

Microsoft

Cloud Computing Assessment
Sample Customer Incorporated
by
Champion Solutions Group



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people  ready

Microsoft®

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Cloud Computing Assessment

Introduction

Champion Solutions Group is pleased to deliver this Cloud Computing Assessment to Sample Customer Incorporated. This report represents 30 Hours of preparation and planning in order to deliver, and we hope you find it useful in planning your organization's future initiatives in the cloud.

Cloud Computing – the Opportunity

In the early days of computing, information workers logged onto powerful mainframes using dummy terminals, or workstations whose abilities went little beyond a keyboard and a screen. That format was revolutionized with the advent of personal computers, which imbued the dummy terminal with the computing power to enable workers to be extremely productive outside the mainframe. After years of development, the speed and reliability of the internet have now made a new form of mainframe-style computing possible, called Cloud Computing. In this scenario, hosted web servers act as a master computer, delivering applications to still-powerful worker PCs. The promised benefits of this system include:

- **Streamlined updates.** Hosted applications can dramatically reduce the time needed to enhance software. For example instead of loading program updates onto thousands of machines, a Cloud Computing model only requires that the IT department update the master server(s.)
- **Increased time for strategic IT.** By freeing up time from mundane tasks such as updates, the technology department can focus on more strategic projects and deliver a more substantial impact to the organization.
- **Reduced costs.** Instead of using a "one size fits all" approach to applications, Cloud Computing allows the IT department to deliver the right level of software power to particular user profiles. The company no longer is required to pay for functionality that is not necessary.
- **Improved data management.** One key advantage of the original mainframe paradigm was the centralization of data, and this benefit is true for Cloud Computing as well. Integrated reports and functionality are far easier to deliver without the worry of migration and custom application development costs.

All in all, experts agree that most organizations will utilize some form of Cloud Computing within the next decade. Therefore, it is critical for IT leaders to have a cohesive knowledge of the Cloud Computing opportunity and how it could affect/benefit their organization. In other words, it's not a matter of "if" the Cloud Computing question will be asked, but "when."

Cloud Computing - the Challenges

As every IT manager knows, "the leading edge can be the bleeding edge." In other words, excitement over new technology can swiftly disappear under the pressure of unexpected challenges. Some considerations to keep in mind as you craft the Cloud Computing strategy for your organization can include:

- **Assess system security requirements.** One of the first steps in creating a Cloud Computing strategy can be defining what data can move outside your network, as not all information requires the same level of security. In addition, it is important to carefully assess and design the strength of the security surrounding different types of data.
- **Define user productivity needs.** As stated previously, Cloud Computing solutions can allow an organization to deliver a more custom level of application functionality based on the needs of unique user populations. As a result, the organization may

only pay for only the functionality that is absolutely required for a particular user group. Before starting this process, it is critical to gain an accurate profile of user needs in order to maintain or improve worker productivity as a result of moving to the cloud.

- **Gain the right advice.** Cloud Computing technology is changing on a daily basis, and therefore it is strongly suggested that organizations review a proposed strategy with qualified third parties, especially those with expertise in Cloud Computing and data/application migration, systems integration, and user training.
- **Consider vertical applications.** Organizations often rely on specialty applications that are focused on their particular vertical market. While there is anticipation that all solutions will soon move to a Cloud Computing model, it is unclear when and how many specialty applications will re-engineer for internet-based environment. Knowing the cloud timeline for key software - as well as the impact of re-engineering any related integration - is an essential part of any Cloud Computing plan.
- **Defining a reasonable timeline and roll-out plan.** A strong Cloud Computing Strategy is often built on the concept of "under-promise and over-deliver." Successful projects often set generous timelines for decision-making, roll-out and user adoption.
- **Careful reapplication of IT resources.** A key part of a Cloud Computing plan often includes defining how to re-apply IT resources that are currently dedicated to more mundane tasks such as software upgrades and updates. No CIO wants to lose headcount or have an unmotivated staff. Therefore, it can be important to get early buy-in on new strategic IT projects, as well as plan to provide the appropriate training for new job tasks.
- **Consider custom development.** It is suggested to make a thorough inventory of all custom applications and integrations in order to ensure that time/budget is set aside for any required re-development efforts. Often organizations have custom apps that are so part of their corporate DNA that it is easy to forget the efforts that were initially required to make those solutions possible.

In the pages which follow, Sample Partner Incorporated will begin to outline the potential benefits and areas of concern for Sample Customer Incorporated as related to Cloud Computing. We appreciate the opportunity to take this first step with you, and look forward to working together to further define questions and brainstorm solutions.

About Sample Customer Incorporated

Sample Customer Incorporated is a manufacturing powerhouse. With more than 40 offices around the world, Sample Customer is one of the most trusted names in manufacturing. Sample Partner Incorporated looks forward to helping Sample Customer Incorporated to successfully explore opportunities in Cloud Computing.

About Sample Partner Incorporated

Sample Partner Incorporated is one of the leading services partners related to Cloud Computing. With more than 30 offices in both the US and Canada, Sample Partner is also an award-winning Microsoft Partner. Sample Customer Incorporated is a manufacturing powerhouse. With more than 40 offices around the world, Sample Customer is one of the most trusted names in manufacturing. Sample Partner Incorporated looks forward to helping Sample Customer Incorporated to successfully explore opportunities in Cloud Computing.

About Sample Partner Incorporated and Cloud Computing

Sample Partner Incorporated has been recognized by major magazines and blogs alike for their award-winning projected related to Cloud Computing

About Sample Partner Incorporated and the Manufacturing Industry

Sample Partner Incorporated offers more than 100 years of combined experience working with organizations in the manufacturing industry.

