

STRENCOM

Private Cloud Computing





Preface

Cloud computing and virtual infrastructure are dramatically changing the computing landscape. Some see its impact as equivalent to the emergence of the Personal Computer, or the Internet itself, as a force in changing how businesses will be run. Those organisations that capitalise on this transition in safe and effective ways will gain business advantage; lowered operating expenses for Information Communication and Technology (ICT) and the ability to execute more business relevant initiatives with the same overall set of resources.

Strencom provides all-in-one Private Cloud services, combining our Infrastructure-as-a-Service (IAAS) cloud offering with our Connectivity services to deliver and optimise the performance and reliability of your applications ensuring business efficiency in the cloud. In this paper, we will discuss our approach to the private cloud, how we can assess your organisation with a proof of concept service and why even the most critical systems are already operating in Strencom's Private Cloud.

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Why Does Cloud Computing Matter?



Cloud Computing, the long-held dream of computing as a utility, is transforming a large part of the ICT industry, simplifying enterprise application delivery with resource flexibility, operating expense (OPEX) models requiring little investment, and no need for specialised in-house support resources.

As enterprises rely more and more on network-accessible applications, whether based in the cloud, a third-party hosting center, or a remote corporate data centre, demands for consistent high performance will increase. We expect to see their demands drive the adoption of a range of application-specific Service Level Agreements (SLA's), that are flexible enough to meet individual enterprise needs, to balance performance and cost.

Infrastructure and operations is generally underfinanced, and those in the profession should know that they need to add new technologies if they want to lower their costs. The appeal of presence technologies like cloud computing is growing as a viable counterweight to potential project loss and dwindling budgets. The Cloud's month-by-month payment models are growing in appeal, while its rapid project rollout speed and specialist focus prevents the company from suffocating financially during the transition. Information technology assets will continue to be squeezed to realise productive opportunities, just as they always have, to save their companies money.

Cloud Delivery and Financing Alternative

You can explain cloud computing and cloud-based services to your CFO by describing them as:

Buying ICT capacity and applications as needed from a utility service provider.

