On-Demand ERP in the Enterprise
A practical CIO guide to implementation

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About the author

Phil Wainewright is one of the world’s foremost authorities on emerging trends in business automation. He is a prolific writer with a ZDNet blog on Software as a Service, an eBizQ blog on The Connected Web, and a series of influential analyst reports to his name. He serves as CEO of Procullux Ventures, a London-based strategic consultancy working with leading business automation vendors and their customers.

Software as Services: http://blogs.zdnet.com/SAAS/
The Connected Web: http://www.ebizq.net/blogs/connectedweb/
Procullux Ventures: www.pcxvs.com
Detailed biography: www.philwainewright.com

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Many enterprises have already adopted Software as a Service (SaaS) for non-critical applications—more than three-quarters of U.S. organizations by the end of 2009, according to IDC.¹ Now some are beginning to examine the case for introducing SaaS for core business applications, such as accounting and enterprise resource planning (ERP) systems. Research by Saugatuck Technology with members of the Financial Executives International (FEI) found that SaaS adoption for core financial accounting will rise from 15% of all enterprises in 2008 to 22% in 2010 and 27%—more than one in four—shortly thereafter.²

This paper, based on the experience and best practice established by early adopters, sets out a framework for deciding on and implementing on-demand ERP within enterprises of 250 employees or more, or in divisions within a larger enterprise. The paper will examine key concerns such as data integrity in enterprise systems, maintaining compliance and ensuring proper process management, as well as discussing new skills and approaches to help maximize returns on investment.

A decision framework

Something akin to an urban myth has grown up around SaaS adoption, depicting it as a choice that sidelines or eliminates the corporate IT function. On the contrary, most enterprises that adopt SaaS find it improves business-IT alignment. While SaaS can certainly help reduce certain IT costs, the CIO remains responsible for the reliable functioning of the organization’s computing resources, even when they’re contracted from an external provider rather than running in-house.

Nor is it accurate to portray on-demand ERP as a rip-and-replace decision. Most on-demand implementations of enterprise accounting and ERP are complementary to existing installed investments. The CIO becomes accountable for the seamless operation of on-demand and on-premise resources, running side-by-side in harmony.

Close collaboration is thus essential to the success of an on-demand ERP implementation. IT must retain governance, setting the parameters for the organization’s core business systems, while working closely with line-of-business managers to ensure the implementation achieves their business goals. The first step is to put the right decision framework in place:

- What are the baseline requirements that any provider must meet?
- How will the enterprise adapt to the on-demand model?
- What are the key parameters for evaluating SaaS options?

SaaS readiness

Research by Forrester and others has found that in most enterprises, the bulk of the IT budget is taken up with maintaining existing investments, rather than moving forward with new capabilities.³ The on-demand model provides a way to unlock this logjam, since the upfront capital expenditure cost is borne by the provider, while time-to-live is much shorter because the technology infrastructure is already up-and-running. These metrics are driving SaaS into the mainstream. IDC predicts that the percentage of U.S. firms planning to spend at least a quarter of their IT budgets on SaaS applications will almost double from 23% in 2008 to nearly 45% in 2010.⁴

¹ Economic Crisis Response: Worldwide Software as a Service Forecast Update (IDC #215504).
⁴ Economic Crisis Response: Worldwide Software as a Service Forecast Update (IDC #215504).
In some cases, certain factors combine to make the total monthly cost of the SaaS solution less than the enterprise has been paying simply to maintain their legacy software systems. These factors include:

- High-end server instances that have been deployed to serve small branch offices
- Costly wide-area network infrastructure that has grown up to support mobile and home workers
- Extra software acquired to consolidate operational and financial data across multiple business units.

It is often easy to make a compelling business case based solely on eliminating such costs and inefficiencies. But there are non-economic factors to consider, too.

