

## SaaS ERP: Trends and Observations

Since 2007 Aberdeen has been watching Enterprise Resource Planning (ERP) deployment models closely. In July 2007, we characterized ERP as the *Last Bastion of Resistance to Software as a Service (SaaS)*. In June 2008 we revisited the topic and found SaaS ERP had not kept pace with the hype-cycle of other SaaS enterprise applications. Eighteen months later, in spite of the surge in interest in cloud computing and virtualization and the growing adoption rates of other SaaS applications, SaaS ERP has yet to "take off." Is this reluctance justified? When will these walls of resistance come tumbling down?

### SaaS versus Hosted

As in prior years, confusion remains over terminology in reference to deployment models. Where access to the software is via an Internet connection, with no software footprint required on the desktop, end users of the software often are unaware of how the software is acquired, paid for and delivered.

Many vendors use SaaS and "on-demand" interchangeably, but end users of ERP often confuse these delivery and deployment methods with hosted models. Definitions are noted in the sidebar to the right. The key difference between the two lies in whether the customer purchases a license to the software and then pays a maintenance fee for technical support and upgrades (as in the hosted model) or whether the customer simply pays an all-inclusive subscription fee for the software to be available on-demand and delivered as a service (as in the SaaS model).

Another important consideration lies in the distinction between multi-instance and multi-tenant. When software is hosted, generally each company is given its own instance of the software, but may share common services, such as an integration platform, security, permissions and provisioning or optimization engines. In a SaaS or on-demand model, the software may be either multi-instance or multi-tenant. In a multi-tenant environment multiple companies use the same instance of hosted software. Configuration settings, as well as company and role-based permissions personalize user interfaces and business processes and protect data security.

While hosting options for ERP have always been available, both through the ERP solution providers themselves, as well as through partners and independent third parties, the options for SaaS ERP have been quite limited. As a result, Aberdeen's annual ERP survey of over 840 companies found the average age of SaaS ERP implementations is 4.3 years, which is much lower than on-premise or hosted installations (7.1 years).

### Analyst Insight

Aberdeen's Insights provide the analyst perspective of the research as drawn from an aggregated view of the research surveys, interviews, and data analysis.

### SaaS versus Hosted

**SaaS or On-Demand:** The software itself is not licensed or owned by the end user, it is provided as a service.

**Hosted:** Licensed applications are hosted by an outside third-party. This may be in a separate instance on a separate piece of hardware (dedicated to your company), or in a separate *virtual* instance (dedicated to your company) where the application is housed on hardware shared by multiple companies.

**Preconfigured on a hardware appliance:** Licensed software is pre-configured and pre-installed on the hardware. Pre-configuration may be industry-specific and include best practices templates for workflows and role definitions.

**Traditional license on premise:** Software is not bought and sold; instead it is licensed for use. It may be licensed to be used on a particular computer or by other criteria such as number of users.

Most ERP selections are predominantly driven by a combination of functionality, ease of use and cost (Table 1). Cost can be measured as Total Cost of Ownership (TCO) as well through contributing factors such as ease and speed of implementation, the ability to tailor or configure the solution to individual needs, integration capabilities, and the actual price of the software itself. Aberdeen asked survey respondents to rank the priority of selection criteria on a scale of one to five, with five being the highest priority. Table 1 demonstrates there is little difference between the priorities of those that have chosen traditional deployment models and those that are running in a SaaS environment – with one exception. Those that have chosen SaaS place a higher emphasis on having the choice between the various deployment models.

