White paper

business focused application management

Your business technologists. **Powering progress**

Atos

Recognizing difference and managing diversity

For the consumer, we are now in an age in which there is "an app for everything". In the enterprise environment - in every sector - people are eager to turn the ease with which applications can be created, adopted and accessed to business advantage:

- The "app" becomes a highly visible component of *client relationships* – allowing retail customers to scan their purchases; giving bank customers mobile access to instant balances; empowering citizens to report crime or criminal damage – the list is endless.
- The "app" becomes a critical component of *internal operational efficiency* – helping track and locate assets; enabling collaboration between virtual workgroups; optimizing energy usage – again, the examples are unlimited.

For the CIO and CTO team, however, the shiny new world of today's "apps" must be managed as part of a far more complex landscape in which integration, consolidation and regulation need to be meticulously controlled.

In a scenario in which the enterprise landscape can feature thousands of applications - some heritage, some bespoke, and some off-the-shelf – we must continually ask how all associated management processes can be tuned to deliver the best in business performance.

This scenario is made more complicated by two additional factors:

- It is easy for people to source applications and services independently of traditional IT departments – and this raises questions for budgeting, security and governance.
- People have become used to the idea of "an app for everything" in their personal lives, and increasingly expect the same in their professional lives.

In this white paper, Atos examines the current volatile state of the enterprise application landscape and asks how best it can be managed.

This paper will be of particular interest to those with a professional focus on application management. We do hope, however, that it will also help those in other professional disciplines, including purchasing and finance, gain a clearer understanding of this critical business activity.

What must change and why?

All IT management disciplines are in an accelerating cycle of evolution. What specific forces are now shaping application management?

A Business -Focused Model

We need to flip from a techno-centric to a business-focused model. What could it look like, and how do we make the change without underestimating the critical value of IT expertise?

Areas of Critical Impact

Which application management processes are going to be directly affected by the new model – and how?

Embedding the Process

Application management is part of an extended process of application and indeed business development. What could the big picture look like?

Envisioning the Future

Atos sees application management as a potentially differentiating business discipline. How soon could innovative businesses achieve the future state, and how could they benefit?

Next steps

A white paper is designed to stimulate the open exchange of ideas. What happens next?

Content

What must change and why?

The need to keep all aspects of IT management and evolution tightly aligned with business objectives is well-recognized. Even though this is easy for any CIO team to state this as a core principle, making it the reality is not so simple. In addition, the task of ensuring that application portfolios are also effectively managed from a pure technology perspective remains challenging.

Those tasked with application management are highly aware of this dual imperative:

- Ensuring that the enterprise application portfolio is fit for business purpose
- Ensuring that it is sustainable and cost-effective from a technology perspective.

To satisfy these dual imperatives, the CIO team must be able to balance very different skills under highly demanding conditions. Look back to Y2K, for example, and you see how enterprises needed both to prioritize application areas according to business risk while at the same time, sourcing skills which had all but disappeared from the labor pool.

Business Imperatives

To ask how to optimize application management strategies, we must first look at the business imperatives. All business processes today are underpinned by applications, and consequently, all improvements to business process depend on the ability to manage change in the associated applications.

Successful CIO teams have become increasingly proactive. Rather than asking how process improvements impact the application landscape, they now ask, "How can our application and process knowledge help us identify and promote positive change?"

This all has to happen in a highly pressured business climate, in which innovation must not just happen – it must happen fast. Those who are responsible for ensuring that the applications are fit for business purpose do not have the luxury of extended development or migration cycles. Where, for example, the integration of business systems following merger or acquisition could take years in the past, it will now be measured in months or even weeks.

Extreme market dynamics at a local and a global level now mean that the art of application management must achieve unparalleled flexibility. The demand for agility does not mean, however, that the CIO team can compromise in other areas. They must continue to meet:

- Regulatory and governance obligations
- Budget and resource constraint
- Security and integration requirements.

As a provider of application management services to major corporations for over 20 years, Atos believes that a change which is occurring anyway in the practical execution of application management can now benefit from a more formal review in strategic approach. This is encapsulated in our application management strategy model.

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A Business-Focused Model

The efficiency with which a business develops strategy in any area is always increased through the use of good reference models. A good reference model must be open and comprehensive, allowing those who use it to better understand their own circumstances and requirements, but without restricting their thinking or horizons.

The application management strategy model discussed here is a practical tool and not a theoretical construct. It is not proscriptive, and is crafted specifically to increase the understanding and effectiveness of the relationship between application strategy and business objectives.

Before looking at the application model, we would like to thank those clients who worked with us on it initial iterations, helping ensure that it remained grounded and focused on practical business realities.

The application management model is constructed on two core principles:

Business Need
It is built categorically around business needs and priorities. In the introduction we clearly acknowledged the dual imperatives of managing both business and technology challenges, but for application management to contribute to business, strategy must be built around business need.
The Atos model considers both business and IT drivers, but deliberately leads with the former.

Variation
No two organizations are the same. If a model is going to be genuinely useful, it must be open, and must take into account that what is appropriate for one organization will not suit another. Taking this further, it must recognize that even within the same organization, different strategic approaches to application management must often co-exist.

When, for example, a process such as payroll is comparatively stable, it should not be managed using the same rules as more volatile areas such as new product development or marketing.

By considering the combination of business and IT drivers, the model steers an organization towards four application management strategy variations. Each of these is a "macro category", and will be tuned further according to the individual situation within each individual organization. As mentioned above, these strategy categorizations can also co-exist within a single enterprise.

All lead to business value - to enhanced business performance and process - and all can contribute competitive advantage.

By inviting those tasked with application management strategy to formally consider these four approaches, the model provides immediate and practical business-based classification of the extended application landscape. The model allows you to consider the impact of each of the four categories in terms of:

- Governance
- Cost
- Risk
- Productivity, and
- Efficiency

Because each of these areas is analyzed in one of four distinct classes, it also makes it possible to establish relevant KPIs in a way which is impossible where there is a single, less discriminating approach to application management strategy.

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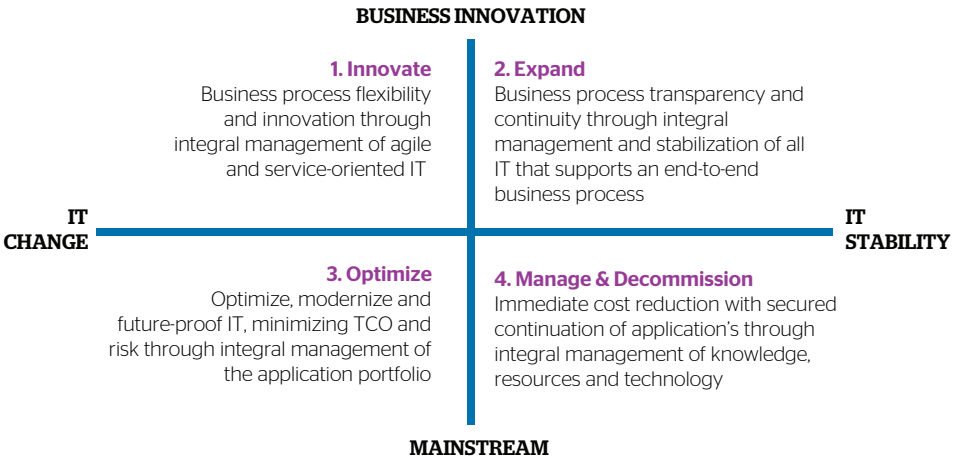
Figure 1: The Atos Application Management Strategy Model



How the Model Works: Business Maturity

The model is not complicated. The first step is to ask, "How mature is my business?" The y axis of the model provides a graduated scale with the most mature business operations and markets at the bottom and the most dynamic at the top.

