

Innovations with Solid Foundations: Building the Cloud² Enterprise

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Safe Harbor

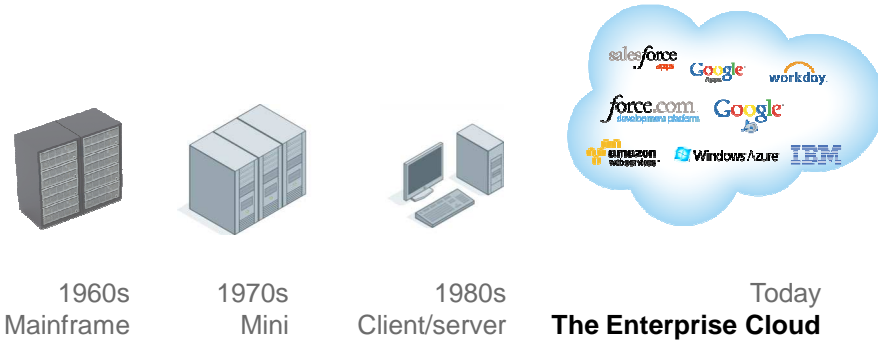
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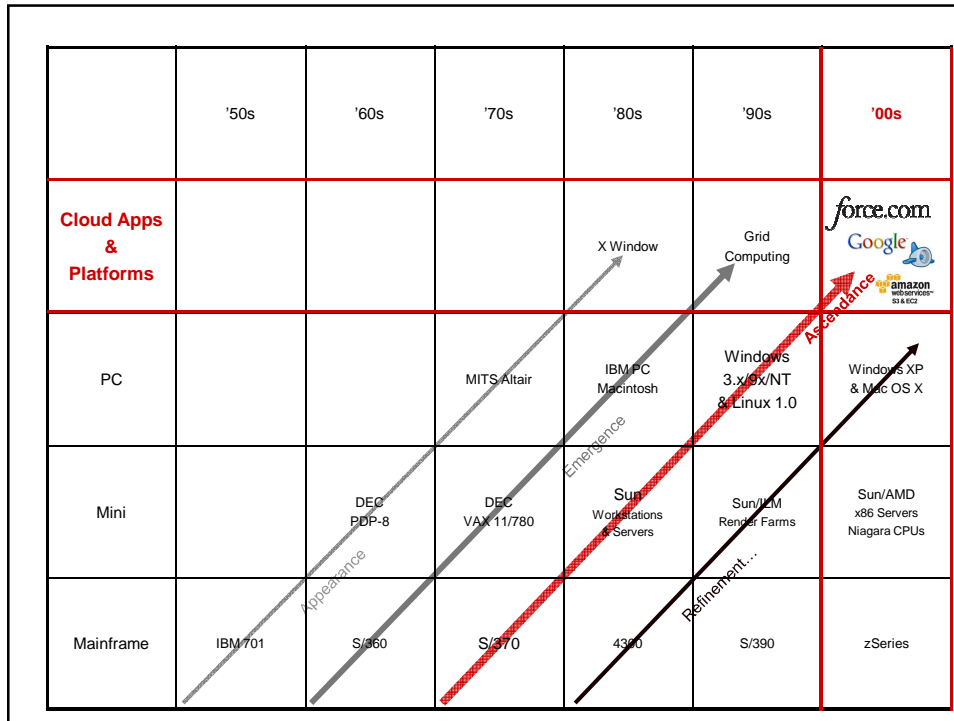
The Focus of Innovation: Change Over Time



Nothing Happens Overnight; Nothing Goes Away

	'50s	'60s	'70s	'80s	'90s	'00s
PC			MITS Altair	IBM PC Macintosh	Windows 3.x/9x/NT & Linux 1.0	Windows XP & Mac OS X
Mini		DEC PDP-8	DEC VAX 11/780	Sun Workstations & Servers	Sun/ILM Render Farms	Sun/AMD x86 Servers Niagara CPUs
Mainframe	IBM 701	S/360	S/370	4300	S/390	zSeries





What it Means to Promise “The Cloud”

Moving toward an ideal: “Zero, One, Infinity”*

- 0 On-premise infrastructure
 - Acquisition cost
 - Adoption cost
 - Support cost
- 1 Coherent and resilient environment – not a brittle “software stack”
- ∞ **Scalability** in response to changing need
 - Integratability/Interoperability** with legacy assets and other services
 - Customizability/Programmability** from data, through logic, up into the user interface without compromising robust multi-tenancy

* From *The Jargon File*: “Allow none of foo, exactly one of foo, or any number of foo”



Why True Clouds are Different



Application service providers

They flew the airplanes for you, but every plane offered its own separate opportunity to crash.

Limited economies of scale: to move 2,000 people with DC-3s required 100 pilots and the costly maintenance of 200 engines.



True Clouds

The providers fly the planes; the planes are designed, from the first stroke of the pen, to be large-scale movers of massive workloads.

Enormous efficiencies and savings: move 2,000 people with four pilots + four copilots and maintain just 16 (simpler) engines. Continual improvement and rigorous maintenance included in price of the service.



False Clouds

You buy the same kind of technology that's used by true cloud service providers, but you fly it. You maintain it. You deal with any unexpected costs or operational issues.

