

SUITECLOUD[®] PLATFORM OVERVIEW

Customize – Extend – Develop



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Customize – Extend – Develop

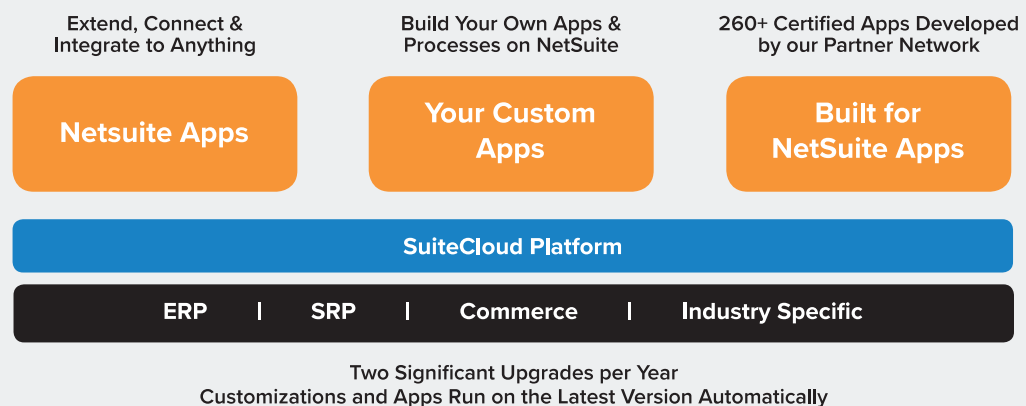
Executive Overview

NetSuite Inc. (NYSE: N) is the industry's #1 cloud ERP provider, offering global financials, Customer Relationship Management (CRM), production management, supply chain management, Professional Services Automation (PSA) and omnichannel commerce on top of a unified data platform delivering 360-degree real-time Business Intelligence to every part of the organization. NetSuite supports industry specific solutions for small, mid-sized and enterprise level companies in product- and service-based industries

including retail, manufacturing, distribution, services, software, nonprofit, advertising, and media and publishing.

One of the most powerful yet understated capabilities of NetSuite is the built-in SuiteCloud® platform that allows customers, system integrators, solution providers, developers, analysts and independent software vendors to customize, extend, integrate and develop innovative solutions that allow our customers and partners to dominate their competition.

Figure 1: High Level Abstract of SuiteCloud and its App Categories



Audience and Purpose

The intended audience of this white paper is Analysts, CIOs and IT leadership in NetSuite prospects, customers and partners who wish to learn about the flexibility and power of the SuiteCloud platform, and why it is so popular with the related ecosystem.

The purpose of this white paper is to provide an overview of the SuiteCloud platform, why it was created, how it fits in the market and the comprehensive development tools available to the NetSuite ecosystem.

Scope Considerations

This white paper discusses the high level characteristics of SuiteCloud, its role, performance and features—it is not a deep dive technical manual or intended to replace the developer documentation. This is a guide intended to give the reader a basic

understanding of platform technologies, how they are key to delivery in the new IT environment and specifically a discussion about the power and features of SuiteCloud—NetSuite’s customization, extension, development and integration platform.

For some, this document will be the start of a *SuiteCloud journey* which will quickly lead them to creating next generation apps to reach customers and suppliers—for others it will be about managing and injecting their unique innovation and intellectual property, or integrating all their point solutions across subsidiaries—and for yet others it will be about building entirely new cloud businesses using the power of our platform to reach into NetSuite’s customer base.

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WHY SUITECLOUD

“...Organizations will struggle to master multi-vendor, multi-delivery, and multi-enterprise customizations and integrations in the postmodern ERP environment.” — Gartner, 2015 Strategic Roadmap for Postmodern ERP

Era of Incredible Change Driving the IT Agenda

Today’s businesses are increasingly reliant on ecosystems of productivity. Quick, responsive, pivoting, global new business models were *not the norm in yesterday’s ERP*. In this period of accelerating change, IT organizations and CIOs are suddenly entrepreneurs in an environment driven by consumerization of IT and expectations by business units for incredible flexibility and performance. Successful IT leaders are disrupting instead of being disrupted—by bringing the system of innovation together with the system of record; a reality made possible by the SuiteCloud platform.