**Table 1: ERP Selection Criteria**

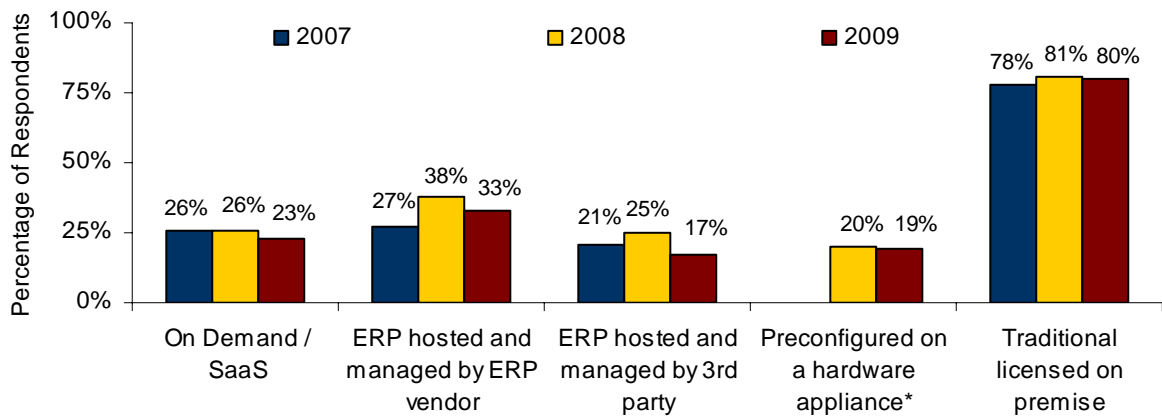
Selection Criteria (rated on a scale of 1 to 5)	Traditional ERP Deployments	SaaS ERP
Functionality	4.8	4.8
Ease of use	4.5	4.6
Total Cost of Ownership (TCO)	4.2	4.1
Ability to tailor without programming	4.2	4.2
Ease and speed of implementation	4.1	4.2
Integration technologies and capabilities	4.1	4.3
Software license price	3.9	4.0
Industry specific solution	3.6	3.5
Implementation templates / pre-defined best practice workflows	3.6	3.6
<b>Deployment models</b>	<b>2.9</b>	<b>3.7</b>

Source: Aberdeen Group, June 2009

### Willingness to Consider Alternative Deployment

In the same annual ERP survey, Aberdeen asked respondents to check-off all deployment options they would be willing to consider now and in the future. Results indicate that willingness to consider SaaS deployment options remained relatively steady from 2007 to 2008 and actually dipped slightly in 2009 (Figure 1).

**Figure 1: Trends in Willingness to Consider Deployment Options**

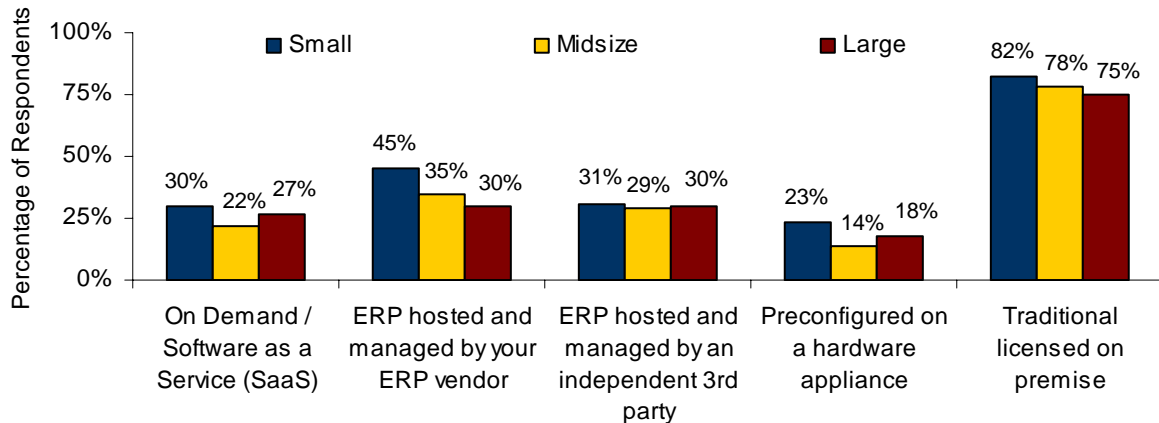


Source: Aberdeen Group, June 2009

\* The delivery option "pre-configured on a hardware appliance" was added to the survey in 2008

Often SaaS is associated with small companies, yet we do not see significant differences in willingness to consider SaaS as companies grow (Figure 2). Small companies are defined as those with annual revenues under \$50 million; mid-size are those with revenues between \$50 million and \$1 billion, and large companies have revenues in excess of \$1 billion. We do observe a dip in willingness as companies exceed \$50 million in revenue, but that willingness rebounds in large companies.

**Figure 2: Willingness to Consider Deployment Options is Not Dependent on Size**



Source: Aberdeen Group, June 2009

### Comparing SaaS ERP to Other Enterprise Applications

To put this in context, we contrast SaaS ERP adoption with SaaS deployment of several other categories of enterprise applications. In a recent survey of over 1,200 business executives for the [Aberdeen Business Review](#), which collects data on a quarterly basis to observe business and technology trends, we found SaaS ERP predominantly in small businesses, but that was also the case in other applications where SaaS deployment is more prevalent (Table 2).

