The Cloud: Is it for You?

What You Need to Know Before Getting Aboard the Cloud

Issue 1

Featuring research from

Gartner

Foreword

"Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road."

Everybody is speaking about the cloud. Perhaps, someone has spoken to you about the cloud. Perhaps, you've been told one hundred reasons why you should be on the cloud – the huge good it will do for your bottom-line, the ability to save on IT staff and hardware, better efficiency and so on. But what are the real facts like?

Will the cloud really change your life? Will it dramatically expand your business? Will it grow your bottom-line and make you more profitable?

To answer these questions, let's understand the context in which a cloud computing environment has been gaining credence. As life becomes more inter-connected and fast, Information Technology finds itself balancing a variety of expectations, ranging from the purely personal to the purely professional. We demand instantaneous access to information; increasingly, we expect social media to help us formulate our decisions; we need the maximum ROI in the least possible time. Under these circumstances, the old ways of doing a business hardly suffice. The result is that IT finds itself being hard-pushed to keep re-inventing itself in new avatars.

At Ramco, we believe that the Cloud is part of this answer and that it will play a pivotal role in next generation IT. This newsletter has been put together to shed some light on what it really means to be 'on the cloud'. Ramco has implemented on-premise ERP for over 800 customers in the last 20 years, and Cloud ERP for over 300 diverse customers in the last two years. This has given us a keen understanding of the cloud from the client's perspective.

So, allow us to part the clouds for you!

Source: RAMCO

What Does the Cloud Mean for an SMB?

Great Foods and Beverages (GFB) is one of Ramco's cloud computing clients in the SMB sector. In 2010, GFB had entered the intensely competitive Indian FMCG space with a novel product – Chillicks Frutchill – frozen fruit bars that were perfect for Indian summers. Being a cost-effective and hygienic proposition, the product became an instant success. As its distribution network began to grow, GFB found that tracking of information was becoming increasingly difficult. They realized that they could not plan for the future if they didn't have credible information about their current sales. All around, the need was felt for an application that could systematize and streamline distribution details.

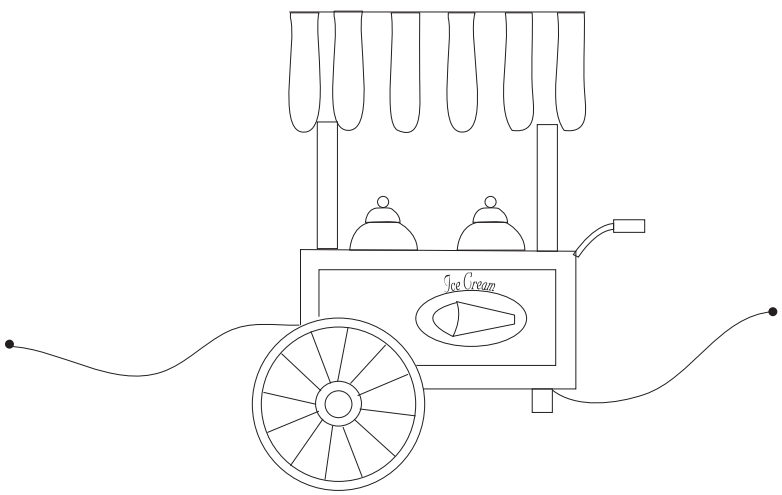
Though they knew that an ERP system could iron out many of their difficulties, they hesitated to make the move. Says **Anamika Sharma, Regional Manager, Implementation, Ramco Systems,** "Our clients wanted an ERP system that was capable of going into the nitty gritties, while maintaining an eye on the big picture. At the same time, they didn't want to lose time coming to grips with a technology that they had never used before."

How RODE changed life for GFB

- Streamlined operations
- Anytime-anywhere access
- Minimal investments on IT infrastructure and staff
- Flexible payment options through the SaaS model
- No maintenance hassles
- 'Plug-in-plug-out' feature allowing for easy upgrading and downgrading

Finally, almost half-heartedly, the company began to search for an ERP system that could help them cope without eating into their IT budget. The cloud platform seemed a wise move since they would not have to invest on hardware, IT staff and resources or even on CAPEX.

Vijay Thakur, IT Head, GFB, notes, "Ramco's cloud offering has saved us unnecessary IT infrastructure costs. We have also benefited from its flexible payment options. Since RODE is available as a SaaS offering, we have had to pay only for the features that we use. The 'plug-in-plug-out' feature has helped us to seamlessly upgrade or downgrade with no additional IT requirements. Best of all, it could go live in as less as seven days.



RODE has also helped GFB to speculate with relative accuracy how much they need to stock up. It has given the company a bird's eye view across different channels of distributors, dealers and franchisees, monitored sales returns, provided information on product-wise performance, kept track of stock and helped them plan their production processes and techniques.

According to **Mr. Sundara Raman V S, General Manager – Delivery, Ramco On-Demand ERP,** the topmost reason for the cloud's popularity among SMBs is that most times, they do not have the wherewithal to implement a full-fledged on-premise ERP. An SMB also finds it difficult to maintain in-house infrastructure, follow up for AMC, keep up with hardware upgrades and so on.

Another major problem is maintenance. In-house applications require repairs, upgrades and so on. However, on the cloud, the service provider would take care of these issues. Cloud providers who can maintain servers in their own data centers, fix problems as and when they occur, upgrade the software to keep up with best practices and have sound disaster recovery strategies in place would be very welcome for any growing enterprise.

The Cloud Among the Larger Companies

"Many of the problems of a large company and small company are similar," says **Sundara Raman.** "Only the magnitude of the problem would have a bigger impact in a large company. The benefits derived too would be the same." Currently, Ramco has large companies like Birla Tyres, Lubrizol, and Sujana Metals, in its kitty. For these large establishments, the cloud's upgradation policy is a major draw.