Case file: Iron Mountain Digital

This technology services arm of Iron Mountain, a $200 million public company, replaced three separate applications and myriad spreadsheets with NetSuite, which provides data to the parent organization’s Oracle Financials and CRM systems. Results achieved included:

- The system delivers consolidated, single-invoice billing to customers, plus global account visibility
- Customer utilization data from internal delivery systems feeds into NetSuite
- Financial reports are easily distributed to the Oracle corporate instance
- The company now has the flexibility to add new product lines to the central billing engine on further acquisitions
- The company can provide a phased roll-out to the U.S. and Canada initially, with the United Kingdom, France, Germany and Japan to follow.

Is SaaS ready for my enterprise?

Confidence in SaaS is growing all the time, as providers extend their track records and more and more organizations entrust their computing to SaaS specialists. But there will still be sceptics in any organization that need to be convinced. CIOs must dispassionately quantify the risks and satisfy themselves that prospective SaaS providers will meet their organization’s standards in a number of areas:

- **Compliance.** Any reputable enterprise has existing standards in place for the security and integrity of data, IT governance and so on. The CIO has a duty to ascertain that a SaaS provider conforms to those standards. A baseline requirement is a satisfactory SAS-70 Type 2 audit report, and Safe Harbour certification for European users. An enterprise will often need more detailed assurances, and will expect the provider to do its best to accommodate them.

- **Availability and performance.** Outages at SaaS providers hit the news headlines because they’re so rare. Planned downtime is infrequent, too, and rarely lasts more than an hour or two, even for major release upgrades. More important is the day-by-day stability and response times that keep users productive. Here, the service provider’s track record is more indicative of future performance than the minimum standards set out in a service level agreement (SLA).

- **Functional richness and adaptability.** An ERP system must offer the full breadth of functionality that’s appropriate to the business; it must also be capable of configuration or extension as required to meet the organization’s unique processes. At the same time, it should stay current with best practice—both in its business logic and the underlying technology infrastructure—and be capable of rapid reconfiguration to meet changing business conditions. Evaluate the provider’s functionality, developer toolset and track record on these points.

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Key questions: SaaS readiness
To evaluate your SaaS readiness, ask yourself the following questions.

What are my compliance requirements for:
- Security when transferring and storing data
- Backup/restore procedures and disaster recovery plans
- Data privacy in each relevant jurisdiction
- Authenticating users and governing access rights
- Checking and verifying data transactions
- Reporting of usage and performance metrics
- Requirements definition, prototyping, testing and user acceptance
- Governance and change management?

What are my minimum and preferred standards for:
- Daily, monthly and annual downtime, both planned and unplanned
- Application response times (e.g. to deliver a query response or post a transaction)
- Frequency, timeliness and detail of performance reporting
- Helpdesk support access (by role, channel and hours) and response times
- Time to resolve a support ticket
- Time to resolve a billing or customer service query
- Technology and functional upgrade cycles?

What are my requirements for functional scope and adaptability?
- Integration capabilities for connecting to enterprise and local systems
- Complexity and detail of processes to be automated
- Language, currency, tax and regulatory variations
- Number of separate business and operational entities
- Volume of transactions processed at peak and average load
- Frequency of change to business processes
- Delegated administration and configuration by line-of-business users
- Developer toolset and breadth of configuration/extension options.

Is my enterprise ready for SaaS?
When considering SaaS, discussions typically center on the self-evident risks and benefits, to the exclusion of more fundamental effects that arise within the enterprise after implementation. These effects are generally perceived as beneficial but can cause disruption if they are not anticipated and planned for.

- **Economic impact.** The switch from a capital investment model to operational expenditure changes the way that new IT projects are planned and implemented, enabling more frequent, incremental changes that flex with the business.
- **Transition to “real-time business.”** On-demand application infrastructures deliver real-time information on the state of the business that allows management to take faster, better-informed decisions.
- **Technology and governance framework.** CIOs must make sure the necessary integration and governance infrastructure is in place to connect to, monitor and coordinate on-demand assets. This enables the CIO to retain accountability for resources being operated by third-party providers.
• Development and upgrade cycles. On-demand platforms allow for faster prototyping, closer engagement of business managers during the development process and more incremental, agile development styles. Upgrades occur more frequently, allowing the organization to absorb new technology and functionality as continuous improvement.

