SYSPRO™
Simplifying your Success

White Paper

Not just blue-sky thinking
The reassuring reality of cloud computing

Executive Summary

A few years ago Cloud computing became a hot topic in the technological world and the business buzzword of the moment. Now the hype has died down and 'Cloud' has firmly established its place in the computing lexicon and our everyday lives, how has it changed the business of IT? And why, despite a predicted 22% annual growth over the next decade, do many senior executives still treat Cloud computing with suspicion and circumspection, especially when it comes to mission-critical applications such as Enterprise Resource Planning?

This white paper, tackles the key questions every executive needs to know in order to confront their concerns and unlock Cloud's powerful benefits:
▪ what exactly is cloud computing;
▪ what are the benefits;
▪ how to overcome fear of the unknown; and
▪ where has Cloud come from and where is it going?

With increasing pressure on organizations to reduce costs, improve productivity and connect with the world in new ways, Cloud computing presents real opportunities to drive innovation and competitive advantage. According to analyst firm Gartner, companies which have mastered cloud technology by 2015, will beat competitors by 20% for all existing financial metrics.

Cloud computing's ability to give us mobile, flexible and synchronised information any place, any time, is a technology game changer. 'Not just blue-sky thinking; the reassuring reality of cloud computing', will equip you with everything you need to know to prepare for your future with cloud.

Fig 1: Cloud Deployment Models
Public or Private
Public cloud computing and private cloud computing are two distinct services. A public cloud is available to individual consumers or businesses, with little or no deployment from the end-user's IT infrastructure. Examples of public cloud include Amazon Elastic Compute Cloud, Google App Engine and Windows Azure Services Platform. A private cloud, on the other hand, is a proprietary network or datacentre that supplies hosted services to a select number of people behind a firewall. A hybrid cloud is a mixture of both infrastructures, separate entities that are integrated to allow sharing of data and applications.
There are three primary service models of cloud computing:
▪ **Software-as-a-Service (SaaS)** This type of cloud computing is designed for the end-user, something many of us use already, albeit in its simplest form. With online email services like Gmail or Outlook.com, for example, the email server is hosted elsewhere and you simply access it. The same applies with businesses using SaaS to access all its applications. The provider takes responsibility for the servers, virtual machines and network equipment; you simply point your browser at it. ▪ **Platform-as-a-Service (PaaS)** Whilst SaaS is software delivered over the web, PaaS is a platform for the creation of software, delivered over the web. PaaS allows businesses and consumers to create their own custom web applications on a cloud provider's infrastructure quickly and easily, but the user has no control over the underlying network or servers. ▪ **Infrastructure-as-a-Service (IaaS)** With IaaS, the user controls whatever applications, data and operating systems they put on the infrastructure, whilst the provider takes control of the underlying equipment - getting the storage and other resources, as it's needed. An IaaS provider hosts your virtual machine; you keep control of the software. There is no one size fits all: it is important when you consider moving to the cloud you understand the different deployment models available, assess your own business requirements, and decide which type of solution is best suited to your individual needs.

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Introduction

There was a time when talk of 'Cloud' would just conjure up images of another typical summer. That was until a few years ago, when, 'Cloud computing' was thrust into our consciousness. Backed by IT's heavy-hitters - the likes of IBM, Microsoft, Apple, Dell and Intel, and spurred by the age of smartphones, tablet PCs, and faster broadband connectivity, Cloud computing rocketed into the mainstream.

Yet despite its increasing presence and its promise to deliver a more connected, cost-effective and productive business, many senior executives remain sceptical. Why? In part it's because whenever the 'next big thing in IT' is trumpeted, there is an understandable inclination by many to 'wait and see' or ignore it until it proves itself so to be.

Well here we are; it's now crystal clear that Cloud is no passing IT fad.

According to PwC's 2012 Global State of Information Security Survey 38% of organizations already use cloud computing services. And that number is set to soar, with research and advisory firm, Forrester, forecasting the global market for cloud computing to grow 22% annually over the next decade.

But some still harbour concerns, which although aren't without foundation, are largely based on emotion and old history. Unless those concerns are confronted, executives may find themselves compromised by their own prejudice. With increasing pressure on organizations to reduce costs, improve productivity and drive growth by connecting to the world in new ways, Cloud with its mobile, scalable and accessible nature, has become a permanent feature of today's business landscape. For those that harness it, cloud computing presents real opportunities to drive innovation and gain competitive advantage.

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Here are just a few of the benefits:

Rapid Implementation

Cloud computing allows you to quickly get up and running with new applications, without the hassle and time that comes from deploying personnel within your organization to install and configure networking equipment. The vast capacity of your cloud provider's remote servers, means many cloud networking applications can be turned on within a few days, hours or even minutes.