About this report

The report that follows is based on 30 Hours of skilled engineering analysis by Sample Partner Incorporated. In general, Sample Partner Incorporated met with Jane Smith, CIO from Sample Customer Incorporated in order to generate the information and analysis on the pages which follow.

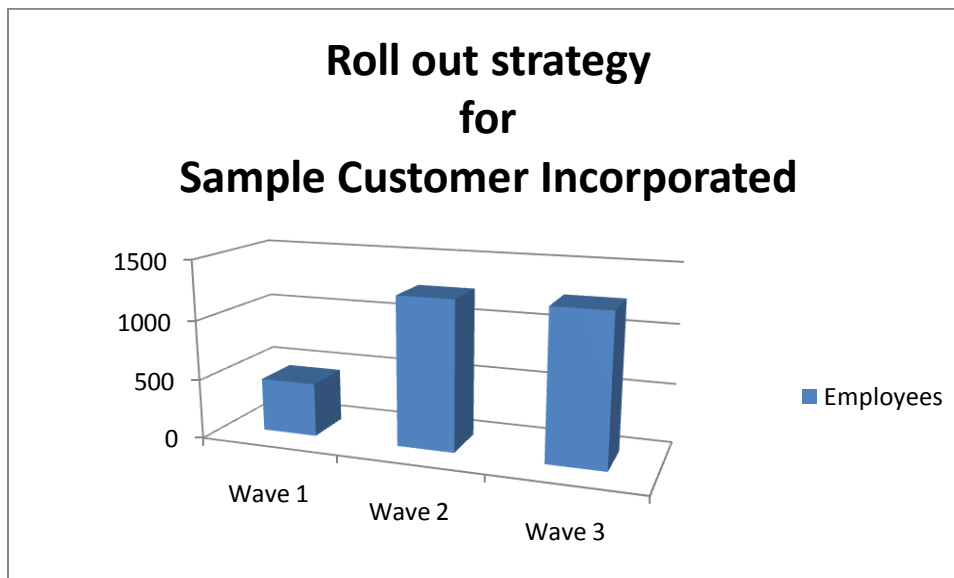
PC Use Profiles and Cloud Computing

Introduction

When it comes to defining an effective Cloud Computing strategy, it is often useful to first define the kinds of daily use functionality required by various user populations within your organization. For the purposed of this report, daily use applications include email, word processing, presentation solutions, basic data management and spreadsheet functionality. In our recent interviews, we discovered that Sample Customer Incorporated has a total of 3000 in your organization. Of this total, 50 do not use a PC in any way, while 450 use a PC occasionally and 2500 would be categorized as intensive PC users. Your organization does not have a Cloud Computing Strategy, and you have moved 0 to the web at this time. In addition, your company has a low risk level for new technology.

Based on this initial profile, we suggest a phased roll-out of Cloud Computing capabilities within your organization. For the 450 who use a PC occasionally, we propose those employees may be ideal for a first wave to move to the web. The daily use application we would suggest for this group to leverage online would include a basic email package and possibly a role-specific application such as customer service. As with all phases of this effort, we recommend having deeper conversations with the managers and workers in these groups to ensure to gain buy-in for the migration and ensure all the user needs are satisfied.

In a second wave, we would suggest further profiling your 2500 who are intensive PC users and crafting a roll-out plan for appropriate employees based on the result of the first deployment push.



User Productivity

One advantage of moving information workers to a Cloud Computing format is that user needs may be more closely profiled and as a result workers with lower requirements can be matched with less robust -- and therefore less expensive -- solutions. The challenge, however, is to connect the appropriate level of functionality with each user. For many of us,

it's been years since we struggled with a daily use application (as defined earlier in this report) that was not built from the ground up with robust user needs in mind. It's no secret that small functionality mis-alignments can lead to huge losses in productivity.

The rule of thumb in many usability-aware organizations is that the cost-benefit ratio for usability is \$1 : \$10-\$100. Once a system is in development, correcting a problem costs 10 times as much as fixing the same problem in design. If the system has been released, it costs 100 times as much relative to fixing in design." (The Usability Professionals' Association)

"The average UI has some 40 flaws. Correcting the easiest 20 of these yields an average improvement in usability of 50%. The big win, however, occurs when usability is factored in from the beginning. This can yield efficiency improvements of over 700%." (The Usability Professionals' Association) In our fact-finding conversations with your organization, we reviewed a list of functionality that is not consistently offered in major Cloud Computing solutions. In the case of Sample Customer Incorporated, checked 22 responses / total 43 possible responses or 51% of the functionalities listed were marked as important to your information workers. These results place you in the high range for required capabilities as related to daily use applications. In other words, your information workers are accustomed to the highest levels of functionality and are at risk to be far less productive with a "good enough" system. We therefore suggest taking a serious look at application capabilities as part of your Cloud Computing requirements.

Development Roadmap

At Sample Partner Incorporated, we set high standards for the solutions that we suggest to our clients. In terms of the applications that we recommend, we prefer that the software vendor in question has a long-established history of a published roadmap, both before and after any solutions are released. The reason for this is simple: even the seemingly smallest changes can be incredibly time-and-resource-consuming if they are not taken into account when the solution is being architected. In our discussions with Sample Customer Incorporated, you expressed that such a roadmap is not answered important as a requirement for your organization. As part of any Cloud Computing strategy, we would therefore suggest that your RFP or vendor specifications include detailed plans for future development.