• Change management. The ongoing, incremental pattern of implementation and development requires new management disciplines, both within IT and across the enterprise. A more agile, adaptable organization requires active, skillful change management.

Case file: Asahi Kasei Spandex America
This synthetic fiber manufacturer with a global customer base replaced SAP R/3 with NetSuite. The results they achieved included:

• Improved financials reporting to Japanese parent
• More efficient integration to their own warehouse management production system
• More flexible processes and reporting
• Substantially lower running costs and improved business analyst productivity
• Savings of $20,000 per month thanks to the elimination of the cost of a wide area network.

Evaluating providers
The growing popularity of SaaS and similar cloud-based services has led many vendors to adopt the SaaS or cloud labels. It’s important to look under the hood at what’s really on offer. In many respects, the due diligence to evaluate a SaaS vendor is the same you’d undertake for any software vendor, such as examining customer testimonials from companies of a similar size and industry. In addition, the following factors are especially relevant to on-demand ERP providers:

• Integration and development capability. Enterprise ERP has complex data integrity and process automation needs. Look for flexibility and choice in integration options and APIs, detailed process customization capabilities and a sandbox for testing. Expect at least a twice-yearly release cycle of upgrades to maintain and extend core functionality. An open API and ecosystem of third-party developers provides a useful additional resource for further extensibility.

• Service delivery infrastructure. The advent of cloud platforms and virtualization technologies have made it much easier to put a software product online and offer it on a monthly subscription plan. Such offerings, however, often lack a mature, efficient infrastructure to support service delivery functions such as authorized access, compliance, reporting, upgrade management — even tasks as simple as invoicing and problem resolution. Look for an effective automated service delivery infrastructure, backed up by robust service contracts and sufficient staff resources to provide the real-time support you’ll demand.

• Technology platform. Multi-tenancy — a single, shared application infrastructure, right down to the database schema — underpins many of the economic and technology advantages of the SaaS model, not least in enabling a loosely coupled architecture for version-independent integration and functional extensions, along with a cost-effective and high-performance service delivery infrastructure.

• Future scale. ERP systems not only need to scale up to support future numbers of users and transactions, but must also scale across divisions and geographies to accommodate multiple currencies, tax systems, business entities and languages.

• **Financial resources.** The SaaS model is economically attractive to customers in large part because the vendor bears the upfront cost of funding the infrastructure. This requires deep pockets, so do your due diligence to be certain of a vendor’s ability to continue funding its infrastructure needs.

• **Commitment to SaaS.** Software vendors that derive most of their revenues from conventional license sales often underestimate the funding and technology burdens of SaaS. Customers must take care to assure themselves that a larger vendor’s SaaS initiative isn’t just a sideline application that may be at risk of being abandoned or de-emphasized.

**Key questions: Evaluating providers**

When evaluating providers, make sure they meet the following criteria:

- ✓ Breadth of data integration options, from SOAP Web services to batch upload of CSV files, with scope for custom data transformation
- ✓ Full flexibility to customize and optimize business process automation
- ✓ Frequent functional releases that don’t break existing customizations
- ✓ A robust sandbox environment for development and testing
- ✓ An extensible API that’s open to third party developers
- ✓ Robust, secure integration to identity management and access infrastructure
- ✓ Efficient service delivery infrastructure
- ✓ A track record of enterprise-class service level achievement
- ✓ Contractual commitments to service levels
- ✓ Adequately staffed support and customer service functions
- ✓ Shared multi-tenant application, integration and service delivery infrastructure
- ✓ Infrastructure that scales to future customer, user and transaction volumes
- ✓ Scales globally to multiple currencies, tax systems, business entities, languages
- ✓ Insight into financials to verify ability to fund future business growth
- ✓ Convincing evidence of top-down strategic commitment to the SaaS model.