Moblity

The beauty of Cloud is being able to access all your network related data anytime, any place, using any device with Internet capability. Naturally being able to access everything you need on demand, whether writing an email, sending an invoice or monitoring KPIs, allows businesses to be more productive.

Cost

You have to consider the total cost of ownership over the lifetime of your system (perhaps a five to ten year period) but there are clear cost advantages in moving to the Cloud: because there isn't any up-front capital investment, it can accelerate the time-to-benefit, allowing you to buy now, rather than wait, so you can remove complexity from your business right away without impacting your cash flow. Cloud also presents substantial cost advantages over upgrading your existing system.

With cloud computing you shift the burden of capital expense and avoid unexpected IT costs. Instead of buying and maintaining servers, storage, cooling systems, you can pay as you go, per user, per month. Plus you no longer have the costs of system upgrades; all costs and services are factored in from the beginning, so your IT spending is transparent and straightforward.

Scalability

Instead of waiting days, even weeks for your IT department to procure more networking hardware and software, cloud computing allows you to expand or contract, whatever your business needs, with a single phone call. It gives you the opportunity to start small and try out new services and applications, as and when you're ready.

Minimised downtime

When it comes to updating applications in the Cloud, there's no need to bring the internal network down, your provider can handle the updates, whilst you carry on with business as normal.

Security

With stringent security policies, from encryption and authentication, to data loss prevention through backups and replicated data centres, to malware protection and the latest software updates, you can be sure your critical business data is safe in the Cloud.

Peace of mind

Cloud computing removes the stress and business pains associated with maintaining and developing applications on-premise. You can take great comfort in the knowledge your mission-critical systems are being looked after diligently and with the right skill set.

Flexibility

Ultimately, cloud computing services can be tailor-made to your needs – you can pick the particular services you require and only pay for those you use. Adding or removing function-ality, sites or individual users is extremely quick and easy, and requires the customer to only purchase the number of units
necessary.

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A Clear Definition

First, let's remind ourselves exactly what cloud computing is. In simple terms, it means storing and accessing your data and applications (software and services), through a networked series of computers, connected via the Internet or a private secure connection, rather than through your own computer's hardware.

With cloud computing, applications and infrastructure are independent of each other; software can, in effect, be 'rented' and used online instead of purchased or licensed and installed on your own computer. This allows servers to be easily shared by many applications and for applications to 'run virtual' from anywhere. That means, entire businesses and thousands of employees can access computer applications from any location – not just within the office.

Recently there has been a seismic shift in the way businesses operate. People are not always at their desks, but accessibility to systems data at all times has become an imperative, whether at a remote site or warehouse, on the train, at a meeting, or even out of the country. With a demand for constant connectivity on the go, through smartphones, tablets and PCs, the Cloud provides the perfect solution.

There are three primary service models of cloud computing (see list Fig 1 - Page 2): Software as a Service (SaaS); Platform as a Service (PaaS); and Infrastructure as a Service (IaaS).

PwC's 2012 Global State of Information Security Survey reveals that SaaS leads the way for those already using cloud computing: 69% of use cloud computing for (SaaS), compared to 47% for IaaS and 33% for PaaS. Each of these can be run over a public or private cloud (Fig 1), but business critical applications primarily tend to be delivered via a private cloud network.

The sky's the limit

Cloud presents a powerful opportunity to drive growth, cut costs and deliver businesses that all-important competitive edge. And the prospects for the future look positively boundless.

Indeed, according to Gartner, companies, which have mastered cloud technology by 2015, will beat competitors by 20% for all existing financial metrics.

Cloud allows smaller businesses to remain competitive without having to pay the huge prices associated with implementing their own network. In a study carried out December 2012 by Manchester University and Rackspace, 91% of respondents said not having to spend money on on-premise IT infrastructure makes it easier to set up a business. In fact, without cloud computing, some might not have started at all: 20% of new companies said they wouldn't have been able to afford the IT costs. And it's not only a benefit for new businesses; for those looking to grow their current operation, or setting up new sites or divisions, cloud computing enables rapid expansion without the cost or aggravation of setting up new IT infrastructure.

Cloud computing provides all the benefits of an on-premise application, combined with the economics of shared computer infrastructure. It improves the performance of your IT, gives you much greater flexibility and agility while substantially reducing the associated costs and risks.

Software and applications in the Cloud offer better capabilities, greater user experience, and more advanced technology. So even when it comes to your mission critical applications, such as the ERP solution running your business, cloud computing opens the doors to a wealth of untapped business potential. Cloud removes the burden of heavy processing and memory consumption from the client or end user systems and all the hassle that goes with it. Once you're up and running, you won't have to spend time managing your IT, when you should be managing your business instead.

Overcoming the fear of the unknown

Whilst the benefits for cloud computing seemingly speak for themselves, adoption of cloud computing is still peppered with anxiety. Indeed, according to the 2012 Global State of Information Security Survey four out of ten organizations (41%) are still not using any cloud computing services in their organization, compared to 38% who have deployed SaaS, IaaS or PaaS - with a somewhat surprising 21% not sure whether they have or not!