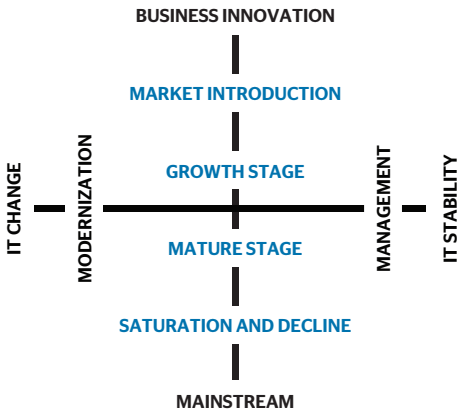
Clearly, every business needs to innovate continually. Having said that, some are more driven by innovation than others. The degree of maturity is not fixed. Look, for example at the telecommunications market, and you see an industry which has shifted from being one of the most rigid and inflexible to one of the most dynamic in not much more that fifteen years.

Businesses at the top of our maturity axis must keep up with market requirements, or even better, they must actively determine those requirements. This demands real agility in the way you create and tune new business processes. The ability to compress time-to-market becomes a winning characteristic, and this demands flexibility in both business and in its supporting IT services. Scalability, too, is a must but has to be achieved with minimal capital investment.

As businesses become more mature, these demands shift. Supporting IT must allow the business to perform predictably at the lowest achievable TCO. Processes become less differentiating as market share and customer volumes stabilize: in short, business becomes mainstream.

As markets become saturated and behaviors change, the mainstream slips towards decline. Processes need to be decommissioned as market profiles change. At the end of industry lifecycles, innovation or obsolescence becomes the choice.

Figure 2: Application Management Model - The Business Maturity Axis

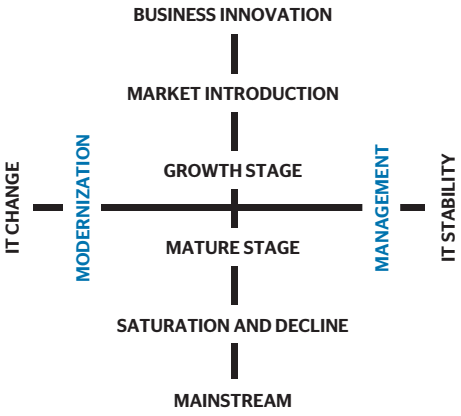


How the Model Works: IT Positioning

The x axis on our model allows you to ask "What is our IT status?"

Although this question is valid for all IT services and usage, our focus here is specifically on application management.

Figure 3: Application Management Model - IT Positioning



To determine where you make your mark on the y axis, you need first to ask if the applications you use in your business are fit-for-purpose. If current IT strategy effectively delivers the services needed to support your business, then you will make a mark over towards the right. In these cases the focus will be on:

- Advanced cost management
- Stability and reliability

If, however, modernization and change dominate your IT landscape, your marker will be over to the left. A dynamic state can be the result of both business and technology conditions. If, for example, an organization seeks to introduce new products and services to a highly volatile market, then cloud-based services may offer the scalability needed to handle unknown quantities. In this case, a change of application delivery becomes essential because of a change in business requirement.

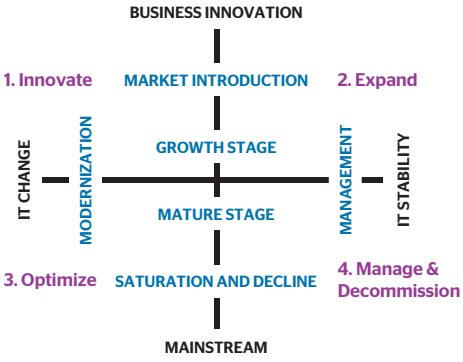
Quadrant Placement

Once you have determined your position on the x and y axes you can determine which quadrant, and which strategic approach, is most relevant.

Remember, however, that this is not necessarily about identifying a single application management strategy for the entire enterprise: it may be that different areas of your business will naturally fall into different quadrants – and this is why the initial placement by axis is important.

These individual approaches to application management strategy are detailed below. Those responsible for application governance should note that each quadrant has specific requirements and dynamics.

Figure 4: Application Management Model - the quadrants



1. Innovate

This strategy focuses on business process flexibility and innovation. It makes agile application development integral to the management process, and will deliver maximum benefit through service-oriented IT.

KPIs are crafted for agility, and this is particularly important where partnership and joint development are part of the business model.

2. Expand

This strategy focuses on the need to ensure that application management is geared to business expansion. As business grows, it must be possible for both individual applications and application sets to be rapidly scaled, while constantly pursuing performance improvement. Business process transparency and continuity are essential. It achieves this through an integrated management approach, designed to stabilize the IT used to support end-to-end (E2E) business process.

In addition to establishing business-based KPIs this approach makes it possible to adopt pay-per-use models.

3. Optimize

This strategy focuses on establishing and sustaining an optimized, modernized and future-proofed IT and application landscape. It does this while minimizing TCO and risk.

4. Manage and Decommission

This strategy focuses on immediate cost reduction without compromising continuity. It spans management of all application-related knowledge, resource and technology.

As cited earlier, *variation* is one of the founding principles of this model: there is no 'one-size-fits-all' approach. The governance mechanisms and KPIs relating to each quadrant are summarized in the descriptions which follow.

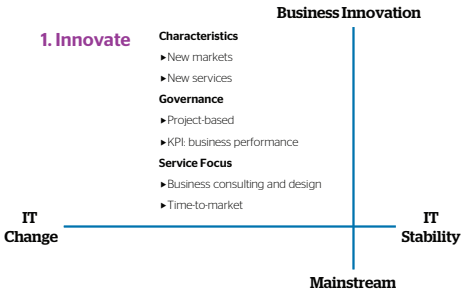
Strategy Quadrant 1: Innovate

This strategy approach is designed for scenarios demanding exceptional agility. This arises through the business need to respond rapidly to opportunity, threat or legislative change, without compromising cost-effectiveness.
This application management strategy is especially appropriate in scenarios in which business is inherently unstable as a result of involvement in emerging markets, globalization, or changing conditions of sustainability and compliance.

This strategy is also effective in situations in which larger, better established enterprises come head-to-head with new entrants. New players do not have the heritage baggage of established players, and this strategy helps established players compete on equal terms.

Finally, this strategy promotes effective participation in the wider business eco-system. If business success hinges on your ability to collaborate with a changing network of partners, then the applications you rely on must be fit for changing purpose. In these circumstances, application innovation and agility can become powerful differentiators.

Figure 5: Quadrant 1 - Innovate



Strategy Execution
This strategy focuses on Application Lifecycle Management (ALM). It establishes E2E processes and tools that facilitate and integrate the following activities:
- Requirement management
- Architecture definition
- Coding
- Testing and Tracking, and
- Release management

ALM will increase productivity and reduce time-to-market, through focus on best practice and business requirement analysis. Effective collaboration is critical, and this approach prioritizes smooth information flow and an integrated development environment.

This focus on innovative collaboration extends across the ecosystem of suppliers, partners, customers and even competitors. It puts agility at the top of the agenda, seeking always to innovate without re-invention. Off-the-shelf or cloud-based solutions are favored over bespoke development.

