Business and Technology Insights

BAKER TILLY

Candor. Insight. Results.

Lessons Learned: Implementing cloud application software suites

Inside:

Lessons Learned: Implementing cloud application software suites

BAKER TILLY

Candor. Insight. Results.

Executive summary

If typical, your firm has probably implemented a couple of major application software suites over the years and you have the scars and war stories of the past to guide you with new implementations. But, our experience suggests that you will be surprised by some things as application software has changed – materially. The biggest change is found in the delivery model. Your next solution will likely be delivered via a cloud computing option.

Implementing cloud application software has some interesting twists such as:

- **The implementation starts within minutes or hours after signing the contract.** Since there is no waiting for hardware or software to arrive or get installed, project steps that were often started months later are now immediate.
- **Users will likely find systems more intuitive to use – even on today's smart handheld devices.** But, training is still required so that your company understands how to capture maximum value from the new software.
- **Software prototyping and configuration tasks are often mandatory with these solutions.** There is a more direct connection between software configuration and process definition, and you will want product experts that understand business processes to guide you with critical early design decisions. But be careful because some configuration tools can make future functionality changes difficult.
- **Multi-site environments can be implemented easier and more consistently.** Additional subsidiaries can be quickly added to the cloud solutions, minimizing and sometimes even eliminating the need for re-configuration.
- **The importance of change management is amplified.** The frequency and quantity of product updates originating from many cloud providers may exceed some organizations' ability to assimilate. Preparing the user community for rapid and ongoing change, as well as establishing a change control program for business users is critical to launching and maintaining a cloud program.

The next few pages describe just some of the lessons we've learned in implementing dozens of cloud application software solutions. We hope you find these illuminating and beneficial for your firm.

BAKER TILLY

Candor. Insight. Results.

Definitions re: Cloud application software

Application software essentially is delivered in three main formats: on-premise (where the user installs the software on their own hardware); in a cloud environment (where the user accesses the software and data on a vendor's computing center); or, in a hybrid environment (where users can move the software back and forth from on-premise to cloud). While most software was designed for one delivery model, some on-premise software is sold with the option to have it "hosted" on a vendor's data center (a la a traditional Application Service Provider model). This type of solution is sometimes marketed as a cloud solution.

Application software buyers need to differentiate between single and multi-tenant cloud software. With single tenant software, each buyer has their own copy of the software and their own physically separate databases. In return for this segregation, the buyers often must perform many of the upgrade and maintenance activities one normally associates with on-premise software. Sellers of single tenant solutions tout the user's ability to set their own upgrade cycles as a key benefit of this approach. Single tenancy is frequently found in hosted cloud solutions.

In a multi-tenant cloud application, all users essentially use the same copy of the software. Their data is often stored in one physical database with other customers' data (however it is logically separated and not discoverable to others). Many customers choose multi-tenant cloud solutions over single tenant products. Why? A multi-tenant product is maintained by the software vendor (not the customer) as part of their subscription. Software customers dedicate far fewer staff to apply upgrades, patches and other maintenance to these products.

Much of the market momentum we see in application software today is toward cloud solutions and within these cloud solutions our clients often choose multi-tenant applications. This paper predominately focuses on our experiences in implementing these solutions.

Cloud Application vs. On-Premise Software

Implementation Activity	Cloud Application	On-Premise
Install Hardware	No	Yes
Install Systems Software	No	Yes
Install Application Software	No	Yes
Install All Updates & Patches	No	Yes
Tailor Application	Yes	Yes
Data Cleanup	Yes	Yes
Design Interfaces	Yes	Yes
Test	Yes	Yes
Train Users - Process Rule	Yes	Yes
Train Users - Screen Navigation	Limited	Yes
Train IT	Limited	Yes
Create Backups	Limited	Yes
Create Recovery Operations	No	Yes
Data Security	Limited	Yes
Security Processes	Yes	Yes

