

## Maximizing competitive advantage — through more flexible information systems

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## Executive summary

In a rapidly changing world, businesses cannot afford to stand still. Technology evolves – and the businesses that don't evolve with it get left behind. This is because technology is a fundamental component of business. If a company does not innovate, if it doesn't evolve its technology – then, quite simply, it can't continue to create its competitive advantage. Hence, maximizing competitive advantage is best achieved through more flexible information systems. The savviest players are constantly looking for new ways to achieve results faster, and they look to the IT function to provide adaptable, flexible IS that help them automate new processes or adapt existing workflows.

In the past, IT has not been able to meet this challenge, but the advent of cloud computing and platform-as-a-service (PaaS) has brought fresh capabilities. IS Tools is a proven and credible platform that delivers the speed and flexibility to satisfy the demand for rapid, scalable business process innovation and thus maintain an organization's competitive edge.

In this paper, enterprise IT buyers, including IT executives and managers, line-of-business tech buyers and other industry influencers will learn more about the role of technology in business, how the cloud enhances this – and why PaaS is uniquely able to support the adaptable, flexible IS automation that businesses need today.

## Introduction

Winning in business depends on maintaining competitive advantage. In today's rapidly

‘Winning in business depends on maintaining competitive advantage’

changing world, that requires more speed and flexibility than ever before.

Business leaders look to their information systems (IS) to play a crucial role in enabling that speed of execution and achieving efficient, timely results. They expect IS to provide a reliable, responsive platform for automating business processes to enable new initiatives, reduce delays and increase productivity.

The pace of change today, however, demands a new type of IS platform. Automated processes cannot remain fixed, as they used to. Today's information systems must be flexible enough to allow for constant reinvention and innovation of business processes. But what exactly is meant by *flexible*? What is the role of the cloud in business? And what key attributes of PaaS make it most suitable for businesses now?

## The role of technology in business

Technology is a fundamental component of core business infrastructure, as can be seen by looking under the covers of any leading enterprise: Wal-Mart in retail; JP Morgan Chase or similar large financials; or the likes of Dell, Cisco and

**DEFINITIONS:** *Traditional development* is used to denote a development effort involving, *e.g.*, programmers, DBAs, a Project Manager – and technologies such as Java, RDBMS. *Cloud computing* is “a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources [...] that can be rapidly provisioned and released with minimal management effort or service provider interaction.” (National Institute of Standards and Technology, Information Technology Laboratory) *Cloud Platform as a Service (PaaS)* [is t]he capability provided to the consumer [of computing capabilities] to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages and tools supported by the provider.” Cloud services can be deployed on, *e.g.*, public or private infrastructure, making them highly relevant also for enterprises that do not wish to share computing resources with others. (*Ibid*) *Non-programming cloud development platforms*, as popularized by PaaS and representing a subset thereof, is used to denote entirely cloud-based development platforms that allow business users to participate in the development process. *IS Tools* refers to the leading product (and the company of the same name) in the above-named category. An *information system* (IS) is any combination of information technology and people's activities using that technology to support operations, management, and decision-making.

Flextronics in electronics manufacturing. Their success is fundamentally contingent upon the internal technology architecture that holds their inventory, transactions and processes together. You could even argue that Wal-Mart is an IT company that happens to retail domestic goods, or that JP Morgan is an IT company that offers banking. The better the IT infrastructure, the better a company's competitive advantage and thus the greater the chances of its success.

Enterprise information systems at leading organizations like these have evolved into two main types that meet separate needs. A few very key systems are *custom made* (sometimes also called bespoke or tailor made) for the specific enterprise. At one time, all enterprise computing was custom built, but the cost and complexity of developing systems this way led to the emergence of a pre-packaged alternative. *COTS* (commercial off-the-shelf) applications have evolved to satisfy broad requirements across enterprise resource planning (ERP), along with generic or industry-specific modules, such as CRM, Manufacturing, Supply Chain & Distribution, E-commerce, and so on.

COTS are a core asset that everyone has today, simply to 'run the business.' They are highly standardized, cookie-cutter templates designed to deliver efficient, proven automation. However, they do *not* offer distinctive competitive advantage.

Nonetheless, some enterprises try to achieve this by customizing them intensively. This is costly and ultimately counter-productive because of the loss of flexibility when changes or upgrades become necessary.

The better way of automating unique processes that differentiate a business is by building custom or bespoke information systems.