Continuous delivery of small changes and enhancements enables business to use the applications rapidly according to their new requirements. As a respond to time-to-market, inspired by Agile Development and continuous improvement, development and operations are joining forces. Knitting together Development and Operations opens up windows of opportunities for delivering the software continuously to the business, getting faster benefits from the product and adding value to the business rapidly. This collaboration – called DevOps – aims to involve operations into the development process and to involve developers into the operations environment. It enables daily code releases into production delivering real business value faster and more frequently.

Governance and Performance Management
This governance structure supports transformation. This application and business landscape is subject to rapid change, and the governance model must be geared to handle this.

Business innovation initiatives are generally project-driven. The governance model in this quadrant needs to ensure those projects are intelligently scoped, and can be executed on time and budget.

Major transformational projects are "lead from the top" and are tightly linked to business strategy. Governance mechanisms used in these hierarchical governance models include:
- Steering committees
- Delegation and (fast) escalation protocols
- Project portfolio management
- Risk management
- Business case management

These components are designed to deal effectively with finite resources, limited capital and short timeframes. Governance of business, IT-demand and IT-supply side are highly integrated in this quadrant.

Application management and business KPIs in this quadrant are tightly coupled. Typically they will measure:
- Time-to-market
- Business volume growth
- Market share (growth)
- Customer satisfaction

Examples could be 'IT influence on time to market' or 'duration from order to confirmation/delivery'.

Strategy quadrant 1 in action
A Dutch government organization was suffering from an excessive application maintenance burden. This was affecting operational performance: new legislation was taking too long to implement and had unacceptable risk levels resulting from over-complex applications, large data and transaction volumes and complex interdependencies.

They needed an adaptive and reliable environment, Atos established a new application management architecture based on SOA and BPM principles.

Two proof-of-concepts were delivered. These were designed to augment development agility and faster response to changing need. A new application management strategy was then designed and implemented. Agility has been increased without compromising rigor. As a result, legislative change can be translated faster and with more focus into service to the citizen.

Strategy Quadrant 2: Expand

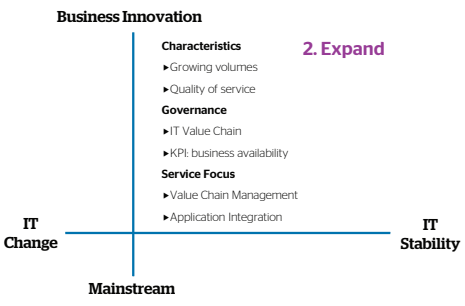
The focus in this second quadrant shifts from innovation to expansion. Successful business innovation reaches a point following early achievement when product or service volumes start to increase. It is essential during this period of business expansion that the applications needed to support business growth are completely fit-for-purpose. Quality-of-service and continuity management become critical facets of the application management strategy.

This is a critical period, and one in which it is important to monitor cost/benefit ratios against business expectations. The innovation budget has been spent, and now production and delivery costs need to be managed, consolidating activity and integrating complementary innovation initiatives. Most importantly, however, it must be possible to keep applications completely synchronized with business growth, and this may require considerable agility.
This consolidation and integration must lead to improved stability and continuity. This encompasses IT, business partners and vendors, and all related governance and financial activities. For consolidation to succeed, a keen focus on business KPIs is essential.

Business performance must come first. If pure IT metrics are used, there is a danger that while application performance looks good on paper, it may not be delivering the desired business value. Centralizing the governance of all IT supporting the business process avoids this and improves continuity.

This application strategy aligns all application management activities against business KPIs. All application management services that supports an entire E2E business chain are steered by these business KPI's, including the services from third parties. Service integration of suppliers of applications and infrastructure is key to guarantee the performance of the E2E business chain.

Figure 6: Quadrant 2 - Expand



Strategy Execution

This strategy stabilizes business processes. It manages the IT and processes needed to handle growing business volume and ongoing customer demand for quality and timeliness. It must be business lead. This requires:

- Increased integration with supporting applications/processes
- Service Integration.

Applications which worked during innovation and pilot may display stability issues with increased usage, hence this quadrant's focus on quality-of-service and continuity management.

Stabilization cannot be achieved though IT alone. This strategy examines the root causes of instability, and covers the whole chain of applications and their associated processes. A unified viewpoint for governance becomes especially important when multiple partners/suppliers are involved.

Once governance is centralized, end-to-end monitoring is implemented as an effective means to support both operational monitoring and root cause analyses. Monitoring spans both:

- Applications and IT
- Business activity

A consolidated overview of the IT chain as it supports business process is required. Business Activity Monitoring provides real-time information about your business processes, showing, for example, what consumers or business users actually do within the process.

As some applications in the E2E business chain will be managed from different angles, e.g., applications and infrastructure, and will also be managed by different parties, service integration provides a single system integrator for the entire business chain. This system and service integrator will be responsible for the performance of the E2E business chain, following the business KPI's, and will also steer and manage third-parties. One service integrator in place will reduce service complexity across the business chain and make sure all parties are aligned specifically with the right business objectives. This is achieved with clear input and output criteria as well as transparent quality control measures. All relevant third-party knowledge will also be made available to all involved parties to ensure full alignment across the business chain.

Governance and Performance Management

In this quadrant, governance focuses on root cause analysis in pursuit of stabilized business process. It must be possible to measure IT performance directly against business performance during this period of growth. Accurate analysis makes it possible to define required change at a tactical level. Improved integration must be achieved across the end-to-end IT and business value chains. This improves scalability and information flow.

These governance mechanisms focus on E2E processes. Key roles include IT value chain managers and business process managers. The former are responsible for IT operational/performance improvement while the latter are responsible for operational business process performance and improvement.

Organizational structure is best designed to mirror both IT supply side and business demand. Release management is critical. It is also important to gain a clear understanding of how individual IT components can be used in multiple processes. This understanding is essential for effective change management.

As in quadrant 1, business KPIs must be the primary focus. Shared risk and reward models are often adopted with partners. Business and IT KPI examples include:

- Typical business KPIs:
  - Business process incidents per month
  - Number of orders processed straight-through"
  - Service downtime per month
- Typical IT KPIs:
  - Proactively detected incidents
  - Number of newly rationalized-applications

Strategy quadrant 2 in action

In highly competitive and fast-changing telecommunications markets, companies must be able to adapt sourcing strategies and governance models to stay competitive.

In these markets, everything is process-driven and IT-enabled. Agility, availability and competitiveness all hinge on the efficiency of underlying IT systems.

A leading European telecommunications company asked Atos how best to establish a single point of management for all IT. The solution had to be designed in a way in which IT governance mirrored that of the processes it supported.

Direct and intensive requirements analysis with the client's business managers ensured that the ensuing application management model met business needs and supported their client-focused delivery organization.

Strategy Quadrant 3: Optimize

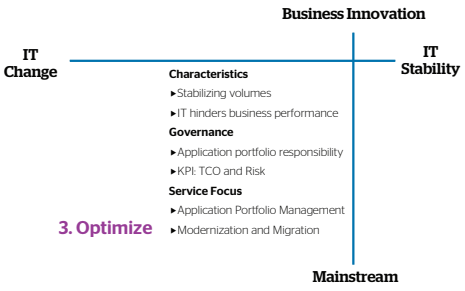
This strategy approach is suited to businesses or business areas which can be considered "stable". Business processes are well-established and growth among user or consumer groups is slow, as near maximum penetration is achieved. Market share is largely stabilized, and in many cases the products or services are coming to be regarded as pure commodities. In the consumer electronics business, for example, while printer technology continues to advance, consumables do not.

