

GOVERNMENT SERVICE MODELS

- Ross Freedman, DCIA
- Adam Firestone, WSO2
- · Mike Dinsdale, Docusign
- · Erik Salazar, Unitas Global
- · Marlyn Zelkowitz, SAP America

CLOUD COMPUTING

Revolutionizing Business Processes in Government, Healthcare & Financial Services

EAST 2013

MAY 19-21, 2013 Boston Marriott Copley Place, Boston MA



The Fine Art of Herding Cats:

Cloud-Based Development Environments as a Program Management Enabler for Government Software Development Projects

Presented by:

Adam Firestone

Director, Defense and Government Solutions

WSO2, Inc.

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Agenda

- Overview
- The Problem Space
- Historical Background
- Solution Concepts
- Bridging Ideas and Solutions: Cloud Tooling Concepts
- Summary



Overview

- Government and military organizations face a number of challenges associated with software development projects:
 - Ensuring rapid response to changes in theater or the nature of the operational environment;
 - Converting a shared vision into tangible program management activities that ensure effective project management, meeting security and information assurance goals and interoperability between components; and
 - Managing a technically and culturally diverse industry and government developer community.
- These challenges can be substantially mitigated through the implementation of a governed, Cloud-based distributed development environment.



THE PROBLEM SPACE



How Government Software Development Program Managers Would Like to See Their Execution Teams



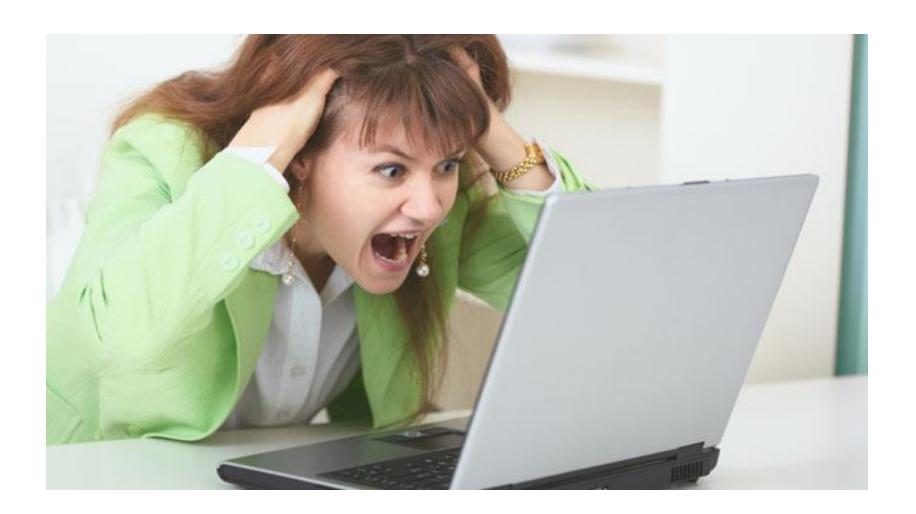


The Reality





The Result?





Challenges and their origins

HISTORICAL BACKGROUND



Origins: A Case Study

- Historic experience with legacy US enterprise, C5I and weapon systems
- Older systems reflect earlier architectural constraints
 - Hardware and computing power limitations
 - Data storage
 - Communications bandwidth
- Modernization drivers
 - Sustainment costs as the key driver for modernization
 - "Don't Fix What Ain't Broke" competing with shrinking budgets
 - Adaptation and modification effort outweighs "Do Nothing" option
 - Desire to replace "system driven doctrine" with "doctrine driven system"



In the Beginning...

- Monolithic systems
- Designed to solve a single, broad organizational problem
 - Command and control
 - Personnel records management
 - Accounting
 - Logistics
- Single contractor
 - Systems engineering
 - Software development
 - Test

BUT - organizational problems are often broad and multifaceted...