There is a dark side emerging within these IT projects with alarming rates of failure as CIOs attempt to weave together a patchwork of disparate (cloud) systems to deliver under these incredible pressures. Unmanaged integrations, fake cloud offerings, lack of

auditability and scalability problems abound as other tech vendors work to sell cloud point solutions into business units and the IT organization.

With SuiteCloud you get the best of both worlds—*centralization in a suite* for core business function, data and analytics to avoid unnecessary hairballs plus the most flexible system for customization, extension, integration and development in cloud ERP—making “smart integrations” easy and putting the business processes that give you competitive advantage right in your system of record.

Built for NetSuite

Built for NetSuite (BfN) is a program for NetSuite SuiteCloud Developer Network (SDN) partners that provides them with information, resources and a method to verify that their applications and integrations, built using the NetSuite SuiteCloud Platform, meet NetSuite's standards and best practices. The Built for NetSuite program is designed to give NetSuite customers additional confidence that SuiteApps have been built to meet these standards.



Born in the Enterprise

NetSuite was conceived in the cloud with the enterprise rigor and security required to deliver what customers expect in core ERP processes. This fact makes the SuiteCloud platform fundamentally different than any other Platform-as-a-Service (PaaS) offerings.

Unlike the others who are now trying to *adopt* the enterprise—SuiteCloud was born in it.

Consider the implications of security, audit trail, access control, compliance, quality, certification, app upgrades, managed packages and version controls. These are all terms and problems that make multivendor, multi-subsidiary integrations (whether on-premise or in the cloud) so difficult.

SuiteCloud's scalable, enterprise hardened infrastructure, patented seamless version upgrade process, enterprise quality development tools, security, authentication and Service Level Agreement, coupled with the Built for NetSuite (BfN) SuiteApp ecosystem quality program means that you get the flexibility and power of the cloud without the aggravation of trying to make it all work together—it just does. You can customize, develop, integrate to what you have, or buy proven, certified partner solutions to round out your competitive advantage—all on a single version with all customizations and apps carrying forward.

Where Does SuiteCloud Fit?

Unlike legacy on-premise solutions, SuiteCloud combines all of the benefits of true multi-tenant Infrastructure-as-a-Service (IaaS), the robust developer tooling of the leading Platform-as-a-Service (PaaS), and all of the core financial Software-as-a-Service (SaaS) product features from the NetSuite service. The best way to think of it is a bridge from IaaS to SaaS that allows users ranging from customers to ISVs to create instant value in a business ecosystem of NetSuite users.

While it could be *academically* argued that SuiteCloud is not really a pure PaaS offering, citing to expectations of “building anything” unrelated to other products—the logic

quickly breaks down when you look at it practically:

- Technically this type of solution is in fact possible as all of the components to support it are included—SuiteCloud can “check the boxes” and build a standalone cloud application if the author wants to.
- It is very rare to find these standalone apps on SuiteCloud because the value is not created in yet another point solution. True value is created in how applications can work together, often in context of the system of record. With SuiteCloud these apps become a natural extension of your core transactional system with full context and knowledge of your business and customer data.