For these organizations, products and services are subject to extreme price pressure. To maintain (or even raise) margins, costs must decrease.

The application management strategy here needs to future-proof the applications which support these well-established business processes. The processes themselves may continue to support production and delivery of increasingly commoditized products for many years, and the organization needs to guarantee this continuity with minimum investment or disruption.

Once productivity has peaked, you cannot afford high risk resulting from legacy technologies. Critical systems must be modernized, but the cost of modernization must be clinically controlled. There is no "one size fits all" approach here, and modernization initiatives will be strongly influenced by sector-specific culture and conditions.

Figure 7: Quadrant 3 - Optimize



Strategy Execution

This strategy approach maintains business process stability. It drives a shift away from aging applications developed and maintained by aging resources towards a future-proofed and industrially managed application environment.

Application Portfolio Management (APM) is pivotal. Changes are implemented so that releases are industrially managed across the whole IT chain (E2E).

This covers:

- Specification
- Management
- Testing, and Release

APM provides the framework for modernization through technical lifecycle management and for change projects, through project portfolio management. APM also assures the fit with corporate IT policies, helping drive down TCO.

A strategy focused on optimizing the heritage application landscape can feature numerous activities:

Re-hosting and re-platforming	Technical consolidation realized by resizing, scaling down or virtualization.
Encapsulation	Minimizing the impact of change by introducing an interfacing layer between the existing application and its surroundings to achieve reusable information and interfaces.
Componentization and Code conversion	Re-architecting existing applications and selectively converting code (syntax conversion) for maximum reuse.
Re-engineering and model-based migration	Harvesting often modestly documented existing applications to derive model-based (e.g. UML) documentation, enabling re-use with modern technologies in new development projects.
Replacement by standard package	A good solution where the business value of supporting a customized application environment is limited.
Custom development	Where high flexibility or business-specific functions are required and where rewriting or reusing documentation is easy.

Governance and Performance Management

Most Optimization revolves around tactical, project-based activities. Overall objectives, however, impact IT at a strategic level: reducing TCO; securing long-term continuity; and lowering risk within the application portfolio.

The individual activities need to be measured and monitored in terms of incremental improvement. They benefit from short-cycle feedback and learning across the application lifecycle. It is desirable to be able to scale up from the management of individual applications to the extended application landscape, and this means being able to push standardization in technology and infrastructure.
Such tactical activities can be governed with a (traditional) project portfolio management approach, either sequentially or concurrently. Typical projects include:

- Application and data migrations
- Re-platforming
- Application selection and integration

Although traditional approaches remain viable, newer and more collaborative governance methods are emerging in IT modernization. Objectives, standards and guidelines are set at IT-strategy level by, for example, an application portfolio board. The ensuing tactical modernization activities are then carried out in a collaborative environment. This builds on more diffused knowledge, leveraging networks of expertise.

These new approaches need new rules for governance, able to promote a more empowered and self-steering virtual IT-organization.

Whether traditional or collaborative approach is used, effective governance must exist for release management. This will secure ongoing continuity and consistency.

With IT modernization bringing together both tactical activities and long-term strategic objectives, KPIs must reflect both. Strategic IT performance-based KPI's must exist for:

- TCO reduction
- Long-term continuity & performance
- Risk mitigation

At a tactical level, KPIs must take into account the breadth of IT modernization activities. As a result, tactical KPIs can be heavily customized by project. Tactical KPIs are often related to release management mechanisms, covering:

- On-time release
- Overall project performance
- Continuity (or non-disruption)
- Cost reduction and productivity gain achieved

Strategy quadrant 3 in action

A process-manufacturing company approached Atos for help with Enterprise Content Management (ECM). Operating in a strongly regulated environment, ECM was critical to compliance and reporting.

The company's existing ECM architecture was fragmented, due in part to piecemeal development by different business units over time. This fragmentation impeded compliance audit. It was labor-intensive, time-consuming and costly. Another critical side-effect was the barrier to knowledge sharing and collaboration across the workforce.

Atos designed both the new ECM architecture, and most importantly, the requisite migration and continuity processes. The new architecture needed to satisfy both specialist and generalist users – and needed to build on current investment.

The resulting solution presented a simple and intuitive interface to diverse user groups, while managing highly complex integration and filtering in the background. In addition, the client wanted the new solution to save money.

By combining a highly flexible hosting infrastructure and a means of scaling to changing business requirement, the client achieved all goals: better compliance, greater cost-effectiveness and innovative collaboration.

Strategy Quadrant 4: Manage and Decommission

The fourth application management strategy approach is specifically focused on those scenarios in which both IT and processes are stable and mature. Typically, this is the application landscape which supports mainstream business.
The strategy here must do two things:

- Discover opportunities to reduce cost without compromising stability or continuity
- Guide management of applications through essential maintenance through the final stage of the life cycle, and subsequently through decommissioning

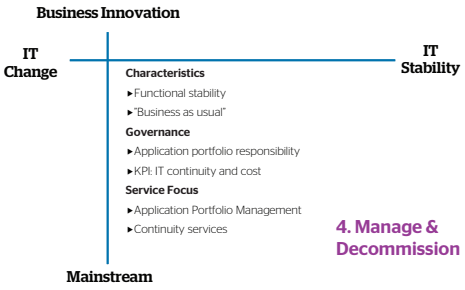
End-of-life application maintenance must guarantee business continuity for business users and clients who continue to depend on the applications through to de-commissioning.

Even though these typically heritage applications are stable and well-established, it is still possible to identify and achieve significant savings - 20% annual cost reduction is achievable through:

- Continuing economies of scale
- Industrialization of application management processes
- Reduction of software license cost
- Right-sizing resource pools and/or global sourcing

Strategy implementation of this model is based on standards such as CMMI to ensure clear communication and reporting against Service Level Agreements (SLA).

Figure 8: Quadrant 4 - Manager & Decommission



Strategy Execution

The applications in this quadrant are not in the spotlight. Stable applications supporting stable processes are at risk of becoming outdated simply because they are not obvious areas of investment.

Traditional application maintenance approaches with a focus on continuity are the norm. Offshore engagements, with the benefit of industrialized application management and economies of scale are viable means to provide continuity while reducing costs. Out-tasking and outsourcing propositions need to offer cost reduction with immediate effect.

Continuity is key in this strategy, and must secure the ongoing business functionality of the managed applications. Good incident management and problem solving minimize application downtime and increase application availability. Continuity services include:

- Functional application support
- Problem handling and preventative maintenance
- Operational application management
- Application data management
- User management and application security

Applications must also be managed through end-of-life. During this phase, costs must be minimized along with change requests. Despite winding down, however, essential business functions must be sustained. Application end-of-life can involve:

End of Service
The function becomes obsolete. There can be many reasons for this, for example a company selling some of its activities or a service line discontinued. This requires "leave no mess" and "leave no inter-dependencies".
Replacement of Service
The function will still be needed, but will be delivered by other applications. Replacement requires careful management of heritage data and live inter-dependencies.
Replacement of Core IT
Is this approach, core IT systems are replaces with new applications and technology. Different application management strategies will need to be established.

Governance and Performance Management

With this application management model, governance focuses on industrialization. It demands professional management expertise and economies of scale.

