe to a kind of ASP solution. VGK does not just develop and manage the package but also arranges the exploitation and processing.

VGK concluded the agreements with the clients directly. The SLAs included agreements such as the number of releases delivered in a year, the content of the releases, the number of problems affecting production that could occur in one year, the consistency between the users' instructions and the functionality of the package, the composition of the CCC, etc. In addition, for the in-house clients, agreements regarding times and duration of the processing, the response of the interactive processing, the time during which action should be taken following the report of a fault affecting the entire production. For AMD, this resulted in agreements with PMD on availability of the second line, permitted deviation from the budget for the releases and accepted number of faults during acceptance, etc. The SLAs on one hand dealt with the functioning of the CCC and production management but also had everything to do with the quality and service delivered by AMD and TMD. This regularly resulted in confusion as it was not always clear who was responsible for what.

Six months ago, a start was also made on setting up the process of service level management and re-establishing the SLAs. There was for some time a discussion as to whether or not AMD within VGK should operate as a principal towards project management. And who is the principal of TMD: should AMD ensure that one falls in line with the internal clients or is PMD responsible for this. It was recently decided

that AMD is the main contractor and is responsible for all exploitation and the management and maintenance of PARIS.

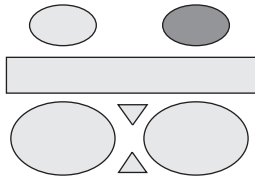
An important reason for this is that one in this way can ensure that AMD delivers easily manageable and exploitable products, which is important because some customers only buy the package and not a full service exploitation. It has also helped AMD to take clear responsibility for the future proofness and the technical quality of the package.

As AMD realizes the greatest part of the VGK service levels, the product manager is always busy with the ABO service manager so that fast action can always be taken with clients.

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CHAPTER 7

Applications Cycle Management



7.1 Introduction

One of the major dilemmas in routine maintenance and enhancement is that it is limited to a short-time view. Normally, plans are made for modifications to the information system for the next year, but plans covering more than one year are rare. However, the businesses processes will normally change over the course of time. Consequently, the support provided by the information system to the business processes may deteriorate.

Focusing on only one year ahead has many disadvantages:

- Changes are made following an approach that might be incompatible with the development of the business processes in the next three to five years;
- Significant productivity and quality improvements (e.g. restructuring poor software) are never made due to a failure to appreciate that there is a business case spanning several years;
- There is a failure to appreciate that benefits to the business processes can cover a period of several years. Often, changes are not made or it is simply accepted that there is a poor match with the business processes because nobody realizes that the users will be working like this for several years ahead. Often developing completely new software is seen as the only option for long-term improvement, although even in that case, the present system will continue to be used for years.

As a result, the present information system does not meet the requirements of the user organization. This is often solved by building a new information system. However, that requires a major investment (the satisfactory functions of the present system are also rebuilt) and there is always a high risk of failure.

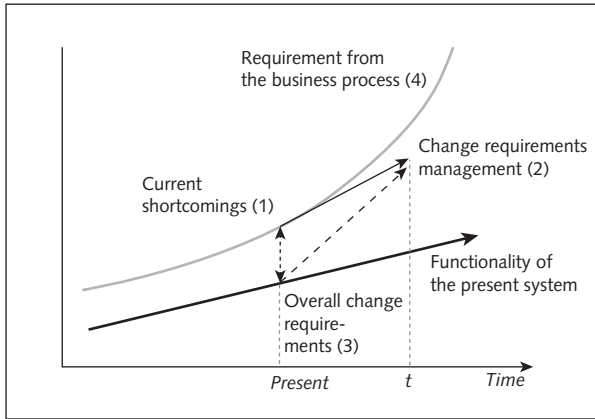


Figure 26 Alignment between the business processes and information systems

To make things worse, in such cases (structural) improvements to the existing system normally come to a halt. And often, the project to build a new system will be less successful than hoped for, resulting in a situation that is worse than before.

The *Applications Cycle Management (ACM)* cluster aims to introduce a strategic perspective into application management. ACM focuses on the future of the provision of information and the lifecycle of the objects (applications) that provide that information.

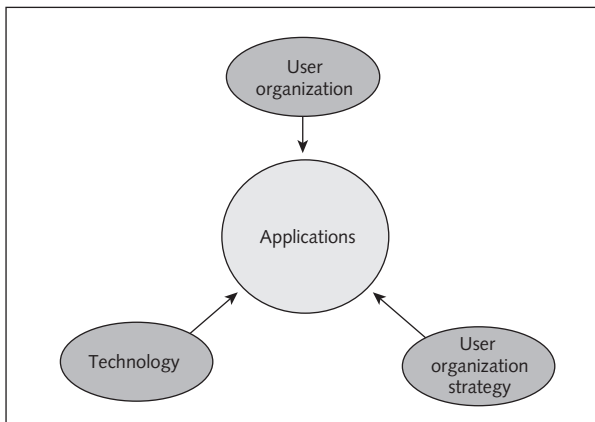


Figure 27 Issues in ACM

7.2 Future of information provision

There are three external factors that necessitate changes to information systems. There are first of all the developments that can be used in technology. Examples are improvements in system software or other new technological possibilities thanks to the Internet. Also, there is a change in the user organization over time. And there can be changes in the environment of the user organization that must be anticipated. There are therefore three processes within ACM with the objective of gaining insight into these developments and determining the influence of these developments in information provision.