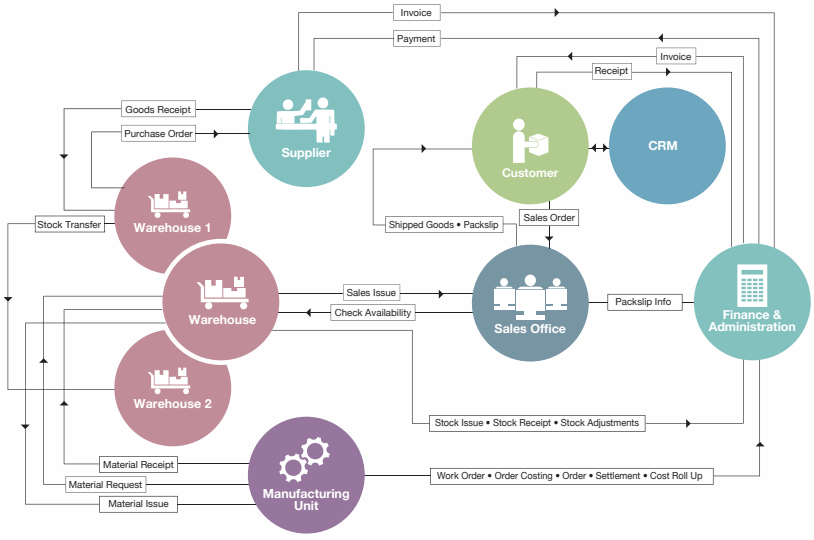
Usually, upgrading a large system proves to be an expensive affair, which can affect the existing set-up. The trend among larger companies, according to **Sundara Raman** is to use an on-premise ERP for core functions, and use a cloud system for non-core activities. For example, a company may want to track the expenses of its travelling staff. This activity, while it is important, is not a core activity. Then there are times when the large company decides to use an on-premise solution, but will require their subsidiary companies to keep abreast with a cloud system.

One such client is Real Talent Engineering, an ancillary of Brakes India Ltd. While the parent company is using an on-premise solution, RTE felt that the cloud was a more cost-effective propostition. RODE, with its innate ability to seamlessly integrate with existing systems, has helped the parent and subsidiary company to exchange information without much ado. This has also been the experience of Lubrizol, which has had to accommodate US-GAAP and Schedule 6 formats reporting, so as to integrate seamlessly with the parent company based out of US.

Like GFB, RTE and Lubrizol, scores of Indian and global companies are beginning to find the wisdom of transitioning to the cloud. "Our cloud product has all the elements in place to ensure that businesses gain better control over their operations and make better decisions. Our analytics suite goes beyond automating transactions to giving keen business intelligence. This can actually help you predict trends, and prepare yourself for the future. Initially, such a feature existed only on an on-premise ERP and only very big companies could afford to install such a system. The best thing about RODE and the cloud platform is that it has brought cutting-edge, sophisticated ERP and analytics tools to smaller companies at affordable costs," notes **Shyaam Sundar, Chief Knowledge Officer, Ramco Systems.**

As the cloud technology continues to become more mature, the uptake from larger companies is likely to increase. "RODE's EDK kit does allow a certain level of customization, but major changes cannot be made to the base application," adds **Sundara Raman.**

Source: RAMCO



Key processes that can be automated by RODE			
Procure to Pay	Order to Cash	Accounting to Profit	Service to Execution
Engineering to Order	Assemble to Order	Made to Order	Made to Stock
Works to Pay	Lead to Sale	Cost Planning and Control	Storage to Distribution

So, What Really is the Cloud?

Any discussion on cloud computing – or for that matter any technology – should begin with the question of what it is. Once that is out of the way, things get simpler. The problem with cloud computing however is that there is not one widely accepted definition of what it is. Like the proverbial story of the blind men and the elephant[1], one encounters gleams of what it is, but ultimately realizes that not one definition can really do justice to the enormity of what it is.

One way to get around this is perhaps to understand what it is not. The industry has understood by now that we aren't talking simply about hosting, we aren't talking about virtualization, we aren't even talking about the Internet, though the Internet does play a prime role.

Gartner defines "cloud computing" as "a style of computing where scalable and elastic IT-enabled capabilities are delivered as a service to customers using Internet technologies."[2]

In practical terms, this means that rather than installing servers in a data center and hiring specialist IT staff to run it, you will have to rent capacity in the provider's data center on servers at their end. There is a functional separation between the user's computer and the computing resources that are being used. These resources could even reside outside the local network in any Internet-connected data center.

All development and maintenance tasks will be performed by the service provider. The user's computer therefore will contain very little software or data, serving more like a display terminal for processes occurring on a distant network. The advantage of this is that consumers can easily use data intensive applications at a fraction of the cost and with minimal deployment complexity.

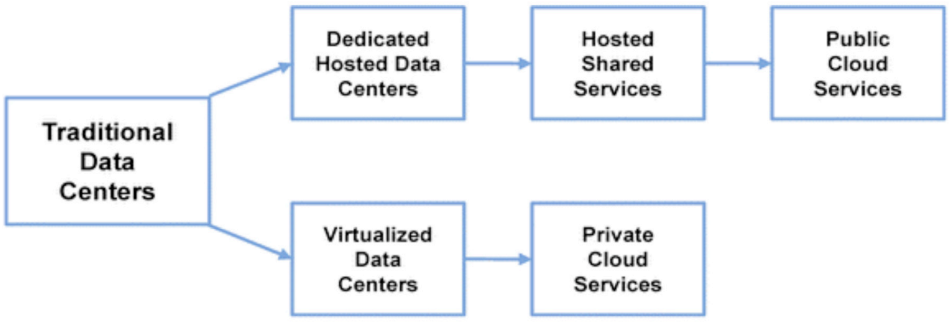
Clouds of all sorts

When considering your ERP requirements, the cloud is a great option as it eliminates the need for data centers and large teams. Generally, the cloud is offered in three deployment models – public, private and hybrid.