You'd better have an awfully good reason.



Cloud Models Offer Simpler Deployment



Servers as a Service



Infrastructure as a Service

Virtualization and the cloud



Cloud Platform for Consumer Apps

Python or Java Server

Non-Relational Database

Infrastructure as a Service

Optimized for large-scale web apps



Cloud Platform for Business Apps

UI as a Service

Logic as a Service

Integration as a Service

Full Relational Database

Infrastructure as a Service

Optimized for rapid development of business apps



U.S. Decennial Census

Agility Enabling Capability



United States™
Census
2010

"The bureau has a database of 170,000 temporary workers that had been **initially planned to be hosted in house**. However, problems with the contract forced an alternative solution.

"Salesforce.com was the **alternative solution** and the database was **rolled out in six weeks**. Compared to the months or years that the average government IT project requires for deployment, the salesforce.com database was **deployed shockingly fast**."

DailyTech.com, 1/22/2010



Multi-Tenancy Makes the Cloud Transforming

Single-Tenant
(On-Premise or Hosted)



Dedicated App Stack for Each Application

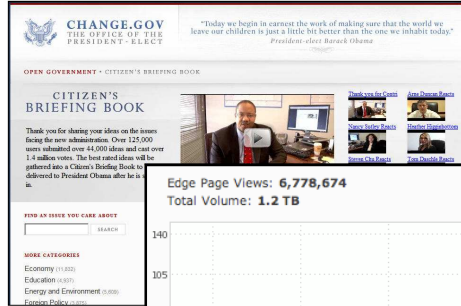
Multi-Tenant



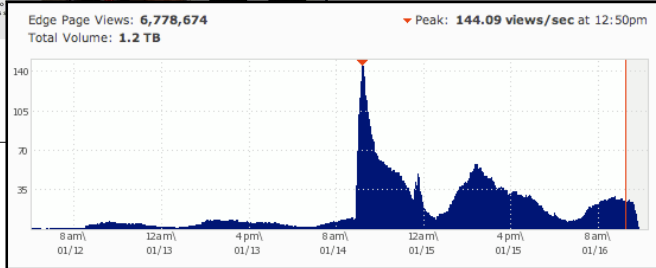
One Single Stack for All Applications



Citizen's Briefing Book Scaled Instantly



Constituent Engagement Portal
 Concept to Live in **Three Weeks**
 Zero to Peak in **One Hour**



134,077 Registered Users
1.4 M Votes
52,015 Ideas

10M Page views
1.8TB Volume
39.3M Hits



Abstraction Enables Acceleration

- Multi-tenant
- Automatic Upgrades
- Secure
- Integrated
- Easy to Use



5 Times Faster
Half the Cost

“Companies were able to **reduce their three year TCO by 54%**,
saving \$560,000 per application.”



IDC White Paper sponsored by Salesforce.com: "Force.com Cloud Platform Drives Huge Time to Market and Cost Savings", Doc # 219965, September, 2009



State and Local Transformation

San Francisco's Family Service Agency Builds HIPAA-compliant EHR and Case Management App



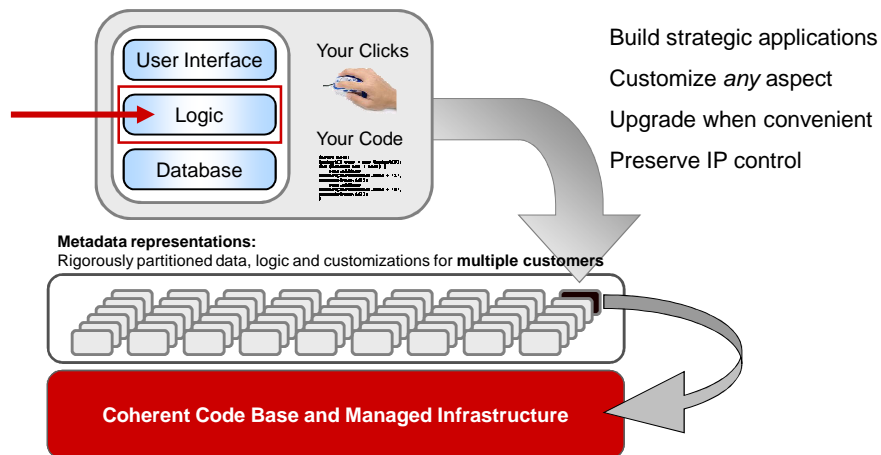
- 50% reduction** in time spent on paperwork, reporting and reimbursement
- Eliminated 2-month wait** for County reports
- Real-time tracking** of individual client outcomes (treatments adjusted accordingly)
- Self-audits** and tracking of clinician, program, and division productivity
- Automated reimbursement** process through auto-population of funder forms

“For the first time we have visibility into the effectiveness of our client programs.”

