

Company_Name

FirstStep Profile



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Version 060711

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EXECUTIVE SUMMARY

Company_name is evaluating the use of cloud-based development and infrastructure technologies to reduce the cost and time to provision and support IT applications and servers while minimizing risk and assuring compliance and availability. Company_name also wants to define and quantify the cloud computing benefit of avoiding capital expense, and moving to an operating expense model.

CloudSteps was engaged to help Company_name define the business case and justification for cloud computing, including a pilot project plan to validate the findings. This document is the First Step in the process of evaluating and validating the Company_name's next generation processing eco system.

Summary of Findings

The CloudSteps Enterprise Agility Matrix™ shows that the development and performance tuning areas (rated 4 or higher) for these three applications are strong candidates for virtualized, on-demand, usage-based servers. These Wintel-based applications would benefit from additional compute resources, on demand, as needed, in the lifecycle areas of development and performance tuning:

- Customer Relationship Management (CRM)
- Order Portal (OP)
- Product Data Warehouse (PDW)

Application Name	Dev	QA	Perf. Tuning	Staging	Production	Int.Cloud	Ext.Cloud	Total
CRM	↑ 4	→ 3	↑ 4	→ 3	→ 3	→ 3	↑ 5	25
Order Portal	↑ 4	→ 3	↑ 4	→ 3	↑ 5	↑ 4	↑ 5	28
Product Data Warehouse	↑ 4	→ 3	→ 3	↑ 4	↓ 2	↓ 2	↑ 5	23

Figure 1 - Enterprise Agility Matrix™

These three application areas would benefit most from an IT service that is standardized, automated, self-provisioned, and virtualized. The business and technical criteria used to make this decision are:

- Rate of change to the code base.
- Tight deadlines.
- Sensitivity of reference and business data.
- Compute platform hardware and software requirements.
- Usage pattern defined by periods of peak usage of compute resources.
- Ability to recreate application platform environment.
- Multiple environments required.
- Sensitivity to network latency.

The total cost of ownership to support the hardware, software, operations and technical support for these application areas is noted below. In this model, the cost to provision internally for the current service is defined (e.g., servers and storage, software license fees, data center facilities, power, and administration). The CloudSteps IT Cost Model (ICM™) compares the current IT service cost to the propose Cloud Computing service cost for the applications and lifecycle areas that a strong candidates for the Cloud service model.

Sample IT Cost Model (ICM™)						
Infrastructure Service	Annual Cost*	Units	#Units	\$/Unit/Mth	#FTEs	#Units/FTE
Linux	\$2,198,123	Images	247	\$742	7	35
Windows	\$7,327,076	Images	895	\$682	21	43
Grand Total	\$9,525,198				28	

* Actual IT Infrastructure Spend for Platform Hardware, Software, Facilities, Outside Services, Labor.

Candidate Application Area – Platform Service Expense						
EAM™ Application Candidates	Units	#Units	\$/Unit/Mth	Mthly Cost	Dev Units	Dev Cost
Linux - CRM	Images	247	\$742	\$17,799	10	\$7,416
Windows – OP & PDW	Images	895	\$682	\$57,989	35	\$23,878
Grand Total				\$75,788		\$31,294

Candidate Application Area – Baseline vs Cloud Service (CS)						
EAM™ Lifecycle Candidates	Units	#Units	CS\$/Unit/Mth	Addl\$/Unit	Comparative Unit Cost	Mthly Dev Cost
Linux – CRM - Dev	Images	10	-	-	-	-
Windows – OP & PDW - Dev	Images	35	-	-	-	-
Grand Total						

Figure 2 – Sample IT Cost Model (ICM)

The CloudSteps ICM™ demonstrates there is a financial justification to move forward in these application areas. Accounting for the current set of hardware, software, outside services and staff, the internal unit cost per Linux and Windows server is comparable to the usage-based costing from a Cloud Provider. The pilot engagement will assure the cloud environment meets the Company_name security and availability requirements. The Pilot Project is defined in a subsequent section of this document. The estimated cost to run the Pilot is \$25,000.

Cloud Strategy and Pilot Project

Company_Name is currently in the middle of an expansive 3 year growth plan. Technology is at the fulcrum of the growth. Technology will need to cross the batch divide and start sharing data on a near real time. Customers will expect to enter orders, review their outstanding invoices, have visibility to available credit, orders in route as well as payments received to name a few of the functions which will provide Company_Name the growth it would like to achieve. Development of these technologies will require not necessarily an influx of labor but the ability for the current labor to gain access to “servers”. These “servers” normally would require a huge capital infusion for hardware, software and labor to deploy and maintain.