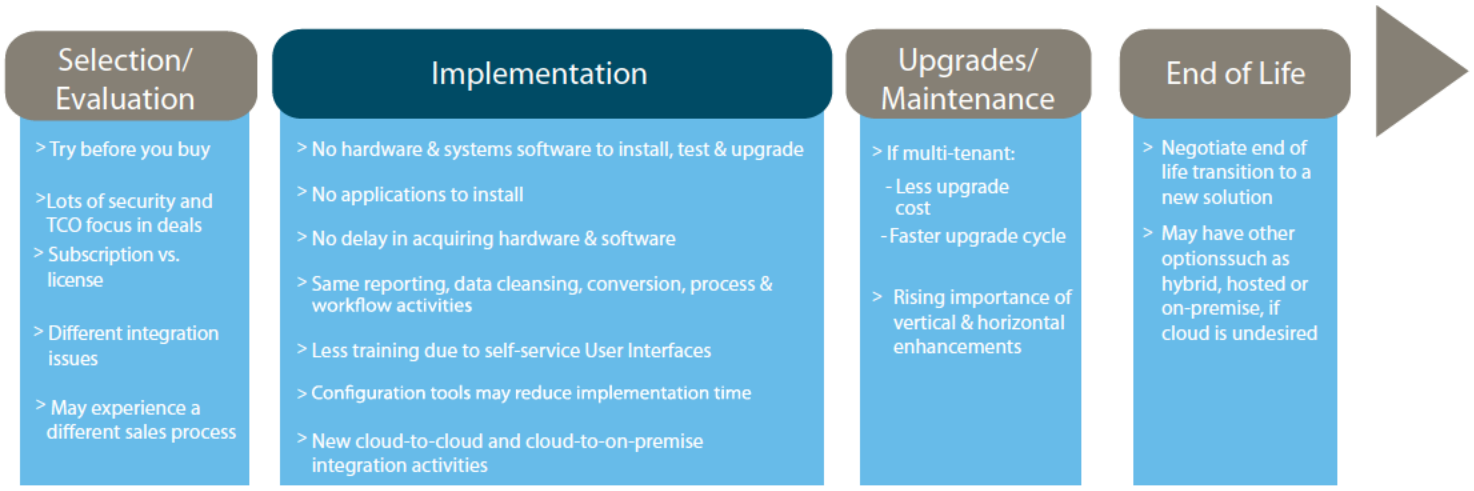
The cloud application software implementation

Application software implementations have many distinct steps. Although the overall implementation approach appears relatively unchanged whether businesses are utilizing an on-premise or cloud-based ERP solution, many specific implementation steps are decidedly different when cloud solutions are involved. ***The most important change any executive must grasp is that with cloud application software, tasks like user training, software configuration and more start within minutes or hours of completing the cloud software contract.***

The Implementation is NOW!

Cloud based application software is often 'installed' in minutes. More precisely, the software is already installed on a vendor's cloud computing environment. All the vendor (or you) has to do, usually, is to establish your organization and your users as new entities that will be taking advantage of this new service.

Cloud changes all phases of the software lifecycle



There is no hardware to buy, no systems software to acquire and install, etc. The technology stack is already there. Your organization only needs secure Internet access and the new software can be ready to use in minutes. This is in stark contrast to on-premise application software implementations as these can be held up for months awaiting the arrival, installation, integration and tuning of computer hardware, database software, security software, systems management software, etc.

While this time-savings sounds great, you should realize that users, report designers, data conversion programmers, etc. will want to know about the new software immediately upon the contract signing. Users will need to understand all manner of system configuration parameters and process workflows. They will need to see and test how well the software fits their business needs. And all of this starts immediately. Your implementation team may not want them to move so quickly. **A number of process design, training, change management and other work steps may need to be undertaken first to get the implementation moving in the right direction, right away.**

Some cloud application software suites provide powerful configuration utilities that users must utilize upon activating the software. These tools may provide pre-configured:

- Industry reporting templates
- Accounting treatments (e.g., LIFO, FIFO, average costing)
- Charts of accounts
- Process work flows
- Controls

Depending on the product, your implementation team must fully and completely understand all process, accounting and other implications of each configuration option as some options are virtually impossible to un-do. Implementation teams benefit significantly from product experts at this crucial early stage.

One must proceed cautiously with configuration utilities and fully understand the consequence and required order of decisions. These utilities may trigger the use of additional modules (at additional cost) and make it difficult to reverse previous configuration settings.

In the absence of these configuration utilities, many cloud application software implementations benefit from an ***early proof of concept phase*** where product experts and users prototype the solution. The implementation team will walk the users and others through a series of workflows and business scenarios to validate that the software performs as desired. Like with the configuration tool example above, these tasks take priority in any cloud application suite implementation.

In many cases, implementation teams may spend upwards of 80% of their time discussing workflows and process maps, time that would be spent configuring servers and other hardware in the first three months of a traditional on-premise implementation. Quick wins are also possible in the areas of user training and IT change management, as end users and process owners can start to see, train and use parts of the system within a matter of weeks.

Because of the unique nature of some cloud application software products, smaller chunks of functionality, even subsets of modules, can often be configured and brought live ahead of the full system. This promotes user readiness, organizational buy-in, and may speed time to benefit of the larger implementation project.

Don't replace applications – re-imagine them

Most firms cannot afford the financial and business risk of changing major application software suites more than once every ten years. Sadly, application software solutions often outlast many marriages.

