



Crossing the Chasm

*How to be Pragmatic About
Service & Technology*

Atlanta – May 17-19, 2006

Hosted vs. Housed

**What Option is Best
for Your Business?**

**Presented by
Ron Childress**

QC2 - Hosted vs. Housed – What option is best for your business. - Uncover the advantages and disadvantages of both types of software implementation and determine what makes the most business sense for you and what delivers the most value to your customer. *Presenter: Ron Childress, Cornerstone*

While the outsourcing of business functions (such as payroll) have been around for decades only recently have other online software services become more popular. In the online service model, a provider develops an application and operates the servers that host it. Customers access the application over the Internet using industry-standard browsers or Web services clients. A wide range of online applications, including email, human resources, business analytics, CRM (customer relationship management) and ERP (enterprise resource planning), are available.

The primary advantage of the hosted model is that it aggregates many users and can leverage economies of scale to reduce costs. This principle applies to all aspects of the IT infrastructure, including hardware, software, staffing, and the data center itself. Customers are now requesting that the traditional software business model change from both a pricing and delivery perspective. The difficult economic times we have been through over the last five years have changed the way most executives evaluate and purchase technology solutions. Businesses have lost the long-term visibility they once had into their company's revenue growth rate, primary sources of competition and month-to-month priorities. In some cases now measured in months, not in quarters or years, it rarely makes sense to take on a project whose deployment cycle is a multiple of the certainty window. Companies are challenging the software industry to adjust deployment cycles to be back in line with their certainty windows. For companies both large and small, projects now need to be deployed on three (3) to six (6) month schedules and not the old standard of twelve (12) to eighteen (18) months.

Lets investigate now some of the evaluation criteria to determine the best solutions – Hosted vs. Housed

- **Definitions**
- **Corporate Considerations**
- **Total Cost of Ownership (TCO) Components**
- **Project Considerations**
- **Assessing Risks**
 - Data Security
 - Integration & Customization
 - Service Level Agreements
- **Decision Making Best Practices**
- **Appendix**



- AS2 = Applicability Statement 2 EDI communication specifications
- ASP = Application Service Provider
- Bandwidth = Data Transfer Capacity
- Firewall = Tools to protect Private Network resources
- Hosted = Off Premise Installation of all Hardware and Software
- Housed = On Premise Installation of all Hardware and Software
- Intrusion Detection = Security Management Systems
- ISP = Internet Service Provider
- On Demand Computing = 24/7/365 Application Availability
- SaaS = Software as a Service
- Service Bureau = Outsourcing All Software Services
- SOA = Service Oriented Architecture
- TCO = Total Cost of Ownership
- VTA = Vulnerability Threat Assessment
- Virtualization = No Defined Location Requirements
- Web Services = Software Components for Distributed Computing

**Hosted – Positive Effects
(SaaS / ASP Environments)**

- Lower Investment Requirements
- Lack of Existing Technical Expertise Overcome
- Shorter Deployment Cycle (months vs. years)
- Quicker Time to Benefits
- Easier Integration of New Technology
- Fewer Pain Points
- Greater Reliability
- Easier Upgrades
- Automated Monitoring
- Improved SLA contracts
- Vendor / Customer Alignment
- Systems Backup and Recovery

**Housed – Positive Opportunities
(On Premise Environments)**

- Afford the Capital Investments
- Afford the Fixed Costs
- Availability of Existing Technical Expertise
- IT Infrastructure Available
- Maximum Application Control
- Customization Capabilities
- Data Accessibility
- Complexity of Integration
- Control Timing of Upgrades
- Control Highly Sensitive Data
- Specialized Data Structures

Cornerstone experience with RightNow Technologies upgrades – Cornerstone lack of resources caused CIS to get behind in updates and the process of catching up took several months and several different updates in between. Lots of pain experienced that we have learned from and now make sure we do not fall behind ever again.