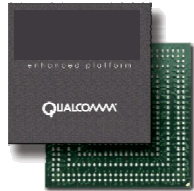
Bob Bennett
CEO



The Metadata Model: Cloud + Customization



Qualcomm Opens New Support Channel In One Week



\$11B Chip Manufacturer

20,000 customers (engineers) that require 24/7 support

Deployed first customer portal in **1 week**

Retired 40 servers and **11 databases**

Reduced IT CRM support costs by **60%**

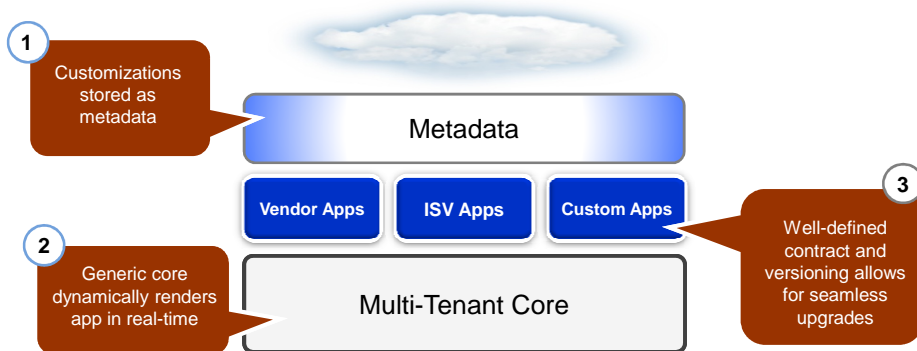
100,000 self-service portal users

“Salesforce gives us the ability to **react quickly** to changes driven by the business and **to revise the app in minutes—not days or weeks.**”

Mark Silber
IT Systems Architect



Metadata: How Multi-Tenant Services Deliver a Unique Experience to Every Customer



All Applications Automatically Upgraded

Painless, No Hassle Upgrades

- 30 Major Releases
- Every Customization & Integration Automatically Upgraded
- Always have the Latest Innovations & Technology



“No longer do we worry about the upgrades, new releases, and compatibility. We have the freedom to innovate and solve business problems on-demand.”



Security Improves With Every Customer

The World's Most Trusted Security that Improves in Real-Time with Testing by Every Customer

Application Security

- ISO 27001
- SAS 70 Type II; SysTrust certified
- SSL encryption
- Identity confirmation

Network Security

- Fault tolerant, multi-layered firewall
- Intrusion detection
- 3rd party assessments

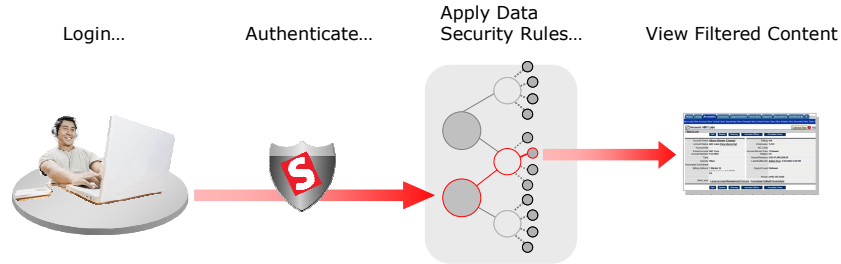
Facility Security

- 24 x 365 security
- Biometric readers
- Silent alarms
- CCTV
- Motion detection

Servicing the world's most demanding organizations



Bottom-Up Design to be “Shared and Secure”



- Password security policies
- Rich Sharing Rules
- User Profiles
- SSO/2-factor solutions

Password Policies

Set the password restrictions and login/logout policies for all users.

User passwords expire in	60 days
Enforce password history	3 passwords remembered
Minimum password length	8 characters
Password complexity requirement	Must mix alpha and numeric
Password question requirement	Cannot contain password
Maximum invalid login attempts	5
Lockout effective period	30 minutes

Save Cancel



Every Act an Invocation: Granular Privilege

Standard Object Permissions

Before assigning this profile to your mobile users, check the online help for the permissions required to access Salesforce remotely using clients such as Force.com Connect Offline.

	Read	Create	Edit	Delete		Read	Create	Edit	Delete
Accounts	✓	✓	✓	✓	Documents	✓	✓	✓	✓
Assets	✓	✓	✓	✓	Leads	✓	✓	✓	✓
Campaigns	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Opportunities	✓	✓	✓	✓
Cases	✓	✓	✓	<input type="checkbox"/>	Price Books	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contacts	✓	✓	✓	✓	Products	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contracts	✓	✓	✓	✓	Solutions	✓	✓	<input type="checkbox"/>	<input type="checkbox"/>

Custom Object Permissions

	Read	Create	Edit	Delete		Read	Create	Edit	Delete
Connections	✓	✓	✓	✓	Pledges	✓	✓	✓	✓
Households	✓	✓	✓	✓	Recurring Donations	✓	✓	✓	✓