Says **Sundara Raman**, "Whatever the model you choose, the basic premise and underlying technology remain the same. However, the way that the service is delivered will vary. Also, the levels of control from your end may vary. There is a perception that a private cloud is more secure than a public cloud. However, the fact remains that no cloud provider can provide 'more security' for a public cloud than a private cloud. The basic technology governing security levels will remain the same."

The figure below[3] from Gartner illustrates the technological differences between both approaches:

Figure 1 | *Simplified of Computing Services Evolution*



Source: Gartner (August 2010)

[1]Wikipedia: http://en.wikipedia.org/wiki/Blind_men_and_an_elephant
[2]Gartner Research, ***Cloud Computing Key Initiative Overview for CIOs, David W. Cearley, 13 October 2010***
[3]Gartner Research, ***Three Ways of Securing Public Cloud,*** John Pescatore, 13 August 2010

If we must differentiate, the difference would lie in the fact that for a public cloud, the client has no control over the underlying technology infrastructure, while for a private cloud, the client can choose to deploy the cloud model over the company intranet or from a hosted data center. Some of our larger clients have chosen the private model simply because they want to have more control over who gets to access their data. Other clients have chosen to follow an integrated, hybrid-model approach where some of their functions are on a public cloud, while others are on a private cloud.

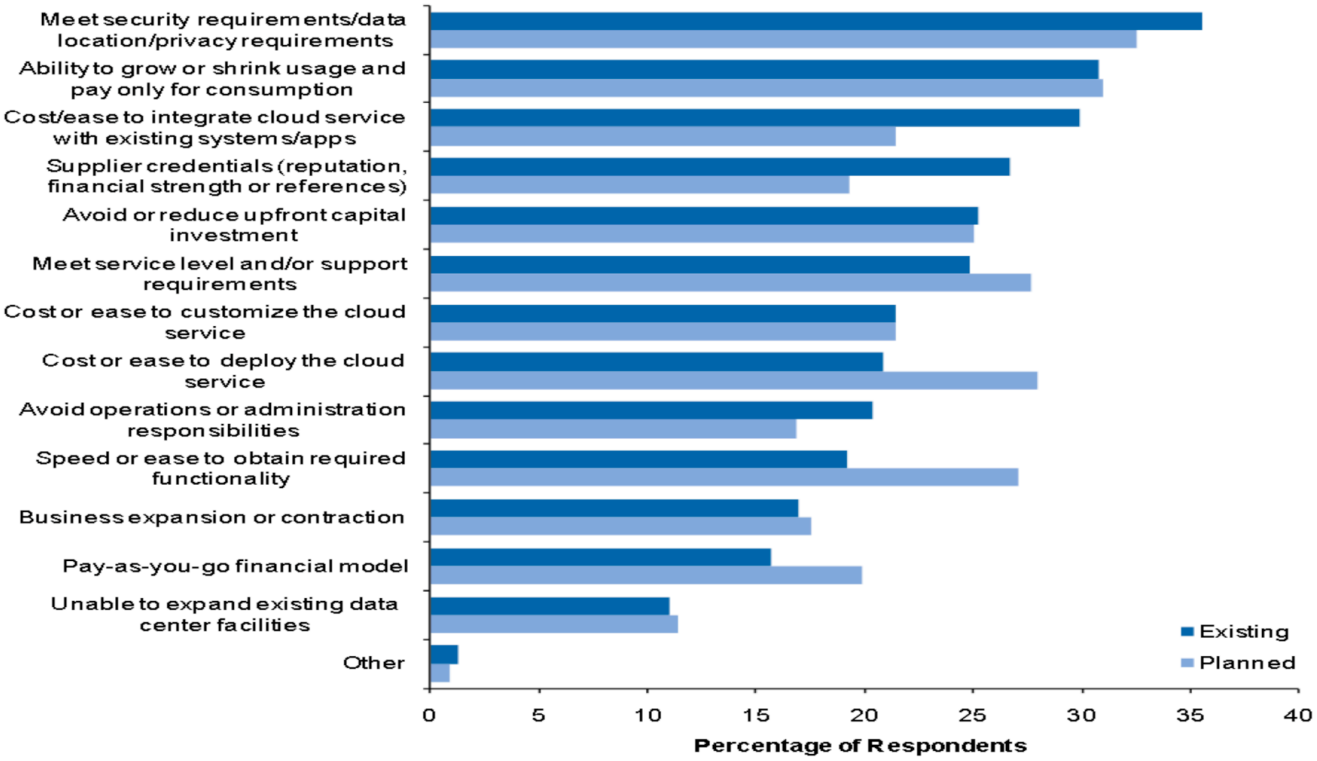
Why Should You Move into the Cloud?

When you decide to go the cloud route, be prepared to encounter dramatic changes along the way. According to Gartner[4], the key reasons driving adoption of cloud are detailed in the Figure 2.

Why RODE is a clear leader

RODE is a highly matured ERP on the Cloud, processing over 15,000 invoices and 6000 purchase orders per day. It currently has over 3000 users from 300+ customer organizations. It is the most comprehensive ERP with functionalities covering Process & Discrete Production, Cost Planning & Control, Human Capital Management, Supply Chain Management, Customer Relationship Management, Financial Management, Maintenance Management, Service Management, Asset Management, and MIS Reports. Over and above these functionalities, RODE Business Analytics acts as an enabler for the top management to analyze business data and take decisions accordingly.