Cornerstone experience with Avaya conferencing system and subsequent replacement with Alcatel My Teamwork solution. Discuss the pain involved with being an “Early Adopter” on the technology adoption lifecycle before changing plans and applications to move to the “Early Majority” as discussed by Geoffrey Moore in his book Crossing The Chasm.

Cost Categories

- **Technology Strategic Planning**
- **Software: Annual Costs of Purchase or Lease**
- **Software: Annual Costs for Updates or to Update**
- **Hardware: Costs for New or Replacement Hardware**
- **Procurement and Deployment Costs: Time and Effort**
- **IT Labor Support Costs: Technical / User / Administrative**
- **Outsourced Technical Consulting**
- **Hardware / Software Lease Costs**
- **IT Infrastructure and Housing Costs**
- **Downtime**
- **Consumables**
- **Formal Training and Professional Development**

www.ciswired.com • inquiries@ciswired.com • (800) 276-8255 • (812) 330-4361

Cost Categories

Technology Strategic Planning

Software: Cost of Purchase or Annual License Cost

Software: Cost for Updates or Cost to Update

Hardware Costs: New Hardware or Cost for Replacement Hardware

Hardware Procurement and Deployment Costs: Time and Effort

IT Labor Support Costs: Technical Support, User Support and Administrative Support

Outsource Technical Consulting:

Hardware/Software Lease Costs

IT Housing Costs

Downtime

Consumables

Formal Training and Professional Development

Technology Strategic Planning

How much time do you spend looking forward to predict/research where technology is going?

How much time do you spend assessing travel industry trends and their impact on travel processing technology?

Are you devoting planning time to ensure you are ahead of the curve in terms of hardware and software?

From a technology adoption perspective, would you consider yourself an innovator, early adopter, early majority, late majority, or laggard?

Does lack of planning put you at a disadvantage as new technology becomes available?

Software: Cost of Purchase or Annual License Cost

What products do you currently have in operation?

What is the cost of your current renewal fees?

What products do you plan to acquire or are you considering?

How many hits on average does the system incur (existing or proposed) for each reservation and what does it cost?

| | Hosted | Housed |
|---|--------|--------|
| -Annual PNR Transaction Volume | √ | √ |
| -Internet Connectivity Expense | √ | √ |
| -GDS Connectivity Expense | | √ |
| -GDS Hits Expenses | √ | √ |
| -People Expenses | | |
| Application Administrator | √ | √ |
| Systems Administrator | | √ |
| Database Administrator | | √ |
| -Software Subscription | √ | |
| -Hardware Expenses (Production and Testing) | | √ |
| -Software Expenses (Initial Fee, Annual License, S&M) | | √ |
| -Maintenance and Upgrades (Scheduling, Installing, Testing) | | √ |
| -Professional Services | √ | √ |
| -Downtime / Business Interruption | SLA | √ |
| -Disaster Recovery (Backup, Offsite Storage, etc.) | | √ |
| -Facilities Overhead (Utilities, Floor Space, etc.) | | √ |

www.ciswired.com • inquiries@ciswired.com • (800) 276-8255 • (812) 330-4361

These are some evaluation criteria that are specific to the travel industry.

How Is TCO Calculated?

The Gartner TCO model utilizes two major categories to organize costs – direct and indirect:

Direct costs: *These costs generally cover the visible IT- and support-related investments and expenses, and include:*

Hardware and software - *this typically includes the initial purchase or lease costs. Divide those costs by the expected life of the asset to get an annual figure. The costs of associated hardware (storage, network equipment, etc.) would be also included. Next add maintenance contracts from vendors, spare systems and spare parts as well as the annual costs of all supplies and materials.*

Operations - *this includes all labor costs for technical operations and support as well as the help desk. If personnel such as database administrators or software maintenance staff are required, include their costs. All labor costs should be at rates loaded for all fringe benefits. Operations costs include the fully loaded facilities costs for the appropriate share of the floor space used and furniture purchased specifically for the project. Network costs also fall into this category.*

Administration - *this includes an appropriate allocation of finance, HR, administration and procurement department costs. Sometimes IT planning costs are included here, however a significant portion of this category is the training costs required for both the IT and the end user staff.*

In order to calculate direct costs, one must have accurate inventory, purchase, vendor and personnel records. All of the above costs are included even if they are not organizationally part of the IT budget.