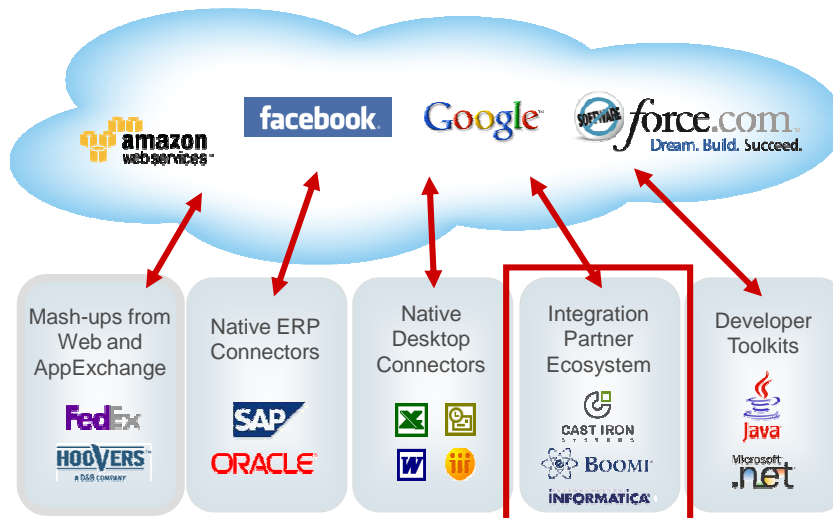


Governments Must Play Their Role

- Data protection regulations
 - Where can it be stored?
 - Who’s allowed to see it?
 - Issues with US border protection
 - Biometrics and e-passports
 - “Everyone has the right to the protection of personal data ”
(Article 8 of the EU Charter of Fundamental Rights)
- Intellectual property issues
 - EU and Google Books



Cloud Integration: Not an All-or-Nothing Choice

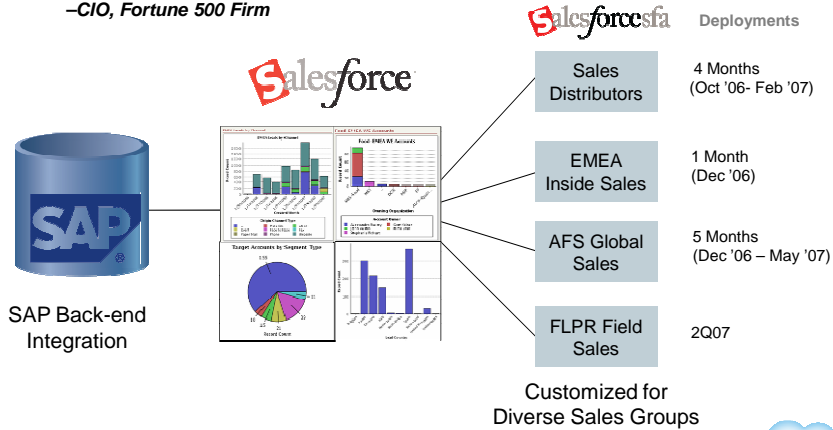


Cloud Integration: New Roles for Knowledge

"This is process lite. It gives my business users what they want, a unique app for each sales team, fundamentally reflecting their own personality."

"And yes, I get a single standard SAP integration. It's a terrific success."

—CIO, Fortune 500 Firm



Trust Attainment Enables Cloud Adoption

- Robust infrastructure security
- Rigorous operational security
- Granular customer controls
 - Role-based privilege sets
 - Convenient access control & audit
- “Sum of all fears” scrutiny and response
 - Multi-tenancy reduces opportunities for error
 - The most demanding customer sets the bar



“If you take the ideal world, everything is done as a service: computing, storage, software and operations.”

“The risk for enterprises that don't start a SaaS migration strategy soon is that their IT organizational structures will be a competitive disadvantage.”

 Geir Ramleth
CIO, Bechtel Corp.

Study of Internet successes

Bechtel says the huge disparity between its IT infrastructure costs and setups and those of such Internet leaders as Amazon.com and Google has convinced it to make changes.



YouTube could not send 100 million video streams a day for free if it paid Bechtel's original or even current network rates:

YouTube network rates: \$10 to \$15 per Mb
Bechtel network rates: \$500 per Mb



Google could not provide free services running on several hundred thousand servers if it used Bechtel's metrics:

Google system-administration metrics*:
200,000 servers/one system administrator
Bechtel system-administration metrics:
100 servers/one system administrator



Amazon could not offer disk space for 5% of Bechtel's internal costs if it operated storage as Bechtel does:

Amazon storage rates*: \$0.10 per GB per month
Bechtel storage rates : \$3.75 per GB per month



SalesForce.com could not upgrade its systems four times a year without downtime and customer disruption if it operated those systems as Bechtel does:

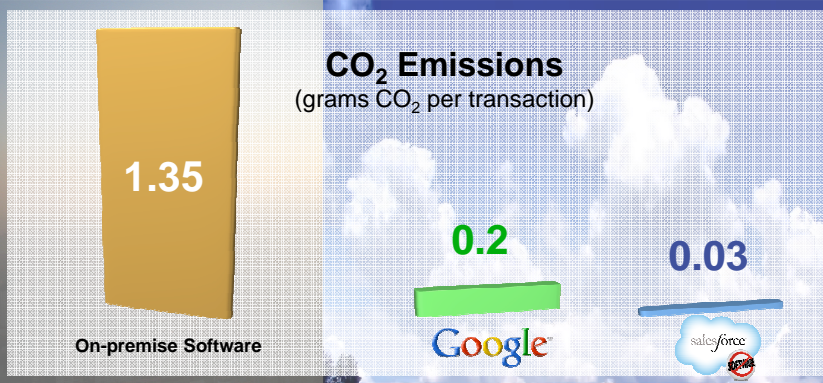
SalesForce.com*: one application
Bechtel: 875 applications (250 applications x 3.5 versions of each).