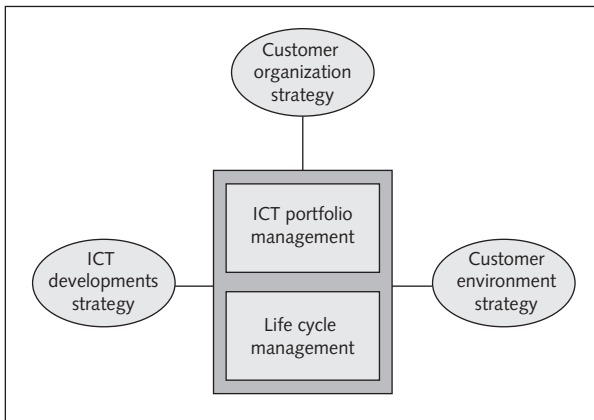


Figure 28 ACM processes

The three processes are:

- *ICT Developments Strategy*: the process of monitoring and assessing technical developments;
- *Customer Environment Strategy*: the process of understanding developments in the user organization environment, which affect the applications;
- *Customer Organization Strategy*: the process of identifying developments within the user organization(s).

These external factors may affect the applications. However, internal aspects of the applications (quality and cost) can also necessitate major changes. This requires policies at two levels:

- *ICT Portfolio Management*: the process of defining a strategy for the application portfolio and the provision of information to support the business processes;
- *Lifecycle Management*: the process of defining a strategy for the future of the individual applications, defined as actions.

Although comprehensive new development projects are often tackled top-down, it is useful to opt for a bottom-up approach for ACM, at least initially. This means that the functional, technical and operational quality of the information system in relation to the expected future requirements of the business processes are assessed. The advantage of identifying the strengths and weaknesses of the present situation is that it provides clear information about the feasibility of any changes and the proposed strategy.

Practice at VGK

Until six months ago, nobody paid any attention to the ACM processes within VGK. John always used to say “as long as we don’t know what we are doing, there is no point thinking about what we ought to be doing.” However, they have now decided that it is time to introduce ACM, particularly as PARIS is actually quite an old application. There have also been some comments by their clients about the software and their business processes. It is clear that ACM will have to be implemented in close consultation with PMD. Dirk, deputy PMD manager, is the ACM process owner.

As VGK was unsure about how to set up ACM they hired an external ASL consultant. The consultant proposed that instead of setting ACM up as a continuous process, it could be implemented as a recurring project. It would also be a good idea to use external support, as a narrow focus on the current practices might well be a problem. VGK undertook a study with external consultants to identify several options, one of which was then selected in consultation with PMD and their clients.

The main elements of the selected option are:

1. The calculation functions should be improved to reduce the number of errors PARIS produces, to facilitate enhancement, and to improve flexibility;
2. It should be possible to set generic parameters and data to provide greater flexibility to the clients;
3. Additional information will be provided which the clients can use for management information and to facilitate data exchange with other systems.

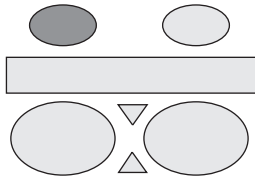
A web interface will be provided for certain functions, so that their clients' clients will be able to access the information.

The investment associated with this option is quite reasonable compared to the other options. These major changes can also be included in the release schedule for clients are happy with the substantial improvements to the support of their business processes and policies. However, there are still some discussions about the financial aspects. The clients expect that the costs of enhancement will be reduced by the new software structure and off-the-shelf solutions, but it is unclear if that will pay for the new developments. This issue will be settled in the next few months.

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CHAPTER 8

Organization Cycle Management



8.1 Introduction

OCM, *Organization Cycle Management*, is the cluster of processes that aim to define the future provision of services and the structure of the application management organization. In essence, innovation should not be limited to the information systems, but also extend to the application management organization.

These processes are extremely important to an application management organization, for the following reasons:

- user organizations may consider alternative ICT service providers;
- these management organizations are not used to looking at the world outside;
- requirements may change slowly and unnoticed, but they do change.

Relationship between the ICT organization and the user organization

Even when there is an in-house ICT management organization it is by no means certain that it will always be managing the information systems of the business. The relationships between the Application Manager, application and user organization may change. Developments such as outsourcing provide user organizations with an opportunity to become less dependent on internal or external providers of ICT services. Customer satisfaction, image, and good contacts with the user organization are essential to keep the user organization as a client.

ICT management organizations are naturally conservative

ICT management organizations are normally very conservative and risk-averse. This is to be expected given the nature of the services they provide: the primary demand of user organizations is that the applications run smoothly. Being risk-averse is therefore perfectly sensible. However, this often makes innovation and change impossible. By contrast, there are also many cases in which new technology is introduced without a

careful consideration of the need or costs. This means that ICT organizations have to think about what services they actually want to provide, what services they can provide effectively, and which expertise they do or don't need.

Requirements change gradually

The requirements for the provision of information change only gradually, and there are corresponding changes in the demands made of the service provider. These changes concern the focus on results, costs, efficiency and flexibility, and the services. Normally, the range of services will become broader, but it is often impossible to provide all services that are required. This means that the application management organization has to consider which services it wants to provide in-house, and which might require a partnership. The role of the application management organization in such a partnership should also be considered.

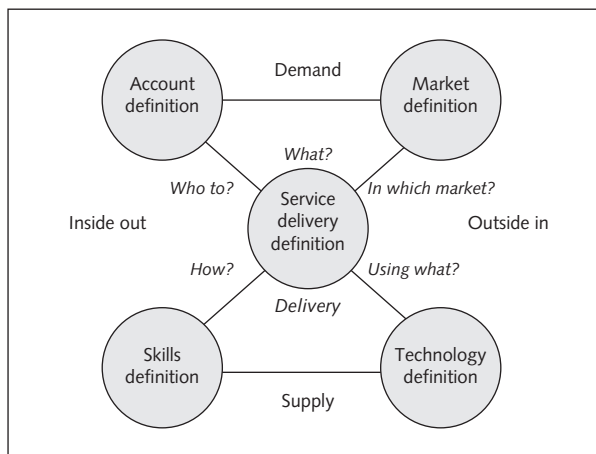


Figure 29 OCM processes

8.2 Future of information provision

In order to ensure that the provision of services of the application management organization stays in line with what has been ordered, ASL has five processes within the OCM cluster.