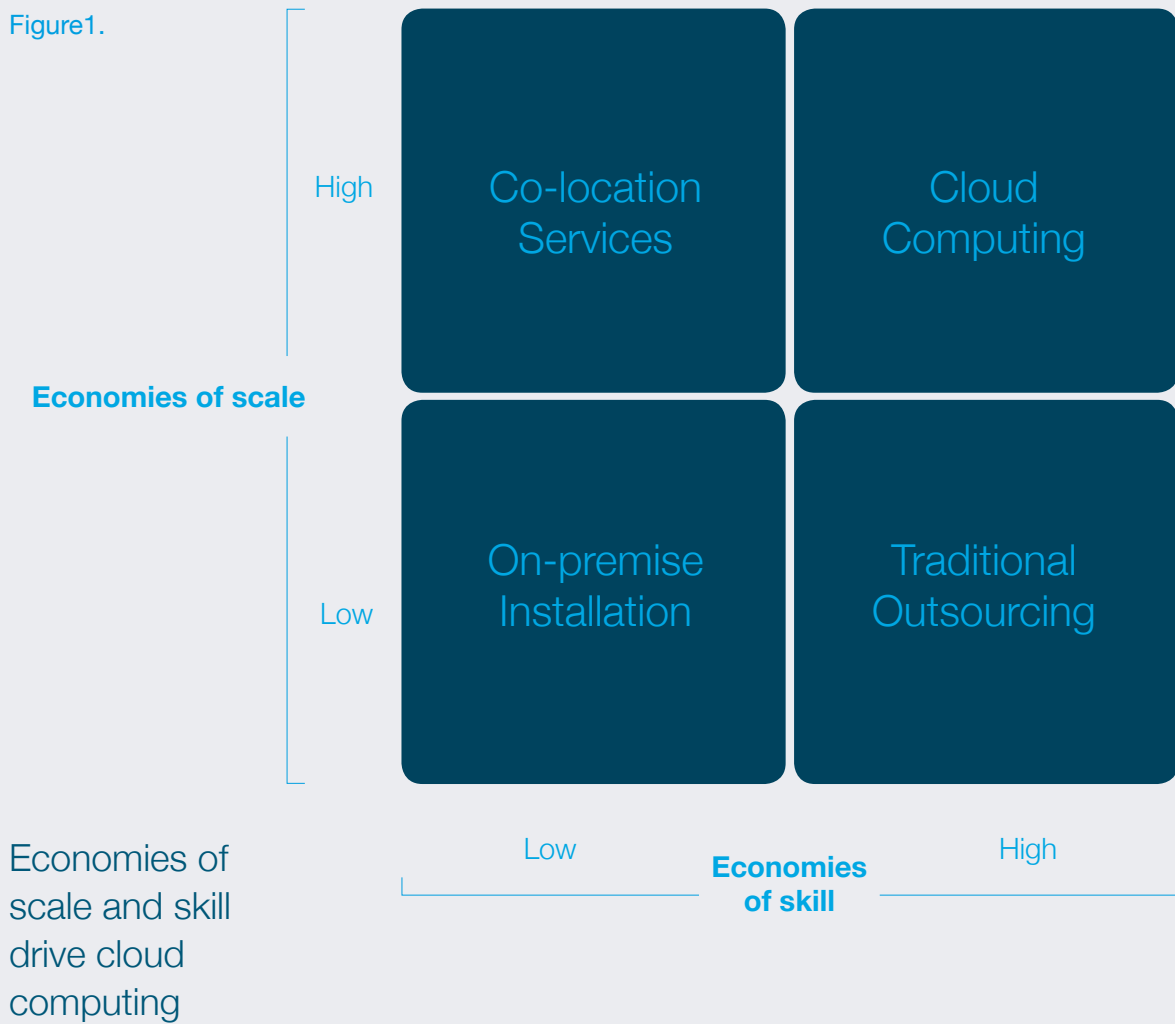
The ability to pay as you go from a service provider rather than spending upfront feels natural to a CFO — there's nothing new about buying services. What's new is that cloud computing offers a delivery and financing alternative to one of the bastions of corporate capital expenditures: ICT.

The catchphrase that will burn a CFO's ears when being pitched the benefits of cloud computing is "pay-as-you-go" — punctuated with "cost-saving" shortly thereafter. The feeling is that pressing economic times will fuel interest in a cloud platform. The additional benefits of cloud computing include launch speed — another cost-cutting measure — and outsourced cloud specialists that will allow your ICT staff time to focus on more pressing business-driving tasks. The economic recession is forcing companies to expand and contract in different directions, and it's in these newer environments that cloud's use and legitimacy is being validated.

Cloud computing is a visible, here-and-now investment, rather than a lump sum of capital signed away in Q1, gone for the rest of the year. A cloud-based solution requires you to pay only for what you use, preventing a black-box situation for your ICT budget. Moving to cloud computing in any capacity is an expansion requiring at least some money.

The service provider pricing model of cloud computing is particularly valuable when economic uncertainty limits the capital and ICT resources available to firms. But the economic drivers of cloud computing and cloud-based services are solid in good times and bad (see Figure 1).

Figure1.



A Pay-As-You-Go Model is Key in Crunch Times

The financial benefit of paying by the month rather than upfront is great when times are good, but especially important during a downturn. And while cloud computing is not yet ready for many enterprise ICT needs, cloud-based solutions are a viable option for most firms today.

To a CFO, ICT capacity or an application purchased from a cloud-based service provider is an operating expense (opex) that can be scaled up to meet a rising business need — or turned off when the need evaporates. The same solution hosted in the corporate data centre is a sunk cost that includes a capital expenditure (capex) that must be carried on the balance sheet as an asset that loses value as it depreciates. That difference between capex and opex yields financial benefits that CFOs value (see Figure 2):

Better cash flow

The biggest financial benefit of cloud computing, particularly in these capital constrained times, is avoiding taking on debt and keeping cash in the company longer (see Figure 3 & 4). If a project uses a cloud-based service provider, then the CFO avoids writing a big cheque upfront. Instead, cheques are written monthly or quarterly in alignment with the return.