**Table 2: Percentage of Applications Implemented that are SaaS**

Enterprise Application	Small	Mid-Size	Large
Enterprise Resource Planning (ERP)	9%	1%	3%
CRM for Marketing Automation	39%	20%	7%
CRM for Sales Force Automation	43%	23%	11%
CRM for Customer Service / Support	30%	14%	5%
Contact Center Management	17%	7%	8%
Business Intelligence	14%	7%	3%
Talent Management	30%	16%	11%
Workforce Management	23%	14%	5%
Human Resource Information System	14%	7%	4%
Travel & Expense Management	17%	15%	10%

Source: Aberdeen Group, December 2009

While the willingness to consider SaaS ERP is relatively consistent across all company sizes, it is the small company that has outgrown its current solution (which may include no solution or just desktop tools) that may find the SaaS option the most appealing, particularly in a volatile and uncertain economy. While the available SaaS ERP applications are similar to or even identical to on-premise options, the ability to treat the cost as an operating expense instead of a capital expenditure could mean the difference between satisfying a growing set of needs and doing nothing.

A year ago we posed the question, "What is the real reason for SaaS ERP lagging behind other software categories?" Was it a classic chicken or egg question? Was the reason SaaS ERP implementations were so scarce because there are so few options or are there so few options because there is limited demand for ERP as a service? Since then the list of SaaS ERP options have grown by 50% from a list of six last year to today's list of nine (see sidebar on the next page). So while the options are still relatively limited, they are expanding.

To better understand the current environment we explore both the attraction, as well as the resistance, to SaaS ERP.

## Appeal of SaaS ERP

Table 3 contrasts the appeal of SaaS ERP amongst small, mid-size, and large companies. Cost is a common denominator. Often the difference in total cost of ownership between the two models lies not in the cost of software and services, but in the cost of hardware and IT staff. While Total Cost of Ownership is the top reason selected by all sizes of companies, the lower up-front costs are not as well recognized as a plus.

Up-front costs are comprised of both software licenses (in the case of on-premise software) and implementation costs (in the case of all deployment methods). In a SaaS deployment model these software license costs are

### SaaS ERP Solution Providers

- ✓ Activant: ERP for distribution available as both SaaS and on-premise
- ✓ Epicor 9: broad solution across many verticals, available as both SaaS and on-premise
- ✓ Everest Software: available as both SaaS and on-premise
- ✓ Glovia On Demand (previously known as GSInnovate): Glovia's solutions are also available as both SaaS and on-premise
- ✓ Infor Syteline: available as both SaaS and on-premise
- ✓ NetSuite: available only in a SaaS environment; targets non-manufacturing and light manufacturing companies
- ✓ Plex Systems: available only in a SaaS environment; extends beyond traditional ERP, targeting manufacturers
- ✓ QAD: available as SaaS, on-premise and preconfigured on a hardware appliance and managed remotely
- ✓ SAP (Business ByDesign): available exclusively as SaaS but not yet generally available

typically avoided altogether. Implementation costs are more variable and will differ both by solution and solution provider as well as functional fit and specific implementation requirements. However, because SaaS deployments are less likely to include customization of the software, often those costs are avoided altogether.

**Table 3: The Appeal of SaaS Varies by Company Size**

Reason	Small	Mid-Size	Large
Lower Total Cost of Ownership (TCO)	80%	73%	91%
Lower up-front costs	47%	44%	55%
Not emotionally attached to having it in-house	30%	41%	55%
Reduces the cost and efforts of upgrades	67%	56%	45%
Seeking best fit solution – will consider any delivery model	43%	56%	45%
Strategy choice to focus internal resources elsewhere	23%	32%	45%
Perceived as lower risk	33%	39%	27%
We have limited IT resources and no interest in building IT staff	53%	46%	18%

Source: Aberdeen Group, June 2009

Different SaaS ERP solution providers will treat customizations differently, therefore impacting the ability to lower up-front costs and control ongoing costs. All vendors support a certain level of tailoring to individual needs that adds little expense either up-front or on an ongoing basis. Generally this "tailoring" involves configuring the installation and requires no programming level changes.

One factor influencing the solution provider's willingness and ability to deliver customization (beyond configuring the implementation) will depend on whether the solution is multi-tenant or multi-instance (see sidebar definition). A multi-instance solution provides more opportunity for customization but some vendors who deliver multi-tenant solutions will provide customizations and deliver them as product innovations that can be selectively implemented. This is more a question of target market and policy defined by the solution provider.

Often both SaaS vendors and industry observers will point to the ability to deliver a true multi-tenant solution as a form of value delivered to the SaaS customer. In reality, whether the vendor delivers multi-tenant or multi-instance matters far more to the vendor than to the end user. It is the vendor that benefits most directly from being able to offer a multi-tenant solution because this allows them to scale delivery with less cost of sale and service. Obviously delivering bug fixes and product innovation to a single instance of software supporting many different customers places far less burden on the vendor. For this reason and / or because of the need or

**Flavors of SaaS**

**Multi-tenant SaaS:** Multiple companies use the same instance of hosted software; configuration settings, company and role-based access personalize business processes and protect data security.