Typically, IT-based KPIs are execution-related and are defined according to industry standards including those of ISO and CMMI. Target costs reflect industry benchmarks and KPIs are expressed in terms of tactical and operational efficiency.

Typical IT continuity KPIs include:

- Reduction of incidents per month
- Reduction of change-hours

Services measured by these KPIs come from standard catalogs and are priced on quantity and unit of work. Typically this will be a base load and fixed price, calculated according to the number of function points to be maintained. These KPIs are designed to stimulate operational improvement.

With end-of-life services, cost levels will continue to decline with the reductions in change activity, function numbers and application management scope.

Strategy quadrant 4 in action

A large insurance company ran a health insurance domain made up of various insurance brands. They needed application management support for the heritage back-office systems which handled mainstream processes. These included customer claim declarations, healthcare settlements and internet/intranet management.

Critical systems included over 70 well-established mainstream business applications. With a clear focus on continuity (incident handling, preventive maintenance) they sought to optimize the efficiency of change management.

Atos achieved cost reductions through economy of scale using offshore factories for support and ongoing software development. With legacy elements, we focused strongly on cost reduction, phasing out services as they become redundant over a two year period. Our commercial model was designed to reflect service reductions as they occurred.

Key Complementary Activities

In the description of the four different strategy classes above, we have stressed that different scenarios need different approaches. Whichever approach is most suited to an organization's specific business and IT state, however, the chosen strategy will influence (and be influenced) by five key complementary activities.

Outsourcing Transition and Knowledge Management
How will outsourcing policy be affected? It is particularly important to understand the implications of transition of service to third parties, and the impact this has on retained business and technical knowledge.
Global Delivery
What are the implications for enterprise-wide application delivery? How will the chosen strategy help minimize application management costs without compromising function, performance or support quality?
Risk and Compliance
What are the implications on risk and compliance associated with each of the four categories of application management strategy?
Cloud Services
How will the chosen strategy take advantage of full virtualization, not just in terms of technical management, but in terms of business performance and cost modeling?
Business Process Management
There is a natural focus on BPM in innovation (Quadrant 1). But how do you retain clear dual focus on business and IT goals across all application management strategic approaches?

This Chapter explores each of these areas, considering each of the four application management strategy approaches.

Outsourcing Transition and Knowledge Management

Most enterprises can already make the business case for outsourcing at least part of the application life-cycle. Some choose to keep development in-house while outsourcing ongoing management and maintenance.

Transition is critical in any successful application management outsource. So what is the best way to ensure that the transfer of application management, maintenance, enhancement and optimization is effectively controlled? How best to transition from multiple current suppliers or in-house teams to a rationalized, industrial-strength service provider?

The service provider's delivery organization is critical, and will typically comprise two main components:

- The onshore team will usually be located close to the customer organization's decision-making and operational center
- The offshore team can be spread across local service delivery and remote locations

Traditionally, activities benefitting from close business cooperation with the customer are best performed by the onshore team. The offshore team performs those activities which can be planned and executed in a standardized and predictable manner.

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Knowledge transfer and knowledge management are critical to the success of transition, and must be embedded in each transition phase. These phases are summarized here, and will apply both to consideration of individual applications and to application clusters:

Pre-transition

Preparation prior to transition with a focus on preparing the organization and infrastructure.

Kick-off

The first phase of transition during which all organizational requirements are defined. The current situation is assessed and the scope defined according to business priorities. Customer expectation is formally verified, project organization defined and a high level transition plan developed.

Preparation

Preparation starts after formal approval of the kick-off results. The core team is established, infrastructure prepared, and procedures and standards are set. Planned changes are communicated to current key-stakeholders and users. Preparation is planned and executed with tight cooperation between client and provider.

Discovery

Discovery focuses on knowledge transfer. This spans customer-specific information on the IT landscape, applications and infrastructure. It also documents expectations, procedures and standards, and drafts Service Level Agreements. Documentation and training are critical, ensuring that the provider team has the business and technical background knowledge needed to perform. Baseline, functional and technical documentation are also created during the discovery phase.

Shadowing

The service goes into 'mode of operation'. The core team runs the service under close supervision of the original delivery team. Fallback scenarios are prepared, and processes and skills fine-tuned. Shadowing closes with the final evaluation and confirmation of the service model and services delivered.

Closure

Closure covers the formal hand-over of service, and the conclusion of transition. Any outstanding issues are identified and addressed and formal sign off is obtained. After closure, the service provider runs the full mode of operation. Clear demand/supply management structure is operated, and continuing focus on continuous improvement and innovation is sustained.

The transition sequence summarized above is identical in each quadrant of the application management strategy model. There are, however, clear differences in focus:

Quadrant	Summary	Onshore/Offshore
1 - Innovate	Most business-specific activities are performed by the onshore team. Offshore advantages can however be realized via agile development. Discovery and shadowing will be longer in Quadrant 1. Skills and resourcing in both onshore and offshore teams will often be project-specific.	**Project-specific**
2 - Expand	Discovery and shadowing can be longer than in quadrant 3 and 4. Application enhancements are usually implemented through release management and transition will include at least one full release.	**30/70%**
3 - Optimize	This quadrant follows a normal cycle through all phases of transition.	**15/85%**
4 - Manage & Decommission	This quadrant maximizes cost reduction through a high level of standardized and industrialized offshoring.	**5/95%**

Global Delivery

In the early days of outsourcing, offshoring options were driven largely by cost incentives. Today's global sourcing scenarios are more sophisticated. Where global delivery becomes the underlying principle, the client expects the chosen provider to deliver "anything from anywhere" while meeting cost, quality and performance targets. For application management, these rules clearly apply.

Providers that offer global delivery capabilities must have a coherent and comprehensive set of service delivery processes, designed for a fully distributed environment. These global processes must be supported with the associated tools and capabilities:

- Tooling
- Resource management
- Knowledge management
- Evolutionary strategy
- Standards and governance

Only exceptionally well-organized work processes will deliver clear and measurable benefits. It must be possible to deliver E2E application management to any location, "as a service" via any global delivery center.

Get this right, and global delivery of application management delivers clear benefits across all four quadrants:

- **Predictability and control** - shrinking time and cost, and enabling better planning and budgeting
- **Increased productivity** – more effective software development and maintenance with viable opportunities for mass-customization
- **Continuity** – gaining the full benefit of knowledge and experience in both application development and maintenance
- **Efficiency** - standardized, industrial methods and techniques reduce risk, especially in communication and transfer
- **Agility** – throughout the contract period, it must be possible to adjust service supply to changing demand

In addition to these generic benefits, Global delivery can also bring specific advantages in each of the four quadrants.

Quadrant 1 Innovate
It is essential to minimize development and roll-out times for the new applications which support innovation. Using global software factories can help shrink the cost and time-to-market of both new applications and customized application packages.
Agile software development, when combined with global software factories, increases the efficiency and effectiveness of both software development and mass customization.

This quadrant also emphasizes the importance of a "front office" provider team with a deep understanding of both business requirement and the innovation dynamics. The front office and offshore teams must establish excellent communications and processes to ensure that client goals are met in the shortest time and at the lowest cost.

Quadrant 2 Expand
Management of the process chain is key here. The front-office team still works closely with the customer, but now focuses on stabilizing the E2E business process and supporting IT-landscape.

The front-office team needs in-depth knowledge of both E2E processes and business KPIs. They must be able to work closely with the business process managers in order to keep the IT and business landscapes aligned.