CloudSteps recommends using new development images at one of the preferred “public” cloud facilities at roughly the cost of \$150 per image including the operational labor will allow your teams to have up to 6 “servers” for every one of the current private cloud “servers”. Allowing the development community to have environments which are templates of what production will resemble provides a nimble and flexible eco system to develop and complete projects in time without the overhead of waiting for free machines, waiting for new hardware and lengthy configuration times. Development can move images up the software lifecycle from development to QA and performance tuning. Once development is complete with the life cycle, the images can be saved and turned off to save dollars which normally would be “lost” once hardware was purchased and maintained at a private center.

CloudSteps recommends a 60-day pilot which will provide the following:

1. Define and create the corporate template virtual machine image - small, medium and large
2. Two cloud service providers to fit the needs of company_name.
3. Alternatives for private cloud management for self-provisioning, charge back and monitoring.
4. Technical leadership and execution to deploy candidate applications to the cloud service.
5. Engagement with development to provide necessary training on the tools chosen.
6. Post mortem of issues encountered and overcome during the pilot.

APPLICATION SUMMARY

During CloudSteps Discovery, three application areas were defined as candidates for the cloud computing environment:

1. Customer Resource Management (CRM), this application is the core to the current business model and the foundation of growth over the next three years according to interviews and business plans which are published within the organization.
CRM, is currently connected to the OP through a timed ETL process with a large batch window during the night. Currently the processing is adequate because of the delayed nature of the business. Although if the business is going to allow customers to self-provision and allow for online credit checks the batch processing is not adequate and will not provide the level of service which is expected. The interviewees for the CRM application were the VP Marketing, Manager of Customer Service, VP Technology, Manager Technology and Technical Product Specialist for CRM. Our interviews were to establish that the CRM application is **HIGH** critical application. CRM application has had several starts to an overhaul but was never completed for several reasons which will be discussed within the application section.
2. Order Portal (OP), is the entry point to recognizing revenue and allowing customers the ability to create orders for the organization. The Order Portal contains some organizational legacy code. Customers are currently satisfied, but the application does not have the ability to grow as the business is anticipating doubling or tripling orders in the next three years. OP is only feed information and does not currently push any data to other applications within the organization. OP currently has a customer facing application and an administrative application for orders to flow into the organization. Interviewees for OP were the CFO, VP Marketing, Manager Quality Control, VP Technology, Manager Critical Applications, Team Lead OP and System Analyst OP. The OP Application is **HIGH** critical.
3. Product Data Warehouse (PDW) currently is the only mechanism for the organization to have visibility into incoming orders, current inventory levels, customer demand, customer risk assessment and other key measurements which are necessary for the organization to stay profitable with reduced risk over the next three years. PDW currently is connected via some ETL processing and some real time data from external sources for customer credit and third party inventory levels. These external connections are done over secured web services. Interviewees for this application were the Controller, VP Supply Chain, Risk Officer, Manager Warehouse Operations, VP Technology, Manager Technology Supply Chain and Programmer Supply Chain and Supply Chain Analyst. The PDW is **HIGH** critical.

APPLICATION CUSTOMER RESOURCE MANAGEMENT

Technology Interviews

CRM technical resources believe that the availability of development, QA, and Performance tuning environments would make a high impact in their ability to deliver an effective CRM application. Staging and Production are viewed as stable and require less effort to maintain. The CRM application is considered a good candidate for external resources. The CRM technology staff input suggests the following:

1. Pre-staging environments are constantly changing due to sharing among different groups, resulting in in-efficient development and testing time.
2. Staging and Production lacking changes required to keep the applications ready for the next three year plan.
3. Performance tuning is not utilized enough to provide the necessary introspection to provide the infrastructure and software changes required.
4. Lack of budget to build/provision environments to perform the necessary remediation.
5. Not enough environments to allow for innovation.