Figure 2: PaaS & SuiteCloud Explained

	On-Premise Solutions	IaaS Infrastructure-as-a-Service	PaaS Platform-as-a-Service	SuiteCloud® PaaS PLUS Next Generation Cloud ERP	SaaS Software-as-a-Service
FEATURES	• Do-It-Yourself	• Virtual Machines • Managed Storage • Managed Network • Resource Provisioning	• O/S Stack Control • Middleware • Basic Runtime Stack • Increased Elasticity • Developer Controlled Coding Environments • Database resources • Tools for Testing and Deployment	• Multitenant architecture with unified metadata • Fully managed persistence layer with SQL & NOSQL technology • Complete toolset to integrate, customize, develop, test, optimize & deploy your vision • Integrated mobile and social tools • Public and purpose-built private APIs • SuiteApp ecosystem and marketplace • Secure, certified and audited infrastructure	• Packaged apps • Cloud-based multi-tenant • Leverages cloud database from underlying platform
BENEFITS	• Ownership of hardware and software • Granular control over infrastructure and network	• Capital expenditure avoidance • Utility/proportional pricing • Shared physical and network layer security	• Rapid Apps • High Developer Productivity • Outsourced Operations • Ecosystem of add-ons • Trusted by Enterprise	• Instant apps by business people through to complete vertical solutions. • Fast visual tools and industry standard IDE • Zero version lock & automatic updates • Happy developers with access to innovate with 360 degree customer, ERP & business data	• Benefits depend on underlying technologies. NetSuite ERP is fully customizable and extendable using SuiteCloud technologies
SUMMARY	• With on-premise solutions the IT department must build everything from scratch. It is costly, time consuming and often misses the mark.	• IaaS provides raw data center capacity, delivering benefits by outsourcing server management. IaaS covers a fraction of the burden carried by IT everyday.	• PaaS starts where IaaS leaves off, adding Operations Systems, Middleware, and Runtime environments	• Coupling SuiteCloud with NetSuite allows users, analysts, developers, system integrators and independent software vendors to benefit. It's proven cloud infrastructure and tools for every user type enable rapid customization and app development to create value in the enterprise or across the ecosystem.	• SaaS is often categorized by pricing, licensing and delivery. NetSuite is fully multi-tenant and is licensed by subscription and is the #1 Cloud ERP.

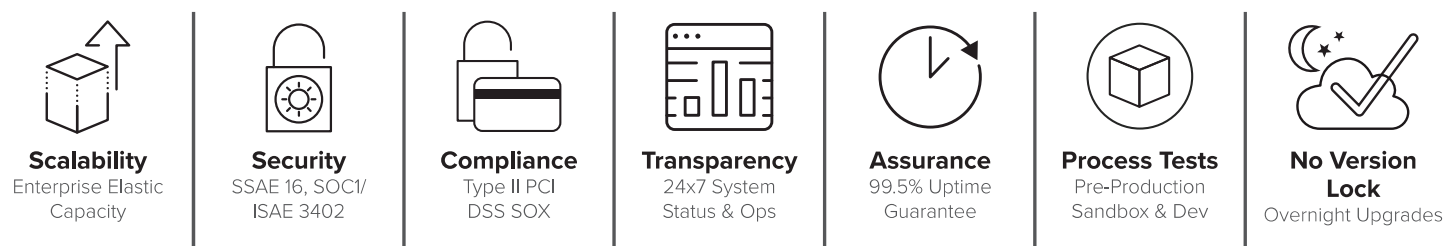
WHAT YOU BUILD ON

Infrastructure

NetSuite and, by association the SuiteCloud platform runs on scalable, true multi-tenant architecture giving you freedom from the legacy processes of buying and setting up hardware, installing software, building out security models, setting up reporting engines and integrations and defining user access and authentication systems *even before you write a single line of application code*. With SuiteCloud you get all of those IT processes and fully redundant hardware including third party security and operations audits (Such as SSAE 16, SOC1 and ISAE 3402—detailed below), housed in multiple failover data centers—all in a proven, turnkey, guaranteed available service that grows and scales with you as your business and compute needs change.

All of this reliability, scalability and performance is delivered on a modern small iron grid layout featuring relational persistence for intelligent data and NoSQL for less structured data. You can rest easy knowing that our systems and engineers are constantly monitoring all systems 24x7x365 and when something does break, the redundant failovers and hot backup recovery system and processes kick in for a quick recovery, which generally has zero impact on your operations. In the case of a natural disaster at the data center—we fail over to one of five data centers on two separate continents.

Figure 3: Infrastructure Features of SuiteCloud



In 2015, this combination of technology, people and processes delivered an operating uptime of 99.99%.