‘Rock star’ developers are very rare, and custom development is expensive and time consuming

But this, too, is costly and high risk for many reasons:

- “Rock star” developers are very rare
- Custom development on traditional platforms is expensive and time consuming
- Rapid evolution of information technology and changing business patterns make it hard to keep bespoke IS up-to-date
- Statistics show that most projects fail to stay on time or on budget – many never deliver a useful result (more than 50% of all projects are either considered a failure, or are challenged when it comes to delivering the desired result, according to The Standish Group "Chaos Report")
- Today's rapid advances in web, mobile and social innovation leave in-house builds lagging even further behind what the business demands ("Businesses Get Social," Gartner, October 2010)

#### CASE STUDY:

#### Quality Assurance

**Challenge:** Implement a global quality audit methodology covering the installation of high-tech equipment.

**Solution:** A tailor-made, IS Tools-based application was created to allow the QA program to track the rapid evolution of installed products, best practices and market needs and respond to changes in order to maintain state-of-the-art QA practices.

**Competitive Edge Gained:** For a global company, a unified and instantly up-to-date QA process and toolset has proven to be effective and has generated audit momentum of tremendous value.

	Traditional development process	PaaS development process	
6 to 9 months...	<ul style="list-style-type: none"> <li>• Business conditions change</li> <li>• New process created</li> <li>• Added to development queue</li> <li>• Wait for upgrade window</li> <li>• Wait for developer resource</li> <li>• Process automation implemented</li> <li>• Already outdated as business conditions have moved on</li> <li>• Revised process created</li> <li>• Added to development queue</li> <li>• Wait for upgrade window</li> <li>• Wait for developer resource</li> </ul>	<ul style="list-style-type: none"> <li>• Business conditions change</li> <li>• New process created</li> <li>↓</li> <li>↓</li> <li>↓</li> <li>↓</li> <li>• Implemented on-the-fly</li> <li>• Modified iteratively in response to usage feedback</li> <li>• Business able to make their own changes in many cases</li> </ul>	days to weeks at most...
	<i>IT and business roles disconnected</i>	<i>IT and business in constant oversight</i>	

As if this weren't bad enough, IT resources in most enterprises today are already operating at or beyond full capacity. Most of their time and budget is tied up in maintaining the status quo of existing solutions.

Unable to contribute to profit or growth, they have become perceived as cost centers, putting further pressures on funding.

To summarize, information systems are fundamental to the competitive operations of an enterprise, but IT barely has the resources to 'keep the lights on' – let alone support innovation. Yet the pressure to innovate and do more has never been greater, leaving the whole system at breaking point. Fortunately, there is a better way.

## How the cloud refreshes and enlivens what technology can do for business

Technology is often seen as the source of competitive advantage, but it's how you use it that

‘Platform-as-a-service is a new generation of information system tools’

‘You must be ready to remold your business processes and rapidly add new capabilities at any time’

matters. Successful enterprises outperform their competition by excelling at business processes that are more effective at meeting market demands and customer needs.

Today, the pace of change means organizations not only have to maximize their use of automation but must also be ready to remold their business processes and rapidly add new capabilities at any time.

Leading companies have always found a major source of their competitive edge from optimizing *unstructured* processes. These more informal processes, *e.g., ad-hoc*

### WHAT IF I COULD...

- ... try out different workflows to find the most efficient process?
- ... automate some of those annoying manual tasks that could never justify a traditional software project budget?
- ... change how I service customers to fit *their* schedules instead of the IT department's schedule?
- ... implement new business ideas while the market is hot instead of waiting 12-18 months?
- ... start making these efficiency savings now instead of waiting for months before seeing a return?

*emails, meetings and small projects*, are the most amenable to rapid adaptation and innovation. But at the same time, in most companies they are poorly or not-at-all automated or computerized. This makes them slow, wasteful and hard to track, evaluate and enhance.

In the past, it has not often been thought economically viable to automate such small-scale, frequently changing processes. This has changed dramatically with the lower costs and greater agility of cloud computing. A few key indicators of this: Gartner considers cloud computing a top ten strategic technology for 2011, with potential for significant impact through 2014. Meanwhile, enterprise cloud services generated U.S.\$9.2 billion in revenue worldwide in 2010, but that number is expected to grow to U.S.\$22.3 billion in 2014, according to Yankee Group.

In particular, cloud computing has validated the use of a shared application framework known as platform-as-a-service (PaaS) that allows more flexible, cost-effective custom development. This technology has a crucial role in supporting the speed and efficiency with which organizations can design and execute those all-important business processes.

Platform-as-a-service is a new generation of information system tools that allows businesses to rapidly execute and keep enhancing their own proprietary processes. With these IS tools, an enterprise can maintain ownership of its competitive edge and focus on excellence in its core operations.