System of Systems (SoS)

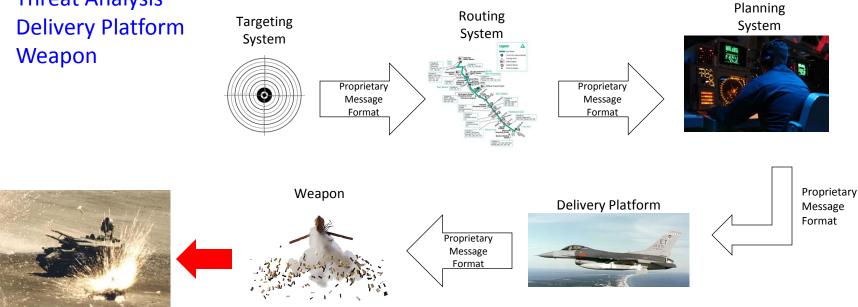
- Evolutionary answer to the complexity and expense of monolithic systems
 - Collection of dedicated systems
 - Pooled resources and capabilities
 - Usually connected by messaging interfaces
 - Intended to offer more functionality than sum of constituent systems



SoS Example: Precision Guided Munitions

Overall System Consists of 5 -7 Discrete Monolithic Systems

- **Targeting**
- Routing
- **Planning**
- **Threat Analysis**





SoS Program Characteristics

(Also applies to highly componentized systems)

- Expanded program manager span of control
 - 1 N component systems
 - Discrete subordinate manager for each component system
 - Effectively a discrete sub-program for each component system
 - Non-functional requirements managers
 - Information Assurance
 - Verification and Validation
 - Integration
- Distributed development
 - Discrete developer organizations
 - Unique cultures
 - Individual development environments and languages
 - Redundant application of non-functional requirements



Programmatic Challenges

- Multiple developer organizations differing in:
 - Programming languages
 - Organizational culture
 - Application tooling
 - Architectural proficiencies
- Scheduling of multiple components
 - Internal schedules
 - Overall program schedules
- Non-Functional Requirements
 - Information Assurance
 - Certification & Accreditation
 - V&V must be scheduled independently with each component



Risks

- Inter-component dependencies
 - Interoperability
 - Delivery schedules
 - Does slippage in component A schedule impact components B and C?
 - What does "done" mean?
- EVMS management issue
 - How is EVMS applied without a common definition of "done?"
- Reactive remediation
 - By product of long delivery and test cycle times
 - Fail late program architecture/SDLC
 - Problems are not discovered until integration phase (or later)
- Post-Development Certification & Accreditation
 - Deployment delays
 - Expense
 - Magnifies problems caused by long cycle times

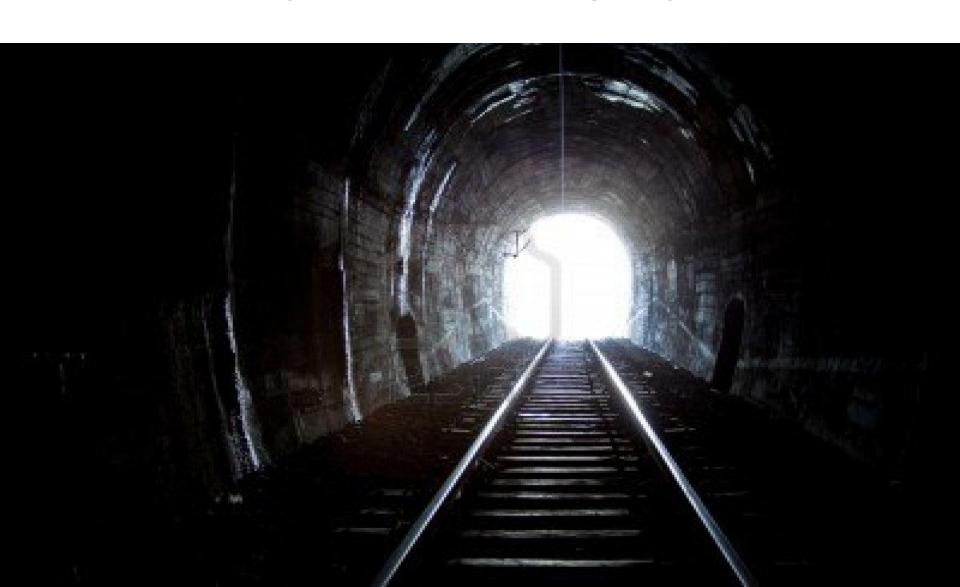


SOLUTION CONCEPTS



There is a light at the end of the tunnel

(And it isn't an oncoming train)