Security and Privacy in the Cloud

In IT Security, there's an adage that "the only system that's 100% secure is one that's unplugged." In other words, whenever the decision is made to use computers - especially in conjunction with the internet - there is some associated level of risk. In this section, we'll explore how Sample Customer Incorporated can deliver the highest value from a Cloud Computing strategy while mitigating risks related to security and privacy.

Security

A best practice that we strongly recommend for any organization crafting a Cloud Computing strategy is to parse out corporate information into at least three tiers of security. Often, a Data Security Classification System will adhere to definitions such as those listed below:

Security	
Data Category	Definition
Red	The red information category requires the highest level of security. Often this includes documents that relate to board of directors meetings, merger and acquisition discussions, sensitive HR files, customer account data, and key legal documents. Critical intellectual property can also fall into this category such as source code, product formulas, and design files.
Yellow	Information coded as yellow is important to secure, but may not represent a critical blow to the organization if this security is breached. Yellow-class data may include some types of customer data, HR correspondence, marketing/sales plans, and legal documents.
Green	Green information is subject to the least stringent security standards. This may include day-to-day correspondence, memos and documents.

Of course, this diagram can change dramatically depending on the organization and industry. For instance, financial institutions are often required to hold "green information" to a far higher security standard than other entities. That said, we believe that the sample Data Security Classification format we have included in this report could serve as a strong starting point for Cloud Computing discussions with Sample Customer Incorporated.

In addition, our fact-finding with Sample Customer Incorporated revealed that your organization does not yet categorize information into different levels based on security requirements. In cases such as this, we suggest that the organization create a Data Security Classification System and then cross-reference those class levels against the key applications that are being considered for a move to the cloud. The result might be an Application Security Matrix such as the one below:

Sample Application Security Matrix

Data Category	Definition
Email	Red level use - legal, board members Yellow level use - HR, Sales Green level use - all employees
Word Processing	Red level use - legal, board members Yellow level use - HR, Sales Green level use - all employees
CRM	Yellow level use - sales Green level use - customer service

As stated earlier, there are no set rules for every organization in terms of how to secure sensitive information. However, in looking at organizations with the highest security requirements -- such as entities in defense, military and financial services -- the standard is to place the most sensitive information and related applications onto a sub-network within the organization's firewall. Additional identification measures, both electronic (such as encryption keys) and physical (such as retinal scans) are often added into the total solution, alongside comprehensive audit functionality.

Intellectual Property

Defined simply, Intellectual Property (IP) is anything that your organization has created or purchased outright and which provides a competitive advantage to your organization. Typical lists of intellectual property can include source code, design documents, customer lists, recipes, and so on.

It is important to consider the possible damage to your organization if your IP were compromised. In our discussions with Sample Customer Incorporated, it was discovered that your company is often working to protect your Intellectual Property. As a result, we strongly suggest working with legal counsel to ensure that the IP portions of your Data Security Classification System are as thorough as possible.

Audit

When considering audit, most IT executives think about government regulations such as Sarbanes Oxley, Basel II, Graham-Leach-Bliley, HIPAA, and PCI. Each of these regulations has some provision requiring organizations to track specific actions of individual employees.

However, audit systems in place is a long-accepted best practice to discourage unwanted behavior before it falls under the watchful eye of a third party.

In our discussions with Sample Customer Incorporated, it was expressed that audit is sometimes a concern for your organization. As a result, we strongly suggest including an assessment of the audit capabilities of various Cloud Computing providers as an essential part of your strategy to move applications onto the internet.

Privacy

For the purposes of this report, the term "privacy" refers to how an organization handles, stores and accesses the following types of information:

- Customer data
- Prospect information

- Personal employee info
- Clinical trial content
- Patient data

The goals of managing privacy data are multifold and can include:

- Protecting an individual's personal information
- Ensuring your organization stays in compliance with your posted privacy policy
- Confirming that any solutions hosted by a third party are also maintained to the same standards you set internally

During our fact-finding with Sample Customer Incorporated, we determined that your organization does wish to take privacy into account when designing a Cloud Computing solution. To reach this goal, there are various best practices that we would suggest. To begin with, it is important to define exactly what information inside your organization is considered private data. If appropriate, you may also wish to review the Data Security Classification System (mentioned previously in this section) for your organization in order to ensure private information is included there as appropriate.

In addition, we suggest reviewing your company's published privacy policy on the web, as well as the privacy policy of any hosted application vendors you are considering. In terms of third party hosted solutions, online application providers may track personal data in order to refine search as well as to activate online ads at the client's request. We strongly suggest making sure that it is in writing exactly what personal data is tracked, how that information is secured, and who has access to it.

Security and Privacy Scorecard for Sample Customer Incorporated

	Consideration for Cloud Computing Solution	Not a consideration
Security		X
Intellectual Property	X	
Audit	X	
Privacy	X	

Interoperability, Connectivity and Applications

Simply put, ensuring that applications connect efficiently and cost-effectively is consistently the most critical factor in many engagements on which Sample Partner Incorporated provides consulting services. However, one of the most common (and expensive!) missteps that we encounter is for a client to underestimate requirements in this area. Therefore, we are pleased to include a focused analysis of this issue as it relates to Cloud Computing.