‘Speed and time factors in gaining competitive advantage can be attacked’

## What makes PaaS a better fit

The PaaS model has three core attributes that make it uniquely able to support the adaptable, flexible IS automation that businesses need today:

1. A collaborative, devolved development model that better aligns results with business needs
2. Faster access to new functionality
3. A single, shared operational instance running under IT oversight

*A collaborative, devolved development model.* First, PaaS lends itself to a more iterative development model (using

‘Everyone uses as little or as much as they need — resource pooling saves overhead and redundant capacity’

### CASE STUDY:

#### Sales Lead Funneling & Management

**Challenge:** Strengthen sales culture in a global, 10,000+ employee company. Establish, encourage and streamline the lead generation process.

**Solution:** Rapidly set up a global lead-generation and management tool application using IS Tools PaaS product – designed to cater for a minimalistic but effective mechanism to allow employees to register leads via a single sign-on, integrated application. To secure lead quality and attention, initiate appropriate activity, and feedback with bonus kick-back, incorporate an effective lead review and routing process to stakeholders.

**Competitive Edge Gained:** All employees (especially non-sales) enabled to contribute to new revenue streams and get rewarded accordingly. Thousands of leads generated, of which a significant share have already reached the end of the sales cycle and provided ROI for the application many times over.

scrum and agile methodologies) in which new functions can be prototyped in as little as a day and are developed in short, one- or two-week cycles. Secondly, because of the online model, it's easy to show the app-in-development to business process owners at any time.

These two factors create a more collaborative ethos in which business process owners are closely involved in design and modifications, yielding a more efficient development cycle and better alignment of outcomes with business objectives.

According to The Standish Group, keeping the time span of projects short and with milestones, and increasing user involvement are among the most important factors in delivering successful IT projects.

PaaS often facilitates the use of codeless development, which allows delegation to a new class of 'citizen developers' who can directly take charge of the automation to deliver the business outcomes they seek.

Tech-savvy business users can realize their own 'user-generated' business applications without having to learn programming or relying on specialists in the IT department. *By such means, speed and time factors in gaining competitive advantage can be attacked.*

***Faster access to new functionality.*** The PaaS model allows more frequent upgrading, which keeps it up-to-date with emerging functional innovations. Thus users can always have access to the latest capabilities (as well as security and performance measures). The model makes it easier for different user groups to share add-ons and enhancements, using an 'app store' concept.

***A single, shared operational instance cuts cost and time-to-market, while central IT oversight safeguards***

*These next-generation IS tools allow you to focus on excellence and maintain your competitive edge*

***governance.*** A PaaS system is already up-and-running, so no one has to wait to get started. Everyone uses as much or as little of the shared resource as they need – and resource pooling saves overhead and redundant capacity. Meanwhile, IT has central oversight and governance of everyone's usage instead of having to manage and account for many separate, individual servers scattered around the organization.

PaaS has two deployment options: public and private cloud. Public cloud infrastructure is more cost-effective for variable loads but fits less easily with existing management infrastructure – while *a single, shared private instance is easy to wrap in existing enterprise governance, security and monitoring infrastructure.*

Taken together, these three attributes overcome prior economic barriers to rapid, flexible automation of unstructured business processes and allow innovation to occur without the bottleneck of traditional development. PaaS thus allows businesses to implement and automate innovative new processes much faster than ever before, giving them competitive edge in today's fast-moving business environment without adding the high overheads previously associated with custom development.

## Conclusion

In today's fast-moving world, enterprises need to (and can) optimize their business processes and maximize automation – especially in those ad-hoc, unstructured processes that, for a long time, have defied automation.

## Maximizing competitive advantage — through more flexible information systems

Companies can 'create-and-own' their competitive edge — based on having the ability to realize an IS/IT solution built for their own proprietary processes, in combination with the speed and time factors in getting it done.

These next-generation IS tools, based on PaaS, allow companies to focus on excellence in their core operations and maintain ownership of their competitive edge.

### About IS Tools

IS Tools software enables customers both to create and distribute business applications using only a web browser. Falling under the category of Cloud Computing and Platform as a Service, IS Tools has a proven track record to run the more complex and heavier applications that larger corporations must rely on to support their businesses.

A privately-owned company based in Stockholm, Sweden, IS Tools was founded in 2003 by its current owners as a software company with a vision to provide adaptive, lean, flexible and dynamic information systems for company business processes characterized by change and constant evolution.

With thousands of 'citizen developed' data entry forms, reports and imports — IS Tools enables the collection and delivery of the right data to the right place implementing 24/7 business logic and process automation. More than 50,000 paying corporate users enjoy the value of our platform, creating, enabling and accessing hundreds of millions of data records.

The IS Tools mission is to provide an easy to use enterprise grade application development and IT-operations framework enabling non-technical users to realize and evolve custom applications extremely fast. This enables IS

Tools customers to continuously bring their business innovations to the market in a very short time frame and on a larger scale — resulting in business momentum and a sustainable competitive advantage.





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