They will translate business need into executable work packages for the offshore development teams.

Quadrant 3 Optimize
Global delivery centers can make a notable contribution in the modernization of application landscapes. Where it would be difficult to make the business case for migration from legacy to contemporary platforms using traditional approaches, global delivery centers can help.

In the optimization quadrant, global delivery can help overcome the difficulty of funding important, but non-critical migration.

Quadrant 4 Manage & Decommission
In this quadrant, global delivery can significantly ease skill and resource challenges. As legacy applications move towards the end of the life-cycle, the cost of skills needed to manage change can increase disproportionately to the value of the project.

By leveraging global delivery models in skill-sourcing, it becomes possible to identify the best value resource and reduce dependence on diminishing local or in-house expertise.

Risk and Compliance

Regulation, legislation and standards have a profound effect on business process and application management in all sectors. This is particularly noticeable in issues relating to privacy and information security.

Heightened attention in these areas means C-level executives insist on greater focus on operational detail. As the CEO and CFO ultimately carry personal responsibility for governance and risk, the CIO team must ensure that applications actively aid good governance and that they are auditable and transparent.

Added to the continual pressure on compliance and reporting, sustainability now becomes a key element in compliance, and here too, applications and processes must actively contribute.

Any weak-spots in the overall approach to compliance and reporting increase business risk. This is also clearly reflected in the application landscape: a badly undertaken migration, for example, in which data inter-dependencies have been inadequately audited, can easily result in compromise in client privacy or security.

Each of the four quadrants should be considered in their own right with regard to risk and compliance.

Quadrant 1 Innovate
Any innovation must take into account risk and compliance. In this quadrant, protection of Intellectual Property is particularly important.
Security policy must be geared towards business innovation, and today, this needs to take into account open collaboration between partners. In some sectors, such as pharmaceuticals or aerospace, innovation is highly regulated, and here, the ability to optimize and streamline reporting becomes an important asset in itself.

Quadrant 2 Expand
In this quadrant, scalability and reliability are especially critical. When stabilizing applications and processes as they emerge from the innovation phase, it is essential that increase in demand does not represent an increase in risk. Increased client usage, for example, results in a corresponding increase in the need to manage privacy and security volumes.
Business continuity, disaster recovery and regulatory compliance are all an important part of the stabilization effort. This is complicated by reliance on partnership networks. The ability to audit risk and manage reporting with a high degree on automation, both make a direct contribution to business efficiency.

Regulation, legislation and standards have a profound effect on business process and application management in all sectors. This is particularly noticeable in issues relating to privacy and information security.

Quadrant 3 Optimize
In this quadrant the focus is on stable mainstream business. Points of risk occur when change is implemented, either directly or in areas of direct or indirect dependency.

If mainstream applications or processes are being migrated to a cloud-based architecture, it is essential that regulatory and compliance issues are part of the design and planning process from the start. Even if technically, there is no reason why data storage and manipulation should not take place offshore, the regulatory limits may stop this being an option.

Supplier continuity must also be adequately covered. If, for example, an SaaS supplier ceases to trade, what contingency plans have been put in place?

Quadrant 4 Manage & Decommission
Off-shoring is a recurrent theme in this quadrant, and whenever offshore is considered, the compliance implications need to be fully managed. The ability to segment data becomes critical, making it possible to meet regulatory conditions on the one hand, while maximizing the benefits of low-cost service provision on the other.

Compliance itself can be both a driver and a target for cost reduction, and the degree to which audit and reporting can be automated across the application landscape both reduces the cost of compliance, and increases efficiency.

Cloud Services

All application management activities today need to consider cloud delivery for three reasons:

- **Agility/scalability** – cloud models allow you to respond rapidly to changing need
- **Cost benefit** – pay-per-use and utility costing eliminates much traditional capital expenditure
- **Future-proofing** – cloud avoids re-investing directly in skills and technologies as new developments occur

Like the application management model itself, cloud is not "one size fits all". There is considerable range of scope – from infrastructure, through applications and on to entire services and processes. There are also notable variations in basic architecture from fully private to fully shared, with hybrid options in between.

Cloud developments have a significant impact on application management, and affect each of the four strategy approaches differently.

Quadrant 1 Innovate
Organizations may seek to accelerate innovation by using cloud-based approaches for both application development and distribution. The use of Infrastructure as a Service (IaaS) and Platform as a Service (PaaS), both help to establish a more open and dynamic environment for application development and trial.

Agility is the key, and cloud-based approaches can help shrink the gap between business innovation and its associated application development.

These developments do raise issues for risk and compliance (see above), particularly with regard to the protection of Intellectual Property. The choice of private over public cloud architectures, while limiting horizons, does largely mitigate these risks.

Cloud-based approaches are almost, by definition, more collaborative than traditional closed-shop development. This does open up innovation opportunities amongst changing partnership networks, but needs to be managed appropriately.

Quadrant 2 Expand
Scaling up for mass transaction volumes is at the heart of quadrant 2, and scalability is core to all cloud propositions. From the application management perspective, it becomes important to understand the process constraints of each application/cluster in selecting cloud approaches.

Private cloud solutions have a natural fit for highly distinctive business processes and applications, and do make it easier to apply and monitor business KPIs.

During stabilization, cloud-based 'process as a service' approaches can also be compelling, with the process managed either by the client or by a specialist partner: smart billing, for example, can be run as a cloud-based process using internal or external resources – with the choice made according to core competencies.

Quadrant 3 Optimize
Cloud computing can make a positive contribution in this quadrant, especially with regard to the management of less security-sensitive business processes. Examples could include Sales Funnel management or Project Management.

Public SaaS solutions can be a cost-effective option and have the added advantage of reducing the burden of governance. The downside is inflexibility, but this is less of an issue where processes are already stable.

Some organizations do, however, question the ability to set and sustain service levels in public cloud-based models.

Hybrid approaches are always possible, and can be both highly resilient and cost-effective. This means being able to pool application management resources to best effect, and being able to get the best return from those with specialist business and application expertise.

Quadrant 4 Manage & Decommission
Although the logic of cloud computing makes sense in quadrant 4, the cost of conversion from non-cloud environments may be prohibitive.

This will change, as a new generation of cloud based applications themselves reach maturity and end-of-life - but we are not there yet.

Business Process Management

Business Process Management (BPM) and application management are as closely linked as the processes and applications themselves. The relationship is immediately apparent in two distinct areas:

- How is BPM analysis of processes within an organization supported by the need to refine and develop associated applications?
- How can the process of application management itself be optimized through the adoption of the BPM discipline?

Just as the application strategy model which is the focus of this paper is driven by business objectives, and supportive of IT requirements, so it is with BPM: it puts business first and then considers the associated IT impact. As a result, success in BPM is highly dependent on the efficiency with which the gap between business change and application change can be closed.

Focus and agility too are key:

- BPM achieves most when it focuses on specific process challenges
- Time and budget pressures make speed and precision winning characteristics in change projects

Not surprisingly, BPM can be a powerful and positive influence in all four quadrants of the application management strategy model.

As so much innovation is process-driven, BPM will naturally feature in quadrant 1. In some respects, however, it becomes even more critical in quadrants 2 and 3, where the emphasis is placed on the ability to scale up to industrial proportions while minimizing operational cost.

When considering the role of BPM outside the first quadrant, it is important to set expectations high – making, for example, immediate cost-reduction a precondition.