- Assessing the full scope of current active solutions offering interoperability and connectivity
- Defining which of these solutions needs to be re-engineered for a Cloud Computing initiative
- Estimating the time and funding needed to develop, test and deploy the new solution
- Analyzing any implications in terms of interruption of business
- Evangelizing the true upside of re-engineering or engineering solutions
- Creating and/or delivering any required technical and user training for these solutions, especially if new technologies or programming languages are required for ongoing system maintenance

Once a full scope analysis has been completed of all possible solutions that may need to be created or re-created, we suggest crafting a priority list of development and cross-referencing that document with other requirements, such as privacy and security. In this kind of initiative, a resulting report can be crafted that looks like the following:

Sample Cloud Computing Develop & Deploy Matrix

Priority	Project Name	Description	Time to complete	Budget
1	CS migration	Migrate Customer Service (CS) db to new platform	3 weeks	\$15,000
2	Directory Update	Update corporate directory with new aliases and role based access to online apps	1-2 weeks	\$5,000
3	Sales and tech integration	Create workflow for tech issues and sales oppty's to move seamlessly from CS to appropriate department	3 weeks	\$12,000
4	Deploy Customer Service to hosted email & CRM	Deploy solution, trouble-shoot bugs, train users	2 weeks	\$7,000

We share this template for reference only; the appearance of any final report or analysis that is crafted for an organization will change based on the company, requirements and commonly used internal tools (such as GANTT charts and so on.)

Internal Applications

Integrating internal applications often offers the highest opportunity for improvements in productivity and profitability. These opportunities for upside also bring along with them the possible challenges of downtime for employees and loss of mission critical functionality.

Based on our discussions, Sample Customer Incorporated has expressed that internal operability will be a consideration in developing a Cloud Computing strategy. To this end, we suggest taking a close look at the development environments of possible Cloud Computing application providers. The following questions may be useful in an RFP process:

- What is the development environment that is used to update or integrate with the new Cloud Computing application? How long has it been available? How well is it adopted across the IT community? How much will the company have to invest (if anything) in new talent to manage and update these systems?
- Are connections available between the new cloud solution and other applications currently in the environment? If so, are these pre-built connectors with a plug-and-play functionality... or are they generic toolkits that require extensive custom development in order to function?

As a best practice, the questions above are the most effective after a Cloud Computing Develop and Deploy Matrix has been drafted (see previous sample).

Partner-Related Interoperability

From manufacturing to government to financial services, many organizations rely on timely integration with partner organizations in order to operate smoothly. Whether these solutions have been built in the cloud or not, it is often a consideration as to how to connect the legacy application with new Cloud Computing services.

During our fact-finding with Sample Customer Incorporated, it was discussed that the need for partner integration is absolutely a consideration as part of a Cloud Computing strategy. We therefore suggest repeating many of the recommended steps listed in the previous section, such as analyzing what connectivity solutions a new Cloud Computing service offers, as well as assessing the effort needed to create and maintain any new integrations that may be required. In addition, we would also suggest that your fact finding include conversations with key vendors/partners in order to gain insight into their 1-3 plans for online development and deployment. Often it is possible to coordinate efforts, share resources and decrease costs... all of which could be reflected in your final Cloud Computing Develop and Deploy Matrix.

CRM and Online Applications

Often Customer Relationship management (CRM) solutions are one of the first applications that organizations move to a Cloud Computing structure. There are a number of reasons for this trend:

- Customer Service groups typically do not have access to highly-sensitive client information, such as account numbers, sales history and so on. Therefore the move to the cloud is simpler as the privacy and security requirements are less stringent.

- It's common practice for customer service reps to work from home, in another state or even in another country. As a result, many already use cloud solutions such IP telephony in order to interact with customers. Therefore, there are fewer legacy challenges.
- Customer service typically relies on fewer applications in order to perform their job function. Email and a CRM solution are often more than enough. Therefore, there can be a quick ROI to moving these workers to an online suite with more limited capabilities and a lower price tag.

As we discussed in our fact-finding meeting, Sample Customer Incorporated has current and/or future plans for CRM solutions and the cloud. We suggest including these plans throughout the security, privacy, and development matrices discussed earlier in this document.

Interoperability and Application Considerations for Sample Customer Incorporated

	Consideration for Cloud Computing Solution	Not a consideration
Internal interoperability	X	
External interoperability	X	
CRM	X	

Infrastructure

Introduction

In this section, we will discuss infrastructure as it relates to Sample Customer Incorporated and Cloud Computing. For the purposes of this report, infrastructure will be defined as hardware, software, programming languages, development tools and so on that are designed and configured especially for operating on the web. However, although all Cloud Computing solution providers have the goal of delivering the optimal web-based infrastructure, not every vendor is the perfect fit for every organization. On the pages which follow, we will review our recent conversation with Sample Customer Incorporated and examine how your unique organization relates to various options in a Cloud Computing Strategy.

In our discussions with Sample Customer Incorporated, we determined that at this time there weren't any current or planned projects that would be an obvious fit for Cloud Computing. However, chances are that sometime in the future a Cloud Computing project may become a viable option for your organization. If so, here are some of the key areas you may wish to explore:

- How to prevent "overbuilding" capacity that is rarely needed
- Ways to limit slowdowns from usage spikes
- Strategies to lower power costs, real estate costs and increase choices for Cap-Ex versus Op-Ex accounting
- Tactics to go to market more quickly, while at the same time lowering overall costs
- Systems that support a wide array of development tools and programming languages
- Solutions that offer an integrated model between on premises and cloud
- How to leverage Cloud Computing in order to decrease routine IT tasks and thereby increase the strategic impact of IT

Storage/Capacity Considerations

During our fact finding with Sample Customer Incorporated, we discovered that it is always of interest to carefully plan the storage and processing capacity of any solution. In the past, one typical challenge of on-premise systems has been that the overall capacity must be set by the most extreme possible uses of this system. For example, an online retailer may build their web site to handle the heights of the Christmas rush, while at other times that extra capacity is not utilized. The same has held true for a wide variety of B2B systems, such as an online CRM application that is built to function quickly during usage spikes at the end of the quarter, while at other times those extra capabilities are not needed.