**Multi-instance SaaS:** Each company is given its own instance of the (hosted) software, but may share common services, such as an integration platform, security and permissibility models, or optimization engines.

desire for more customization, the end user may in fact prefer a multi-instance solution. Multi-tenant solution **may** also offer less flexibility to the users of the SaaS application. This may also **not** be the case if the SaaS vendor is willing to bear the burden of added complexity in productizing customizations and making them entirely optional to other customers.

The willingness of the SaaS ERP solution provider to take on this added responsibility in order to deliver added value to its customers is in part dependent on the maturity of the SaaS ERP offering itself. ERP solution providers that are new to the SaaS delivery model may still be striving to drive down their own costs while making what is often a difficult business transition away from collecting substantial software license fees up front. Without that initial infusion of cash from a new sale, revenues may appear to take a hit when SaaS deployments are first offered.

Contrast this with companies that have offered SaaS deployments for four or more years and offer SaaS as their only delivery model. Plex Systems is an example of such a company and this level of maturity is reflected in the company's willingness to bear what might otherwise be viewed as the "burden" of customization by delivering customizations as strategic improvements to the product. One key differentiator that has allowed Plex to be more successful at this than others is the frequency of updates. Plex is able to add improvements at any time and deliver them in such a way that makes them transparent to those end users that will not directly benefit from the enhancement.

Indeed one of the most appealing facets of a SaaS deployment in the eyes of the small company is the reduced effort and expense of upgrades. These efforts involve both the departments that use ERP as well as the IT department. For small to mid-size companies, this is a key concern, particularly those that find it difficult to attract, afford, and keep IT talent, therefore making the SaaS model more attractive.

Interestingly enough, we find less emotional attachment to ERP run on-premise in large companies than small. Fifty-five percent (55%) of these multibillion dollar enterprises state they are not emotionally attached to supporting an on-premise environment. This comes as a bit of a surprise given the level of effort many large companies invest in their solutions. But hosted environments have long been an option for these companies and perhaps pave the way for alternatives. In addition 45% of large companies cite SaaS as an option to more strategically focus resources.

## **Understanding the Resistance to SaaS ERP**

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These emotional issues are also a factor in preventing companies from considering SaaS ERP. In fact the feeling that ERP is too basic and strategic to the business rose from the number-three concern in 2008 to the top concern in 2009 (Table 4). While not the top concern this year, apprehension over security remains a strong deterrent. As Aberdeen cautioned a year ago, those worried about security should take a close look at their own on-premise operations. Are they are secure as you think they

are? Can you provide the same level of high availability and data and access security as those who make their living from assuring that they do?

**Table 4: What Prevents You from Considering SaaS ERP?**

Reason	2009	2008
ERP is too basic and strategic to running our business	55%	42%
Security concerns	51%	51%
We want to control our own upgrade process	47%	46%
Downtime risk – concern over predictable performance	40%	36%
We believe on-premise solutions offer greater functionality	33%	30%
We require heavy customization	33%	25%
We have already invested in IT resources and don't want to reduce staff	26%	22%

Source: Aberdeen Group, June 2009

It is also interesting to note that often what appeals to one company is closely aligned to what prevents another company from considering a SaaS deployment. While 57% of those who would consider SaaS cited the reduced cost and effort of upgrades as a top reason to consider SaaS, 47% of those who would not indicated the reluctance to give up control over the upgrade process.

As noted above, SaaS deployments often lower both upfront costs and the Total Cost of Ownership by restricting customizations. While we saw that this is not necessarily always the case, this restriction was also cited as a deterrent by 33% of those unwilling to consider SaaS.

While almost half of all small to mid-size companies willing to consider SaaS find it appealing because they have limited IT staff and no interest in building one, 26% of those that will not consider SaaS have already invested in IT and are reluctant to eliminate those positions. Yet Aberdeen would caution those that have made these investments to also consider another dimension of IT investment, that of disaster recovery readiness. Indeed this is an often overlooked component of TCO and can impact directly both the basic strategic nature of ERP as well as security concerns. Even top notch Information Technology departments with internal service level commitments are not able to provide the same level of redundancy and quick recovery that a dedicated SaaS service provider can offer.