Market Definition

The *Market Definition* process investigates the developments taking place in the market, and their significance for the application management organization. This should result in a clear definition of the position of the organization in the field of internal and external providers of ICT services, and any partnerships and alliances.

Account Definition

The provision of services is also affected by the relationships with the user organization(s). This includes issues such as the image of the application management organization among the user organization, access to decision makers in the user organization, the 'account' structure, and the services that are or could be provided. Again, it has to be considered whether the portfolio is appropriate, and action will have to be taken to make the necessary changes.

Skills Definition

To ensure that services can continue to be provided effectively in the future the application management organization will have to identify the expertise it will need in the future. Making those changes, through training or hiring staff with the required skills, will normally take several years.

Technology definition

Apart from considering the required expertise, the application management organization should also set a policy for the tools it uses to provide its services. It is impossible to support everything, and it may take a few years to master development environments, development lines and other tools and methods. Furthermore the cost of acquiring these tools is often very high.

Service Delivery Definition

All the above considerations have to be combined into a clear proposition, a clearly defined range of services that are appropriate to the market and clients as well as to the in-house skills and tools. This is done in the *Service Delivery Definition* process. This process defines the services that are to be provided two or three years into the future, as well as the mission of the organization. After that, the strategy to provide those services is defined. The strategy is then developed in greater detail in the other OCM processes.

Many of these processes might appear less relevant to internal ICT organizations. For example, Market Definition and Account Definition sound particularly commercial. However, that is incorrect, these processes are actually even more important to in-

house application management organizations than to external, commercial organizations. External organizations are guided by the demand from the market, whereas internal organizations are less exposed to that pressure. These days, user organizations are less loyal to their internal ICT organizations. They have the option of outsourcing or divesting the ICT department, or just outtask some services. This means that it is essential for internal application management organizations to monitor their services, and what they actually offer their clients.

Practice at VGK

Line manager John Hollander wanted to become the process owner of the OCM cluster, but Miriam was completely against that. She could see his point, but she wanted to make sure that he wasn't the only person involved in this area. As Miriam herself is the Quality Manager and therefore responsible for elements of the process it was decided that Peter would become the process owner. Like ACM, OCM is a cluster of processes that were only recently introduced at VGK. They only felt ready for this during the last year. The company thought a lot about the introduction of the cluster and decided to hire another ASL consultant.

Last month the consultant held an OCM workshop. As recommended by the consultant, everybody participated in the workshop and the day was a resounding success. The management and other personnel were divided into small groups and completed questionnaires. The questionnaires amounted to a basic strength and weakness analysis of a number of OCM elements: clients, market, skills and technology. This produced information such as the contacts in the client organizations, the image, and the skills available within VGK. There is now also more agreement for example about who AMD's client is: VGK's clients, or VGK's Product Management which commissions work from AMD. Additionally, the strengths and weaknesses in several areas were identified.

John was pleasantly surprised about the wealth of information his people had about the clients, market and technology. He was even more impressed by the afternoon session in which they discussed the future options, as he realized that his people clearly think in management terms. They appreciate that there are limited resources for investment, and that it is therefore difficult to make choices. The workshop, in which everybody was forced to allocate a limited investment budget, really helped.

Everybody has now agreed about the direction in which they have to proceed, there is a clear vision that everybody supports, and they all agree that the technology and skills should be better aligned with the market. It has also been recognized that the web system that Jim uses for his newsletter could also be used for PR communications with VGK's clients, and may even be relevant to their clients' clients. A small working party is being set up to study the options. It also became clear that some of the programmers need additional training, as the programming language they specialize in will be phased out.

One thing they haven't decided about yet is if Product Management should be invited to the next workshop. However, it is clear that the people in AMD have so much detailed information about their clients and the market that it would be useful to share that with PMD.

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CHAPTER 9

Starting with ASL

9.1 Implementation and design

In this chapter, we shall be dealing with the best way to introduce ASL in an organization. For this, we first look to the model: exactly what is ASL, what it is in relation to practice and what does this mean for best practices? Then we can deal with the objectives to be achieved and the methods we have to follow to achieve them. Finally, we will deal briefly with instruments, resources and other types of support available for implementation.

9.2 The framework and the reality

ASL is based on practice. ASL was created as a model in practice and following years of application and adaptation of the model, this has finally resulted in the current framework. It describes the work, processes and activities that take place in application management. This work is structured in a logical manner in processes and process clusters. The processes are further worked out in sub-processes and activities.

ASL is, however, also a model of the processes of application management and is therefore also an abstraction of reality. This description has several underlying design decisions and is also considered as a scientific structure whereby processes are as abstract as possible, but also independent from one another in order to enable clear process management.

This theoretic abstraction shows which activities (in principle) always take place with application management, whether carried out implicitly or explicitly, independent from the type of organization or information system. ASL is therefore universally applicable for application management. It offers a structure with context, something firm to hold on to and a language in designing application management.

ASL, however, offers no far-reaching elaboration of processes in process stages. This is a conscious choice: the ASL model is indeed universal, but not every implementation

of application management is. Due to the lack of such detail, organizations are prevented from being pushed into a rigid standard model.