Data Center Performance Audits:

SSAE 16 Type II, ISAE 3402 Type II, US-EU Safe Harbor framework and PCI compliance. Risk management process has been modelled after the National Institute of Standards and Technology's (NIST) special publication 800-30 and the ISO 27000 series of standards.

Security Certifications: NetSuite/

SuiteCloud has passed a SSAE 16 Type II and ISAE 3402 Type II audits, is certified for PCI-DSS, and is EU-US Safe Harbor certified. NetSuite has defined its Information Security Management System in accordance with NIST standards, including 800-53 and ISO27000 series standards.

These performance, compliance and audit levels are very expensive for individual companies to gain and maintain. They

represent both comfort for the boards and CIOs of our customers as well as a huge benefit for partners who use SuiteCloud to develop their own solutions to go after vertical markets with buyers who are looking for assurance, compliance and reliability.

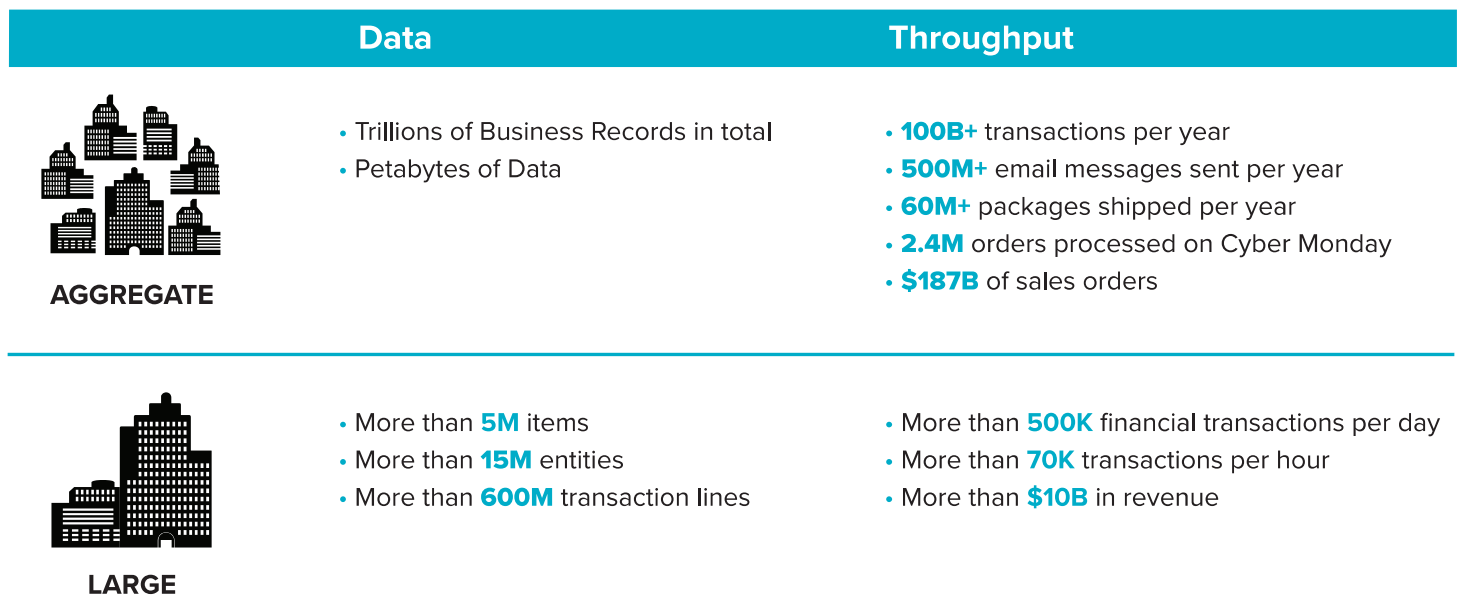
Scalability

SuiteCloud is highly performant too as we constantly tune our multi-level caching, operate entirely on solid state disk drives and use in-memory compute technology for rapid processing and analysis of data. We offer segmented tiers of service that can be tailored and even upgraded to serve customer capacity. In aggregate our customers add 9 TB of data to the system every single day.