And finally – what about functionality? Are SaaS ERP offerings as robust as those offered only through traditional deployment models? The answer is, “Yes and no.” Some SaaS ERP solution providers, in targeting very small companies, have purposely limited the solutions offered in order to reduce the complexity that is normally associated with a flexible and complete ERP solution. These limitations may simply be offered as preconfigured solutions that mask the underlying complexity or they may involve removing functionality from the product supported in a SaaS model. In this case, as companies grow and require additional functionality (including

“We needed to build an infrastructure rapidly and we didn't have the time or expertise to build it ourselves. We lacked any fear of going 'in the cloud.' In fact we felt **more** comfortable with a well established technology company managing it all.”

~ CEO, small consumer products company

customization) it may be necessary to upgrade the solution and/or to migrate to an on premise deployment. But this is not the case for all SaaS ERP solutions.

## Case in Point

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Take the case of Bytec, Inc., a world class designer and manufacturer of O.E.M. automotive components, including electro-mechanical clutch assemblies, electronic products (switches, actuators, solenoids, etc.), and driveline components. Established in 1985, Bytec is a privately held company located in Clinton, Michigan and is a subsidiary of GR Investment Group Ltd.

Bytec supplies major Tier One automotive companies that demand not only proof of production capability but also proof of strong quality, including full traceability, before awarding work. In the fall of 2004 Bytec realized that without a complete ERP solution, it could not provide the necessary process and inventory controls to succeed where other suppliers had failed in terms of quality and traceability.

Bytec implemented Plex Online to manage part serialization, bar coding, component tracking, quality management, Statistical Process Control (SPC) of measurement data and full part traceability. For each piece in the field, the company now has visibility to the production date / time, the machines and operators that made it, the in-process measurement data, the supplier and serial numbers of the components that went into it, the steel chemistry of the raw material and much more. All data is accessible in real time.

This is a prime example of a SaaS solution which goes well beyond the basics. With Plex Online, operators on the shop floor use a Control Panel touch screen which provides plant floor operators with everything they need to do their jobs. The Control Panel can also be integrated to the plant floor's Programmable Logic Controllers (PLCs) and other equipment to control incoming source material and outgoing production, validate tooling, and fool-proof the process.

“The Plex Online system prevents us from working on a part unless everything is setup properly, the correct raw material components are present, and all our inspections are done. I know it sounds simple, but it's a big reason why we are not making the mistakes of our competitors.”

~ Quality Manager, Bytec, Inc.

## Key Takeaways

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It is important to note that SaaS or "on-demand" is simply a deployment option and should not be considered as a new category of software, although certain underlying technology capabilities are required before the solution can be offered with this option. Browser based user access is a must; high availability, strong access and data security are all prerequisites. Multi-tenancy is not required, but will significantly impact the vendor's ability to run a profitable SaaS business and therefore will have an impact on both price and vendor viability.

Those that find SaaS appealing cite lower costs as the primary driver. Lower Total Cost of Ownership is most often behind this sentiment but prospective ERP buyers should not lose sight of the lower up-front costs as well as the option of treating those costs as operating expenses with no need for a capital expense.

For those that feel ERP is too strategic to their business or are reluctant to relinquish the control over upgrades, consider all your ERP SaaS options. Many more configuration options are available today than ever before and not all SaaS ERP solution providers treat upgrades and customization in the same way. Explore all your options carefully before deciding between SaaS and more traditional models, and if you view SaaS as a viable option, compare all aspects of the solution and the solution provider. Fit and function are extremely important, but so are many other factors such as continued vendor viability, references, ease and speed of implementation, and ease of use. And of course cost also weighs heavily in the decision.

For those still concerned about security, exercise caution and perform due diligence, but remember that the vendors' continued success and very existence is at stake. Those that offer viable SaaS options are experts in security, and are potentially better equipped to protect your data than you would be in an on-premise environment.

Among those where SaaS may be the most viable option are:

- Companies that need to be up and running quickly in a secure environment. Perhaps in a startup situation or where combination acquisition / divestiture has taken place. Companies often need to be off ERP systems previously providing by the divesting company or pay enormous costs.
- Companies operating in remote areas where IT resources are scarce
- Companies in low-tech industries where it is hard to recruit and retain IT talent
- Legacy applications are limiting growth and IT staffs have outdated skills

For more information on this or other research topics, please visit [www.aberdeen.com](http://www.aberdeen.com).

### Related Research

[\*Are the Barriers to SaaS ERP Breaking Down?\*](#); June 2008

[\*ERP in the Mid Market 2009: Managing the Complexities of a Distributed Environment\*](#); August 2009

**Author: Cindy Jutras, Vice President Research Development & Research Fellow**  
([cindy.jutras@aberdeen.com](mailto:cindy.jutras@aberdeen.com))

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