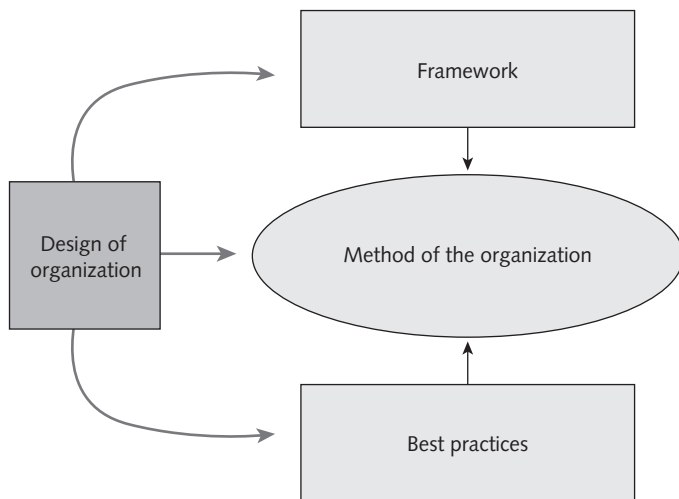


Figure 30 Roles of framework and best practices in designing the organization

The best practices allow the ASL model to be translated into a practical system. These best practices form a quality system which is available to everyone.

9.3 The secret of best practices

There are some difficult aspects to designing processes and organizations, not necessarily because it is difficult, but rather because it is sensitive to favoured 'pet' subjects and almost religious convictions. A few examples:

The process model works for all organizations

In practice, implementation of a process model is regularly carried out in a standard manner independent of the type of organization where the implementation is done. And it is not only the design of the organization that can change; the cause and the objective to improve professionalism often differ. This means that on implementation, it is always necessary to keep an eye on the organization, the cause, the bottlenecks, the culture and objectives in order to prevent unnecessarily bureaucratic procedures

from being implemented in places where they are not necessary. People still refer to 'the process' as an irrefutable detail determined by ASL or ITIL. Such a process does not exist.

Everything must be uniform and integral

Following on from this misconception is the wish to use the same process everywhere. This only works if the organization has very strong comparable business processes (in size and resources) and also delivers and competes in the same way. The managing and maintaining of large-scale work with a high level of reliability does demand a different approach than, for example, the management and maintenance of a dynamic extranet. Also, an organization with a high quality level will design a different process than one on a lower level.

Something like that will not work with us because we are different

This attitude is at the other extreme of misconceptions and is often heard in practice. Organizations are, indeed, seldom really equal or have the same values; seldom are the cause and objective for designing processes the same, or the processes within the organizations. On the other hand, there are many similarities within application management and most of the laws of application management are the same everywhere. The truth is in the middle and the happy medium is nearly always the best. It can be concluded that application management processes within organizations vary by between one and 20 per cent and that these differences are normally also quite sensible and important.

Adaptable best practices as the key between theory and practice

This is why ASL has best practices. Best practices are templates, examples, checklists, descriptions, formulas, self-assessments, etc. that are necessary or useful for carrying out the processes. They can be downloaded from the ASL Foundation website. These best practices are adaptable and can be used as the basis for local interpretation. This creates the possibility of adapting the best practices for the one to 20 per cent differences within one's own organization.

The big advantage is that 80 to 99 per cent of the best practices require no consideration. You lose no time creating a procedure or template from scratch. This offers enormous time advantages during the implementation process. The best practices also ensure that everyone can create their own vision for a particular process or activity, as required. Best practices ensure that the investments, experience and lessons of other organizations can be re-used.

Best practices also ensure that ASL (without additions to the framework) can also adapt to new developments. The basis of the application management processes is not subject to fast change. The differences are in the implementation and this implementation is set firmly in the best practices. By collecting as many best practices in as many varying situations as possible, each application management organization can choose the best practices that suit it. Off-shoring and outsourcing, new technology and new methodologies, the best practices ensure that ASL can be and remain the *de facto* standard for application management.

9.4 Scenarios and implementation

The professional objective and cause for adopting application management and the implementation of ASL can vary significantly. In one organization, outsourcing may be the focus, extending reporting lines and formalizing agreements, whilst in another organization, cost reduction may be the primary target.

Objective and result can also differ: Is a maturity level 2 sufficient or will one have to proceed to level 4? Does the focus lie with the executive processes or is it necessary to give more consideration to the strategic processes? How crucial is the situation? Will not taking a professional approach deal the final blow for the organization? And how much knowledge and skill is there within the organization itself? Can implementation be carried out independently or is help necessary?

Because no two situations are the same, there is no single scenario. Below, we describe four scenarios that can be followed in various situations. The variables in the different scenarios are the expertise available in the organization and the cause or need for change.

The Quality scenario

If the need is great, an organization will be prepared to invest in quality improvements with time and money. This makes it possible, where the internal level of knowledge is insufficient, to hire knowledge and expertise from outside. These workers will, following examination, describe how the work is to be done. If there is sufficient knowledge, but insufficient capacity, the Result scenario (as described below) will be the most common one. In order to solve the capacity problems, personnel can be hired to take over daily tasks so that internal staff can concentrate on the process improvements. This makes for much greater staff commitment, which is absolutely indispensable.

The Result scenario

There is often sufficient knowledge but insufficient capacity, or various projects have been started but have run aground over time, due to a need for further improvement or an urge towards perfection, which has meant that the end was not achieved. The Result scenario offers a solution in such circumstances. Here, internal staff design the organization in the short term and arrange new or improved procedures for the various processes. Best practices in this case offer something to focus on to achieve a fast result.

The Growth scenario

If the problems are not too great, organizations are normally not willing to invest a lot in improvement projects. In order to nevertheless achieve steady improved professionalism in application management, the Growth scenario can be adopted. Each year, a limited number of bottlenecks are indicated and action is started to solve these bottlenecks. Best practices can play a role in this situation. Points for improvement can be recognized through self-assessment.

The Team scenario

Improvement processes can be a part of daily work at a certain level. This improvement should be self-perpetuating.