Key Challenge Recap

- Multiple developer organizations
- Multiple, competing, governance perspectives
- Lack of situational awareness
- Certification and Accreditation



Challenge: Multiple Developer Organizations



- Government as LSI issue
- Discrete and possibly competing knowledge bases, cultures, technologies
- Lack of a common definition of "done"
- Total Cost of Ownership/Cost of Total Ownership



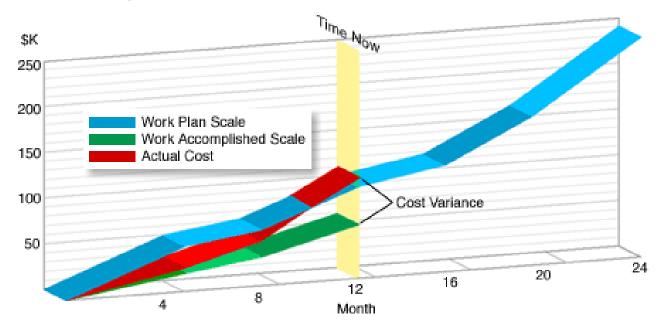
Challenge: Multiple Governance Perspectives

- Program Management
 - Schedule and Budget
 - EVMS (Done?)
- Competency
 - Capabilities and Requirements
- Information Assurance
 - Security and Compliance
- Logistics
 - Fielding and Support
- Configuration Management
 - Stability and Predictability





Challenge: Lack of Programmatic Situational Awareness



- PM: What's the state of the project?
 - Work planned v. work complete
 - Planned cost v. actual cost
- Developers: What is the state of the code against functional and non-functional requirements?
- IA Manager: Is the project compliant?



Challenge: Certification & Accreditation



- Post-development C&A time and expense
- Security and IA as an applique, not "baked in"
- Handling the emerging mobile/app environment



Solution Concept 1: Leveraging DevOps Philosophies

The First Way: Systems Thinking

- Emphasizes performance of the entire system, as opposed to the performance of a specific component, branch or contractor
- Requires integrated team with representatives from all disciplines, e.g.:
 - Program Management, Systems Engineering, Development, Operations, IA, CM, QA, Test

The Second Way: Amplify Feedback Loops

- Fail fast and learn quickly
- Shorten and amplify feedback loops
- Necessary corrections are continually made

The Third Way: Culture of Continual Experimentation & Learning

- Creating a culture that fosters taking risks and learning from failure
- Understanding that repetition and practice is the prerequisite to mastery
- Allocation of time for the improvement of daily work
- Creating rituals that reward the team for taking risks
- Introducing faults into the system to increase resilience

http://itrevolution.com/the-three-ways-principles-underpinning-devops/



Solution Concept 2: Introducing DevOps Practices

- Rapid, iterative development and deployment of software products and services.
- Standardized development environments
- Automation of release/deployment cycle
- Release cycle controlled by non-operations resources in specific non-production environments
- Targets:
 - Rapid product delivery
 - Quality testing
 - Feature development
 - Maintenance releases
 - Improved reliability and security
 - Faster development and deployment cycles



Solution Concept 3: Continuous Integration

- Merging developer work with the trunk multiple times per day
- Automated and continuous application of quality control
 - Unit and integration testing
 - Static and dynamic testing
 - Performance testing
 - Improve the quality of software
 - Reduce delivery time
 - Replaces legacy practice of applying quality control after completing all development
- Supports continuous delivery
 - Software checked into trunk is always in a state that can be deployed to users
 - Significant increase in speed of deployment process