So what's the problem? Why is it that so long after it has become an established method of IT deployment, Cloud hasn't been more widely implemented? As with most things, technology isn't the real problem; it's more to do with culture and behaviour. The biggest emotional obstacle many organizations face is in giving up the physical presence of their systems onsite and handing over control to the Cloud vendor, somewhere 'up in the clouds'. It's unsettling not having the hardware visible, with it's green lights blinking and the comforting whir of hard drives spinning.

Behind this are more substantive worries, not least regarding Internet connectivity; how reliable is the connection to your data via the Internet and what happens if that connection goes down? But let's remember we are in the age of super fast fibre optic broadband and 4G mobile technologies; gone are the days of 'steam-powered' dial-up connections. Access to high speed Internet has exploded in the last couple of years, making access to the Cloud not only faster and more reliable, but scalable too.

But you don't need turbo-charged broadband to ensure a stable and fast Internet connection; standard business broadband, even the business versions of domestic connections are perfectly capable of delivering a reliable and speedy service, plus there are countless tools readily available, which service providers, can easily deploy to ensure safe and secure connectivity. Don't forget too that data centres know how to optimise the flow of traffic over their networks to provide customers with the best possible service. What's more, the telecoms business is a highly competitive one and the telecom titans will continue to invest in improving their offering to businesses and introducing new services at a rapid pace - and at more competitive prices. So you should be reviewing what's available to you on an annual basis.

There is no 'one cap fits all' answer to Internet availability; your Cloud provider will scrutinise your own needs and local capability in the area, and tell you objectively what options you have for affordable, reliable connectivity.

What's more, a good Service Level Agreement (SLA) with your provider will not only give you uptime assurance of 99.9%, in the extremely unlikely event somebody pulls up your fibre-optic cable, the beauty of cloud computing is that you can maintain business continuity. With all your programmes and data in the Cloud, you can access your work wherever you are - from home,

over your VPN or mobile network, even at your local coffee shop. So whatever happens, your business can continue as normal. The same cannot be said of on-premise systems; being able to see the hardware is no guarantee of your system's availability.

Security is another consideration for many. According to a 2012 study by Intel, a whopping 99% rated security as a major consideration when choosing Cloud.

Security is, of course, a legitimate concern; no business can afford to have its data compromised. But cloud computing can, in fact, increase data security. The vendor's top priority is to protect its customer's data, providing all the benefits of security updates, backup datacentres, 24/7 security, data auditing (access to servers logged and monitored for unusual activity) - and without the additional costs. How does that compare with your own practices and procedures?

Today we live permanently connected to the Cloud via our mobile phones and tablets without even thinking about it. And the reality is we've been trusting cloud providers for years, ever since the advent of online banking and Hotmail. Do we ever think about backing up our bank accounts or email contacts? That's because these cloud providers have to adhere to strict regulations and implement all necessary measures to ensure the security of our data; not least because the very nature of cloud computing and its popularity now means they are under the public's watchful gaze. This same trust should be afforded to cloud providers of business-critical solutions.

And forget worrying about major disasters - natural or manmade. Cloud service providers are typically co-located with 'mirrored' data centres in two different locations. That means in the unlikely event of a significant incident at your hosting company's premises it can simply switch from one server to another without you having to do anything – in fact you won't even notice.

Compare this to a fire, flood or substantial human error happening at your own site.Can you say you have the following security measures in place: a private vault, 24/7 security, CCTV footage and backup tapes? No? Then your data is safer in the Cloud.

Perfect Conditions

So with the benefits of cloud computing well-established and the associated fears put in perspective, those still of the view that cloud computing is but a 'new-fangled technology', need only refer to history to learn that cloud computing is not only here to stay (and was always destined to be), it has been here for a long time already.

The first business and consumer cloud computing services website - Salesforce. com – was launched in 1999, so cloud computing is not the technology hipster it's made out to be. And its roots go back much further than that. Although it has been donned 'The Cloud Revolution', the concept of Cloud can be traced to the early days of computing; the 'centralised era' before PCs. 1959 saw the introduction of mainframe computing, where computing power was hosted within large central mainframes and accessed via dumb terminals, giving smaller businesses access to data processing computing. Today's cloud is an Internet-based version of this - all the processing work and file saving is done in the 'Cloud' of the Internet, hosted by a batch of powerful servers, and users plug into that cloud, to access their computer work.

In 1969, American computer scientist and psychologist J. C. R. Licklider, suggested that there could be an "intergalactic computer network," a vision that saw everyone connected and accessing data at any site, anywhere.