Quadrant 1 Innovate
Consider making BPM an integral part of the application management strategy in cases where innovation is strongly linked to new processes or radically re-designed current process.

Embedding BPM in overall business strategy will, by definition, require it to become integral to the application management process. In addition to combining BPM and application management in an innovation-based strategy, it can be extremely positive to use BPM as part of the ongoing review of all IT management processes.

Quadrant 2 Expand
The Stabilization quadrant is primarily focused on cost reduction and revenue increase during a phase of increasing business volumes. By coordinating BPM and application management activities during stabilization, you increase the chances of maximizing cost reduction.

Most importantly, you also create opportunities to industrialize without compromising on agility. By creating, for example, processes which allow orders to be processed from first contact through to delivery, you help eliminate redundancy while contributing directly to both profitability and client satisfaction.

The benefits and experience of this approach soon begin to accumulate, allowing you to build on growing BPM/SOA experience in a manner that becomes a positive business differentiator over time.

Quadrants 3 & 4 Optimize and Manage & Decommission
By implementing BPM as part of the optimization quadrant, you increase the opportunities to identify and implement cost-reduction initiatives. This is particularly valuable when dealing with high volume/low margin business in which the ability to shave a single percentage point of transaction costs can translate into a massive contribution to the bottom line.

BPM will also help establish a foundation for a pure Service Oriented Architecture (SOA), which in turn can lead to cost savings of as much as 60% through extensive process automation.

Embedding the Process

Application Management and the Business Continuum.

It is important to remember that ultimately, everything joins up. Different technical and business specialties will always rely on professionals whose personal viewpoint is intensely focused –perhaps on a given product or business process.

It is important to remember that ultimately, everything joins up. Different technical and business specialties will always rely of professionals whose personal viewpoint is intensely focused – perhaps on a given product or business process. The applications you rely on, however, are all a part of the continuous fabric of your business, and the overall quality of application management has a direct impact on the way you innovate, grow, and manage change.

Before considering our future vision of Application Management, it is worth drawing attention to one obvious fact: application management strategy must be part of a bigger business and IT picture, and the greatest success will be achieved by those who are able to balance the specific with the general.

It is good to respect the professional expertise of the specialist. Application management in general, and the management of particular application platforms or even applications in particular, is a highly specialized discipline.

Every CIO knows the ground rules, but the detail of application management tactics and strategy will invariably be delegated to specialists. This is a positive, but there are some implicit risks:

- Are there professional functions that need to understand the basics of application management strategy but which may be excluded by closed specialist teams? – procurement, for example.
- How can enterprise application specialists keep right up-to-date with "populist" application development within business units? What happens for example, if business teams buy apps from the cloud without involving the IT function?
- Can you be certain that those tasked with application management have the required visibility of business strategy and development? Do projected business developments appear on the application management radar at the right time and in the right way?

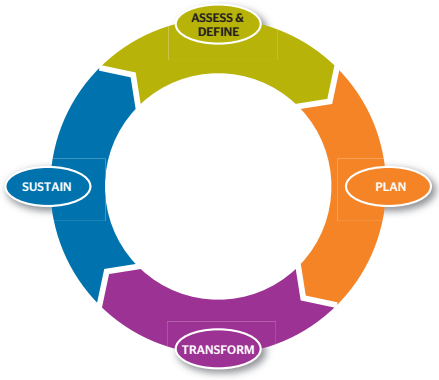
Atos balances the big picture with specific business and IT objectives. This is clearly reflected in the three words we place under our logo: consulting, solutions, outsourcing.

The need to see the big picture is, in part, what has driven the formulation of our application management strategy model. It is why, for example, we have been so keen to make it business-driven rather than IT-driven, on the one hand, and to place such importance on diversity, on the other.

We have seen how developments, for example, in cloud-based computing can have such significant impact on application management strategy. But we are also keen to stress that the impact does not stop there. Cloud, for example, affects the pace of business change; it affects traditional purchase models; if affects pure infrastructure requirements; legal and regulatory structures – and more besides.

This paper is focused on application management. Focus is good. But we must guard against allowing focus to limit our understanding of the context in which the application functions today. We also need to remember that application management needs will change during the life-cycle. Therefore a continuous process is needed to adapt the needs for the application portfolio depending the business and technology lifecycles.

Figure 9: Continuous Application Portfolio LIfe-Cycle Management



Continuous life-cycle management of the application portfolio mirrors the rhythm of the enterprise itself. It allows the application portfolio to stay in tune with:

- Integrated Business Planning
- Project Portfolio
- Enterprise Architecture
- Organizational and cultural development
- Commercial and technology innovation

Each organization's application portfolio management strategy must be designed to take advantage of change and opportunity in all these areas – and must do so in a manner which protects all associated company assets, including:

- IT assets – including the human factor
- The confidentiality of client and company data
- The enterprise's own processes
- Intellectual property

Sharing Responsibility Responsibly

Atos provides application management services to a wide array of public and private sector organizations. Primarily these are managed services with embedded project-based activities – and not projects with service extensions.

Engagements generally work in three or five year cycles, but can be much longer: in the nuclear power industry, for example, there are control systems which we have managed continually for over 30 years.

The way in which we and our clients combine our resources is different for every engagement:

- Some clients in the newer fields of telecommunications have all but eliminated reliance on any in-house resource, preferring to outsource application and IT management entirely.
- Others, especially where there are significant volumes of heritage applications – and staff with the historic technical skills – there may be a greater degree of shared responsibility.

In the end, it doesn't matter how the job gets done, as long as business conditions are met: on time, on budget and on target.

Whichever of the four application management strategies outlined in this paper resonate most strongly, the rules of partnership remain the same: define the limits of responsibility, and work to them. Whether Atos is taking 20% of the overall application management responsibility, or whether we are essentially contracted as a complete function by the CIO team, these are the rules we will follow.

Business Process Chain Management - The Bridge

Effective business requires effective IT. And effective IT is more than just the sum of all services delivered by individual applications and infrastructure components; effective business processes rely on a set of applications that must work in unison. This is the 'business process chain'.

The quality of a business process chain is dependent on 'the weakest link'. This means that managing applications individually is not enough to guarantee quality of service for the entire business process chain.

This is why Atos thinks end-to-end, focusing on the whole business process chain, when it executes Application Management rather than focusing solely on individual applications.

The service delivery level will be defined by Business KPIs (BKPIs) and supported by Process KPIs. For example: "the business process chain should be 100% available during store opening hours".