Figure 2 *Key Reasons for Adopting Cloud Computing Services*[4]

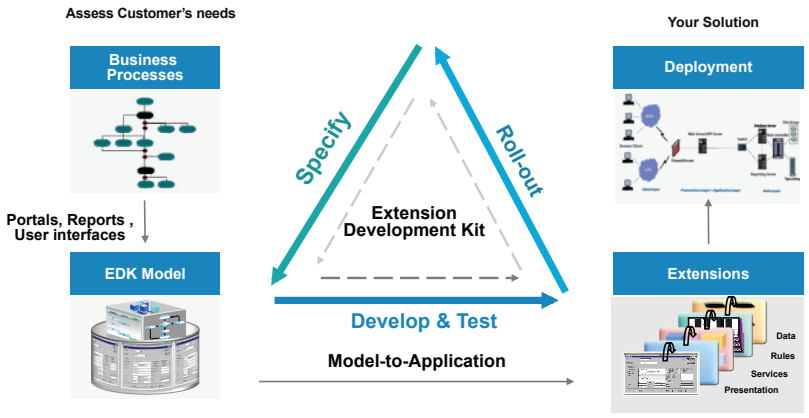


Source: Gartner (September 2010)

[4]Gartner Research, ***Survey Analysis: Global Adoption of Cloud Computing, a View From Above,*** Mike Spink, 28 Sept. 2010.

Ramco also offers ERP extendibility through its Extension Development Kit. Ramco EDK takes into consideration the fact that the standard practices of an ERP may not fit every business. Most on-premise vendors get around this by customizing the solution to fit the needs of the individual client. However, the cloud's multi-tenant architecture does not make this a feasible proposition, because what one client requires may not be welcome to another.

Ramco EDK helps you get around this by providing you with tools that enable you to customize the system yourself with minimal efforts and programming knowledge. Its innate simplicity enables you to model the changes needed, and functions as a powerful and easy wizard which helps in change cycle. All this is achieved without modifying the base product source code. As a result, migration to the next version is not compromised. Ramco's EDK is also useful for making in-house changes after the solution goes live.



Leverages existing Ramco business component repository and rapid development capabilities to assemble tailored solutions

Advantageous features include:

- Pluggable extensions that are extendable at any level – either UI extension, control extension, service extension, etc.
- Ability to generate the deliverables online; these can be deployed in the necessary paths automatically. (i.e. without user intervention).
- Fully dynamic, on demand loading/processing.
- Lightweight and yet fully capable of working without compromising system performance.

Seven unique features that enables RODE to stay ahead:

1. Ramco's Extension Development Kit (EDK) allows customer organizations to build their own unique set of extended functionalities (screens or modules) and integrate with the core ERP on the cloud. Customers can also create Portlets (web based portals) and logic extensions that contain dashboards and other analytical/graphical reports.
2. Month on Month upgrades are given automatically at no additional cost, enabling the client to keep up with best practices.
3. Report Customization: The enterprise reporting tool facilitates addition of new reports or customization of existing reports. This gives the customer the flexibility to design and customize reports based on his unique business needs.
4. Integration: RODE is enabled for easy integration with external applications through either web services or simple data level integration.
5. Mobile computing: This capability enables the user to access and transact using their mobile, for faster business response and quick decision-making.
6. Enhanced security features: Truly multi-tenant with exclusive data storage for each customer.
7. Strong localization factor in terms of statutory and reporting needs.

How do you migrate to the cloud?

In his article, Migrating Applications to the Cloud: Rehost, Refactor, Revise, Rebuild, or Replace? **Richard Watson** outlines, "The CIO issues a simple directive: "Move some applications to the cloud." To do this, architects face bewildering choices. In this Decision Point, Principal Research Analyst Watson steers architects to a choice from among five alternatives: Rehost on IaaS, refactor using IaaS and PaaS, revise for IaaS or PaaS, rebuild on PaaS, or replace with SaaS. The decision must consider an organization's requirements, evaluation criteria, and architecture principles. However, no alternative offers a silver bullet: All alternatives require architects to understand

application migration from multiple perspectives and criteria, such as IT staff skills, existing investments, and application."[5]

Ms. Shyamala Jayaraman, Vice President – Technology, Ramco Systems notes "For those who aren't too familiar with technology, the cloud could seem a daunting option. Often, many companies that approach us do so because they see the promise of the cloud. But deep down, they are afraid to let go of status quo of existing systems. Change could seem like a frightening proposition. But at Ramco, we've had opportunities to assure such clients time and time again that migrating to the cloud can be quick and painfree. We've gone live in less than 7 days for over 1000 users! As with any large project though, the key to relieving the concerns would be a proper plan and a good roadmap to get from here to there.

Here are a few pointers from the RODE team on what to do to get aboard the cloud:

1. Learn about the cloud and assess your infrastructure's strengths and weaknesses. Suggests **Executive Vice President from Cloud Solutions and BI, Rajasekar D.**, "Get a rough picture of your current infrastructure, and calculate its equivalent cost in the cloud. Decide then if the move is really worth the trouble. You also need to decide which parts of your application will reside in-house and which would require a Managed Host. If some of your apps have regulatory requirements, learn the impact of having them moved to the cloud."
2. Define your expectations. Before you decide to make the move, brainstorm on what you hope to achieve through the migration. Make a list based on priorities.