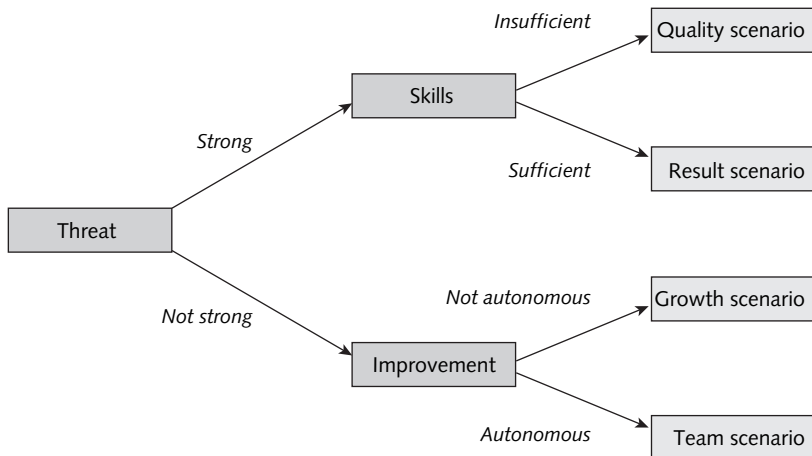


Figure 31 Decision tree for the scenarios

9.5 Starting with ASL

In order to start with ASL as an organization, the following routes may be taken:

- Based on the examples from the VGK case studies in this book, you can create your own picture of how your organization can profit from these concepts;
- Read more about ASL. At the end of this book, there are references to other books and articles on ASL;
- Follow courses and workshops. EXIN (www.exin.nl) recognizes a number of businesses offering courses leading to the ASL Foundation certificate (ASL basic training) and possible follow-up courses;
- Seek contact with organizations that are already further advanced with the implementation and use of ASL. You can also attend various meetings, in which partners and knowledge partners share knowledge and experience on a variety of factors such as practice, implementation, etc. These meetings are open to the public;
- Download information and best practices to gain further insight into ASL;
- Seek contact with the ASL Foundation and join up as a knowledge partner and ASL user. See annexe 4;
- Carry out self-assessments and scans. The ASL self-assessment is freely available in bookshops. People and organizations can also be certified.

Practice at VGK

It has been two years since John Hollander, Manager of VGK's AMD (application management department) gave the green light for the improvement of the application management processes at VGK and John is definitely very satisfied. For Miriam, the Quality Manager who was brought in especially for this project, this also gives her the opportunity for a new challenge: she is off to India in three months to implement ASL in an application management organization. John has arranged for curries to be served at the going away party, some very hot so Miriam can get used to the taste. He thinks that could take time!

Miriam recently took an ASL self-assessment together with the process owners and John. This showed that real progress has been made: the management processes are on an average of 3 and maintenance and renewal are averaging 2. The latter is mainly due to the fact that system documentation is not fully up to speed, but the overall application management is improving all the time and there are fewer and fewer annoying surprises such as major budget excesses, incomplete impact analyses, etc.

John has also noticed that the process owners at the workshop where the self-assessment was held are carrying out their roles better and better. They keep a close eye on how the processes are carried out and regularly offer suggestions for improvement. They also encourage the other workers increasingly to offer their own suggestions for improvement. John thinks the final drink after the self-assessment workshop was also entirely justified.

He is curious to know how the implementation of ASL proceeds in other organizations. He actually knows little about this and there is now an invitation for a themed session on ASL on his desk. Three practical talks will be given at the session on the implementation of ASL. After having a brief look in his diary, John immediately registers and decides to take Jim, who is just as enthusiastic as in the beginning and will probably also be taking over some tasks from Miriam. Three weeks later, John is standing with a sandwich in one hand next to three men whom he has not previously met. The presentations have been given and the visitors to the session have received their own instructions. As devil's advocate, John's group is soon given the task of justifying the "doing application management professionally only makes sense if the principal also works professionally" theory. John does not entirely agree with the theory, but this, of course, makes it fun to look for arguments. He introduces himself to the other men and briefly mentions something of his experience with ASL. This immediately gets one of them interested. He introduces himself as Michael Vandenberg, Director of a fairly new web services bureau. The bureau has seen explosive growth over the last two years, from 5 to 49 employees, mostly young, highly motivated IT specialists who want nothing more than to build as many websites as possible.

"Before, everyone knew what everyone else did and everyone also knew all the clients and all the services and products we delivered," says Michael, "but you just can't keep up now that we have so many staff. Often an incident goes unnoticed or the incorrect functionality is delivered because the agreements are not entirely clear. This is why I am now looking for something to improve this. Ron Fielding here, my brother-in-law, then came up with this challenge. And I must say, what I have heard up to now has certainly interested me."

"Indeed", says the fairly robust man introduced as Ron, "It was very interesting to hear how ASL has been introduced in other organizations. I am a team leader of a reasonably large application management team at the NBI Bank. We ourselves chose the Growth scenario two years ago. Firstly, the bottlenecks were identified

based on a self-assessment with an external consultant. Certainly thirty or so bottlenecks were identified but that was, of course, too many to handle and so, together with the business, we identified the four biggest bottlenecks and started an improvement project. Via the external consultant who assisted us in the self-assessment, we also received a great deal of best practices with which we were quickly able to solve some of the bottlenecks. Did you know there was a great procedure and template for an impact analysis on the website? We went in straight away at level 1 to 3 by implementing this! And as we involved the business in this, the commitment to this is also very great. And that is always a good thing as improvements cost time and money."