*Bechtel estimate.

www.networkworld.com/news/2008/102908-bechtel.html



Cloud Computing Shrinks IT's Carbon Footprint



“Salesforce.com consumes 90% less energy than traditional software.”

*“Cloud Computing Emissions Comparison,” Nucleus Research, 2 Sept 2010
Watt-hrs per transaction statistics converted to CO₂/transaction by salesforce.com using U.S. carbon output ratios computed by region by EPA



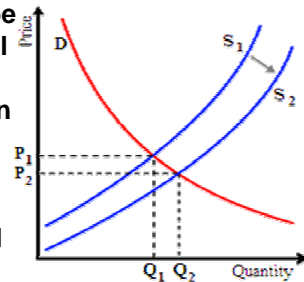
The Cloud's Lower Cost is Compelling. **So What?**

If we talk about cost reduction, the most I can do for you is cut your IT spending by 100%. Then we're done.

If we talk about value creation, I can keep on delivering value with no upper bound. That's a much more interesting conversation.

If you want cheap IT, go ahead. You won't be in business next year. Your competitors will do projects with attractive ROI, while you spend less, and you won't be competitive in service or performance.

Demand curves slope downwards. Better apps at lower cost will expand demand and grow total IT spending. *And that's OK.*



Let's Not Settle for Parity

True Cloud Storage as a Service

- No one can sell you a hard drive that tells you when your data's out of date
- In the cloud, your storage can be self-cleaning

True Cloud Customer Support as a Service

- No one can build you a call center that knows everything your customers know...and everything they're saying to each other about you
- In the cloud, your service center can embrace and interact with social nets

True Cloud Application Platform as a Service

- No one can give you a local development platform that automatically deploys your applications onto every new portable device
- In the cloud, apps can acquire new features and support new devices at zero cost to the developer



Addressing Data Quality: A Cloud that Maintains the Cloud



Largest, Most Accurate Database:

22 million+ B2B contacts

Massive, Engaged Community:

1.2 million+ community adds **36,000** new contacts per day

Real-time Updates:

Community updates **12,000** contacts per day



Yesterday's Model Doesn't Connect with Customers Today

Assuming this...



ORACLE
vantive
CLARIFY
SIEBEL
Microsoft

...while customers do this:



Join the Conversations

32 nations, 350,000 visitors, and only one month to launch a global call center. South African Tourism went live on multiple channels—phone, email, Web self-service, Twitter, and Facebook.

Customer feedback on IdeaStorm led Dell to build select consumer notebooks and desktops pre-installed with the Linux platform.

“Ideas has been an unbelievable home run. We are loving it: **the voice of the customer is totally present at Starbucks in a brand new way**”

(Chris Bruzzo, CTO)

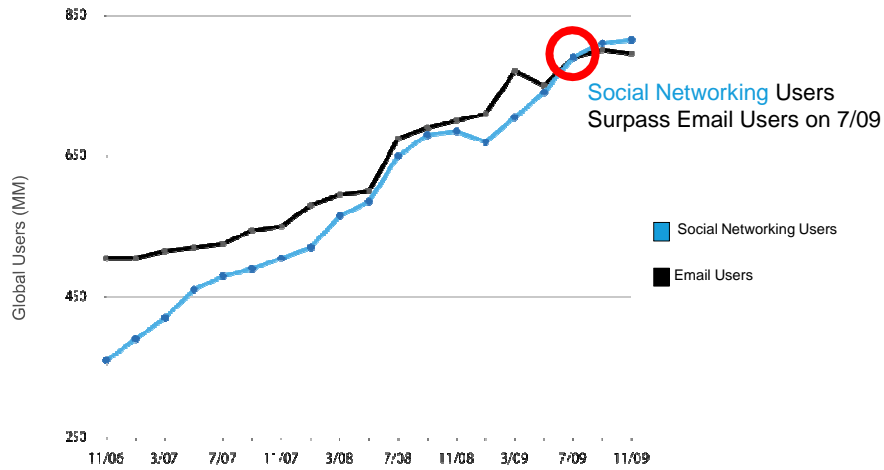


'00s: Why isn't all enterprise software like **Amazon.com**?

'10s: Why isn't all enterprise software like **Facebook**?



2009: Social Networking Surpasses Email

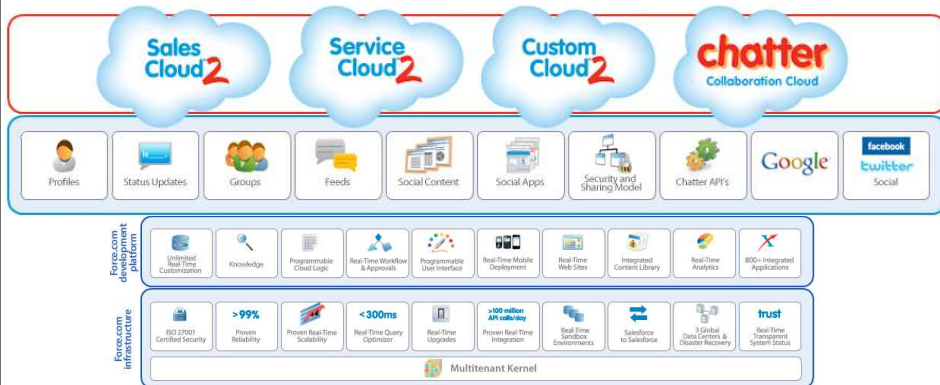


Source: Morgan Stanley Internet Mobile Report, December 2009
Data is for unique, monthly users of social networking and email usage.