Figure 4: SuiteCloud Third Party Audits and Certification Detail



Figure 5: SuiteCloud at Scale



Today with live individual customers, we manage hundreds of millions of transaction lines and are well on our way to a billion. NetSuite's infrastructure and platform is architected for these high volume businesses—our service evolution and tiers of service are outpacing the growth of our customers as they cope with changing business models and growth that is often measured in orders of magnitude.

Some metrics from our large SuiteCloud customers:

- By transaction volume our largest customer currently performs *500,000 transactions daily*.
 - Hospitality industry, subsidiary of a Fortune 50 that operates in more than 50 countries on NetSuite.

- By revenue, our largest customer is a \$12-billion-dollar concern.
 - Multi-Industry conglomerate with products and services in Auto and Insurance.
- By geographical footprint our largest customer has 350 subsidiaries in 107 countries—*all in a single instance*.

We are always working on the future of SuiteCloud—our operations R&D team operates a scale lab to plan optimization, service tiers and growth. Currently we are peaking at nearly 500,000 transactions per hour in this simulator environment where we plan hardware, caching and other future advancements.

Unified Data and Embedded Analytics

Something incredibly powerful happens when you unify your business processes within SuiteCloud, have access as a developer to all of the usage and operational data from the business units and make it available to your SuiteApp and leverage the embedded real-time SuiteAnalytics engine, APIs, report builders, saved searches and dashboards that are part of the SuiteCloud platform.

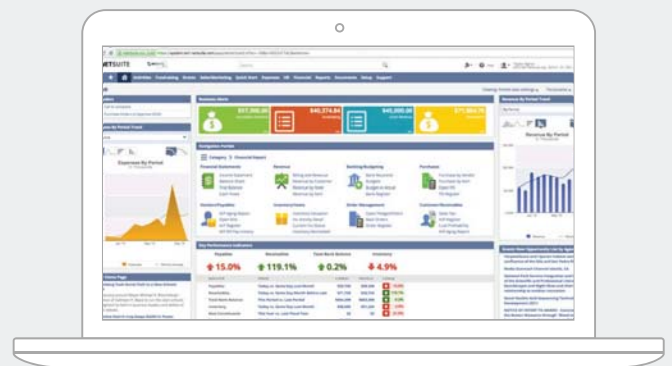
You can combine the 360-degree views of customers and business processes including marketing, customer service, order and commerce data through manufacturing billing and employee time, analyze it, combine it with other facets that are specific to you, and make actionable intelligence objects (like KPIs, reminders and dashboards) available within your app *controlled by SuiteCloud's built-in roles and security.*

The power of SuiteCloud for customers, partners and even ISVs is that the platform is already in context of the rest of the business—enabling development of applications that are real-time and informed decision support systems or vertical processes that touch the rest of the company. There is no waiting for batch uploads, no secondary logins to other systems, just easy delivery of business value by accessing the single source of truth.

Role-Based Authentication, Security and System Logs

Along with things like the built-in localization framework, cross browser functionality, digital asset storage and global search capabilities, the authentication system is extremely popular with the SuiteCloud developer community. SuiteApps can follow the user roles and permissions that exist within an account or inject new ones specifically for users of the application. All activities and changes within the account are logged and available for administrator review including updates which are made by the SuiteApps that are within the account leaving a comprehensive audit trail. Application authentication is token-based while end user authentication supports modern two factor authentication with mobile devices or authentication FOBs.

Figure 6: Over 300 SuiteAnalytics components included with SuiteCloud



WHAT YOU BUILD WITH

Development and Deployment Tools

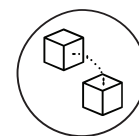
We will review the implications of these tools to the roles that consume them in a moment but first let's review them each and the purpose they serve.