> "Clients need to be clear on what they want. They should know whether they simply want to enhance their current systems or move to a new system, they should know how much of re-architecting would be required, the legal and compliance issues involved and whether the cloud will affect their audits,"
>
> suggests **Shyamala Jayaraman.**

3. Build QA and monitoring scripts of your existing site so that you can evaluate its operation after the migration. The scripts you build can also become part of your ongoing QA deploy process, if you have one. If not, it could be the beginning for starting off a sturdy process.
4. If possible, migrate the site to a "test" cloud so you can sort out major hassles before going live. Make a checklist of what you need to do before the cutover. The RODE team says that they prepare themselves for the worst case scenario and have a plan B in place for almost every aspect.

What to keep in mind when choosing your service provider

Cloud computing can have a huge impact on a company's IT and business models if managed well, so it's essential that you choose your provider with care. That's even more true at this point, when cloud computing is still in the hype cycle and most providers are making outsized claims about their offerings.

Consider your provider's core values and whether they align with your corporate goals. Choose with caution, because changing a partner after you have implemented the cloud can be fraught with troubles. Here are a few things to keep in mind when it comes to choosing your cloud solution:

Background research

Look at the provider's track record of delivery and its position in the market. Talk to existing customers and find out how satisfied they are with the product. If the cloud provider is working with a strategic partner, it is advisable to do a thorough research of the partner's credentials as well. Many of Ramco's potential clients are taken to a customer's site before they make the decision to sign up for RODE. Says **Shyamala Jayaraman,** "This helps ensure that expectations are realistic from the client's end, which works well for us too."

Statement of work

Make sure that you have a detailed document outlining your targets and expectations. Have clear-cut, quantifiable (if possible) deliverables which will tell you what is expected and what is not. **Mr. Rajasekar D.,**

[5]Migrating Applications to the Cloud: Rehost, Refactor, Revise, Rebuild, or Replace? Burton Research, 1 Dec 2010. Richard Watson. Burton has recently been acquired by Gartner, Inc.

says, "It's best to have everything written in black and white. It ensures that the client and you are on the same page. It will also ensure that your cloud provider and you maintain a good working relationship, since neither can blame the other when and if problems do crop up."

Demo access

A demo access can help you decide if a vendor is all that he claims to be. RODE has a seven-day free demo access that helps the client to test the waters. It can help you decide whether the cloud application really will meet your requirements.

Reviews

Find out more about the methodology followed by the service provider. This can give you an idea of their maturity in terms of delivery. The bug tracking tools, client communication tools and project management tools used by the service provider can also serve as good indicators of the service provider's strength.

Certification

The solutions infrastructure should be compliant with existing industry standards and scalable enough to accommodate changes. It should also be certified by a reputable body. "Today, third party certification may not mean much. So make sure that the certifying body itself is completely reliable. RODE has the latest ISAE3402 certification for SaaS," says **Shyaam Sundar.**

Security

Security is a major determining factor, when it comes to choosing your service provider. Find out if the potential vendor offers data and security controls. Find out if there are features like access controls and data encryption built into the system. Take a cautious approach – until the cloud application has proved itself trustworthy, do not expose all your information. Your service provider should also be able to provide details on the layers of security deployed within their infrastructure. We have addressed the question of security in detail in the FAQ's section.

Plan of action

Choose a provider who can help you formulate a targeted, realistic plan for adoption; start with simple applications and services before migrating high-risk applications. You should also assess your network bandwidth requirements for remote access, think through how you will handle IT services integration, and deliver against service level agreements.

Exit feature

Find out the cloud provider's exit policy. Should you want to exit from the cloud or switch to another provider at a later stage, what do you stand to lose? Will you get back all your data? The last thing you want is to be tied down to a service provider who does not deliver as promised.

Flexibility and scalability

Does the vendor allow you to switch to an on-premise solution if required? What is the degree of customization that is being offered? While cloud computing does not allow for extensive customization, a good service should be able to give you some amount of flexibility.

Also, does the solution have the capacity to scale quickly to demanding technology and can it accommodate unlimited users? What is the price tag that comes with scaling up or down?

Upgrades

What is the cloud provider's upgradation policy? How much will you be charged on an average per upgrade? Do upgrades come with downtime? How will the upgrades be effected? At Ramco, we give upgrades month on month automatically. This means that our clients do not pay for upgrading, but only for an increase in the number of users.

User interface

An interactive and friendly interface will enhance the user's understanding of the solution. A good cloud UI should enable anytime-anywhere access and it should be independent of the platform used. Ramco's UI is the result of years of customer research and interaction. The ease of use is enhanced through the strong training support.

Training support

Cloud computing is still a work in progress. Constant changes and upgrades are being implemented. What is the degree of support that the provider offers to its clients? Consider speaking to existing customers of the cloud provider to find out what their experience has been like.

Localization factor

This is an important but overlooked feature. It is essential that you are able to get features that are relevant to the place where you stay. For instance, if you are a customer from the US, you should be able to have the required features to file tax, keep up to changing regulatory environment and so on. The cloud should be able to offer a certain degree of flexibility to accomodate changing regulations.

Source: RAMCO

Frequently Asked Questions

Below is an interview with Mr. Sundara Raman V S, General Manager – Delivery, RODE and an expert in Cloud Computing:

What do you think are the cost savings that a company can expect from the cloud?

On a five-year basis, if you calculate all the main costs and associated costs, you will save at least 40% on the cloud. This includes savings on AMC, infrastructure maintenance, administrations costs, staff costs, cost of replacing parts, repairing worn-out parts, upgradation and so on. Companies also save indirectly from the time factor. To implement an on-premise solution, you'd take about four to five months. But the cloud can be implemented in as less as a month. For a large company, the cost savings from this would run into a substantial amount.

How much to you think companies really understand the concept of cloud computing?

Most times, they don't! Companies are not really concerned with technology, they are more taken up with the business benefits. Then, there are some companies who shift only because they have heard that it brings phenomenal cost savings. However, understanding the basic technology can help you steer clear of 'fake clouds.'