"Oh, that sounds good", says the third man who introduces himself as Thomas Schmidt. "I work for an IT provider. We manage various applications for insurance companies and have thirty applications for a total of six insurance companies. We started with ASL a year ago but we are experiencing great difficulty. We hired a few consultants from the bureau where we always do business. They began with extensive procedure- and role descriptions for incident- and problem management. Three incident managers were then appointed, one per platform and two problem managers and this was the case throughout the year when there were not so many incidents, not enough to justify three incident managers in any case. You could see it straight away, those guys thought it was great, of course, but now, they also don't do much more than a little incident management and those problem managers don't really work either. They analyse the incidents and remove the problems but you get problems that were never incidents. For instance, one of the team's designs turned out to be a much lower quality than the rest. Fortunately, the coordinator on that team, although he was not a problem manager or a quality manager, was so keen that he went to figure out why this was so. It turned out there was pretty much no more up-to-date information. Well, in that case, it's difficult to deliver a good product. And when I went on an ASL training course six months ago, I noticed that problem management was not even a separate subject within ASL!"

"Not a lot has improved in the meantime. The consultants have meanwhile supplied two files with procedures and suchlike but nobody reads them and everyone just carries on as before. Nor do they deal with the real problems. Up until now, it is mainly the things that are proceeding well that are described at length. I have been called in front of my bosses as the clients are also starting to complain. They are sick and tired of the word ASL. Management actually wants all this to stop but we have

problems and I certainly think we can improve things. That's why I am glad to be here and listen to other peoples' experiences." "Could I make an appointment to come and see you some time?" Thomas asks Ron. "Of course", says Ron and they exchange business cards.

"That was indeed interesting," says John "But I think we should get down to work now in order to present a good argument." The other three agree and they start discussing the possible arguments.

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APPENDIX 1

Case study: VGK

The discussion of ASL is interspersed with a case study based on VGK, a fictitious provider of computer services to publishers. The company is introduced in this appendix. VGK used to be the in-house IT department of a publishing group formed through the merger of several publishers. Five years ago the IT department became an independent company.

Market

VGK has greatly expanded its market. After the spin-off and further growth, VGK now serves 22 publishers instead of 13, despite the consolidation of the market due to mergers. Their strength was a fairly comprehensive magazine subscription application that suits the requirements of various publishers. This is a fairly specialist market, and the choice of software is limited.

PARIS

PARIS is an integrated subscription software system. It is used by publishers for tracking, fulfilment and billing. There is also a special module for daily newspapers with their own delivery personnel who handles bonus payments and complaints. Because of its clear structure, PARIS can even be used by small publishers who need a comprehensive software package.

Strictly speaking, VGK is responsible for PARIS. However, this was not always so clear-cut. Originally, the clients participated in the decisions about its features and costs. However, now that the market has become much broader than the original publishing group, the decisions are primarily made by VGK.

Organizational structure

VGK includes three departments that correspond with the three major management areas recognized by Looijen.

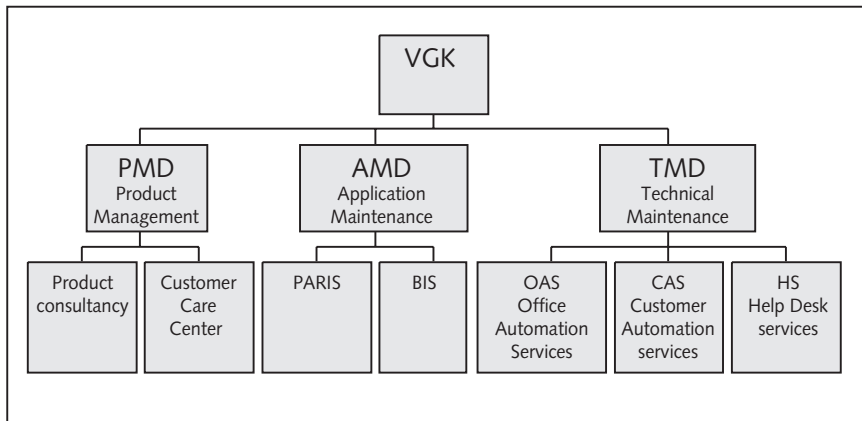


Figure 30 VGK

Product Management Department (PMD)

PMD is the business information (system) management organization for PARIS and BIS. Within VGK, this department has the expertise about substantive issues, it is the primary contact for the users, and is the client of the Application Management Department (AMD). The full responsibility for PARIS and its functions is shifting to VGK. Hence PMD will eventually have full commercial responsibility for the costs and revenues of PARIS. However, its internal structure is not yet fully prepared for this. Consequently there is still some overlap with the business information (system) management carried out by AMD.

Application Management Department (AMD)

This department is responsible for the maintenance and enhancement of the applications. Within VGK, it is the client for PARIS services. AMD is responsible for Application and technical infrastructure management in VGK. When dealing with clients AMD is normally supported by PMD. The reason for this is that although PMD is responsible for the provision of PARIS services to VGK's clients, internally AMD is responsible for realizing them. This division has demarcated supply and demand within VGK. This also means that within VGK, PMD is the designated client representative.

Technical Management Department (TMD)

This department is responsible for the computer centre. TMD provides two kinds of technical infrastructure management: Office Automation Services (OAS) and Cus-

tomter Automation Services, (CAS): running major applications, such as PARIS, for clients. CAS plays an essential part in PARIS services, unlike OAS. Hence AMD has extensive contacts with CAS and little contact with OAS.

Services

VGK's clients

VGK has 22 clients who use PARIS. Eight of them run the software on their own infrastructure, in their own computer centre using their own hardware and personnel. They occasionally receive new releases of PARIS, which they install themselves. VGK provides technical infrastructure management services for 14 clients. This is provided by TMD under the direction of AMD.