As a result, we suggest that Sample Customer Incorporated consider requiring any Cloud Computing solution to have a flexible architecture that can automatically enlist additional resources in response to demand. With this paradigm, capacity can become a flexible commodity that is only paid for when it is used. Another strong capability might be the option to create workflows based on capacity usage or another trigger. For instance, an alert may be sent to IT if capacity usage a CRM system reaches a pre-set threshold.

Limiting Slowdowns

When it comes to powering applications, the risk of overpaying for web/processing capacity is often overshadowed by the fear of system slowdowns. In working with Sample Customer Incorporated, we discussed that such slowdowns are often a concern. Based on that level of interest in this topic, we would suggest a Cloud Computing solution with the ability to dynamically adjust to usage requirements. Our clients often ask how this process would work, so as additional background the process typically works as follows:

- Developer packages code, deploys to cloud, and states how many servers should run it
- Cloud computing solution handles details such as provisioning servers to run the app, load balancing clients, security patches and automated upgrades
- Cloud Computing solution can handle servers as it relates to your applications, automatically scale the computing power that you need and provide the option for virtually unlimited online file storage and virtual data storage

Power and Cooling Costs

It's no secret that the costs of powering and cooling even a small number of servers can add up over time. In our discussions with Sample Customer Incorporated, we discovered that your organization is sometimes concerned about expenses this area. As such, we believe that this is another strong data point for you to explore a Cloud Computing strategy, as a hosted environment would place these costs and concerns outside your organization. In addition, Cloud Computing environments are often built from ground up to optimize for the latest "green technology."

Real Estate Expenses

In a down economy, virtually every company searches for ways to get more out of the real estate they currently own or rent. In terms of IT, the resulting changes can include everything from closing down an offsite server farm... to freeing up a storage area for a new office. Whatever the real estate goal, a common question today is how to move hardware and related expenses onto someone else's site. In our talks with Sample Customer Incorporated, we discussed that real estate expenses are always of interest for your IT department. We find that decreased real estate expenses are one of the most popular benefits of moving to a third-party hosted Cloud Computing solution, and suggest this as another key data point to consider in your ROI calculations.

Accounting Considerations

In accounting terms, an Operating Expense (Op-Ex) is an ongoing cost for running a business or system, while a Capital Expenditure (Cap-Ex) is the cost for providing non-consumable parts for that system. For example, a photocopier is a Cap-Ex while the paper and toner to run it is an Op-Ex. In Cloud Computing terms, a server that operates on premises is often a Cap-Ex while one that is hosted is often an Op-Ex. These expenses have different effects on your company's overall balance sheet, so it helps to let accounting know early in the process of setting a Cloud Computing strategy that it is an option to change the classification of some expenses. In some cases, we've even found that this frees up extra budget for more critical IT expenses!

Sample Customer Incorporated has expressed to Sample Partner Incorporated that such accounting concerns are sometimes a concern for your organization, so we do suggest

checking with your accounting department on Op-Ex/Cap-Ex issues as part of setting a truly comprehensive Cloud Computing strategy.

Time to Market

Speeding your time to market is a key benefit whenever considering a utilizing Cloud Computing for a particular application. In fact, Sample Customer Incorporated mentioned that it sometimes considers time to market when designing new IT plans. As mentioned previously, there are benefits of using a hosted app engine in the cloud, as they can be "pre-optimized" with the goal of making it quicker and easier to build applications with a cloud component, store data and so on. However, it is important to note that sometimes extra pre-built features can hurt as they limit your flexibility.

When designing your Cloud Computing strategy, we strongly suggest not only thinking about how many employees you would consider moving to the cloud, but also mapping out the first 2-3 projects that you plan to move online. This doesn't have to be an extensive exercise, but a quick listing of the functionality, environment, languages, tools and so on that you would like to use. After that, we find it is a best practice to add those items to your list of requirements for a total Cloud Computing solution.

Lowering Costs

Lowering project costs is a popular reason for exploring a Cloud Computing strategy. In our work in developing Cloud Computing solutions, Sample Partner Incorporated has found that there a number of ways to lower your project costs through hosted applications, some of which have already been discussed such as:

- Decreasing expenses related to "overbuilding" capacity that is rarely needed
- Limiting service slowdowns from usage spikes
- Lowering power costs and real estate costs
- Increasing choices for Cap-Ex versus Op-Ex accounting
- Taking projects to market more quickly to realize more overall benefit

Sample Customer Incorporated expressed that lowering costs was [sometimes of interest to your organization. To this end, we previously suggested making a list of the top 2-3 projects that could become web-enabled and adding the specs for those projects to your overall Cloud Computing requirements. On the costs side, we would also suggest estimating what the training, software and other expenses may be to NOT have those specifications met. For example, what would the cost impact be if all your Visual Basic developers had to learn Linux for the first time? (Some major Cloud Computing offerings only use the Linux programming language.) A full Cloud Computing strategy will weigh as many of these hidden costs as possible against estimated benefits.

Developing Tools & Programming Languages

On key IT initiatives, Sample Customer Incorporated expressed that it is often important to leverage development tools that your IT staff is familiar with today. In terms of programming languages, you expressed that it is often crucial to use familiar languages. And finally, you stated that it is often preferable to have your Cloud Computing solutions utilize an integrated model between on-premises and in-cloud technology.

Based on these findings, we suggest looking for Cloud Computing technology for Sample Customer Incorporated that supports a wide array of development tools, including solutions such as Visual Studio, Eclipse and the text editor. For programming languages, we suggest adding to your Cloud Computing requirements the support for languages such as

Eclipse/IBM, Java, PHP, Ruby, Python, and Visual Basic. In general, our experience shows that it's important to have a wide variety of languages /tools supported by your Cloud Computing environment. Even if you do not use them today, staff may change and you may wish you had support for them tomorrow.