BRIDGING IDEAS AND SOLUTIONS: CLOUD TOOLING CONCEPTS

High Level Tooling Requirements

- Enable multiple-developer projects to collaboratively create, verify, deploy and manage applications in a centrally governed manner
- Support development of multiple application types
 - Web apps
 - Workflows
 - Integrations
 - Business rules
 - Mashups
 - Mobile apps
- Simplify and shorten key project activities
 - Set-up
 - Development
 - Certification & Accreditation



Governed Collaboration

- Environment hosted, metered and managed by program office
- Ensures common, configuration controlled development, test and deployment environments
- Controls costs associated with project set-up at developer sites
- Provides meaningful metrics for program manager
 - Modules are either "in" or "out"
 - Enables EVMS



Tool Characteristics

- DevOps Private Platform-as-a-Service (Paas)
 - Multi-tenanted (secure, scalable, metered)
 - Elastic
 - Self service provisioning
- Complete application lifecycle management
 - Development
 - Test
 - Deploy
 - Retire
 - Discovery and consumption management
- Test Automation
 - Functional and Non-Functional Requirements
 - Laws, regulations, policies and guidance
 - Organizational values and culture



Slaying the IA Dragon

Current IA Environment

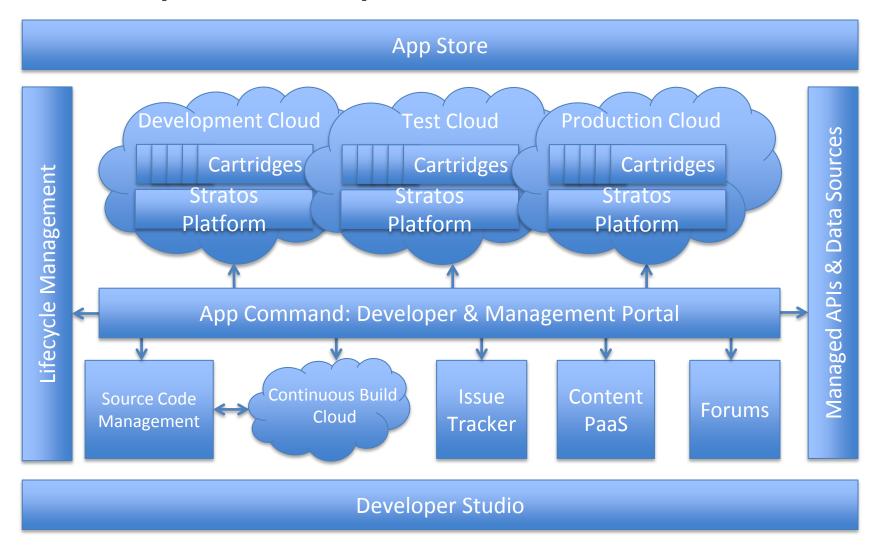
- Post-development product certification
- 9 18 months
- \$500K \$1.5M
- "Surprise Based"
- Approval frequently lastminute, heroics based

Objective IA Environment

- Integrated with development
- IA requirements built into continuous test/continuous integration
- DevOps PaaS is explicitly certified BEFORE development begins
- All products issuing from PaaS are implicitly certified