PARIS releases

At present there are three releases of PARIS in use: PARIS 9.8, PARIS 9.7 and PARIS 8.0. Two clients on their own infrastructure use release 8.0, and it is no longer supported by VGK. These two clients are still using this version as they have not had the time and resources to migrate to the latest release.

There are three PARIS releases every year. VGK schedules the releases in consultation with the client. The contracts require the clients to follow the PARIS release policy and to be at most one year behind the latest release.

Quality improvement

Two years ago, AMD decided to become more professional. One of the reasons for this development was that they were split off from the ICT organization of the publishing group. The objectives were to control the provision of services more effectively and increase cost-awareness. When other publishers started using PARIS it became even more important to focus on efficiency and profit. John Hollander was hired to manage this change.

PARIS was originally developed as custom software for just one publishing group. Although it is now used by a number of other publishers, VGK has not fully made the change to becoming a supplier of standard software packages.

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APPENDIX 2

ASL and other methods

ITIL and ASL

ITIL is a framework developed by the British Government initially for its own use. It consists of a number of publications in which an integrated, process-like framework is described for managing the IT infrastructure and IT services. The best practices described originate largely from and are applicable in the infrastructure domain although ITIL is positioned more and more as *the* management tool for all IT management domains. The infrastructure domain refers to services regarding the making available of and maintaining of particularly hardware, system software and the development resources. Consideration was given for example to service support and service delivery processes, IT infrastructure- application and security management.

To some extent, ASL is based on the ITIL concepts. This is apparent from the names and structure of certain management processes. ASL also uses these concepts, but addresses application management, the maintenance and enhancement of information systems. This requires different skills and expertise.

CMM and ASL

CMM (Capability Maturity Model) has traditionally been a model for system development organizations (new developments or major enhancement/renovation projects). It identifies five levels of maturity, each of which includes a number of processes. The presence or absence of these processes determines the maturity of the organization. CMM primarily addresses the management level, rather than the strategic level. It focuses on the *Quality Management* and *Planning and Control* processes.

ASL does not use maturity levels for the application management organization as a whole. However, there are maturity levels for the ASL processes, and scans are available on the market to identify them. For example, there is a scan to identify maturity levels in outsourcing and for the development of the professional level of application management organizations. However, these instruments are not part of ASL.

SDM, DSDM etc. and ASL

SDM and DSDM are both system development methodologies. SDM used to be a popular standard. SDM divides system development into stages, with underlying activ-

ities, documents and reports. The stages include definition study, basic design, detailed design, realization, testing, etc. There is also an operations and management stage, but it is rarely used. DSDM can be combined effectively with rapid application development. The stages of SDM and DSDM fit into the ASL framework, which means that a modified version of SDM or DSDM can be used for software renovation. Furthermore, many documents (e.g. system documentation) are transferred from the development stage of the system to the maintenance and enhancement processes where they are essential.

Yourdon and ASL

Yourdon and related development methods concern the realization. ASL does not specify any particular approach, but does assume that an appropriate method will be used.

Business information (system) management and ASL

Business information (system) management refers to all the activities undertaken by the persons in a user organization who deal with the support and design of the information provision. Business information (system) management is carried out by people who from the organization point of view state what the system should do, who support the end users and who ensure that the information provision provides maximum support for the organization.

ASL does not address business information (system) management. However, after introducing ASL there will be a need to make the client organization more professional. This is because after the introduction of ASL, business information (system) management may be found to be lagging behind. Some of the potential benefits of ASL will not be obtained if there is an insufficient business information (system) management capacity. There are a small number of business information (system) management approaches available that can be combined effectively with ASL.

BiSL is a public domain standard for business information (system) management. ASL and BiSL share a joint source of development. They therefore fit in with one another. ASL is for application management, for IT organizations that develop and maintain information systems and applications. BiSL is for IT users and clients. The processes of ASL and BiSL fit in with one another although there is no definite need to implement or improve ASL and BiSL at the same time.

Application management and ASL

Application management covers the maintenance, enhancement and renovation of applications. ASL is a methodology for all aspects of application management, from strategy to operations.

Technical (infrastructure) management and ASL

See “ITIL and ASL” and “Business Information (System) Management and ASL”.

PRINCE2 and ASL

PRINCE2 is a project management method and can be used together with ASL. For example, in Application Management, projects can be set up for major renovation efforts in the ICT organization, and PRINCE2 can support these successfully. ASL primarily addresses the operations of the line organization.

ISPL and ASL

ISPL (Information Services Procurement Library) focuses primarily on procurement and defining the delivery of ICT services and therefore has links with application services. It mostly addresses business information (system) management issues and can be used for the more detailed development of ASL processes such as *Service Level Management*.

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APPENDIX 3

The ASL Foundation

The ASL Foundation was established in 2002 by a number of like-minded organizations that feel strongly about the professionalism of application management and wish to promote it by way of the Foundation. This takes place by way of publications, congresses, themed evenings and collecting and publishing of best practices in this area. The Board of Directors consists of representatives of the participants. In 2005, the promotion of the BiSL was also added to the Foundation for at least two years. The objective is to increase the professionalism of IT services regarding the client and the contractor.

Objectives

The Foundation's raison d'être is jointly working on improvements and supporting the members in:

- improving the management processes within the application management domain and the business information (system) management domain and information management;
- deducing and sharing information on ASL and BiSL;
- developing and adopting best practices;
- improving relations between the primary business processes and the IT function.

Activities

The Foundation initiates the following activities:

- *Best Practices*
The participating organizations provide best practices. The Foundation reviews the quality of these and makes them available in the public domain.
- *Development*
ASL and BiSL are developing continuously and new contributions are always welcome. The Foundation creates a platform in which new opinions can be bundled and helps to improve the framework by organizing themed meetings, discussion groups, etc.
- *Training*
Of great importance is the training of application managers, business information systems managers, information managers and the management and staff who arrange concrete completion of the support of the business processes by IT. The

Foundation arranges comparable training modules offered by various training institutes. The Foundation also arranges, together with the independent training institute Exin for valuable examinations to be taken. Training institutions can be certified. At the same time, training institutions (intermediate- and higher vocational and universities) can be encouraged to include ASL and BiSL into their curricula.