Implementing cloud application software should entail more than a simple technology replacement effort, as the average firm has likely experienced significant change in its business, competitive, technological, human capital and other aspects since its last software change. **We believe that the greatest benefits a firm will derive from new software occur when all affected processes, business outputs and more are re-examined and re-imagined.** *If the current processes, et.al., are out-of-date or no longer relevant, would ten more years of continued sub-optimization add value?*

Adding emphasis to the above is that new cloud application suites are being deployed as organizations embrace mobile and social technologies, too. Workflows and processes are being altered to support mobile interconnected workers that have almost ubiquitous access to the Internet. The implications of this are huge as users are now performing much of their work on smart mobile Internet

devices far from their organization's offices. Content, not just transaction screens, must be served to these users at the point of need. This content and the applications that support it must be designed with specific workers, workflows, mobile device type and other factors in mind. Social computing factors must also be considered as processes may need to support collaboration by colleagues within (and external to) the organization. No software implementation today can be fully successful unless the team considers these other design considerations. Not only do you design for these audience variances, you need a forum that supports these audiences through the same means as they access the data. If you had a question about Facebook, you don't call a toll free number, you post a question through Facebook. A similar thought process should go into the full design and support of the application.

Small bytes: big returns

For some time CIOs have been shying away from big bang software implementations. Instead, they have preferred to break big IT initiatives into several, smaller projects, each with their own value delivery quantified and delivered. In the cloud application software space, many products support this implementation approach and permit deploying the application in smaller chunks. Cloud applications are often easier and faster to install overall and using several smaller sub-projects to implement them can bring tangible benefits sooner, speed up user adoption, and reduce overall project risk. **The ability to move in small steps occurs largely because deploying functionality of cloud solutions is not as dependent on the existing technical infrastructure.**

Over the years, we have helped organizations deploy indirect procurement, time reporting, quoting, quality management, and other value added functions within weeks of starting the implementation project. The subsequent balance of enterprise functionality can easily be wrapped around these early functional deployments.

Where is the implementation team?

Near ubiquitous access to the Internet has changed the way many software implementations are conducted. Integrators can complete a number of tasks remotely as long as they have an Internet connection. In the world of on-premise application software, our experience suggests that most implementation tasks still must be completed on-site. However, in the world of cloud application software, more implementation tasks can be performed off-site. Since travel costs can account for as much as 25% of total implementation costs, these savings can have a material, positive effect on a software implementation[1]. **We believe a balanced combination of process review, analysis and discussion by on-site consultants, and off-site delivery in the areas of data preparation and configuration, can yield substantial time and cost savings.**

There are limits though as to what implementation tasks can or cannot be delivered off-site. When software users are embarking on a transformative initiative, such as a business process improvement effort, then the implementation team will need additional on-site assistance from consultants and integrators. The design of new processes, new workflows, new methods of completing work, new analytics, etc. often require numerous face-to-face design meetings, change management and other efforts. Existing processes may need to be benchmarked to calculate the expected benefit improvements in the real world setting of the customer's business.

Vital Analysis research shows that a single error costs approximately $500, on average to research, reprocess and correct data quality problems if the error has made it all the way to the general ledger.

1.Source: Vital Analysis Research

Integration

Businesses may want to integrate information from existing on-premise applications to their cloud application solution. **Businesses often adopt a whole new vocabulary (and some new tools) around integration as they will need to support on-premise to cloud integration, cloud-to-cloud integration and cloud to on-premise integrations.**

Our experience indicates that larger firms will require more integration points to more applications than smaller firms. Small businesses tend to want to buy and use more applications from a single vendor and/or use lower tech integration tools (e.g., spreadsheets, comma delimited files, etc.) for many of the remaining interfaces.

Unchanged effort

Regardless of whether the software being implemented is on-premise or cloud-based, some activities will always be present. For example, data must be converted from the existing systems and placed into the new software environment. This may require the development of conversion programs from numerous subsystems.

If your firm has problematic data (e.g., actual inventory levels do not equal the values on the system), then that data will need to be cleansed, validated, etc. before any new system can use it. Data cleansing can be especially tedious work that often requires significant investigative effort.

System testing activities remained fairly consistent regardless of the delivery method employed. **Software users will want to fully and completely test functionality within individual modules, across modules within an integrated suite of products, across entire processes and workflows and whenever information passes through interfaces, control points or other integration avenues**. Likewise, all reports, analytics and other business outcomes will need to be tested.

Security

Security is a highly emotional issue with some cloud application buyers. Interestingly, we would advise clients to understand the costs required to match or exceed the security capabilities being utilized by many cloud application solution providers. **In effect, we believe that application software buyers, regardless of deployment method, should strive for the highest level of data and application security possible. Cloud application vendors should be able to produce an SSAE 16 Type II (SOC1) attestation (formerly SAS 70). These documents are not certifications. They are examinations and should be studied carefully for any evidence of findings or control deficiencies by the auditing firm. These audits should meet ISO benchmarks for security (e.g. ISO 27001). The AICPA has also recently introduced alternate control assurance options (SOC2 and SOC3) reports which may also address security and privacy requirements.**

Training

We, like our clients, have heard claims that cloud application solutions may not require user training. The logic behind these claims is that cloud software solutions must be intuitive to work on multiple different device types (e.g., laptops, tablet computers, smart phones, etc.) by users that are frequently away from their office. In response, many cloud application software providers have invested millions in user interface design. **We would agree that these investments have resulted, on balance, in major improvements in software ease-of-use but training is still needed to help users understand complex processes, how to design reports, etc. The best training environment may occur when business scenarios demonstrated through experiential learning on how to execute specific processes with the new technology.**

Software users still must understand how specific processes and workflows will occur inside their firm. Users must understand limits of authority, controls, reporting tools, etc. that may exist with the new solution.