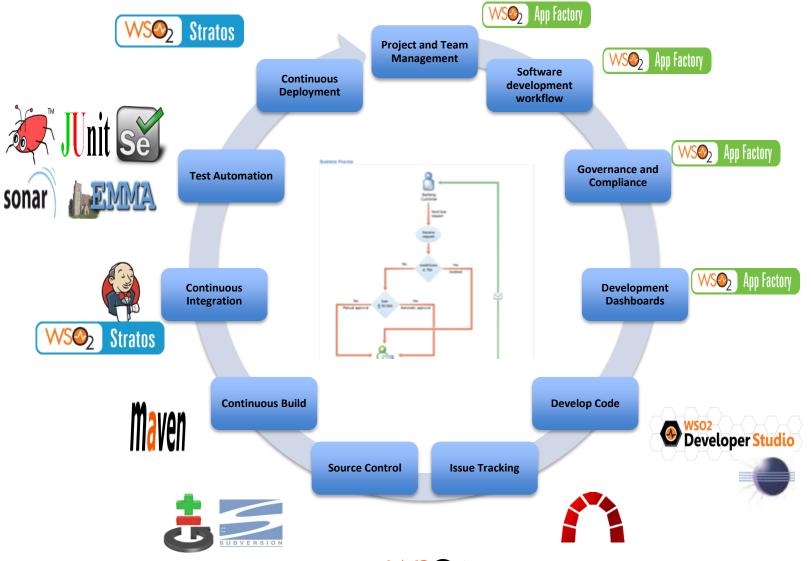


Sample DevOps PaaS Architecture





Full Spectrum Application Lifecycle Management (Open Source Integration Focus)



Summary

- Government and military organizations and their contractors can mitigate the cultural and technical challenges associated with software development projects
- Cloud-based distributed DevOps PaaS offers a number of advantages:
 - Rapid deployment of software in response to emergent operational needs
 - Large reduction in the information assurance time and budget overheads
 - Workable solution to the issue of certifying and accrediting mobile applications
- Tooling doesn't have to be expensive open source!
- By eliminating variables, the program manger is back in the driver's seat!
 - Common definition of done
 - Binary status; either a module has been accepted into the code base or it hasn't
 - Firm footing for EVMS and other project management techniques



QUESTIONS?



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 - www.wso2.com





The Global Standard for eSignature®

Government Cloud Deployments

Cloud Computing Conference East | Boston | May 20, 2013

Mike Dinsdale | CFO

The MASSIVE Paper Problem



Annual Volumes

- 552 Billion Pages Faxed
- 3 Billion Overnight Envelopes
- 100 Million Projected Documents
 One Customer

Davidson Consulting, IDC, others



DocuSign: Empowering Anyone to Sign Anything, Anytime, Anywhere



More than 37M users growing to 60M



More than 63,000 new signers a day



More than 65,000 customers



Up to 3.5M pages a day



188 countries

Delivering Value Across Organizations of All Type, Size & Industry



Silicon Valley Bank

Robins Federal

BELLCO ∰ UNFCU"

⊕VvStar*

KELLY

SERVICES

LAN 🚿





On Your Side

VALIC

SBLI







TEMPLE

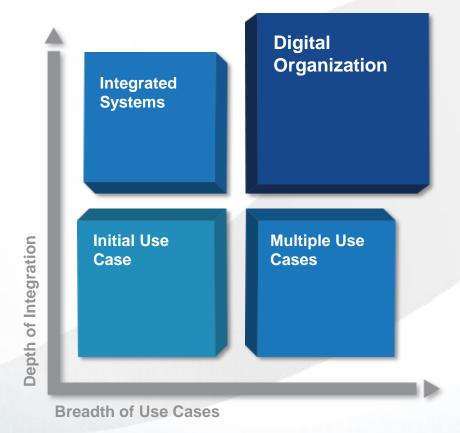
ZPENNFOSTER

DocuSign: The Clear Market Leader



Organization Value Journey

DocuSign Value Matrix



The Digital Journey Begins

The Problem



Printing, faxing



Shipping (multiple signers)



Lost contracts



Missing signatures



Rekeying data

The Consequences



Slow execution



Costly Operations



Error prone & unsecure



Poor customer experience

The Opportunity: Extraordinary ROI



Increase speed to results



Reduced operating costs



Accurate & secure transactions



Delighted customers

The Digital Journey Continues



Sales

- Sales Order Processing
- Account Provisioning
- Sales Compensation Agreements
- Referral Agreements
- Reseller Agreements
- Field Sales Agreements
- New Customer Sign Ups
- Terms and Conditions



Human Resources

- New Hire Paperwork
- Candidate NDA
- On/Off-boarding Checklist
- Employee Policy Distribution & Signature
- Contractor Agreements
- Non-disclosure
- PTO Management
- Payroll Forms