Indirect costs: *These costs are less visible and usually are dispersed across the business operations organizations and are comprised of:*

- **Strategic Planning**
 - Define Business Processes
 - Identify Specifications and Requirements
 - Execution of the Plan
- **Managing IT Resources vs. Managing Systems**
- **Business Process Reengineering**
- **Business Service Management**
- **Virtualization of IT Architectures**
- **Business Activity Monitoring**
- **Post-Project Reality Check**

www.ciswired.com • inquiries@ciswired.com • (800) 276-8255 • (812) 330-4361

Strategy Planning is an important step in the lifecycle of a project regardless of the outcome of hosted vs. housed. Define your processes, figure out what your requirements are, and decide who can execute on the plan and then you can go through the costs of each model that actually meets your requirements. The evolution of on-demand computing is accelerating the virtualization of resources and the evolving service-oriented software architecture is expanding the distribution of IT services across sources both inside and outside the enterprise to provide companies with more choices than ever before.

The transformation of key professionals from “managing boxes” to “managing resources” allows many smaller companies the flexibility to utilize their resources to a much higher efficiency. This can be likened to the previous trend of making resources for strategy and operations excellence and saddling them with technology responsibilities they are not necessarily geared toward.

The process of Business Process Reengineering (i.e. Six Sigma) and Business Service Management should be utilized in the evaluation of the best solution for your organization. Aligning the services that IT staff (internal or external) provides with the business needs at agreed upon levels of performance and availability will lead to more powerful and effective management of technology.

IT systems are developing into virtualized environments enabled by the convergence of several key technologies: the Internet, on-demand computing and service-oriented software architectures. Virtualization offers far more efficient use of IT resources for lower cost, higher resource utilization and greater ability to adapt significantly increasing business agility.

Business activity monitoring is the ability for IT resources (internal or external) to provide a business process dashboard to the enterprise for faster problem detection and enabling proactive problem resolution to minimize business impact.

The post project reality check is a key ingredient to providing valuable information toward future IT projects. Some key components to consider during this process are:

For users:

1) *Consider the ease of implementation and training*

2) *Ease of use*

3) *Ease of maintenance*

Data Security

- **Documented Data Security Policy**
- **Data Encryption Tools**
- **Disaster Recovery (Backup and Restore)**
- **Data Privacy Policy**
- **Systems Architecture (N-tier)**
- **Intrusion Detection Tools**
- **Documented VTA Results**
- **TRUSTe / Safe Harbor Certifications**

www.ciswired.com • inquiries@ciswired.com • (800) 276-8255 • (812) 330-4361

Data Security Policy should be documented and discussed with any potential SaaS vendor.

Cornerstone uses the iSoft data encryption tools for transferring sensitive data. Verify that potential SaaS vendors can provide you with secure data transfer if required.

Disaster Recovery plan should be a living document updated with the most recent infrastructure requirements for maintaining system backup and restore capabilities.

Data Privacy Policy should be documented and verified that each employee or contractor is held to the highest integrity standards.

Systems Architecture should be evaluated to insure maximum data protection (see iBank 3-tier architecture drawing on next slide) and proper systems performance.

Intrusion Detection tools should be updated regularly and tested frequently.

Vulnerability Threat Assessments (VTA) should be performed by independent organizations and/or consultants to verify and correct any possible system security breaches.

Vendor compliance with the requirements of privacy laws related to data integrity and security. Independent organizations such as TRUSTe and Safe Harbor provide evaluation and monitoring of vendor policies regarding privacy issues.