Figure 7: SuiteCloud Development and Deployment Technologies



SuiteConnect

SuiteConnect (also known as SuiteAnalytics Connect) is what we call our cloud data integration APIs. With SuiteConnect you can connect an outside BI tool or application using ODBC, JDBC and ADO.NET.



SuiteConnect

SuiteScript

SuiteScript is a modern, JavaScript-based development language with NetSuite specific API extensions for the development of custom backend logic and user interfaces. It encourages best practices, has an embedded IDE based on Eclipse with a clean, cohesive, modularized API. The API supports modern JavaScript functions including Promise & MapReduce, which help developers create pages which contain asynchronous methods that behave like synchronous ones and have the ability to drill down through very large datasets and perform bulk parallel processing. In addition, the search API supports upcoming multi-level joins, the UI APIs are rich and interactive and the upcoming SuiteQL for developers who prefer to write direct query language in their development projects.



SuiteScript

SuiteTalk

SuiteTalk is how you integrate dynamic applications to and from NetSuite. It has full support for token-based application authentication and supports the account specific customizations such as custom records, fields and logic. These SOAP-based web services are currently operating with Java, .Net, PHP and other clients and SuiteScript REST implementations are also supported.



SuiteTalk

SuiteAnalytics

SuiteAnalytics is the embedded analytics engine, APIs, report builder, saved search technology and dashboards that are all part of the SuiteCloud platform.



SuiteAnalytics

SuiteBuilder

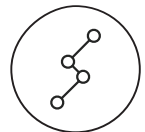
SuiteBuilder is the collection of point-and-click customization tools that are embedded directly into the NetSuite UI which allow Business Analysts, Admins and Advanced users to easily create Apps on the fly. Access to these tools is controlled by the NetSuite authentication and security system.



SuiteBuilder

SuiteFlow

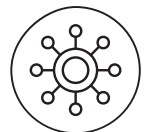
SuiteFlow is a visual workflow designer that allows for drag-and-drop processes to be created by an advanced user to embed a proprietary business process into the system or into a SuiteApp for distribution, it is a point-and-click development tool. Access to SuiteFlow is controlled by the NetSuite authentication and security system and it can be extended further using SuiteScripts.



SuiteFlow

SuiteBundler

SuiteBundler is the application deployment technology employed by SuiteCloud which allows an authorized user to select a group of customizations and development into a bundle of functionality and create a SuiteApp for implementation into another account. It has powerful tracking features that maintain the connection to the source accounts for updates and also supports locking and hiding of proprietary intellectual property. Administrators can select SuiteApps for installation within the accounts they are responsible for.



SuiteBundler

The Right Tools for the Job

It is helpful to recognize that SuiteCloud is the second most used feature in the NetSuite technology stack (second only to the general ledger), used by 100 percent of over 30,000 companies and subsidiaries. This is because it was designed for accessibility by the complete range of user types in the NetSuite ecosystem.

Instant Apps for Ordinary Business Users

SuiteCloud offers point-and-click customization and searches that can be used throughout the user's roles and dashboards. Portlets can be dragged and positioned while the display of information and KPIs specific to that user's daily activity and are displayed and acted on. These "instant apps" make the user effective and empowered by the information when and how they need it.



**Personalize
Dashboard**



**Custom
Searches**

Visual Apps for Business Analysts, Administrators and Advanced Users

SuiteCloud enables businesses to create business differentiation with clicks-not-code capability.

These users (based on authorization in their roles) can create custom records, add fields to

those records and deploy them in forms, workflows and reports without having to call a DBA or engage with developers.

SuiteCloud includes a visual business process designer called SuiteFlow that allows these users to design, implement and deploy workflows in an environment that lets them visualize every decision, touchpoint and outcome.

These customizations and instant apps over time become part of a company's secret sauce and are easily managed as part of a software development lifecycle, captured, documented and re-distributed in conjunction with mature development teams and processes.