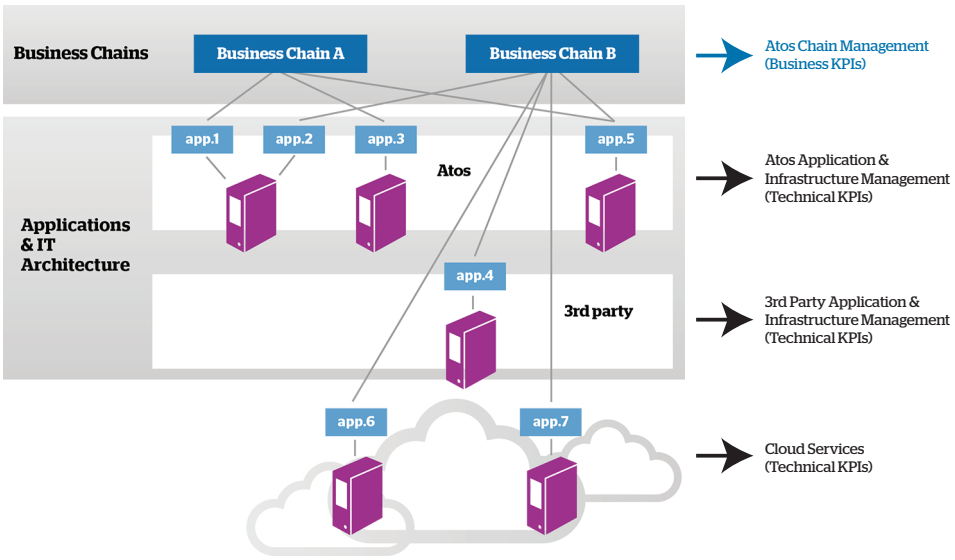
In order to determine the requirements for service availability, reliability and maintainability, Atos must understand the organization infrastructure and what it is capable of delivering in relation to the required availability levels. We achieve this by collecting and analyzing availability data using an innovative solution called The Bridge.

The Bridge is an automated and proactive administration, maintenance and monitoring solution run by a dedicated team for handling business-critical chains and applications. The Bridge is the 'central hub' of our daily operations in managing systems and databases, focusing on the health of critical business process chains, end-to-end, as well as service hot-spots and business peaks.

The Bridge makes our IT delivery team aware of any deviation from normal operations, so we can rectify malfunctions before they impact the wider business community.

It provides proactive, 24x7 monitoring of your business processes and applications by 'bridging' your application landscape to our strategic monitoring platform.

Figure 10: Business Process Chain Management versus "traditional" Application Management



Aims and Objectives

The aims and objectives of Business Process Chain Management are to meet the following needs to ensure better business availability, and process improvement end-to-end across your organization:

- Improving your services, processes and quality-price ratios to maintain or enhance market competitiveness
- Shortening your time-to-market and release cycle times
- De-risking service delivery across your entire process chain
- Delivering smarter, better business process support
- Increasing IT innovation across your business process chain

Business benefits

Atos's Business Process Chain Management will help provide you with the following benefits:

- Less disruption to business continuity with 'The Bridge' Monitoring Support Center, operating up to 24x7, dedicated to incident, problem, change, configuration, and lifecycle management across your entire business process chain
- Fewer incidents, with a typical reduction of up to 30%
- Less handover administration between different IT service partners, with Atos coordinating the entire business process chain, including applications and infrastructure sourced from third-parties and in the cloud
- Up to 30% fewer personnel required to deliver service, thanks to economies-of-scale applied along the business chain, releasing your resource to re-focus on enhancing your business's value
- Reduced induction time for new joiners into the Application Management service operations team, by up to 15%
- Transparent process performance monitoring across all business process chain components, no matter which IT service partner supports them
- Monitoring is aligned with business process performance expectations, such as agreed Business KPIs (BKPIs), rather than purely IT KPIs
- Service delivery is de-risked by removing the reliance on 'local heroes' and translating tacit knowledge into specific, explicit knowledge assets that are captured and managed in our knowledge management systems
- Mindset change across your organization from application-driven to business-process-driven service levels.

Envisioning the future

This is a paper about strategies for application management. As we sign-off, let's zoom right out for a moment, and ask why it pays to think about our subject in a much broader context.

The great shift to globalization originally created a picture in which everything would become the same: brands, language, habit and culture were all supposed to become more and more homogeneous. In part, this is true. Wherever we see widespread civil unrest, for example, our news footage will be increasingly delivered by crowds in the streets using the smart-phones and smart apps.

But it is only partly true. The ubiquity of digital communications technology is putting the same tools and techniques to use across the world – but the way in which people and organizations turn them to advantage is radically different. From now on, it is the imagination with which people use digital technology to create difference which will shape enterprise IT strategies in general, and application management strategies in particular.

Yes – we do need to control cost. Yes – we do need to manage compliance. Yes – we do need to handle technology evolution. But it is the ability to embrace difference and innovation which will be the real hallmark of any successful application management strategy.

In some sectors, the application has always been more or less synonymous with the service. In banking, for example, deposits, payments, charges, accruals of interest and the rest are all actions which are completely encapsulated within the applications used to execute them: put simply – the application is the business (and vice versa).

But in other industries, the collision between the digital and physical worlds is often more profound and unexpected. Just look at the new wave of "configure it yourself" automotive campaigns. These are a great pointer to how we will increasingly conceive of applications - and to how we will manage them:

- Application-driven marketing is designed around mass-customization
- The application pulls together the digital and physical experience for the client
- Client choice feeds directly into production intelligence – and ultimately into the production systems and supply chain
- The delivery of the customized product at acceptable margins and at acceptable cost is thanks in part, to the quality of application optimization and integration across the enterprise (and beyond)
- The application is, at the same time, both disposable and re-usable.

This is clearly over-simplified, and over-idealized – but it is a pointer to the future. These application-driven experiences and processes will affect:

- The way we travel
- The way we save and spend
- The way we are educated
- The way our healthcare and social services are delivered
- The way the products we consume are designed, marketed, produced and distributed
- The way we are governed – and the way we choose to be governed

Across these different activities, the organizations which deliver products and services will need to achieve profit (or at least operational sustainability), continuity, and evolution. The challenges are multiple, and may often seem at best contradictory and at worst mutually exclusive.

This is why it is so important that we do not say "this is the only valid approach" to any area of business – and above all to application management. The people who manage the applications on which business relies, will increasingly find themselves thrust into the mainstream of business development and overall performance management. Those who rise to the challenge will not seek to hide behind technology.

If you can keep the big picture in view, feeling comfortable with the challenge of managing different concurrent application management strategies, then you are ready for the future.

With our four-quadrant model, we have established a practical framework on which to build. It is not encyclopedic, and it will not answer all the questions – but it will, we believe, help you at least to ask some of the right questions.

Next steps

If this paper has touched a nerve, we would like to talk about it. The organization of application management as a "department" within IT will continue to be the norm within many enterprises. But if you feel it is time to move on, we should talk.

The triggers for discussion can come from anywhere:

- Mergers and acquisitions can present challenges of process and application integration
- Resource shortages in traditional application skills can threaten continuity
- Rapid development of new market approaches can stretch capability beyond its limit
- Curiosity towards cloud-based pay-per-use options may already be making procurement think twice about traditional application management approaches
- ...

We have developed the model presented in this paper in close conjunction with a number of enterprise clients for whom we already deliver application management services. Together we decided that it was time to move forwards. If you would like to join this dialogue (and most importantly take some practical steps towards rethinking your current application management strategy), we are ready to talk.

About Atos

Atos SE (Societas europaea) is an international information technology services company with annual 2012 revenue of EUR 8.8 billion and 77,000 employees in 47 countries. Serving a global client base, it delivers IT services in 3 domains, Consulting & Technology Services, Systems Integration and Managed Services & BPO, and transactional services through Worldline. With its deep technology expertise and industry knowledge, it works with clients across the following market sectors: Manufacturing, Retail & Services; Public sector, Healthcare & Transports; Financial Services; Telco, Media & Utilities. Atos is focused on business technology that powers progress and helps organizations to create their firm of the future. It is the Worldwide Information Technology Partner for the Olympic and Paralympic Games and is quoted on the NYSE Euronext Paris market. Atos operates under the brands Atos, Atos Consulting & Technology Services, Worldline and Atos Worldgrid.

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