That's an interesting concept that you brought up – what really is a fake cloud?

A fake cloud, at first glance, seems pretty much like the real thing. But unfortunately, rather than saving you costs, it only increases your cost over the years. The technology behind the fake and the real is very different. A fake cloud is hosted from an off-premise location, but the technology is very much like any other on-premise solution. With a fake cloud, you won't be able to unleash the full power of the cloud's community model.

So, how does a client tell the real apart from the fake? And since you said technology doesn't really matter for the client, what does the client get from choosing the real over the fake?

To answer this question, let me first tell you about RODE, which is a real cloud. RODE is web-native rather than web-hosted. What this means is that we are completely web-architected, and specifically designed from ground-up for web-applications. We aren't taking an existing product and creating a layer for the web, which is what a fake cloud will do. Clients who want to unleash the true savings from a cloud product should check on four aspects – is it SOA-enabled, is it multi-tenant, is it componentized and is it multi-tiered? Each of these aspects come with very real benefits for the business.

If it is SOA-enabled, you can access any transaction as though it were independently available. You can pass data, retrieve data and get the output in a format that is easy for you to use and comprehend. It can also integrate with information from other applications, travelling across various channels and retrieving the information. Think about one of these travel websites: you choose your dates, your destination, the place you're boarding from etc. The application travels across the information of various airlines and presents it to you in a single screen, in an easy-to-use format. That's exactly what an SOA-enabled application will do for you. It will integrate information across various channels of your business to give you reports that are truly business intelligent.

Similarly, take the multi-tenant factor. Perhaps the best analogy to explain this would be that of a public or private transport. If you're travelling on a public transport, the cost of the fuel is split across various customers. Instead of paying for your own hardware and software, your costs are split across several customers. The benefits of a software or hardware upgrade will be split across several players. A hosted provider on the other hand will make you pay for every software upgrade.

Then we come to componentization. This means that you don't have to use the entire application. You can pick and choose the functionalities that you want and pay only for those. The multi-tiered aspect helps us to split our data across multiple layers; we can increase or crunch server space depending upon need. We can provide our users with uninterrupted service, however much they grow.

In dealing with customers, what have you found to be their biggest fears and concerns?

The biggest fear is, "Is my data secure?" Then, there's the fear of, "How do my systems work in the case of an Internet outage?" Then, there's the concern or rather constraint of cloud not being as customizable as an on-premise solution.

How has RODE dealt with security?.

We have put in place a comprehensive Information Security Management System as mandated by ISO27001 standards. We have tried to implement physical security, application security and data security. By physical

security, I mean that our data center is a sensitive zone that can be accessed only by authorized personnel. We have controlled the entry through automatic access control systems that are linked to security alarms, and every entry is automatically logged. We have also installed surveillance cameras which capture the videos of every person entering, has it viewed in real-time by a security guard and archived for future reference.

For ensuring **application security,** we have a two dimensional access control measure. For one, only authentic users can login. Secondly, they can login only to the relevant transaction screens for which they have permissions. We believe that this mechanism will prevent unauthorized access to transactions and data. We also train customers to use this module so that the access polices can be set by an administrator who has been designated by the customer, so that the customer can have absolute control over the access. We also have an audit trail that tracks authentic usage, so we can find out who logged in, when the login happened, what was the duration of the login, what wass the usage pattern, etc. We can also detect unusual usages.

For **data security,** we ensure that data transmission is protected through encryptions and transported over secure sockets layer. This prevents theft. Moreover, encryption renders data meaningless, thus making the theft harmless. We have also ensured that the data arriving through the internet at the data center is filtered through the firewall. Only an authentic customer's data finally reaches the servers. We continually update our firewall policies. We have got a Type ISAE3402 certification for our data center. Our lines are 128 bit encrypted. We are also the only company in the world to provide separate database instance. Usually, the data is stored together physically. However, with RODE, the data is physically kept separate. Even a server error will not fetch another customer's data. Besides, we have also ensured that we backup data every half hour, making recovery easy. We have multiple layers of security practices as well – for instance, you can choose the level of information for various types of users, you can choose to use the login id and password only from a particular IP address, you can decide how much data needs to be displayed, filter information to match your needs and requirements. Apart from this, we have standard security standards like locking the id if you fail to provide the right password after five attempts and so on.

Tell us more about RODE's recovery strategy?

We have tried our best to ensure that data is not lost. Clients can choose to backup their data every half hour or so. We can ship the data to another remote location, so that even if there is a natural disaster at Chennai, where our server is installed, we can ship the customer's data to a remote data center. In the future, we can move the customer's data to any data center across the country. We also have a two level redundancy policy, which means that if the first line fails, the second line takes over automatically and seamlessly. If this line also fails, the data is pushed to a remote location.

How have you worked around customers who want the product to be customized?

RODE's EDK kit allows a certain level of customization. For instance, you can customize how you want the information to be presented. However, major changes cannot be made to the application. This is in fact a good thing, because if you customize extensively, you may lose sight of what the industry is doing. Limiting customization also helps a company keep abreast of standard best practices and next practices, because we would have implemented this. Focusing too much on customization can lead to practices and processes that are very outdated.

What is your advice for a company that is trying to choose between two service providers?

Choose a provider who owns the solution. Also ensure that the company is offering the application as a product rather than as a service, because such a provider is bound to be concerned about the growth and development of the product and will invest towards it. Lastly, you need to examine the localization aspect, and whether it can adhere to the statutory requirements and laws of the country that you are in.

What is the kind of training support that a client can expect from RODE?