Enterprise Clouds Enable Secure Communities

- It's hard to add security to a tool that shares by default
- It's *possible* to add social tools to a proven trust model



Social Business Processes

- Collaborative process creation & maintenance
- Best practice sharing
- Integration with feeds and other social channels
- **Social process monitoring**

Monica Lawrence

Andrew Leigh. I need to create a new customer service process for the iPad, can you guys help?

New process created: iPad Tier 1 Support Process (Goals: Run time, 5 min)

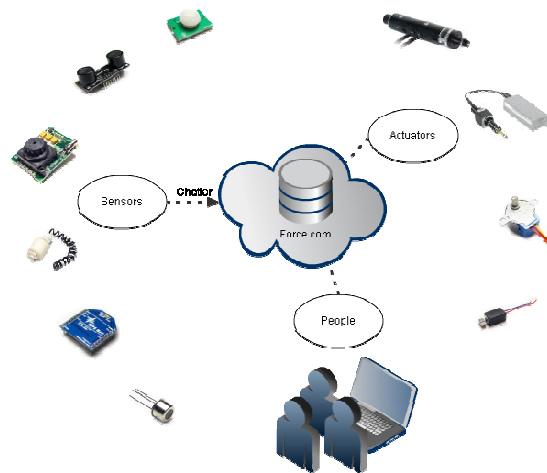
Steve Wood. Great – I can help with the case escalation by linking in the Apple Escalation Process.

Varadarajan Rajaram. Yes, I know this product well – there are a bunch of solutions I can build into this process.



Real-Time Device Interactions

- Instant updates, not limited by human speed or attention
- Effective integration of hardware speed & human judgment
- **The next new application opportunity**

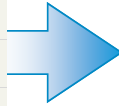


public String CloudThoughts{ get; set;}
 Mike Leach, www.embracingthecloud.com



New Capabilities Added At Will... ...Not When the Capital Budget Allows

Chatter Platform	
Check to Enable	
<input checked="" type="checkbox"/>	Profiles
<input checked="" type="checkbox"/>	Feeds
<input checked="" type="checkbox"/>	Status Updates
<input checked="" type="checkbox"/>	Groups
<input checked="" type="checkbox"/>	Apps
<input checked="" type="checkbox"/>	Document Sharing
<input checked="" type="checkbox"/>	Social Apps



Shrinking Devices ⇔ Accelerating Product Cycles



“The Portable Intelligence Platform is built on Force.com cloud computing application environment.

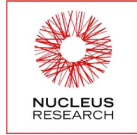
“The development environment enables easy integration via web services with your company's existing software platforms (e.g. ERP, CRM, Finance etc.).

“It is also an ideal environment for the development for the P.I. iPad, Mobile and Developer APIs.”

www.portable-intelligence.com



Cloud Development: reinvented, not just relocated



- Nucleus Research analyzed Force.com deployments: found average **4.9 times faster development** (range 1.5x-10x) versus Java or .Net
 - Custom objects
 - Administrative tools
 - Workflow engine
 - Pre-tested platform



- Galorath Inc. compared developers' Force.com productivity to Java development
 - Requirements definition time reduced 25% due to rapid prototyping
 - Testing effort reduced by (typically) more than 10%
 - **Development productivity of new code 5x greater**
 - Overall project cost 30-40% less



- CustomerSat sampled more than 1,100 Force.com development teams during summer 2009
 - Average experience: 4 applications deployed to date
 - Average project cost savings: 48%
 - **Average project acceleration: 5.1x**



Cloud Connection ⇔ Margin Growth and Brand Differentiation



“One automaker’s chief financial officer told Sun COO Jonathan Schwartz that his company could give a car away for free, if it could charge a customer \$220 per month for a subscription.”

www.zdnet.com/news/sun-puts-java-into-gear-for-cars/136886

“CE device margins are razor thin, and the promise of maintaining an always-on connection to the customer after the point of sale is mighty enticing. With a connected device, there are all kinds of new opportunities to present offers and services that can generate ongoing monthly revenue. Simply put, connected devices make connected customers.”

Richard Schwartz, President and CEO




“More than 4,000 photographers access Canon’s portal site, which was developed using the Service Cloud Portal. By providing information in real-time, we have strengthened relationships with our members and have dramatically improved customer satisfaction.”