Integration & Customization

- **Client / Vendor Alignment**
- **Client Application Availability**
 - Thin Client
 - Thick Client
 - Browser
- **Applications Integration**
 - Vendor
 - Client
- **Data Import / Export Capabilities**
- **Professional Services / Consulting**

www.ciswired.com • inquiries@ciswired.com • (800) 276-8255 • (812) 330-4361

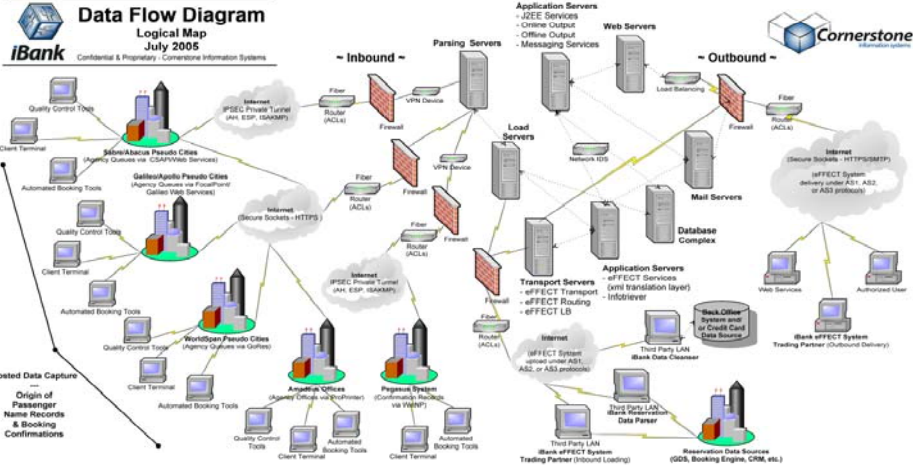
The client/vendor relationship is different in each environment. Hosted environments tend to produce greater alignment toward business objectives. Either service providers deliver on the client objectives or they lose the clients business. Hosted applications give clients more flexibility in dissolving a vendor relationship because their initial monetary investment is (in most cases) much lower than if the application had been purchased and housed internally. There is no strong vested interest from the vendor perspective to make sure the client is successful especially if they have no other products to offer. Hosted environments ability to quickly integrate applications from other software providers often allows competitive advantages to the clients by opening avenues to services that would otherwise be too expensive. Ideas from multiple clients can be compiled into greater application features and benefits available to all clients. Some examples relevant to Cornerstone developments would include iQCX new client interfaces, Schedule Change Manager, iBank Trip Approval, Change Management, TicketTracker as well as integration with other service providers such as QlikTech, Control Risks Group, PRISM and Symphonie.

Customization is required for many complex business processes and can provide a business with competitive advantages. Customization can also mean that upgrading a service is harder regardless of hosted vs. housed.

The maturity of the Internet has allowed for much improved web user interface technology within a browser environment. Web services protocols make it easier to integrate with external application service providers while everyone benefits from cheaper, higher-quality bandwidth. Web services also offer many ways of transferring large amounts of data safely and securely between applications.

Thin clients can be a cost-effective solution for businesses or organizations that need several computers that all do the same thing. For example, students in a classroom could all run the same program from a server or via the Internet, each using his own thin client. Because the server provides the software to each computer on the network or via the Internet, thin clients also make it easier to manage computer networks since software issues need to be managed only on the server instead of on each machine.

While a thick client is fully functional without a network connection, it is only a "client" when it is connected to a server. The server may provide the thick client with programs and files that are not stored on the local machine's hard drive. It is not uncommon for workplaces to provide thick clients to their employees. This enables them to access files on a local server or use the computers offline. When a thick client is disconnected from the network, it is often referred to



www.ciswired.com • inquiries@ciswired.com • (800) 276-8255 • (812) 330-4361

Example of Cornerstone Information Systems documentation

Service Level Agreements

- **System Availability Requirements**
 - Website Interfaces
 - Data Loading
 - Data Exporting
- **Different Features & Benefits – Pricing**
- **Multiple Tenancy vs. Isolated Tenancy**
- **Identify Mission Critical Components**
- **Negotiate Penalties and/or Concessions**