Technology Questions (Normal)
(1 LOW – 5 HIGH)

Interview Questions Technology	Development	QA	Performance Tuning	Staging	Production
Rate of change to core code base	5	3	2	3	1
Rate of change to core business rules	4	3	2	1	1
Pressure to deliver on tight deadlines	4	4	5	2	3
Ability to recreate environments	4	2	5	5	1
Sensitivity of reference data	5	4	2	5	5
Sensitivity of business data	5	5	3	5	5
Usage during normal day	2	3	5	3	4

Performance testing conducted	1	1	5	0	0
Multiple environments necessity	4	2	3	2	5
Wait for use of environments	5	4	5	3	1
Security required	3	3	4	5	5
Ability for application to change (Example IP address' are not hardcoded)	5	5	5	5	5
Is cost a hindrance to increase productivity?	5	5	5	2	4
Is cost a hindrance to creativity?	5	5	1	2	2
If you had more can you do more?	5	5	5	4	2

Technology Summary (Normal)

Application Name	Development	QA	Performance Tuning	Staging	Production	Internal	External	Total
CRM	4	4	4	3	3	3	5	26

Business Interviews

CRM business team feedback:

1. Application change is only within development; leaving the suggestion that development never gets into the QA arena.
2. Delivery Dates are not dictated, contrary to Technology answers
3. Multiple environments are a necessity to the business to allow for streams of changes to occur at different rates. Technologist disagree the multiple environments are necessary.
4. Business users differ from technologist in the rate an environment can be recreated. Business users feel if they can recreate environments quickly they can perform proof of concepts with customers and increase revenue.
5. Business users feel they provide adequate funding for the CRM application to continue to evolve and provide the required functionality for the three-year plan to increase revenues.

Business Questions (Normal)
(1 LOW – 5 HIGH)

Interview Questions Business	Development	QA	Performance Tuning	Staging	Production
Rate of change to core code base	5	2	2	1	1
Rate of change to core business rules	3	2	2	1	1
Pressure to deliver on tight deadlines	2	2	2	2	3
Ability to recreate environments	2	2	2	1	1
Sensitivity of reference data	5	4	4	5	5
Sensitivity of business data	5	5	5	5	5
Usage during normal day	2	4	5	4	5
Performance testing conducted	1	1	5	0	0
Multiple environments necessity	4	5	5	5	5
Wait for use of environments	5	4	5	5	5
Security required	5	5	5	5	5
Ability for application to change (Example IP address' are not hardcoded)	5	5	5	5	5
Is there a cost hindrance to increase productivity?	2	2	2	2	2
Is there a cost hindrance to creativity?	2	2	1	2	2
If you had more can you do more?	5	5	5	4	2

Business Questions Summary (Normal)

Application Name	Development	QA	Performance Tuning	Staging	Production	Internal	External	Total
CRM	4	3	4	3	3	4	2	23

Summary information for Business Questions highlights one major difference:

1. Business believes the CRM application is more of an internal application than an external application.

Variances Summary Data

Variance	Application Name	Development	QA	Performance Tuning	Staging	Production	Internal	External	Total
	CRM	0	1	0	0	0	-1	3	3

Variance Data highlights Technologist have a major difference on the CRM application use for internal versus external users. Variance data also suggest that the technologist and business users consider the same environments as critical.

APPLICATION ORDER PORTAL

Technology Interviews

Order Portal technical resources note that development, performance tuning and production are the highest concerns for the technology group. QA and staging appear to be well understood and do not add to the work load of the technology group. Technology group believe the application is used as often internally as well as externally. Since the application is used internally as well as externally the application is always within critical path for the business units. Order Portal technical resources note the following:

1. Core business rules are in constant change.
2. Reference and business data are highly sensitive.
3. Recreating environments is highly important, but highly difficult.
4. Cannot be more productive because the current cost of infrastructure is prohibitive.
5. More computing resources allow them to accomplish more to meet business needs.

Technology Questions (Normal)
(1 LOW – 5 HIGH)

Interview Questions Technology	Development	QA	Performance Tuning	Staging	Production
Rate of change to core code base	5	3	2	3	1
Rate of change to core business rules	4	3	2	1	1
Pressure to deliver on tight deadlines	4	4	5	2	3
Ability to recreate environments	4	2	5	5	1
Sensitivity of reference data	5	4	2	5	5
Sensitivity of business data	5	5	3	5	5
Usage during normal day	2	3	5	3	4
Performance testing conducted	1	1	5	0	0

Multiple environments necessity	4	2	3	2	5
Wait for use of environments	5	4	5	3	1
Security required	3	3	4	5	5
Ability for application to change (Example IP address' are not hardcoded)	5	5	5	5	5
Is cost a hindrance to increase productivity?	5	5	5	2	4
Is cost a hindrance to creativity?	5	5	1	2	2
If you had more can you do more?	5	5	5	4	2

Technology Summary (Normal)

Application Name	Development	QA	Performance Tuning	Staging	Production	Internal	External	Total
CRM	4	3	4	3	4	2	2	22

Business Interviews

As per the business interviewed the above provides the raw data from the interview process. The raw data suggests the following:

1. Application change effects mainly development, performance tuning and production. From these findings business users believe QA and staging do not get enough application changes.
2. Business users understand that they have tight deadlines and believe the deadlines are being delivered.
3. Business users understand that reference and business is sensitive.
4. Business users agree with technologists that the ability to recreate environments is difficult and would like to have a quicker turnaround for environments.
5. Business users feel they provide adequate funding for the OP application to continue to evolve and provide the required functionality for the three plans to increase revenues.