With RODE, training is an on-going process. The cloud technology is still a work-in-progress, so it will keep on evolving. We give our customers the full benefits of these evolving changes and improvements at no extra cost. When we develop a new functionality, we make it available for all our clients. But sometimes the client may not require a particular functionality and may choose not to use it. But for those who do decide to implement it, we give our full support. Also, upon signing up for RODE, we give a seven-day hands-on training, and hand-holding support all through their cloud journey.

Source: RAMCO

From the Gartner Files:

Security Monitoring and Assessment for Cloud Environments

Security assessment and monitoring requirements and capabilities vary based on whether the cloud environment is private or public, and whether infrastructure-layer or application-layer cloud services are consumed. The security organization should ensure that monitoring and assessment requirements are defined, and that the cloud environment can provide capabilities to meet those requirements.

Key Findings

- The distinguishing characteristics of a private cloud environment are that the infrastructure is internally owned and operated, and that systems can be dynamically provisioned and activated.
- The distinguishing characteristics of a public cloud environment that are most important for security assessment and monitoring are that the infrastructure is not owned by the customer and that the service is provided via a shared infrastructure.

Recommendations

- For private cloud environments, organizations should ensure that a preproduction vulnerability and configuration assessment is integrated with the system provisioning process to ensure that the system is patched, does not contain critical vulnerabilities and is configured with the proper security policies.
- With public cloud environments, organizations will need to rely on the attestations of the service provider or the summary results of periodic audits by third parties as validation of the controls for the service provider's IT infrastructure.
- Include application-layer monitoring requirements and service provider capabilities in external cloud sourcing decisions. If there is a monitoring requirement, the service provider should be asked to generate an audit stream for that organization's users, so that the customer can integrate it with its existing security information and event management (SIEM) deployment to regain a unified view.

WHAT YOU NEED TO KNOW

The security organization should define infrastructure- and application-level security assessment and monitoring requirements for private and public cloud services. The security organization should ensure that cloud environments can provide capabilities to meet those requirements.

ANALYSIS

Organizations that are adopting cloud-based infrastructures and applications need to define security assessment and activity monitoring requirements, evaluate the capabilities of the cloud environment that is under consideration, and implement any needed functions. The level of security assessment and monitoring should be based on the security and regulatory compliance requirements of the data and applications that will be implemented in the cloud environment. There will be major variations in requirements based on specific data and applications, whether the cloud infrastructure is private or public, and whether the cloud-based service is at the infrastructure or application layer.

Private Cloud

Many aspects of security assessment and monitoring for private cloud environments are no different from those for traditional IT, but there are additional components to be assessed and monitored, and systems can be dynamically provisioned and activated. Because the environment is internally owned and operated (or at least dedicated to a single organization), it should be possible to instrument the cloud environment with the organization's standard vulnerability assessment, configuration assessment and security monitoring technologies. An active virtual system will be visible and accessible to standard network vulnerability and configuration assessment functions. A properly configured system would also contain any requisite agent-based components. Likewise, the event streams that are generated by an active virtual system are not materially different from those of systems that are deployed on dedicated hardware.

What is Different: The main differences in a private cloud environment are:

- The hypervisor and virtual management environments are new components that need to be securely configured, administered and monitored.

- Systems can be dynamically provisioned and may be activated following a long period of dormancy. This may bypass the change control and configuration management processes that were oriented toward physical provisioning.
- Network traffic within a virtual environment may travel through virtual connections that bypass physical security and network infrastructure.

What you need to do: The security organization needs to define security configuration policies for the hypervisor and virtual management environments, and monitor for compliance. Organizations should ensure that a preproduction vulnerability and configuration assessment is integrated with the system provisioning process to ensure that a virtual system instance is patched, does not contain critical vulnerabilities and is configured with the proper security policies.

A virtual system may be inactive for a long period of time prior to its activation. Security assessments should be initiated prior to full network access to a system that has been dormant across a period of new vulnerability disclosures to ensure that it is not missing critical patches and is not exposed to recently disclosed vulnerabilities.

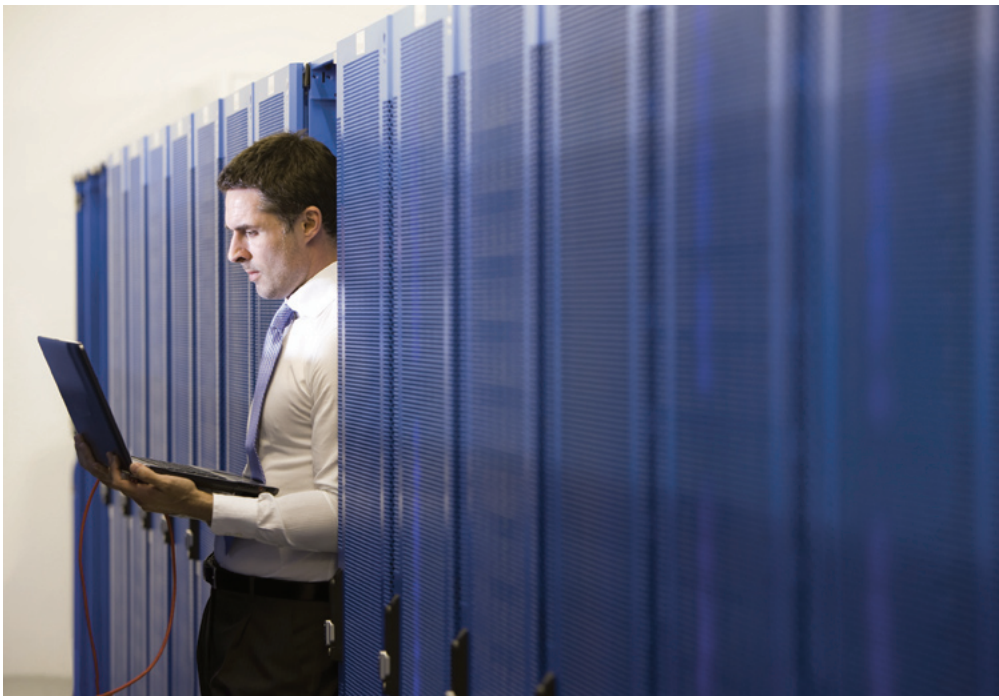
The new system may also need to be monitored, which would require configuration changes and/or capacity increases to the log management and security monitoring infrastructure to accommodate the new system and virtual network connections. New monitoring requirements are also associated with the hypervisor. Monitoring of configuration changes and administrator activity at the hypervisor level is required.