And conditions aligned to make this possible. The World Wide Web launched for commercial use in 1993, and with it came a wealth of possibilities to reach the world in new ways. After Salesforce.com in 1999, Amazon Web Services began providing users with data storage, computation and human intelligence in 2002, and the launch of Facebook in 2004 made room for Cloud as a personal service. It was in 2008 when Google and Microsoft entered the Cloud arena that cloud computing catapulted into the mainstream;

The Google App Engine brought low cost computing and storage services, and by 2009 Google Apps allowed people to store documents in the Cloud, followed shortly by Windows Azure from Microsoft. More recently, the arrival of Database.com for developers in 2010 marked the evolution of cloud services that can be run on any device or platform and written in any language. And in 2011 Apple's iCloud allowed users to sync photos, apps, music and documents across multiple devices.

With a plethora of cloud services now on the market, cloud computing has pushed the boundaries of the way we connect with the world. With the arrival of home broadband and 4G mobile data, the last couple of years, have created the perfect conditions for cloud to skyrocket into the mainstream. Not only, are 38% of organizations already using cloud computing services, but individuals are adopting Cloud services in their day-to-day lives too. Cisco predicts that by 2016, there will be 19 billion connected 'things', nearly three times as high as the global population. And if you don't have a formal Cloud service in place, you will almost certainly end up using fragmented cloud applications to share documents, photos, and information over the Internet, in a bid to save time. It's like a disorganised filing system that takes a life of its own and eventually becomes unmanageable and unfathomable. So now is the time to think seriously about what you want to do.

A clouded future

The gigantic shift in the way we access information, has made the offsite/centralised approach seen in cloud computing become practical and interesting again, especially since the client and server no longer need to be in close proximity to one another. Now the 'mainframe' can be accessed by any PC, Netbook, Tablet or Smartphone with an Internet connection.

In addition to this, 'personal computers' are changing in ways that are making cloud services ever more desirable. Your little tablet may lack the huge hard disk needed to hold all your music or photographs, but the cloud gives you the place to keep and access it at will. Your smartphone can't run all the sophisticated programs or store all the files your PC can, but, when connected to cloud storage and cloud-based applications, it can do much more than its hardware specification suggests. Behind your small device a whole cloud of data awaits, perfectly in sync, wherever you go. And with this rising multi-device trend, Cloud provides the bridge to connect them together.

With greater demand, new technologies will continue to emerge and with a further explosion of services. Increased competition will bring costs down and improve service levels. It will become less about the technology and more about what the technology can do from a business point of view. The infrastructure and software of a datacentre will adapt to the end-user and task in hand rather than the other way round.

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A compelling case

New IT platforms don't come along very often, but when a successful one does appear, it can have an enormous impact. Cloud computing's ability to give us mobile, flexible and synchronised information any place, any time, is a technology game changer. Its business opportunities are even more potent. In an increasingly connected, globalised business world, harnessing the power of the Cloud to drive innovation, reduce costs, boost productivity will give your business on-going competitive advantage.

Stats
IT cloud services will account for 16% of the total IT revenue by 2016 (study by IDC)
Analyst group Forrester expects the global cloud computing market will grow from $35B in 2012 to around $150B by 2020.
Gartner predicted that in 2013 more than 60% of enterprises will have some form of cloud adoption and the majority will be exploring private and public cloud techniques, in hybrid cloud. (Gartner top 10 list from its infrastructure and operations management summit)
Top Cloud Adoption drivers for data centres: 1. Cost savings 2. Scalability 3. Speed of deployment (Emulex Corp –eweek).
In a survey by Cisco of more than 1300 IT professionals to find out the top priorities and challenges they face when moving applications and services to the cloud, 31% said they could train for a marathon in a shorter period of time than it would take to migrate their company's application to the cloud without the proper processes and planning in place.
Private cloud computing is of greatest interest among enterprises, 75% of those surveyed by Gartner reported that by 2014 they are planning to launch a strategy in this area. (Gartner cloud times)
According to report by Forrester, the SaaS software market will increase 25% in 2013 to $59 billion and in 2014 is expected to rise to $75 billion. (Global Tech Market Outlook 2013-2014).
More than 50% of enterprises will be using SaaS applications for their business strategy by 2015. (Gartner)

About SYSPRO

SYSPRO software is an award-winning, best-of-breed Enterprise Resource Planning (ERP) software solution for cost-effective on-premise and cloud-based utilization. Industry analysts rank SYSPRO software among the finest, best-in-class enterprise-resource planning solutions in the world. SYSPRO software's powerful features, simplicity of use, scalability, information visibility, analytic/reporting capabilities, business process and rapid deployment meth-odology are unmatched in its sector.

SYSPRO, formed in 1978, has earned the trust of thousands of companies glob-ally. SYSPRO's ability to grow with its customers and its adherence to develop-ing technology based on the needs of customers is why SYSPRO enjoys one of the highest customer retention rates in the industry.

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