Lower financial risk

A cloud-based solution means that you pay for only what you use. In contrast, on-premise solutions mean spending money upfront for hardware and software with an uncertain payoff. And that means more financial risk. After all, what if the benefits don't materialise? Too bad, the money's been spent.

Greater financial visibility

A cloud-based service provider can tell you how much it will cost to add a user or process another transaction. That visibility is a comfort to a CFO who must keep track of where the money is going. In most situations, ICT is hard-pressed to deliver that same kind of financial transparency.

Healthier return on assets

One of the advantages of cloud computing's pay-as-you-go pricing model is that the cost is incurred in the same period that the value is delivered. For CFOs, this means that the balance sheet doesn't carry an ever-depreciating capital asset of hardware and software that lowers the important financial metric of return on assets.



Factor	On-premise	Cloud Computing
Expenditure type	Capital expenditure (capex) Operating expense (opex)	Operating expense (opex)
Cash flow	Servers and software are purchased upfront	Payments are made as the service is provided
Financial risk	Entire financial risk is taken upfront, with uncertain return	Financial risk is taken monthly and is matched to return
Income statement	Maintenance and depreciated capital expense	Maintenance expense only
Balance sheet	Software and hardware are carried as a long-term capital asset	Nothing appears on the balance sheet

Figure 2 - The Financial Benefits of Cloud Computing and Cloud-Based Services

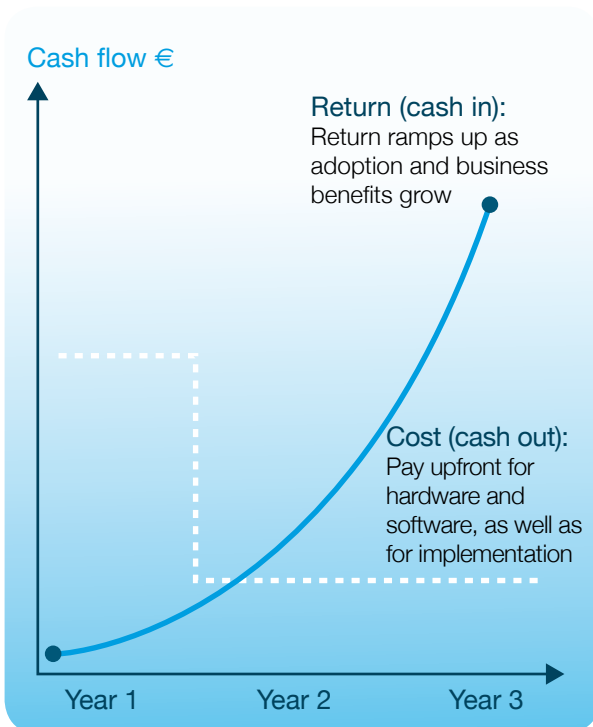


Figure 3 - Cash Flows: Upfront payment of hardware and software

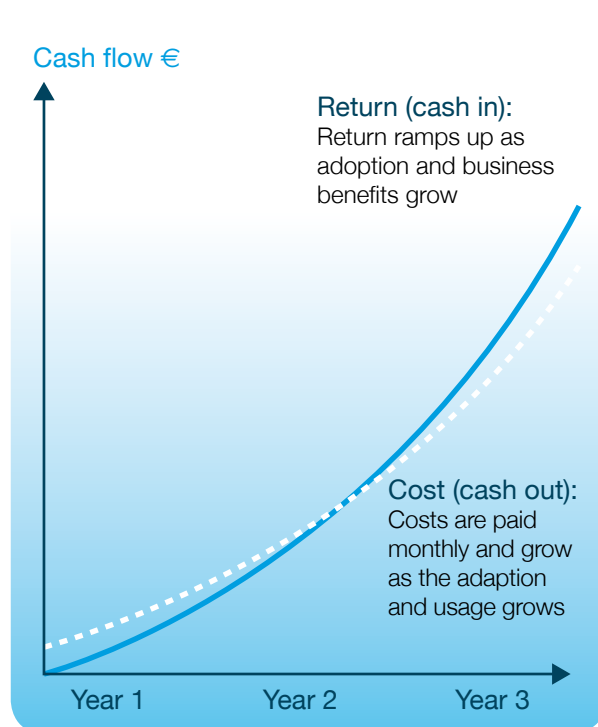


Figure 4 - Cash Flows: Cloud Computing solution

New TERMS in Cloud-Based Service Contracts

Cloud-based service providers are motivated to deliver quality service to attract and retain customers. But we believe the very nature of service delivery means that cloud computing also raises new questions for service providers to address business concerns, including:

How are we protected in cloud-based service contracts?

A contract with a cloud-based service provider is like that of an ICT outsourcer or electric utility. The contract will have to include terms for intake and migration services, service levels, problem escalation, termination rights, and failure compensation. These are often new concepts for information and knowledge management professionals used to buying hardware, software, and labour. But your vendor sourcing and legal teams can help.

How will the monthly costs grow over time?

A potential downside of cloud computing's pay-as-you-go model is that the monthly service costs will grow as usage increases. To avoid breaking the operating budget, ICT professionals will have to establish long-range planning guidelines to anticipate demand for the service and negotiate pricing to insist on volume discounts as usage scales up. The good news is that the healthy competition from both public and private cloud computing service providers, and a horde of smaller specialists will keep prices down over the long haul.

Do we own our Data?