www.ciswired.com • inquiries@ciswired.com • (800) 276-8255 • (812) 330-4361

To ensure maximum uptime automated monitoring tools must be integrated into the server environment. These tools must interface with all aspects of the system required to allow the clients maximum efficiency. Depending on the service provider some components of the overall system may have different expected service levels so it is crucial to understand the normal operating procedures for all systems that make up the application solution. Service Level Agreements can differ greatly between hosted expectations and the technical support agreements for a housed application. Different features and benefits with vastly different response times and expected service levels are not uncommon when comparing hosted vs. housed environments. Keep your expectations realistic when it comes to demands as you may in the end be demanding these requirements from your own internal support providers.

Multiple tenancy hosted applications allow multiple clients to be hosted securely on a unified host while individual clients still maintain control in a scalable atmosphere. Costs are also better controlled because multiple tenancy hosting allows tens or hundreds of clients to run smoothly from one piece of hardware vs. one client per piece of hardware (isolated tenancy).

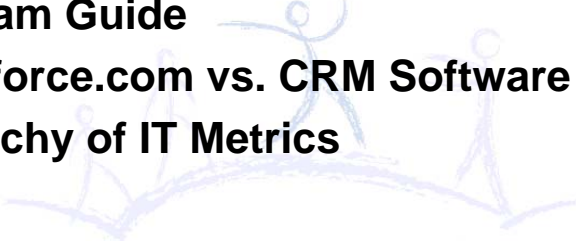
Because vendors support multiple clients with a common infrastructure, service providers can more efficiently invest in network and systems redundancy to enable more reliable operating environments. Mission critical components of your operations should be given the proper attention in any negotiation when it comes to systems availability and response times in periods of critical operations. Risks can be minimized but will always be present regardless of the application location.

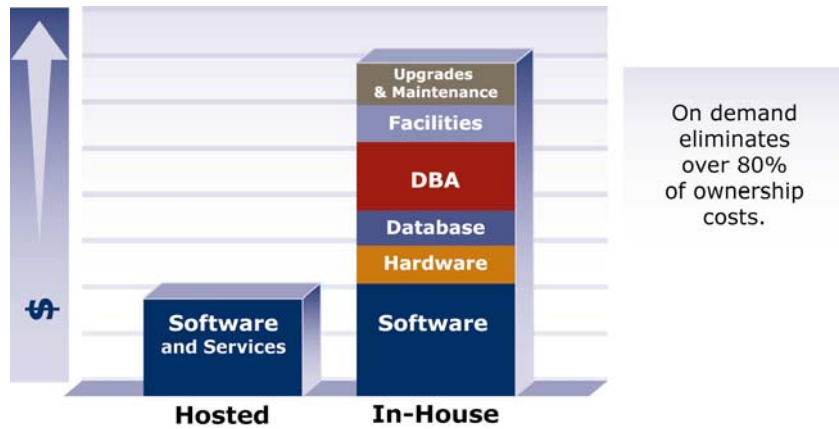
Penalties and concessions can be negotiated with the vendor in either environment when system uptimes are compromised and business operations are effected. Again, different levels of pricing for different levels of expectations are not uncommon throughout the software industry.

- **Assess Requirements**
- **Assess Risks**
- **Assess Affordability**
- **Assess Ongoing Pain**
 - Maintaining Performance
 - Troubleshooting Failures
 - Monitoring Hardware

Some reminders for the decision making process:

- 1) *Take the time required to truly assess your business requirements. Implementing a bad solution whether hosted or housed is still a bad solution*
- 2) *Properly research and identify the risks involved with either operating environment*
- 3) *Evaluate the ROI and the TCO of any solution*
- 4) *Determine who you want to share in the pain of ongoing performance and who can deliver the most value overall – your own organization or the vendor*

