



## The Customizable Cloud

*How the Cloud Provides the More Flexible  
Alternative to Legacy ERP Platforms*

## Executive Summary

For years, Enterprise Resource Planning (ERP) applications have been instrumental in integrating business activities across functional departments and improving the performance of internal business processes. Most organizations typically customize ERP applications to fill gaps in business requirements, address specific business processes and achieve competitive differentiation.

While customizing an ERP application is less expensive than building one from scratch, development and deployment does consume significant time, IT resources and budget. Moreover, customizations can break during an upgrade to a new version of on-premise ERP application, forcing companies to painfully redeploy custom code on the newer version. Other organizations postpone ERP upgrades indefinitely, becoming stuck in a vicious cycle of “version-lock.”

Cloud computing changes the customization equation. With cloud-based ERP, companies can develop new functionality in a matter of weeks instead of months or years, and carry over all customizations seamlessly to the latest release of the application.

This white paper discusses why the ability to easily customize ERP is important, the problems with customizing on-premise legacy ERP applications and how the cloud makes customizing ERP easier, more timely and less costly.

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Companies need to rapidly respond to an ever-increasing amount of geography- and industry-specific change in the global economy. It's vital that organizations have flexible ERP systems so they can plan for these market shifts—like facing a new set of competitors as a result of industry consolidation or complying with increased government regulation—and move quickly to address them.

—*The State of ERP in 2011: Customers Have More Options in Spite of Market Consolidation*, Forrester Research, May 2011

## Why ERP Customization Is Important

Off-the-shelf ERP software comes with a standard set of capabilities built around business processes for each functional department. When the ERP solution's built-in processes differ significantly from those of the company, the customer can take two routes—either build organizational processes into the ERP software through customization, or change organizational processes to suit the native functionality of the ERP software.

It is quite difficult to implement the latter option in larger companies, as it would cause too much disruption in their day-to-day business activities. In fact, a 2010 survey conducted by Panorama Consulting found that only 15% of companies chose “plain vanilla” ERP software (down from 28% in 2009). The remaining 85% chose to customize some areas of their ERP software.<sup>1</sup>

The recent spate of mergers and acquisitions has also increased the need for flexible ERP customization as newly combined companies find themselves with various sets of heterogeneous ERP solutions that need to talk to one another, both at the headquarters level and across multinational subsidiaries.

## Problems with Customizing Legacy ERP Applications

On-premise customizations come with the burden of “version-lock.” Version-lock occurs when a particular version of an ERP application has been customized so much that it is no longer practical to install a newer version of the application because there is too much risk that those customizations will break in the process of upgrading. Because on-premise ERP customizations are critical to the business yet do not automatically migrate to the upgraded version, it dramatically increases the cost and complexity of upgrades. The only way to migrate these customizations is to recode them from scratch, which takes too much time, money, and resources, and can often be fragile.

As a result, companies are simply locked into an older version of their software and are unable to fully deploy a newer version across their enterprise. It's for this reason that, according to a 2010 Aberdeen Research report, two-thirds of completed ERP deployments are not running the latest release.<sup>2</sup>

As a further consequence of version-lock, enterprises waste enormous sums of money on maintenance. Maintenance costs take on many forms, namely:

- Regularly spending IT resources customizing their various ERP systems further to keep up with adapting business needs
- Maintaining two different versions of ERP applications
- Ensuring that any data with dependencies on the older, customized version is able to talk to the newer version
- Architecting connectors between different versions to ensure that workflows for critical business processes operate smoothly.

Furthermore, because of the high degree of risk, cost and complexity involved in implementing a traditional ERP system across their entire business, most large companies choose to implement their ERP system in divisional or departmental phases. These siloed departments and divisions then implement further customizations on top of their ERP modules, limiting the potential value of their entire ERP systems and causing data integration issues across the company.

Simply put, the current state of on-premise ERP technologies cannot keep pace with the requirements of today's modern enterprise.

<sup>1</sup> Panorama Consulting, 2011 ERP Report: A Panorama Consulting Group Research Report, February 2011.