When a service provider hosts your application, it's natural to wonder if you own your data and if it's safe. Be sure to specify ownership rights and demand a timely response to data requests, even if terminating the contract. Information and knowledge management professionals dealing with local laws or skittish security chiefs will have to ask for inspection rights into the service provider's data centre and information architecture to be assured that confidential information remains protected and compliant with local laws.

“Private Cloud avoids writing big cheques up front.”



How much do our own ICT services cost?

When a cloud-based service provider can deliver the same solution as ICT can, the CFO will wonder if the cloud computing alternative is cheaper. In order to make an apples-to-apples comparison between an on-premise solution and a cloud based alternative, ICT professionals will have to master the principle of activity-based costing: putting a price on a user or a transaction. Start by building cost models for ICT service delivery that factor in all hardware, software, power, maintenance, data centre operations, and staff costs.

Add Expansion Metrics to Your Business Cases

Information and knowledge management professionals are already presented with a myriad of opportunities to launch new applications with cloud-based service providers:

Cloud computing both simplifies and changes the requirements of a typical business case. You can de-emphasise the long-term benefits projection required for a typical capital-intensive business case. But you will need to add “expansion metrics” to govern when and how you expand your use of a cloud computing service:

1. Establish a success metric that links return to impact, hence to more spending.

To lay the groundwork for spending more as the service ramps up, you should create a financial or productivity metric that reflects the value delivered as more people use the application. You can then match this financial benefit to the cost of providing the service to make the case for expanding the project.

2. Plan on small, rapid pilots with pre-planned expansion milestones.

With cloud computing, you can get started with one item. Translate that low cost of entry into enterprise-wide success by plotting an expansion road map that includes milestones for measuring usage and impact, re-assessing providers, renegotiating pricing, and checking on the need for more employee training.

3. If needed, structure the contract deal so start-up costs are spread out over time.

Many providers will lower your cost of entry further by trading off a time commitment with a lower initial cost. For larger implementations, you can spread out the user setup and data migration costs by asking for a payment model that spreads those costs out over the first year. The pay-as-you-go pricing and low cost of entry remains, but the monthly price and time commitment increase.

“Private Clouds require a private network to ensure availability and high quality of service”



The Strencom Private “Cloud” Service



Analogy

An on-premise infrastructure is like having your own car. You have complete control over when and where you want to drive it, but you are also responsible for its operation and maintenance. Infrastructure as a service (IaaS) is just like using a low cost car rental service. You still have control over when and where you want to go, but you don't need to be concerned with the vehicle's maintenance.