Users generally want to know:

- What is changing?
- Why is it changing?
- When is it changing?
- How does this impact me?
- Where do I go for help and training?

Our consensus view is that training costs generally will be less than older generation products but some training is almost always required. This is particularly true should the implementation involve significant process changes or users that have previously lacked automated systems.

BAKER TILLY

Candor. Insight. Results.

Guidance

Beyond the topics and suggestions in the preceding pages, we believe that businesses should:

- **Objectively review your current solution.** Pay close attention to the level of disaster recovery, security, offsite backup and uptime you get currently and compare these against the terms of the service level agreement with the cloud solution provider.
- **Closely examine the ability of the cloud solution provider to scale.** Does the software provider have cloud data centers geographically placed in parts of the world where you want and need the centers to be placed? Can this solution provider dynamically reallocate processing capacity across its network of computing servers and centers to meet your variable demand?
- **Watch the vendor's functionality vector** - Every software vendor has a product roadmap. Many cloud application suite vendors have started in the back office and have built out strong human resource or accounting modules. Some have built strong front office functionality (e.g., sales force automation) initially. Some have their roots in the shop floor and have built powerful manufacturing solutions. The speed with which cloud solutions can be built is often materially faster than previous generations of products due to their platforms and single technology stack. As a result, the cloud solution you buy today will likely morph into more functional modules and support more industry or vertical solutions. Be very clear when you license these products that your organization's functional and vertical long-term needs match the product roadmap of the vendor.
- **Do not forget to reduce or eliminate other redundant solutions when implementing your cloud application suite.** Some utilities like offsite backup, hot-site support, disaster recovery, filtering and storage appliances for data may become redundant. Some bolt-on, on-premise applications may no longer be needed. Some cloud solutions also offer office automation products at no additional charge. These could obviate the need for on-premise solutions.
- **Review connectivity options for remote personnel, customers and suppliers.**
- **Take time in designing workflows and processes that fit the modern, internet enabled and interconnected workforce.** Determine if processes that your organization developed pre-Internet, pre-smart phone or pre-cloud are still relevant today. Those designs may not serve your firm well or offer any competitive advantage. A new generation cloud suite is only as good as your imagination and business processes.

Summary

The cloud application software market may be one of the fastest-growing marketplaces in the history of the industry. We have been fortunate to have been implementing large numbers of these solutions in large, complex organizations and with innovative small/medium sized firms. We believe the benefits, agility and innovation that come with these more modern solutions accelerate valuable business outcomes for our clients.

We are confident that clients will benefit from the timely sharing of best practices that are emerging in this space. The discussion items in the preceding pages have addressed only some of the lessons we have learned from our numerous client cloud application software projects. We welcome, of course, any opportunity to discuss these lessons and many more with you. As we learn from our clients and others, we welcome your thoughts on cloud solutions as well.

BAKER TILLY

Candor. Insight. Results.

Baker Tilly Contributors

Ethan Bach
Principal
ethan.bach@bakertilly.com

Peter Pearce
Principal
peter.pearce@bakertilly.com

Todd Wilkerson
Director
todd.wilkerson@bakertilly.com

About Baker Tilly

Baker Tilly is a professional services firm with a specialized Growth Strategies consulting practice. Our professionals specialize in helping clients achieve their growth objectives through more effective customer and channel strategies. Through a comprehensive evaluation of the opportunities and barriers, we define customer-centric strategies and develop a pragmatic plan to build the capabilities that will better enable sales, marketing, and service organizations to provide differentiating customer experiences and drive sustained growth.

Baker Tilly Virchow Krause, LLP (Baker Tilly) is a nationally recognized, full-service accounting and advisory firm whose specialized professionals connect with clients and their businesses through refreshing candor and clear industry insight. With approximately 2,500 employees across the United States, Baker Tilly is ranked as one of the 12 largest accounting and advisory firms in the country. Headquartered in Chicago, Baker Tilly is an independent member of Baker Tilly International, a worldwide network of independent accounting and business advisory firms in 133 countries, with 27,000 professionals. The combined worldwide revenue of independent member firms is $3.6 billion.

Connect with us at **bakertilly.com** or **connecting@bakertilly.com**