**A project plan**

Once you’ve assessed the extent to which SaaS is a match for your organization, and then evaluated the provider’s fitness for that match, it’s now time to decide exactly how the SaaS ERP solution will fit into the enterprise.

**Deployment scenarios**

For some organizations, a SaaS ERP system is a strategic response to issues such as cutting the cost of entering new markets, getting better visibility into subsidiaries or bringing automation to remote offices and mobile workers. Others see SaaS as a short-term tactical solution, enabling a new business opportunity, replacing a failing legacy application, facilitating a relocation or on-boarding an acquisition. Often, SaaS starts out meeting a specific need and then extends to other objectives over time.
Classic ERP systems are typically implemented as “waterfall” projects that go live in a single, rapid deployment after months or years of preparation. The on-demand model gives the option for the roll-out to start much sooner but then follow a more incremental pattern. Common deployment patterns for on-demand ERP include:

- Deployment to domestic operations first, then to international—useful for having core IT staff get familiar with the application before rolling it out further afield.
- Rolling deployment on an “as-needed” basis to subsidiary businesses—suitable when bringing improved ERP capabilities to smaller or more tactical business units, or when IT has limited resources to spare for implementation work.
- Phased functional deployment—implement first at the point of greatest need, for example core financials, then roll out inventory, SCM, CRM, and so on.
- Rapid parallel deployment across several business units—avoids complex interim integrations when retiring a patchwork of interconnected legacy systems.

**Defining requirements**

Whichever deployment pattern is chosen, a proper requirements definition is the cornerstone of a successful implementation. This guides fundamental choices on critical aspects of on-demand ERP, including integration, security and compliance.

- **Integration.** Accounting and ERP are the organization’s systems of record; the integrity of data is paramount. The extent and nature of integration to other systems is one of the most important parameters to consider:
  - What data is required for consolidation into corporate financials?
  - Do any transactions update corporate applications such as CRM, billing, SCM, inventory and compensation management? Integrations that drive business processes are more likely to require real-time, bi-directional integration.
  - How is the data required? Map out the exact content and formatting required, especially for master records such as customers, products and orders.
  - How often does data need to be exchanged with each separate application? A weekly, daily or hourly batch job is simpler to implement than real-time integration—especially to older systems that may not have been engineered for a service-oriented environment.
  - Will integrations need to accommodate other on-demand applications? Consider mediation via an integration-as-a-service platform rather than a simpler but less adaptable point-to-point architecture.

- **Robustness.** Security and reliability are essential attributes of ERP systems. Clear requirements here are essential for building internal confidence in SaaS:
  - Define minimum standards for data center security, encryption of data transmission, authorization and access controls, provisioning and de-provisioning processes, data privacy and how data should be stored.
  - Define expectations for application availability and performance, customer service and helpdesk access and response times, and visibility into upgrade schedules, performance metrics, incident handling and root cause analysis.
• **Compliance processes.** As CIO, you remain accountable for governance of any changes to business processes throughout the application lifecycle. You’ll need to:
  - Map out your expectations for sandbox development and testing, documentation, user acceptance, authentication and access permissions.
  - Determine the audit trails you require for user changes to policy and processes
  - Determine the notice the vendor should give of technology and functional upgrades.

**Managing implementation**

In many respects, implementation of an on-demand application goes through the same steps as an on-premise software package, but on an accelerated timescale. Definition of functional requirements, user acceptance and testing are in outline no different from what you would do for any enterprise application that allows for substantial tailoring to the specific needs of the client organization. The main differences apply in the following four areas.

• **Data migration and integration.** Integration with on-premise IT assets and corporate systems of record is frequently the most resource-intensive and time-consuming aspect of implementation. Cleansing and transformation of existing data for migration and reconciliation into the new system is similarly laborious.