Visual Apps for Business Analysts,
Administrators and Advanced Users



**SuiteFlow
Graphical Process
Customization**



**Custom
Forms**



**Custom
Reports**



**Custom
Fields**

SuiteBuilder



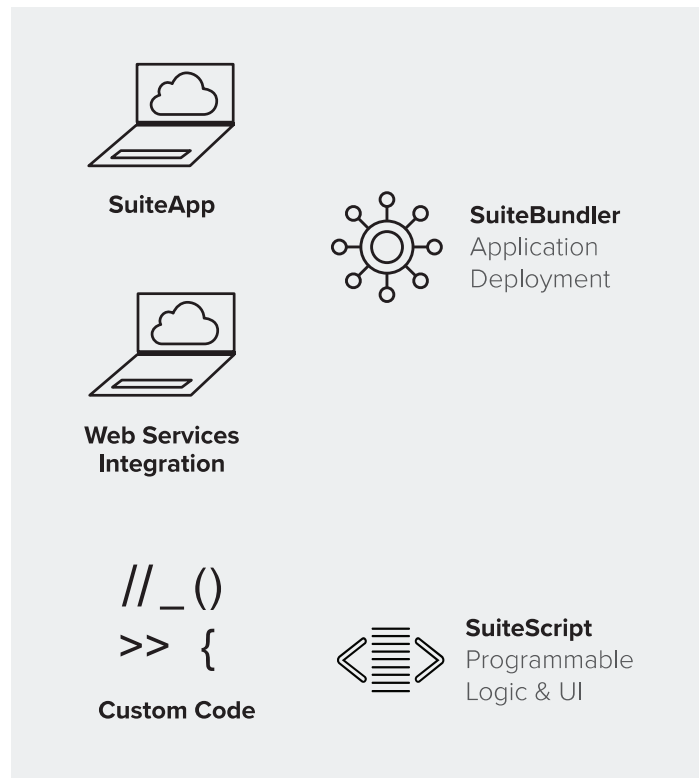
**Custom
Records**

Full Integrated Development Lifecycle Support for App Developers

Developers come in many shapes and sizes, with just as many business goals. SuiteCloud offers a powerful solution for each and every type.

Developers are able to choose the appropriate amount of rigor for their company or situation ranging from the creation of a SuiteApp in a development account or sandbox and injection into corporate production (following QA)—through to complete team development and software development lifecycle management using commonly available source code repositories, peer code review systems and full version control.

A recent innovation that delights developers, SuiteCloud Development Framework (SDF) is even further enhancing team development, version control and project management of SuiteApps. It will remove the requirement for SuiteBundler to deploy solutions into accounts within a single enterprise. Developers who are creating SuiteApps for other companies will use SDF to manage the development process together with a source code system and the SuiteCloud IDE then publish to SuiteBundler to create the commercial SuiteApp which can be installed in customer accounts.



In the developer category of user there are several important business profiles, each who play a vital part in the ecosystem. The developer community includes customers, system integrators, solution providers, and independent software vendors. Here are a few things they are saying.

Thousands of **customers** have teams who manage Customer SuiteApps that are private in nature, containing special processes and integrations that make the company unique:



“We’ve really built something that nobody’s got—nobody in the country is doing what we are doing.”

— **Josh Walters**, Marketing Director, iAutomation

In the **system integrator** category, companies like Accenture, Capgemini and others use SuiteCloud to implement services as software in practices like M&A and Divestiture and even localizations.



“We use the SuiteCloud Platform in a variety of ways, but innovation is really where the value is.”

— **Matt Haller**, Vice President, Capgemini

In the **solution provider** category, companies like Tribridge and Hein & Associates add value to a practice to serve unique market segments with people, process and SuiteApps.



“The SuiteCloud Platform was perfect for us—It’s focused on quality and one solution for the customer.”

— **Tony DiBenedetto**, Chairman and CEO, Tribridge

In the **Independent Software Vendor** category, companies like Thomson Reuters, Advectus, iCharts and Hein & Associates create unique applications which extend NetSuite functionality horizontally for all customers or vertically by using SuiteCloud to develop a new class of application like an automotive dealer management system or craft beverage management system.