- *ASL certificate*

The Foundation has set up norms in order to establish the maturity levels of application management organizations. Application management providers can be certified by an independent institute. The Foundation contributes to this by increasing the quality offered by providers.

- *Publicity*

Publicity is certainly critical in the initial phases of a new open standard. The Foundation provides articles, presentations, books, congresses and other media in order to bring ASL and BiSL to the attention of the respective target groups. All publications can be requested or ordered via the website and/or e-mail.

Participation

You can participate in three ways:

- *Individually*

As an individual participant, you can actively join in the activities and you will have access to the knowledge network of the Foundation. You will receive discounts on books and entry fees.

- *As a knowledge partner*

All employees in an organization will have the same benefits as individual participants. The knowledge partner will also be named in all presentations and on the website and a link to your own site will be created.

- *As a participant*

Participants form part of the Foundation's Board of Directors and as such decide in which direction the ASL and BiSL will develop. They deliver the triggers for the various types of activity and are the Foundation's motor.

More information

Visit www.aslfoundation.org or send a request to info@aslfoundation.org.

APPENDIX 4

More information

Further reading

Pols, R van der, *ASL, An Introduction*

This three hundred page book discusses ASL in a structural manner. The processes for the maintenance and enhancement of applications are discussed against a practical background. The introduction of the ASL processes and methods is illustrated using many examples. (English)

Publisher: Van Haren Publishing, ISBN 90 77212 05 1

Pols, R van der, *ASL Zelfevaluatieboek*

A textbook for examining one's own application management organization. (Dutch)

Publisher: ten Hagen Stam/SDU, ISBN 90 4400 696 7

Pols, R van der, *Strategisch beheer van informatievoorziening met ASL en BiSL*

This extensive textbook describes in detail the activities that take place within application and business information (system) management based on ALS and BiSL. The book is meant for students but can also be used by professionals. (Dutch)

Publisher: Academic Service, ISBN 90 395 2210 3

Pols, R van der, *De nieuwe informatievoorziening, informatieplanning en informatievoorziening in de 21e eeuw*

This textbook completes the approach and the methods usable within the cluster ACM within ASL. It also completes this on a detailed level. (Dutch)

Publisher: Academic Service, ISBN 90 395 2135 2

Pols, R van der, Ralph Donatz, Frank van Outvorst, *BiSL, een framework voor functioneel beheer en informatiemanagement*

A two hundred page standard work dealing with the BiSL framework in a structural manner. (currently Dutch, English translation 2006)

Publisher: Van Haren Publishing, ISBN 90 77212 40 X

Pols, R van der, Yvette Backer, *BiSL, A Management Guide*

This book provides an insight into the BiSL framework and the practice of business information (system) management. The processes are portrayed using case studies in

which the client of the VGK provider from this ASL management guide is central. (currently Dutch, English translation 2006)

Publisher: Van Haren Publishing, ISBN 90 77212 63 9

ASL

The website of the ASL Foundation: www.aslfoundation.org. Various articles on ASL can be found in the heading “ASL publications”.

BiSL

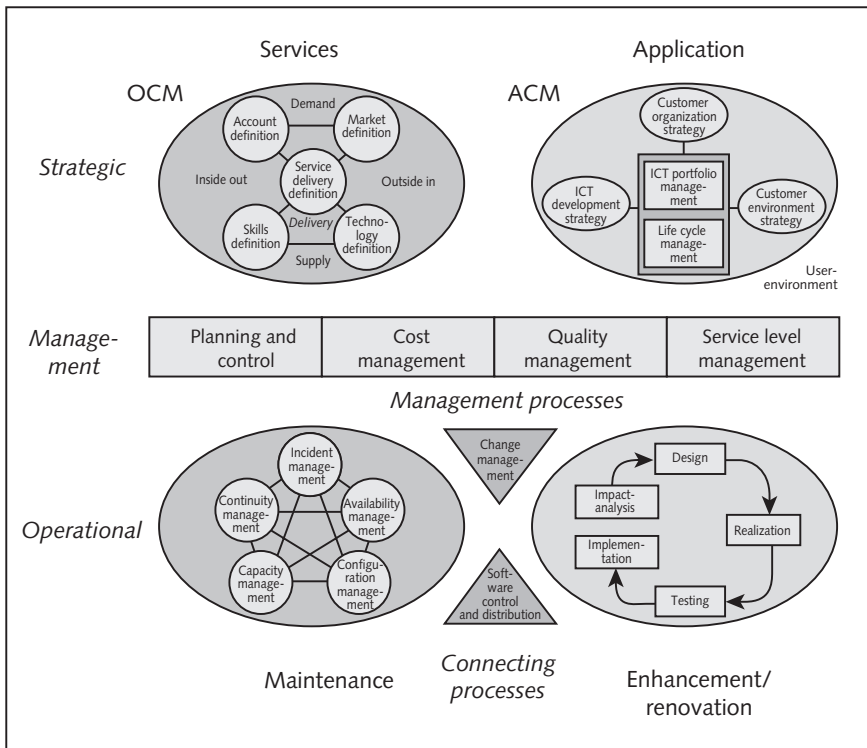
The website of the BiSL framework: www.bisl.nl. Various articles on BiSL can be found in the heading “BiSL”.

EXIN

A list of organizations providing training towards the ASL Foundation certificate: www.exin.nl.

APPENDIX 5

The complete ASL framework



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