Canon Marketing Japan




Customers Building Cloud Apps: 5X Faster at Half the Cost

Lotus Notes Replacement




Replaced 5,000 Notes Seats
5X Faster
1/5 the Cost

Departmental Apps




Franchise Management App
1/3 the cost of .Net

Data-Driven Web Sites




Community Web Site
10 Million Users
Built in 3 Weeks

Business Process Apps



Medical Research Apps
Added 11 New Products in 12 Months



Addressing the Crucial Concerns

“I’m not sure you’re secure”

- PaaS responds to new threats with **world-class security tools and practices**
- Service model improves **privilege management and audit-trail ability**

Database.com: Secure, Private, and Trustworthy

Abstract

An ever-growing list of enterprises trust Salesforce.com products and services to deliver critical business applications, in large part because of Salesforce.com's commitment to security and privacy. This paper first explains the terms security, privacy, and trust, and then explores the basic requirements for secure cloud computing. Subsequent sections of this paper provide a comprehensive introduction to the shared security and privacy features of the Database.com cloud database service. And finally, this paper explains features that application providers using Database.com can use to build and secure their applications and customer data.

Introduction to Security, Privacy, and Trust

Risks and industry analysts consistently cite security and privacy concerns as the most significant barriers to the mainstream adoption of cloud computing, especially among enterprise customers. To gain the trust of organizations, a cloud provider must

Standard Object Permissions

Before assigning this profile to your mobile users, check the online help for the permissions required to access Salesforce remotely using clients such as Force.com Connect Offline.

	Read	Create	Edit	Delete		Read	Create	Edit	Delete
Accounts	✓	✓	✓	✓	Documents	✓	✓	✓	✓
Assets	✓	✓	✓	✓	Leads	✓	✓	✓	✓
Campaigns	✓	☐	☐	☐	Opportunities	✓	✓	✓	✓
Cases	✓	✓	☐	☐	Price Books	✓	☐	☐	☐
Contracts	✓	✓	✓	✓	Products	✓	☐	☐	☐
Contracts	✓	✓	✓	✓	Solutions	✓	☐	☐	☐









Custom Object Permissions

	Read	Create	Edit	Delete		Read	Create	Edit	Delete
Connections	✓	✓	✓	✓	Pledges	✓	✓	✓	✓
Households	✓	✓	✓	✓	Recurring Donations	✓	✓	✓	✓

@petercoffee
Peter Coffee

If gov'ts used database.com, they'd have control of who can see what and they'd know who had downloaded what. Security for a WikiLeaks World

18 hours ago via web [Favorite](#) [Reply](#) [Delete](#)

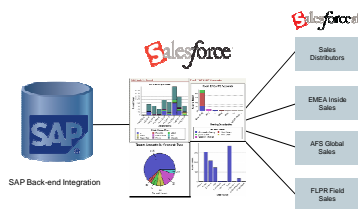









Addressing the Crucial Concerns

“I’m required to keep our data in this country”

- Details of national rules are complex and can even be conflicting
- Only the customer can decide how to balance mandates, expectations and preferences

- Once the customer tells us what’s wanted, we **and the global ecosystem of implementation and integration partners** can find a way to do it



Multi-Tenant Application Security

- Don't Expect to Make Water Run Uphill
 - Users are easier to crack than protocols... ..SO...
 - Restrict allowable IP addresses
 - Shorten timeout thresholds
- Balance Capability Against Control
 - For example, encrypted fields (salesforce.com)
 - Only visible to users with "View encrypted data" permission... ..but...
 - Encrypted custom fields cannot be unique, an external ID, or have default values
 - Encrypted fields are not available for use in filters such as list views, reports, roll-up summary fields
 - Encrypted fields cannot be used to define report criteria, but can be included in report results

salesforce.com

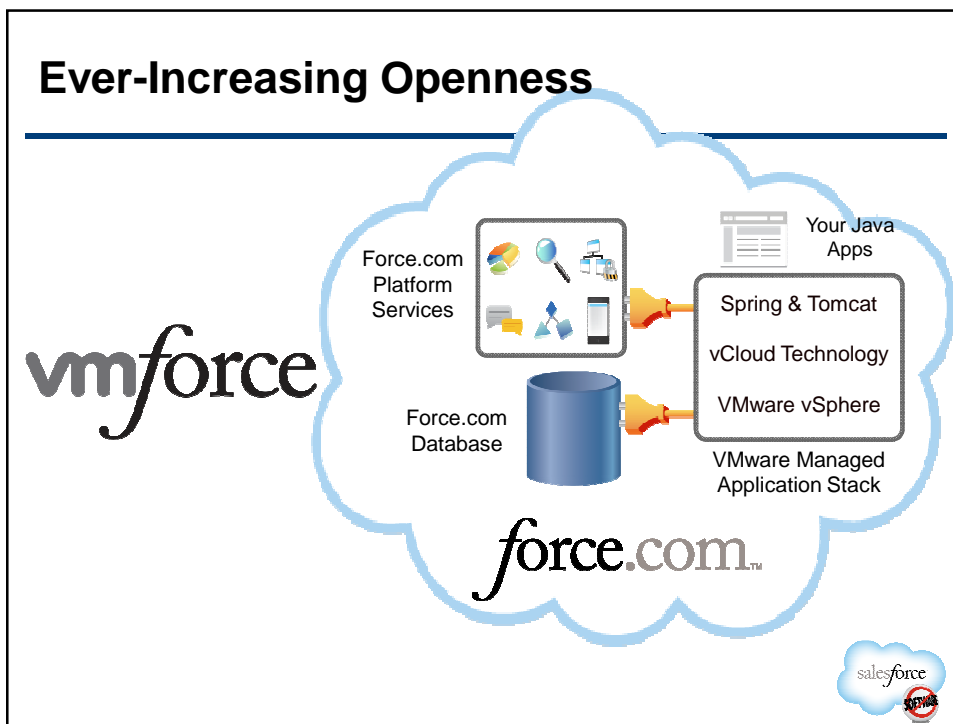


Addressing the Crucial Concerns

“You’re a proprietary platform that makes me learn new things and locks me in forever”