“Hein & Associates has been serving the craft beverage industry for years—Barrel ERP came to be as a necessity as we have frequent requests on what we could do on the technology side. Light bulbs went off when we realized that this is something where NetSuite could go in and take over with SuiteCloud.”

— **Jeremy King**, Principal, Hein & Associates

Constant Innovation

Three key terms with SuiteCloud are, [invent](#), [iterate](#), [re-invent](#). Yes, we created secure business apps delivered online, and yes, the elastic compute infrastructure created a foundation for growth, and yes, true multi-tenancy seems to be elusive for our fake-cloud competitors—but **customer demands continue to change and grow just like the companies they run**. We keep responding with innovation.

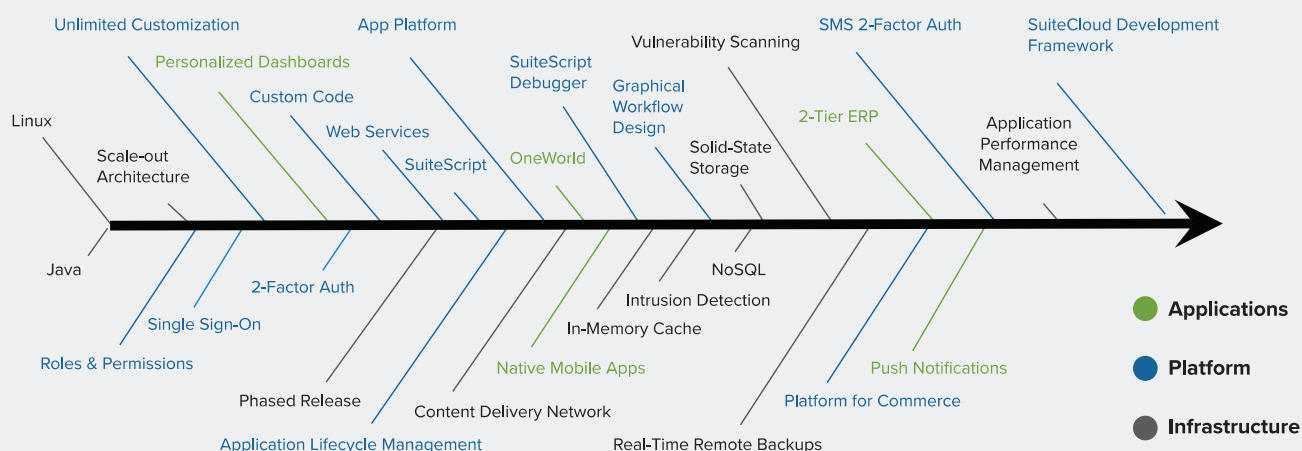
The SuiteCloud and Infrastructure teams are constantly adopting new, cutting edge technology to build more features, more performance and more developer tools into the platform. We are far ahead of competitors and will always be at the leading edge of available technology. Our business model, growth and customer scale allow us to apply technologies and security at scale that each of our partners and customers could not implement cost-effectively on their own.

*Recent examples include:

- Robust two-factor authentication.
- Application performance monitoring which allows you to find ways to optimize your SuiteApp.
- 20 percent YoY performance improvements.
- New SuiteScript APIs to handle large datasets, UI interactions, app security, searches and concurrency.
- SuiteCloud Development Framework for team development, improved version control and deployment.
- Environment advancements including better sandbox functionality and customer facing development accounts.

**Full documentation for these is found in the SAFE guide and developer help systems.*

Figure 8: Eighteen Years of SuiteCloud Technical Leadership Highlights



CONCLUSION

NetSuite's Proven Leadership

Early on, we knew that we had the right Suite Architecture which would create the last business system that our customers would ever have to buy. In 2006, we exposed the SuiteCloud platform to our customers and partners and amazing things have happened as a result.

In this paper we have outlined how we established a new category in the cloud, how we deliver operational excellence every day, how we do it at scale and how we continue to invest in cutting edge tools and technologies to make SuiteCloud your PaaS of choice.