- **RightNow Technologies Graph**
 - **Program Guide**
 - **Salesforce.com vs. CRM Software**
 - **Hierarchy of IT Metrics**
- 



www.ciswired.com • inquiries@ciswired.com • (800) 276-8255 • (812) 330-4361

Slide provided courtesy of RightNow Technologies

| Program Guide: | Custom Applications | On Premise Licensed Applications | On-Demand / Subscription Applications |
|--|---|---|--|
| <i>Three (3) Methods For Delivering Software</i> | Created in-house or by external developers exclusively for a specific business, which then owns the product | Developed by commercial software publishers for a wide range of businesses, usually running on the licensee's own servers | Accessed by clients via the Internet (or web-services clients) and run on the servers supplied by the software provider or an authorized third party |
| Initial software cost | High | Moderate | Low |
| Client owns the software | Yes | No | No |
| Client's ability to customize the software | High | Moderate | Low to Moderate |
| Upfront hardware costs | High | High | Low |
| Software maintenance / upgrade costs | High | Moderate | Low |
| Compliance protection | High | Moderate | Low |
| Vendor lock-in | High | Moderate | Low |

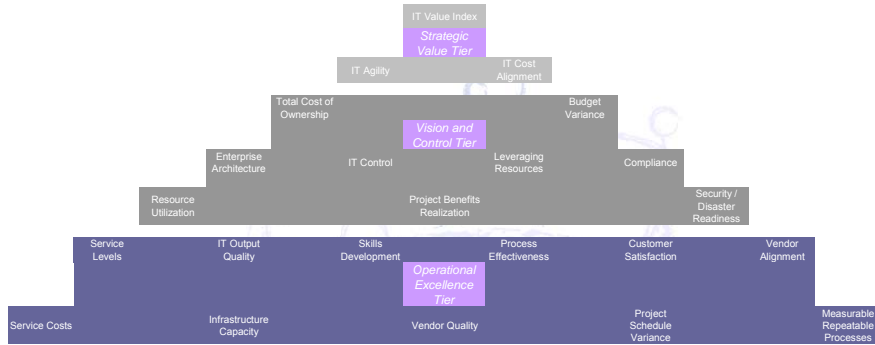
www.ciswired.com • inquiries@ciswired.com • (800) 276-8255 • (812) 330-4361

| Salesforce.com CRM | Conventional CRM | Professional Edition | Enterprise Edition |
|--------------------------------------|--------------------|----------------------|--------------------|
| Number of Users | 150 | 150 | 150 |
| Application License and Subscription | \$300,000 | \$117,000 | \$225,000 |
| Support / Upgrade Costs | \$54,000 | \$0 | \$0 |
| Implementation and Customization | \$900,000 | \$29,250 | \$56,250 |
| IT Infrastructure / Hosting Costs | \$125,000 | \$0 | \$0 |
| IT Personnel Support | \$150,000 | \$0 | \$0 |
| Training Costs (Admin and End Users) | \$45,000 | \$11,700 | \$22,500 |
| Totals (\$) | \$1,574,000 | \$157,950 | \$303,750 |
| Costs (%) | 100% | 10% | 19% |

www.ciswired.com • inquiries@ciswired.com • (800) 276-8255 • (812) 330-4361

Slide provided courtesy of Salesforce.com

Hierarchy of IT Metrics



www.ciswired.com • inquiries@ciswired.com • (800) 276-8255 • (812) 330-4361



Crossing the Chasm

*How to be Pragmatic About
Service & Technology*

Atlanta – May 17-19, 2006

Hosted vs. Housed

**What Option is Best
for Your Business?**

**Presented by
Ron Childress**

**Thank you very much for your
attention and I hope you enjoy the
rest of the conference.**

QC2 - Hosted vs. Housed – What option is best for your business. - Uncover the advantages and disadvantages of both types of software implementation and determine what makes the most business sense for you and what delivers the most value to your customer. *Presenter: Ron Childress, Cornerstone*