- We’ve always enabled options
 - Run local code and integrate
 - Run Java or LAMP on AWS
 - Treat us as an adjunct tool for
 - Integration of multi-vendor IT
 - Access to handheld devices
 - We come as liberators
- **Openness is a commitment**
 - Java (+ more to come) on Vmforce
 - Familiar development model
 - True freedom to port up or back
 - Ruby (+ more to come) on Heroku
 - Not just an application
 - The tools to fulfill a mission
- **Leverage is essential**





President's FY'11 Budget Makes Clouds Preferred IT Option

Improve Efficiency and Effectiveness

MANAGE FEDERAL IT INVESTMENTS	<p>Reduce Costs by Leveraging Shared Services</p> <ul style="list-style-type: none"> • All new and existing major investments must review/consider cloud computing options • Consolidate data centers • Develop modernization roadmaps for government-wide platforms
ENABLE AN OPEN, TRANSPARENT AND PARTICIPATORY GOVERNMENT	<p>Simplify Access to Government Services</p> <ul style="list-style-type: none"> • Engineer solutions from the citizen's perspective • Deploy mobile applications for commonly used government services • Build solutions to access government solutions on consumer platforms
IMPROVE EFFICIENCY AND EFFECTIVENESS	<p>Enable Information Sharing and a Collaborative Environment</p> <ul style="list-style-type: none"> • Invest in game-changing technologies that enable Federal Government employees to share, analyze, and disseminate information on a real-time basis
ADVANCE THE INFORMATION SECURITY OF THE FEDERAL GOVERNMENT	<p>Leverage the Government's Buying Power</p> <ul style="list-style-type: none"> • Make use of existing and enter into new enterprise-wide contracts (e.g., SmartBUY)

Even After a Decade of SaaS

“Enterprise apps *can* be as easy to use as Amazon.com!”

- Straightforward to discover and evaluate
- Negligible cost of adoption
- Non-disruptive upgrades
- World-class infrastructure robustness and security for all

Myths are dispelled by demonstrations

- Multi-tenancy **has not compromised** security
- Service composition **accelerates** customization
- Cloud integration **adds value** to legacy assets
- Almost all customers **welcome rapid upgrades**

These cloud truths are still “new news”

- If you have to **buy new hardware**, it is **not a cloud**
- If you have to install, patch, and disruptively **update software**, it is **not a cloud**



Supply Chain Clouds are Global

- Electronic components made in China...
- Have their specifications imported into software that's written in Sydney...
- That's used to lay out circuit boards in Europe and the Middle East...
- With ID numbers burned into each board that enable lifetime, Internet-accessible audit of testing and performance of components...
- By a company that's just switched from MS Office to Google Apps

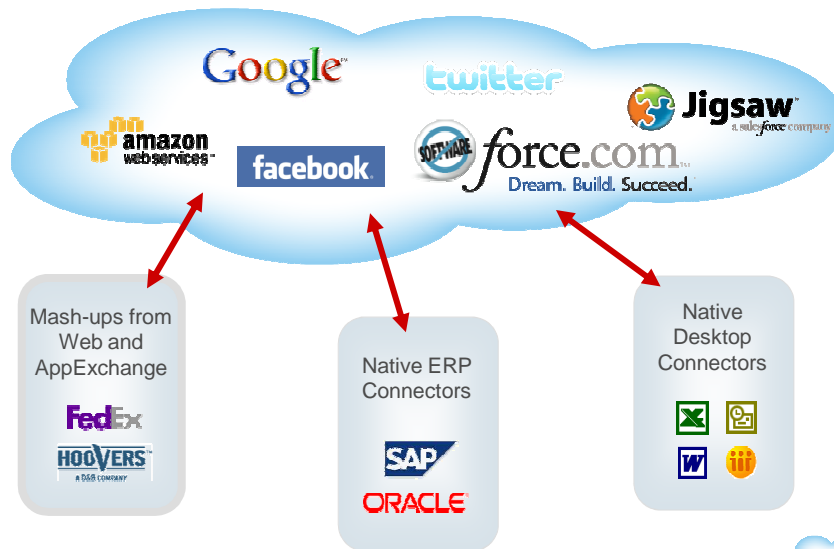


Supply Chain Clouds are Global

- Electronic components made in China...
- Have their specifications imported into software that's written in Sydney...
- That's used to lay out circuit boards in Europe and the Middle East...
- With ID numbers burned into each board that enable lifetime, Internet-accessible audit of testing and performance of components...
- By a company that's just switched from MS Office to Google Apps... **and shrunk its data center by 1/2**



Yes, There *Is* a True Cloud **2**



Thank You.

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Q&A?