Business Questions (Normal)
(1 LOW – 5 HIGH)

Interview Questions Technology	Development	QA	Performance Tuning	Staging	Production
Rate of change to core code base	5	3	2	3	1
Rate of change to core business rules	4	3	2	1	1
Pressure to deliver on tight deadlines	4	4	5	2	3
Ability to recreate environments	4	2	5	5	1
Sensitivity of reference data	5	4	2	5	5
Sensitivity of business data	5	5	3	5	5
Usage during normal day	2	3	5	3	4
Performance testing conducted	1	1	5	0	0
Multiple environments necessity	4	2	3	2	5
Wait for use of environments	5	4	5	3	1
Security required	3	3	4	5	5
Ability for application to change (Example IP address' are not hardcoded)	5	5	5	5	5
Is cost a hindrance to increase productivity?	5	5	5	2	4
Is cost a hindrance to creativity?	5	5	1	2	2

If you had more can you do more?	5	5	5	4	2
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Business Questions Summary (Normal)

Application Name	Development	QA	Performance Tuning	Staging	Production	Internal	External	Total
Order Portal	4	3	4	3	4	3	4	25

Business question summary has the following findings:

1. Business users believe the application is fairly equal to internal and external users. Business users believe the application is more important than technologist.
2. Business users have indicated a large reliance on all the application life cycle environments.

Variance Summary Data

Application Name	Development	QA	Performance Tuning	Staging	Production	Internal	External	Total
Order Portal	0	0	0	0	0	-1	-2	-3

Variance Data highlights business users have a major difference on the OP application use for internal versus external users. Variance data also suggest that the technologist and business users consider the same environments as critical.

APPLICATION PRODUCT WAREHOUSE

Technology Interviews

The Product Warehouse technology summary data provides the following:

1. Product Warehouse is mainly an external application.
2. Most of the effort is expended in development.
3. Production changes very little.
4. Reference and business data are not sensitive.
5. Waiting for environments for use is high.
6. PW is not flexible in environments development and staging but believe production can change.
7. More computing resources will improve productivity - accomplish more to meet business needs.

Technology Questions (Normal)

(1 LOW – 5 HIGH)

Interview Questions Technology	Development	QA	Performance Tuning	Staging	Production
Rate of change to core code base	3	2	3	2	2
Rate of change to core business rules	4	3	4	2	2
Pressure to deliver on tight deadlines	3	4	2	2	2
Ability to recreate environments	4	5	5	2	2
Sensitivity of reference data	3	2	5	2	2
Sensitivity of business data	4	3	2	2	2
Usage during normal	3	4	3	3	2
Performance testing conducted	4	2	4	4	2
Multiple environments necessity	4	2	5	2	2
Wait for use of environments	5	3	3	3	5
Security required	3	3	3	5	2
Ability for application to change (Example IP address' are not hardcoded)	5	3	3	5	2
Are cost hindrances to increase productivity?	5	3	2	5	2

Are cost hindrances to creativity?	5	3	2	5	2
If you had more can you do more?	5	5	2	5	2

Technology Summary (Normal)

Application Name	Development	QA	Performance Tuning	Staging	Production	Internal	External	Total
Product Data Warehouse	4	3	3	3	2	2	4	21

Business Interviews

As per the business interviews regarding the Product Warehouse:

1. Application change is high amongst all environments.
2. Business rules change is highest in development, QA and performance tuning.
3. Business users believe reference and business are not sensitive.
4. Business users agree with technologists that the ability to recreate environments is difficult and would like to have a quicker turnaround for environments.
5. Business users feel they can provide more funding for the PW application to continue to evolve and provide the required functionality for the three plans to increase revenues.