## Why Cloud ERP Customization Makes Sense

Customizing ERP applications need not be a cumbersome task. Cloud ERP enables rapid customization through a variety of methods ranging from graphical customization to workflow re-engineering and has the potential to free businesses from the burden of version-lock and costly ongoing maintenance projects. Provided these cloud applications are architected from the ground up to be customized and have a mature platform that future-proofs any customizations, the customization potential of ERP can indeed be realized.

With cloud computing, all processes rely on a single code base and utilize a managed version upgrade process. Customizing ERP applications in the cloud is a lot faster and easier than on-premise because the code base is standards-based instead of proprietary. This allows companies to code their customizations into individual components and have these components interact with other customizations through standards-based web development frameworks such as JavaScript.

These web development frameworks automatically take care of integration procedures up and down the entire technology stack—from the application layer to the database and operating system layers—so that developers don't have to. In addition, customization of cloud ERP applications is typically abstracted from standard objects. As a result, whenever a cloud application is upgraded to a newer version, customized components are carried over to the new version seamlessly without the need for any painful code retrofitting. This ensures that costly resources are not spent manually migrating customizations to the newer version and allows the organization to take advantage of new innovations delivered with the upgrade.

It is also important to recognize that you cannot achieve the customization benefits of cloud computing by simply hosting on-premise applications. A hosted application is simply on-premise software that has been outsourced to an ASP (Application Service Provider). As a result, hosted applications suffer from the same limitations as on-premise systems, including version-lock, with the added disadvantage that the maintenance and upgrades are scheduled only when the hosting provider or VAR chooses to make them available. Hosting on-premise applications makes customizing and upgrading even more difficult, costly and risky.

## Evaluating the Customization Capabilities of a Cloud ERP Platform

With cloud computing quickly gaining traction, it is important to select only those cloud ERP vendors that have the maturity, breadth of functionality and robustness of infrastructure to support your operations.

### Maturity

Entrusting a cloud vendor with your mission-critical data and business processes calls for thorough due diligence. The cloud vendor's overall market viability and experience must be considered in this evaluation. Customers must endeavor to ask these key questions:

- How long has the vendor been in business?
- How long has the vendor been providing customers with a true cloud solution?
- How many active organizations are running on the cloud solution?
- What is the vendor's market share and market share growth?
- How financially stable is the vendor? Is the vendor public or private?
- How much cash on hand does the vendor have? Are they profitable?

NetSuite, for instance, has been in business since 1998, is profitable and is the world's leading cloud ERP provider with over 10,000 organizations depending upon it. NetSuite's customization layer, the SuiteCloud platform, has been used by more than 2,000 developers to build over 140 applications.

<sup>2</sup>Aberdeen Research, *ERP in SME: Fueling Growth & Profits*, August 2010.

“NetSuite's core customization and configuration capabilities enabled us to easily build out custom forms and records and tightly map it to our business processes—all without writing a single line of code.”

—Krishnan Borthwick  
CIO, Tree of Life

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NetSuite's platform plans reflect what is becoming a natural progression for SaaS vendors, because the ability to offer strong application extensibility and a wide variety of complementary products gives them the potential to capture a larger percentage of customers' IT spending.

—SWOT, *NetSuite Wholesale Distribution Industry*, Gartner, June 2011

“NetSuite and the SuiteCloud platform cut our time to market by 50%.”

—Pat Garrehy  
 Founder, President and CEO,  
 Rootstock

### Breadth of Functionality

To achieve the required level of customization companies need, transactional data and business process logic must be intertwined using standardized, platform-independent APIs. A customizable cloud ERP platform must have a breadth of components ranging from workflow to scripting to web services. For instance, NetSuite's SuiteCloud platform consists of the following components:

- **Graphical Customization Components:** Graphical customization embodies click-not-code functionality for business process logic and user interface elements. This functionality allows customers to rapidly create customizations by simply selecting the various logic elements needed to create custom objects, instead of coding these elements from scratch. As a result, customers have the ability to more easily and quickly create a wide variety of application extensions, specify data relationships between custom objects and use these custom objects to suit their unique business processes.
- **Workflow Engine:** Having a workflow engine for rapid business process re-engineering is central to any customizable cloud platform. Thorough business process management (BPM) is needed for activities such as lead nurturing, receivables management, cash collection and sales discounting, to name a few. The workflow engine must be able to rapidly edit the actions and rules that impact a particular process and be able to specify conditions for workflow transitions to help with front- and back-office automation.
- **Web Services:** Standards-based web services are necessary to ensure that any mission-critical, third-party or legacy system is able to exchange data with the cloud application. Beyond simple data exchange, web services must also allow for extending the functionality of these third-party systems.
- **Application Development and Scripting:** For more in-depth customization of the cloud application, it is necessary to use standards-based scripting tools. The scripting toolset needs to be able to build everything from complex workflows to entirely new applications. The application architecture also needs to be robust enough to allow standard business processes to interact seamlessly with custom-built applications and processes.
- **Application Packaging and Distribution:** To deploy customized functionality quickly, bundling tools for lifecycle management must be available. The tool must be able to assemble a diverse set of custom objects such as database objects, user interface components, scripted application development elements, reports and page layouts and quickly move them from a “sandbox” environment into production. A sandbox is a prototyping environment in which developers can test customizations before deploying them onto the cloud application.
- **Real-time Analytics:** Having a real-time view of business operations is crucial to respond rapidly to change. This is why real-time analytics that measure a variety of business indicators are a necessity. With a cloud application, the analytics capabilities must be pervasive enough to measure business information from all customizations for an in-depth view of business performance.

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We believe NetSuite’s platform is very strong and will only get better going forward, attracting even more solution partners.

—SWOT, *NetSuite Wholesale Distribution Industry*, Gartner, June 2011

**Robust Infrastructure**

In addition to breadth of functionality, a strong cloud ERP platform must also be hosted on a robust infrastructure. This infrastructure must possess enterprise-class characteristics such as:

- **Uptime Guarantees:** SLAs that guarantee a high level of uptime. For instance, NetSuite offers a Service Level Commitment of 99.5%, has achieved 99.98% uptime performance over the last 12 months, and provides customers with 24/7 access to performance at <http://status.netsuite.com>.
- **Redundancy:** An ERP application contains a company’s most mission-critical data. Such data, when moved to the cloud, must have several layers of redundancy built into it. Multiple geographically separated data centers are important for data mirroring, disaster recovery and failover purposes.
- **Scalability:** Large corporations support thousands of customers, with data growing exponentially. A cloud ERP platform must be able to scale accordingly to support spikes in usage. For instance, NetSuite supports over 10,000 organizations with billions of customer requests per month.
- **Security Certifications:** The security of customer data is paramount. Certifications such as PCI-DSS, SAS 70 Type II, and compliance with EU-US Safe Harbor regulations are important indicators of a cloud ERP vendor’s commitment to security.

Ensuring you select a cloud application providing the above characteristics and components can help your enterprise gain agility and flexibility, streamline key business processes, gain better visibility across their global organization, create valuable new revenue streams, and cut ERP maintenance costs.

**Conclusion**

Conglomerates, multi-national companies and large corporations have been slowed down by legacy on-premise ERP systems that have been time and cost-prohibitive to update and customize to changing business needs. Past customizations made to these legacy applications using proprietary tools had a counterintuitive impact—they version-locked companies, prevented them from upgrading to the latest ERP release and limiting the ability for these businesses to adapt their ERP systems to their requirements in a timely fashion.

Cloud ERP has led to a paradigm shift in the way enterprises are managing, upgrading and customizing their ERP systems—with companies turning to mature, standards-based cloud ERP platforms to help manage their multi-company, multinational organizations with greater agility and at lower costs.

“ We have been able to customize NetSuite to meet most of our needs, faster and at a lower price than we would have with any other system.”

—John Tannone  
Director of Business Systems, ESET