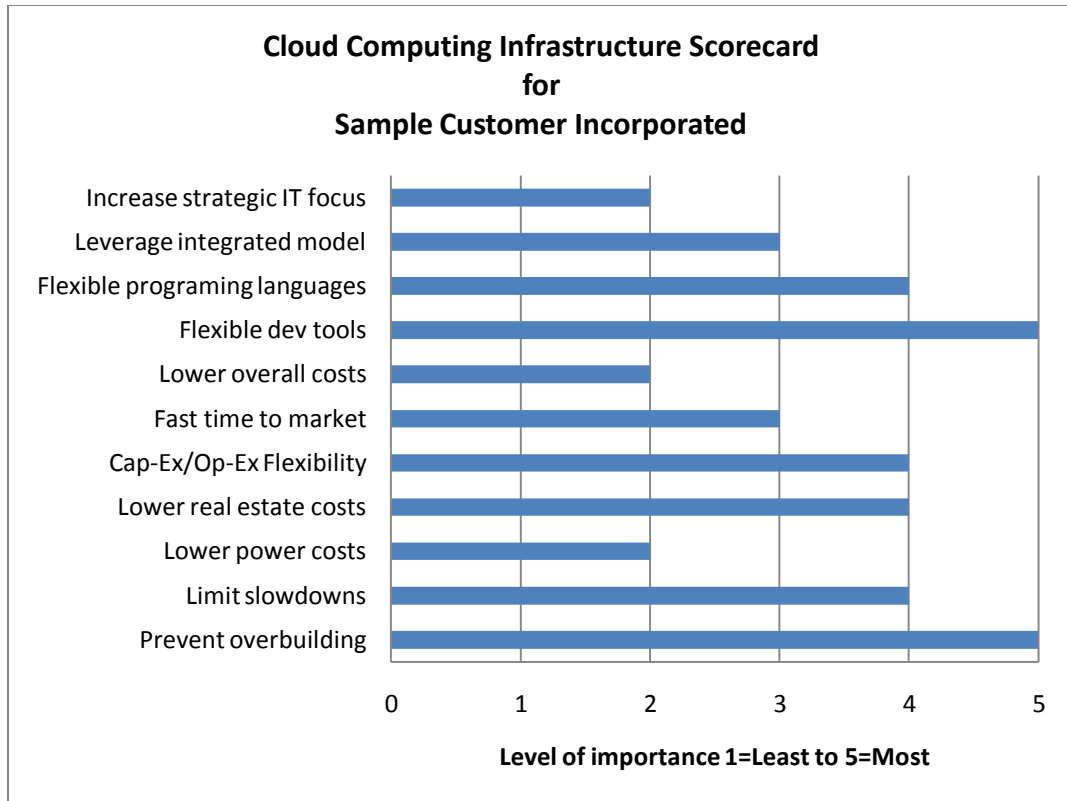
On a final note, we suggest seeing your Cloud Computing strategy as an extension of your overall technology stance. To get the most out of your current staff and investments, it is often a best practice to have a fluid and integrated methodology between your on-premise computing model and the cloud.

Making the Strategic Switch

One benefit of Cloud Computing is that applications can now be developed within weeks, instead of months or years. In addition, third party hosting companies can now reduce routine IT tasks by delivering online software application as well as maintaining, upgrading and securing those systems. Sample Customer Incorporated has expressed that it is sometimes looking for ways to decrease routine work in order to free up IT time for more strategic projects. In the Cloud Computing strategies we have worked on, Sample Partner Incorporated has found that the most successful organizations:

- Estimate how much IT time will be freed up from Cloud Computing
- Set an early vision for what IT would focus on with that new time
- Get buy-in and feedback from IT on the proposal
- Define a reasonable roll-out schedule for learning and employing new skills, if applicable

Without this vision and schedule, Cloud Computing can sometimes seem frightening to IT departments. With it in place, we've found that approval processes and roll-out tend to be far more streamlined for all concerned.



Service Level Agreements and Cloud Computing

Introduction

When it comes to Cloud Computing, a Service Level Agreement is a contract that defines the terms and conditions under which an online solution is delivered. In practical application, the aspect of an SLA subject to the most scrutiny inside any organization is uptime, which is the length of time during which an application is available to users. So-called downtime can represent significant damages in terms of worker non-productivity, lost sales, customer dissatisfaction and, in some unfortunate cases, negative headlines. Since this is the aspect of Cloud Computing SLA that can place IT departments at the most risk, we will focus our recommendations on this area. The industry standard for a Cloud Computing SLA is 99.95% uptime, and you will be hard pressed to find a vendor who promises less on a top-level analysis. However, these agreements do not always hold up when held to loser scrutiny.

In our fact-finding discussions regarding SLAs, Sample Customer Incorporated stated that 99.95% uptime is important to your organization, and that some or all of the following may not be acceptable as part of a Cloud Computing SLA:

- A 99.95% SLA that only covers email and not word processing, spreadsheet applications and other internet-delivered applications
- A 99.95% SLA that does not consider service losses of up to 12 minutes as an official outage
- A 99.95% SLA that allows for unlimited services losses of up to 12 minutes per day (in other words, no limits on cumulative daily loss totals)
- An SLA that allows for no liability from the provider for any service losses, no matter what the length or frequency

Since your organization may be affected by SLAs subject to the above terms, we suggest being sure to review any proposed SLAs carefully as part of your procurement process, including the specific points listed above.