• **Design, prototyping and testing.** The on-demand model allows for a more iterative methodology and the opportunity to give business managers more of an “ownership” stake in the finished outcome. Many organizations extend this incremental feedback model into deployment, rolling out the live application to small subsets of users and fine-tuning it before bringing other users on board.

• **Organizational readiness.** Introducing SaaS into a core application like ERP can be a jolt for the organization, which may not be used to features such as real-time visibility into operational metrics and user-defined data reporting. It is important to prepare business users to take proper advantage of these new capabilities, putting processes in place for change requests and problem resolution, while ensuring IT maintains governance oversight of core business processes. In some cases, this may mean training users to take over administration responsibilities within a governance framework defined and operated by IT.

• **User preparation, training and support.** It’s important to communicate the impending change to users and the expected benefits — especially when transitioning from a traditional desktop client to a browser environment. Many enterprises take advantage of online training resources provided by the vendor, as well as offering previews of the application before it goes live. When a phased deployment takes place, early users should be encouraged to act as evangelists and mentors for the new system, to supplement the formal training program.

Once implementation has been completed, one other highly significant distinction of the on-demand model becomes evident. There’s no need to wait for the next upgrade cycle in three or four year’s time — new functionality will become available several times a year, and in between, business managers will get into the habit of requesting small process modifications and enhancements once they realize the ease with which these can be achieved.

**Case study: KANA Software**

E-service provider KANA Software is a public company with $65.2 million in revenues, 229 employees and several hundred customers. In early 2008, it switched from its Epicor ERP system and several other applications to NetSuite OneWorld. Results achieved include:
• Rapid global deployment to seven international operating units
• Integrated, consolidated global ERP, CRM and analytics
• Streamlined reporting of financials through automated tax accounting
• More flexible processes and vastly improved business planning.

Business agility — although not among KANA’s original criteria for adopting NetSuite — has become one of the strongest outcomes. “We’re evolving our company,” says James Jones, director of financial planning and analysis. “You can do continuous improvement. That’s what’s unique about a SaaS application.” Instead of seeing it “stagnate,” he explains, “we have the opportunity to now watch the application actually improve over time.”

That has changed the relationship between business managers and the IT function. “In the past, one person in the company made all the changes to the software,” says Jones. “Now we’re seeing the business taking much more of a proactive role in defining the business requirements and understanding what’s required in making those changes.”

As a result, business managers are starting to demand more control over administration and configuration of the application. But once a business requirement has been properly documented, it’s important to leave IT tasks, such as creating custom objects, in the hands of IT, he believes. “We need to have in place that culture of mutual learning between the business and IT of the business dynamics.”

The new regime has kept KANA’s IT staff as busy today working on continuous improvement of the ERP system as they used to be just maintaining the applications it has replaced. “There’s a ton for them to do,” says Jones.

**Moving forward**

Once implementation has been completed, the enterprise will be in a position to reap the benefits of better access to real-time, consolidated information and a more agile, responsive business automation infrastructure.

Forward-looking CIOs will seize the opportunity that SaaS presents to forge a new strategic role, proactively setting operational and development goals while monitoring policy, compliance and cost to ensure that vendors continue to meet the standards laid down. This new role requires new skills, especially in terms of enabling a more agile development process that does a better job of ensuring proper alignment between IT execution and business outcomes.

The good news is that this more strategic stance works within the on-demand model to allow more focus on continuous functional enhancement — without the pain of infrequent large-scale technology upgrades. There’s less fire-fighting, too — that’s now been outsourced to the SaaS provider, whose infrastructure investment and skills are better equipped to pre-empt and deal with technology failures.

This is the hinterland that lies beyond the faster time-to-live and lower upfront costs that everyone expects from SaaS. Experienced adopters have begun to understand they can look forward to total lifecycle returns that go far beyond the short-term gains. The on-demand model removes technology barriers and empowers IT to deliver continuous efficiency improvement, greater business agility and more responsive innovation.