Introduction

Today's high-performance businesses and governments are increasingly tapping into a global computing “Cloud” to drive innovation, dramatically improve ICT capabilities, and gain cost and competitive advantages. This is hardly surprising as cloud computing offers compelling economic advantages and strong technical benefits including on-demand computational capacity, lower-cost services, greater ICT agility, flexibility and scalability. However, determining the optimal opportunities for cloud computing can be a real challenge.

Strencom is not just talking of offering cloud services, we're actually the leading private cloud service provider in Ireland delivering truly private infrastructure on-demand services and moving enterprises core business systems to the “Cloud”.

*“We're not just talking Cloud,
we're really moving enterprises
to the Cloud”*

Private Cloud

The private cloud is the process by which IT infrastructures will be transformed into what some have called “next generation data centres”. A private cloud is owned or leased by a single organisation and is operated solely for that organisation. IaaS is a cloud computing model that has evolved to liberate an organisation from their on-premises IT burden.

Key expectations of the private cloud operation is that the data centre must be able to provision new environments, add new storage or increase computing power within minutes (or at worst within hours). Today, there are very few companies that have the internal knowledge and the resources to create and effectively manage true cloud computing infrastructures.

Private Cloud Connectivity Service

If you decide to outsource data and applications in a secure, private location, you need to know that the connectivity to this site is equally private and secure. Not only this, but it needs to be 100% reliable – critical for heavily regulated organisations such as healthcare and financial services institutions or where availability and security are paramount.

With Strencom, you won't be sharing network infrastructure with millions of individuals or internet start-ups. It's completely private.

The connection to the cloud has been enabled with the advance of services such as our cloud connect MPLS next generation data network. This means that Strencom can provide the conduit to access cloud services. Strencom can also offer to host your applications in our data centres creating a private cloud where you have the flexibility of the cloud with data security piece of mind from being accessible privately.

Strencom has resilient, highly secure networks connected allowing you to provision a 'private cloud' to host your computing resources and applications remotely and anywhere. And because we work with many top storage, data replication and business continuity specialists we can help provide a complete "as a service" solution.

Cloud Management and Operations

Strencom is a true 24x7 operation with a fully staffed network operations centre. Our team keeps a close eye on customers traffic profile and make sure that enough bandwidth is available.

Strencom understands the challenge and criticality of managing business applications and infrastructure over a cloud environment and how companies can reap maximum benefits of high quality SLA, guaranteed uptime and zero disruption.

We guarantee quality of service performance expectations at times of peak utilisation by eliminating any possibility of network and storage congestion (which may cause application performance to degrade).

Who will Benefit from this?

Any organisation that hosts applications on their own servers may benefit from moving some or all of these applications to the cloud. In simple terms you are transferring the applications to Strencom's data centre and reducing the number of servers under your direct management. Using the private cloud means that you have knowledge as to the location of the data at all times and you are the only person/organisation who can connect to this data ensuring total security.

In addition to reducing the level of infrastructure management, you also have no capital cost associated with the servers hosting the data and minimising operational expenditures via use of our infrastructure and automated operations. We will retain your flexibility, security and control (full access to all the bits and components) as opposed to a public cloud shared services model.

Our offering is not just suited to enterprises looking for hosting their mission-critical systems in a private cloud (see Strencom's Alliance Medical case study) but also for enterprises with infrastructure intensive, legacy, remote service, virtualised or "green field" applications and across a broad range of industries including healthcare, finance and gaming.

Strencom Private Cloud Service “Value Adds”

- End-to-end network and application SLA's with Strencom's managed hosting and MPLS private networking
 - Very low packet loss compared to a VPN over the Internet
 - Potential improvements in application performance due to lower network latencies, packet loss and/ or hop counts
 - Scaling to allow additional sites and greater site-to-provider bandwidth
- Minimal or no reliance on the Internet, resulting in:
 - Greater security of sensitive data (e.g. financial, medical, insurance)
 - Higher uptime
- Greater control over their networks:
 - Access limited to authenticated users on the private network
 - Provide secure site-to-site (meshed) networking
- Support telecommuters and mobile workers with secure links to the corporate network and your hosted service

Your application hosted at Strencom's data centres and accessed over Strencom's Private Cloud offering is the perfect combination to maximise your return on investment: a fully managed solution over a fully managed, secure network.