SLAs and Worker Productivity

For many information workers, it's been years since they've had to struggle with slow or unavailable applications. However, that fact doesn't prevent the potentially dramatic consequences of worker downtime. For example, one survey finds that 1 in 3 companies report that each hour of downtime results in between \$250K and \$1 million+ in costs/losses (Cost of Downtime Survey Results, Creative Data Concepts.) This is one of many reasons why additional due diligence in defining Cloud Computing uptime on an SLA can be a smart investment for Sample Customer Incorporated.

Requirements for the Cloud

In our work with organizations considering a Cloud Computing strategy, we've pinpointed a number of areas that often require additional support. In this section of the report, we will review whether Sample Customer Incorporated has indicated these as areas of need, and then determine what (if any) financial support may be available for these efforts.

Deployment

When rolling out a Cloud Computing strategy, organizations often choose a phased approach in which an initial subset of 25-100 employees is deployed to the web. This delivers a number of benefits:

- The initial roll out can act as a proof of concept in order to generate solid numbers related to ROI of Cloud Computing
- Any functionality limitations, training issues or similar stumbling blocks can be pinpointed and mitigated for future phases
- Risks related to security, privacy and legal search can be contained

Sample Customer Incorporated has indicated that at this time you do not have licenses for the Microsoft Cloud Computing offering, namely the Business Productivity Online Suite (BPOS). Please note that the Microsoft Corporation may have dollars available to offset the costs of deploying new Microsoft Office seats through BPOS. These funds are available to a select group of partners and additional information is available at the end of this section.

Migration

Another common need in launching a Cloud Computing initiative is for organizations to migrate email boxes, move Microsoft Exchange to the cloud, and/or move data from Lotus Notes, GroupWise or another third party application. Some classic factors to consider in these initiatives can include:

- The IT adage that when it comes to data quality: "garbage in, garbage out." Along these lines, we suggest reviewing the accuracy of current records before investing the time and expense to migrate them. In some instances, data cleansing may be a necessary first step before the actual migration begins.
- Another important facet to consider is data mapping. For example, one system may save first name and last name as two fields, while another may have both merged into one field. Carefully reviewing data mapping can make the difference between a solution that works the instant it's deployed versus one that decreases user productivity.

In terms of migration, Sample Customer Incorporated has indicated that you are considering a migration project as part of your Cloud Computing plan. Whatever your plans, it may be of use to know that there can be support funds available to assist such an initiative.

Active Directory

Active Directory (AD) is another area which can require additional focus along with a move to the cloud. Commonplace AD projects in this arena can include:

- Creating new AD identities for administrative passwords, such as the Root account on UNIX/Linux, Administrator in Windows, Cisco Enable, Oracle systems/sys, MSSQL SA, SAP Application Server and many more such as Emergency or 'Firecall' IDs

- Updating current AD with accurate employee information including job function profiles that can in turn drive access to different web-enabled solutions, or in some cases to different parts of a single web-enabled solution

In this area, Sample Customer Incorporated has indicated that you are not considering an AD project as part of a strategy to move with the cloud. Once again, it may be helpful to know that support funds can be available in this area.

Business Intelligence (BI)

One critical advantage of moving applications to the web is the wealth of new analyses that can quickly become possible. Some common scenarios can include:

- Tracking sales throughout the cycle, from banner ad to closed deal
- Creating and assessing workflow solutions, including the automated sending or tracking of email
- Designing and tracking document management systems for contracts

For Business Intelligence, Sample Customer Incorporated has indicated that you are considering a BI initiative project as part of your Cloud Computing plan. As with previous areas in this report, there may be support funds available to assist these projects

Funding Opportunity

The Microsoft Corporation has made funds available to select partners for initiatives related to Cloud Computing. Qualified organizations can select to receive partner payments for up to three deployments each Microsoft fiscal year (which runs from July to June) for Windows, Office and SQL solutions. In addition, qualified organizations may receive Proof of Concept funding through partner payments for one project per Microsoft fiscal year (which on again runs from July through June.) As your partner, we would be happy to research these or similar offers in order to confirm that the terms and conditions allow your organization to qualify for funding (<http://www.microsoft.com/online/trial-bpos.msp>). Sample Partner Incorporated would be pleased to review possible funding support for the following areas where you expressed interest:

- Active Directory

Next Steps

If Sample Customer Incorporated would like to explore any of the funding opportunities listed above, Sample Partner Incorporated will need to know the area of interest and scope by 3/1/2010.

Closing Notes

We appreciate the opportunity to have created this Cloud Computing Assessment for Sample Customer Incorporated, and we look forward to working together in the future.

Appendix A: Questions and Answers

Group 1: Organization Setup

Question 1: *What level of risk is your organization comfortable with in terms of adopting new technology?*

Answer: Low risk - we prefer to roll out proven solutions.