Security assessment and monitoring integration requirements for virtual systems should be defined in an organization's internal cloud provisioning and activation processes, but there should also be automated notifications to the security organization or (better yet) automated invocation of vulnerability, configuration and patch assessments when new virtual systems are provisioned or when existing virtual images are activated. The automated notification could also drive changes to the monitoring infrastructure to dynamically add the new system, if required. An automated trigger could come through integration with the virtual machine management layer (for example, vCenter in a VMware environment), because image provisioning and activation are events that are orchestrated through this layer. Network access control can also be used to perform a basic security configuration assessment as virtualized systems connect to the network to ensure that provisioning processes are working as planned.

Public Cloud – Infrastructure-Level Services

Platform-as-a-service offerings (for example, Amazon EC2 or Microsoft Azure) support the rapid provisioning and activation of server, storage and database environments for a variety of operating systems, storage systems and database management systems.

Security Assessment: Customers have system-level (root-level) access to their images, so they have the ability to locally assess patch status and the vulnerability and configuration state, and to mitigate any issues that are uncovered. Customers will need to understand the network environment and associated restrictions of the service provider to evaluate any potential limitations to network-based assessments of the patch,



vulnerability and configuration state. It may be necessary to implement an agent-based assessment to preserve or comply with the network security controls within the service provider environment.

Monitoring: There are essentially two sets of privileged users – the customer and the service provider. The service provider's privileged users manage and configure the virtualization environment. Customers need to understand if access to their instances by the service provider's privileged users is possible. The customer's privileged users will most likely be able to alter the base system image provided by the service provider and may be able to build a system image from scratch.

What you need to do: You can monitor the activity of your privileged users via the audit and system log functions present on the system stack. There may be new requirements for the reliable and secure transport of privileged user monitoring data back to your internal SIEM infrastructure over public network connections – if there is a requirement for unified monitoring and reporting across internally and cloud sourced systems. You will most likely not have access to audit data for the service provider's privileged users and will need to rely on the attestations of the service provider or periodic audits by third parties as validation of the controls for the service provider's privileged users.

The dynamic provisioning and activation issues discussed in the private-cloud section also apply here, except you will probably not have direct access to the service provider's virtual machine management layer to configure the automated notification of system provisioning and activation. You should evaluate notification options that are provided by the cloud service and the potential for integration to drive your assessment and monitoring functions.

Public Cloud – Application-Level Services

Application-as-a-service offerings provide application functions within a shared infrastructure. In most cases, the underlying infrastructure is a "black box" (that is, the customer has no visibility of the vulnerability state of, the configuration state of, or privileged user access to the underlying IT infrastructure).

What you need to do (infrastructure-layer privileged user monitoring, vulnerability and configuration assessment): The service provider will typically not be willing to provide privileged user monitoring reports or the results of a vulnerability and configuration assessment, because the environment is shared and the information can be used as a road map to compromise the environment. Instead, you will need to rely on the attestations of the service provider or the summary results of periodic audits by third parties as validation of the controls for the service provider's IT infrastructure.

Application Layer (Activity Monitoring)

A consolidated view of user activity or data access across a set of applications may be needed for security incident analysis, fraud detection or regulatory compliance. Application activity monitoring is important because application weaknesses are frequently exploited in targeted attacks, and because abnormal application activity may be the only signal of a successful breach or of fraudulent activity.

Many organizations have implemented SIEM across their IT infrastructures, and some are beginning to collect and analyze user activity data from the application layer. As organizations gradually move applications to the cloud, they lose control over the generation and collection of user and data access information from those applications. This could result in permanent "blind spots" for user activity and data access.

What you need to do: Application-layer monitoring requirements and service provider capabilities should be included in cloud sourcing decisions. If there is a monitoring requirement, the service provider should be asked to generate an audit stream for that organization's users, so that customers can integrate it with their existing SIEM deployments to regain a unified view. It may also be possible (with cooperation from the service provider) to restrict application access for your application users through a network path that includes an external monitoring point. As with any application-layer monitoring use case (regardless of sourcing), the SIEM technologies' external integration interface will need to be customized to accommodate the particular format that is generated by the application.

Source: Research from Gartner RAS Core Research Note G00201292 Mark Nicolett, 19 August 2010

Ramco OnDemand – Tailored to meet business goals

Ramco's cloud offering, Ramco OnDemand ERP (RODE), is the result of several years of rigorous research. The company has won itself a reputation as being one of the leading players in the traditional ERP sector in the Indian market. In 2008, the company launched RODE – India's first cloud offering. RODE 2.0 – a keener and more comprehensive version whose technology is on par with any on-premise ERP – was launched in September 2010. Since its launch, RODE 2.0, has established itself as the market leader in the cloud market. Clients range from SMBs to larger conglomerates.

Source: RAMCO

Can RODE do it for you?

Of course it can! After all, the cloud is the limit! To find out more on how RODE can be stretched (or shrunk) to answer your need, call 1800 425 6667 or visit www.ramcoondemand.com

You can also write to us at cloud@rsi.ramco.com