Did You Know?

While many consumers think of “the Internet” as a huge, single entity that spans the entire globe and is “always on,” most businesses now recognise that the Internet is actually a partnership of tens of thousands of service providers. Because there is no central authority controlling the many ISPs that comprise the Internet, the resulting Internet connectivity can be unpredictable as to quality, reliability and security.

Cloud computing resources are increasingly critical components of IT infrastructure due to their scalability, rapid deployment and outsourced management. Private clouds require a private network to ensure availability and high quality of service.



Strencom's Private Cloud Assessment Service

Allow us to conduct an assessment of how the "Cloud" may impact your business.



1. Cloud Exploration

Our Cloud team will meet with you and conduct a structured exploration of the potential of cloud computing for your organisation so that you have a sound approach that will keep you on pace while making the best decisions for your organisation's future growth and scalability.

2. Cloud Discovery

In this phase, we work with you to understand the capability of your applications to enter the cloud and the value to your business which can be created. We then perform an infrastructure analysis to determine how "cloud-ready" your environment is, identifying areas where work needs to be done to prepare your resources for cloud enablement.

We then perform a 2-part application assessment to determine:

- **Cloud Affinity:**

Which of your applications are more likely to benefit from cloud enablement – this helps ensure we prioritise application enablement in a way that yields the greatest ROI.

- **Cloud Readiness:**

Which of your applications are actually cloud-ready – this helps prioritise applications on the basis of the amount of work that will be necessary to cloud enable them.

At the intersection of these two evaluations, we locate the precise set of applications to work with in developing your cloud environment. Very quickly we will quantify the value of the opportunities available to your enterprise and help you identify your cloud-ready enterprise applications.

From here we'll take a detailed look at your current network infrastructure, application utilisation, and what a potential cloud migration plan would look like along with a detailed total cost of ownership analysis to determine just how much cost you can drive out of your business right away.

3. Cloud Navigation

Strencom's Cloud Navigation phase builds on the Discovery phase to implement the plans and recommendations necessary to bring your private cloud to life. This Cloud Transformation engagement results in a working cloud infrastructure based on your company's specific requirements.

In this final phase, we will work with you to conduct a workshop pilot encompassing a Proof of Concept and a 30 day trial that will prove a business case and implementation plans for a production roll-out.

What Strencom's Cloud Assessment Delivers

This assessment quickly quantifies the value of the Cloud opportunities available to your enterprise including suitability, timing and the potential issues and benefits of moving your infrastructure and applications to the Cloud.

- Review of your business needs, goals and plans to align Cloud objectives
- Identification, evaluation and prioritisation of Cloud computing initiatives
- An analysis of current IT capabilities and infrastructure for challenges/benefits to Cloud migration:
 - Hardware & software lifecycle and maintenance costs
 - Operational, support and maintenance costs
 - Disaster recovery and backup needs
 - Capacity, reliability, flexibility
- An analysis of your application portfolio to assess suitability for migration to the Cloud:
 - Integration and interoperability considerations
 - Scaling requirements
 - Usage patterns
- Develop a strategy and roadmap to effectively leverage the Cloud
 - Sensitivity and security demands
 - User base and accessibility needs
 - Integration and interoperability considerations
 - Hosting, storage and bandwidth needs/costs
 - Baseline cost analysis for high priority cloud initiatives
 - Development of initial strategy and high-level roadmap for Cloud initiatives

What Strencom's Cloud Assessment Answers

Bringing to bear our expertise in infrastructure, communications and network operation Strencom's comprehensive Cloud assessment will help you answer vital questions such as:

1. What business applications can be migrated to the cloud?
2. Is the existing applications infrastructure ready to make the move?
3. Which migrations will most benefit the enterprise?
4. What are the risks and opportunities of cloud computing?
5. Can cost savings be realised quickly?
6. How and when do I get started?



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Data Networks · Cloud Computing



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