Question 2: *Do you have a Cloud Computing strategy?*

Answer: No

Group 2: Infrastructure 1

Question 1: *Are you an independent software vendor or a systems integrator?*

Answer: No

Question 2: *Are you currently developing any of the following key IT initiatives, or do you plan to do so in the future?*

Selected:

Order entry systems

Time and expense programs

Other key initiatives

Question 3: *For these key IT initiatives or similar ones, how important is it to prevent "overbuilding" excess storage/processing capacity that is largely idle throughout the "non-spike" times during the year?*

Answer: Always

Question 4: *For these key IT initiatives or similar ones, how important is it to limit slowdowns/downtime due to fluctuations in computing capacity?*

Answer: Often

Question 5: *For these key IT initiatives or similar ones, how important is it to lower the power and cooling costs of your IT infrastructure?*

Answer: Sometimes

Group 3: Infrastructure 2

Question 1: *For these key IT initiatives or similar ones, how important is it to lower any associated real estate costs? (for hosting server farms or similar)*

Answer: Always

Question 2: *For these key IT initiatives or similar ones, how important is it to provide your accounting department with more choices in terms of Cap-Ex versus Op-Ex expenses?*

Answer: Often

Question 3: *For these key IT initiatives or similar ones, how important is it to speed your time to market?*

Answer: Sometimes

Question 4: *For these key IT initiatives or similar ones, how important is it to lower your costs?*

Answer: Rarely

Group 4: Infrastructure 3

Question 1: *For these key IT initiatives or similar ones, how important is it to utilize a wide array of development tools that your IT staff is familiar with today? (examples: visual studio, eclipse, text editor)*

Answer: Always

Question 2: *For these key IT initiatives or similar ones, how important is it to leverage a wide array of programming languages that your staff is familiar with today? (For example, eclipse /IBM, java, php, ruby, python)*

Answer: Often

Question 3: *In general, how important is it to have your Cloud Computing solutions utilize an integrated model between on-premises and in the cloud?*

Answer: Sometimes

Question 4: *In general, how important is it to have your IT staff offload commodity-type work (maintenance, upgrades, hardware) in order to focus more on strategic projects?*

Answer: Rarely

Group 5: User Needs - Part 1

Question 1: *Document Creation*

Selected:

- Create and edit calendar items
- Create, view or edit contacts
- Create documents
- Create or edit spreadsheets
- Search for documents and files outside of email
- Edit or track customer interactions

Question 2: *Productivity Features Needed*

Selected:

- Use of specialty font (marketing etc.)
- Cut, copy and paste between applications
- Print envelopes
- Page breaks
- Grammar check
- Ability to work off-line
- Ability to insert a chart
- Ability to compare documents
- Track email in CRM
- Track Instant Messenger communications in CRM

Group 6: User Needs - Part 2

Question 1: *Data Analysis Features needed*

Selected:

- Built-in macros
- Use of specialty fonts
- Conditional formatting
- Page layout, print area
- Custom chart layout
- Support of specialty file types
- Support of specialty languages
- Sales Dashboard
- Service Dashboard
- Marketing Dashboard

Question 2: *Productivity Features needed*

Selected:

- Use of specialty font
- Sound
- Rehearsal timing
- Auto spell check
- Picture editing
- Ability to work offline
- Slide numbers
- Edit text direction
- Support of specialty file types

Question 3: *Importance of a published roadmap for cloud computing features*

Answer: Absolutely

Group 7: Security Privacy

Question 1: *What level of customization has your organization already invested in Exchange, if any?*

Answer: High

Answer: Often

Answer: Sometimes

Answer: Rarely

Question 2: *Does your organization store merger and acquisition files, board documents or sensitive IP?*

Answer: Often

Question 3: *Is your organization subject to audit?*

Answer: Sometimes

Question 4: *Is your organization be subject to privacy rules in terms of how you handle, store and access customer and prospect information?*

Answer: Rarely

Question 5: *Does your organization currently have an active system for classifying secure information?*

Answer: Does not

Group 8: Interoperability

Question 1: *Need for sales information worker internal application needs? Do your sales information workers need to connect internally into accounting, customer service or another department?*

Answer: Yes

Question 2: *Need for external partner information worker application integration? Do you work with multiple partners that require integration between your internal information worker applications and external entities?*

Answer: Yes

Question 3: *Need for CRM solution plans? Do you have, or are you looking to add a CRM solution?*

Answer: Yes

Question 4: *Marketing and sales analysis? If yes to the previous question, would you require marketing and sales analysis of results from that solution?*

Answer: Yes

Question 5: *If yes, please name the solution(s) you currently use and/or systems are looking to add:*

Group 9: Online Service Levels

Question 1: *Does your organization require a 99.9% Service Level Agreement?*

Answer: Always

Question 2: *Do you wish to deliver a 99.9% service level for all applications, or just email?*

Answer: Sometimes

Question 3: *How long would a service outage need to occur for your organization to determine an outage had occurred?*

Answer: 5 minutes

Question 4: *Assuming the length of time listed above, how many service outages would need to occur each day for your organization to determine a 99.9% SLA has been breached?*

Answer: 1 time

Question 5: *For serious service outages, would you expect your service provider to have any liabilities for damages?*

Answer: Yes

Group 10: Enhancements Part 1

Question 1: *Do you currently have BPOS licenses as part of your licensing agreement with Microsoft? Do you currently have a licensing agreement with Microsoft called an EA (Enterprise Agreement)?*

Answer: No

Question 2: *If so, are you interested in deployment services that are co-funded by Microsoft?*

Question 3: *Migrate third party applications? As part of a cloud computing solution, will you need to migrate email boxes, move Exchange to the Cloud, and/or move data from Lotus Notes, GroupWise or another third party application?*

Answer: Yes

Question 4: *If so, are you interested in migration services that are co-funded by Microsoft?*

Group 11: Enhancements Part 2

Question 1: *Review or update Active Directory? Will moving to the cloud cause you to review or update Active Directory?*

Answer: Yes

Question 2: *If so, are you interested in AD services that are co-funded by Microsoft?*

Question 3: *Application integration? Are you planning any application integration (including but not limited to Sharepoint, Exchange and CRM) in order to deliver or enhance your organization's overall business intelligence capabilities? If so, will this solution affect your cloud computing solution?*

Answer: No

Question 4: *If so, are you interested in application development services that are co-funded by Microsoft?*