Business Questions (Normal)

Interview Questions Business	Development	QA	Performance Tuning	Staging	Production
Rate of change to core code base	5	4	4	4	4
Rate of change to core business rules	4	3	4	2	2
Pressure to deliver on tight deadlines	3	4	2	2	2
Ability to recreate environments	4	5	5	2	2
Sensitivity of reference data	3	2	5	2	2
Sensitivity of business data	4	3	2	2	2
Usage during normal day	3	4	3	3	2
Performance testing conducted	4	2	4	4	2
Multiple environments necessity	4	2	5	2	2
Wait for use of environments	5	3	3	3	5

Security required	3	3	3	5	2
Ability for application to change (Example IP address' are not hardcoded)	5	3	3	5	2
Is cost a hindrance to increase productivity?	5	3	2	5	2
Is cost a hindrance to creativity?	5	3	2	5	2
If you had more can you do more?	5	5	2	5	2

Business Questions Summary (Normal)

Application Name	Development	QA	Performance Tuning	Staging	Production	Internal	External	Total
Product Data Warehouse	4	3	3	3	2	5	5	25

Business question summary has the following findings:

1. Business users believe the application is fairly equal to internal and external users. Business users believe the application is more important than technologist.
2. Business users believe production is fairly stable.

Variance Summary Data

Application Name	Development	QA	Performance Tuning	Staging	Production	Internal	External	Total
Product Data Warehouse	0	0	0	0	0	-3	-1	-4

Variance Data highlights business users have a major difference within the PW application use for internal versus external users. Variance data also suggest that the technologist and business users consider the same environments as critical.

INFRASTRUCTURE SUMMARY

This section presents a dashboard summary view of the IT infrastructure environment supporting the CRM, OP and PDW application environments. These costs will set a baseline for the usage-based pricing, and creating the business model.

Sample IT Cost Model (ICM™)						
Service Areas	Facilities	Hardware	Software	Staff	Outside Svcs	Total
Linux	\$141,451	\$619,131	\$797,968	\$506,817	\$132,757	\$2,198,123
Windows	\$426,955	\$1,988,875	\$2,635,548	\$1,963,698	\$312,000	\$7,327,076
Grand Total	\$9,525,198	\$2,608,006	\$3,433,516	\$2,470,515	\$444,757	\$9,525,199

Sample IT Cost Model (ICM™)						
Infrastructure Service	Annual Cost*	Units	#Units	\$/Unit/Mth	#FTEs	#Units/FTE
Linux	\$2,198,123	Images	247	\$742	7	35
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Grand Total	\$9,525,198				28	

* Actual IT Infrastructure Spend for Platform Hardware, Software, Facilities, Outside Services, Labor.

Candidate Application Area – Platform Service Expense						
EAM™ Application Candidates	Units	#Units	\$/Unit/Mth	Mthly Cost	Dev Units	Dev Cost
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Windows – OP & PDW	Images	895	\$682	\$57,989	35	\$23,878
Grand Total				\$75,788		\$31,294

Candidate Application Area – Baseline vs Cloud Service (CS)						
EAM™ Lifecycle Candidates	Units	#Units	CS\$/Unit/Mth	Add\$/Unit	Comparative Unit Cost	Mthly Dev Cost
Linux – CRM - Dev	Images	10	-	-	-	-
Windows – OP & PDW - Dev	Images	35	-	-	-	-
Grand Total						

WINDOWS AND LINUX PLATFORM SUPPORT

Infrastructure Service Description and Quantity

The Company_name team is responsible for the design, implementation and 24X7 operations of Intel based solutions, including the Microsoft Server Environments (2000, 2003, 2008), and the Red Hat Enterprise Linux (RHES) environments.

The Company_name team provides 24x7 support for the Microsoft Intel server environment. The team monitors and manages the hardware and the operating systems in the environment daily, ensuring that there are no errors or issues that need to be addressed. In addition, the team meets with application and tool owners to determine the proper version of product that should be running on the servers, including patch levels. The team performs monthly scheduled maintenance where we patch the environment with the latest patches and releases, maintaining the health and functionality of the servers for the business.

Service Quantity

Windows Production

- 195 physical Intel-based servers
- 44 VMware Host Intel-based Servers
- 365 Windows Images

Windows Non-Production

- 91 physical Intel-based servers
- 289 Windows Images

Linux Production

- 22 physical Intel-based servers
- 5 VMware Host Intel-based Servers
- 99 Linux Images

Linux Non-Production

- 26 physical Intel-based servers
- 6 VMware Host Intel-based Servers
- 100 Windows Images

Projection

This platform area continues to grow (# of servers - bootable images) at an annual rate of 12-15% percent per year. Company_name expects the trend to continue over the next five years (10-13%) and may increase due to a change in the application deployment strategy. The growth is based on bootable images. The physical server inventory is decreasing as a result of the virtualization strategy. The physical server inventory will decline by 20-25% per year for the next three years as the older hardware is replaced and the images are moved to Virtual Server environment.