Finance

- Invoice Processing
- Expense Reporting
- Capitalization Management
- Audit Sign Off
- Policy Management
- Inventory Signoff
- Asset Transfer / Retirement
- Hiring Freeze Exemption
- M&A Documentation



IT / Operations

- Asset Tracking
- Change Requests
- Requirements Sign Off
- Access Management
- Incident Reporting
- Production Change Authorization
- Maintenance Authorization
- Order Fulfillment



Legal

- NDAs
- Contract Management
- Internal Compliance
- IP Licensing
- Patent Applications
- Board Minutes
- Trade Name Assignment
- Trademark Assignment
- Finance Agreements



Marketing

- Event Registration
- Customer Communication Approvals
- Mass Mailing / Email Approvals
- Customer Communication Approvals
- Brand Compliance / Audits
- Event and Vendor Approvals



Facilities

- Front Desk Sign-in
- Work Orders
- Lease Agreements
- Move In / Move Out Requests
- Parking Permits
- Equipment Rentals
- Lien Releases
- Site Passes and Onsite Waivers



Support

- Account Changes
- Service / Work Orders
- Term Changes
- Self Service Requests
- Compliance
- Field Service
- Cancellation Requests
- Internal Cancellation Processing



Product Management

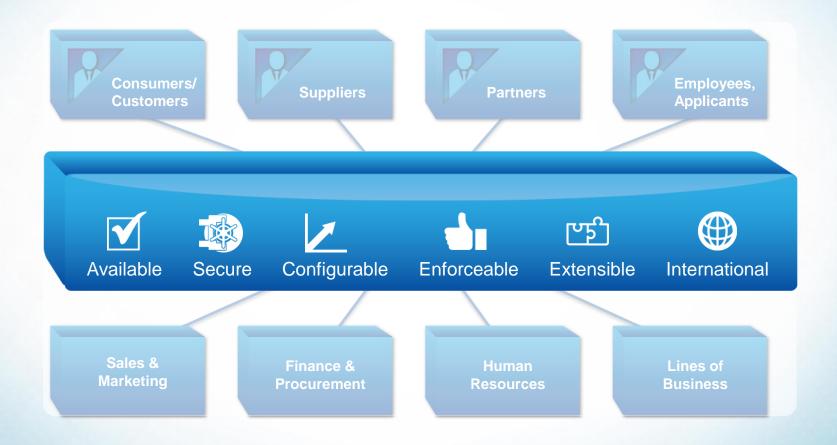
- Change Management
- Release Management
- Code Review Reporting
- Requirements Acceptance
- Release Scope Commitments
- Project Charter Templates



Procurement

- **Purchase Orders**
- Statements of Work
- Master Service Agreement
- RFP Sign Off
- Supplier Compliance
- Competitive Procurement Summaries
- Sole-Source Justifications
- Procurement Card Applications

The Journey Objective: The Digital Organization



Government Customers Achieving Significant Results



Butte County Sheriff's Department & D.A.

- Expedite search warrant sign off by Judges
- Search warrant requests submitted & approved on iPads – anytime, anywhere



California Dept. of Managed Health Care

- Receive 4K+ written inquiries, requests & complaints per year
- Automate paper & fax process with DocuSign to expedite processing



State of North Carolina

- Streamline the processing of all gov't documents requiring signature
- First deployment to simplify travel reimbursement & background check approvals



Internal Revenue Service

- DocuSign-led Proof of Concept
- IRS began accepting DocuSign on Form 4506-T Income Verification Authorization Form
- 25M+ forms submitted per year

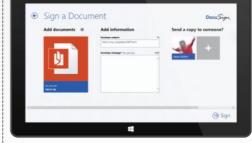
DocuSign Mobile Leadership

Best-In-Class Customer Experience for Every Platform











iOS

Android

Windows 8

Mobile Web



Apple's App Store Best of 2012



Featured at CES 2012



Top Productivity
App



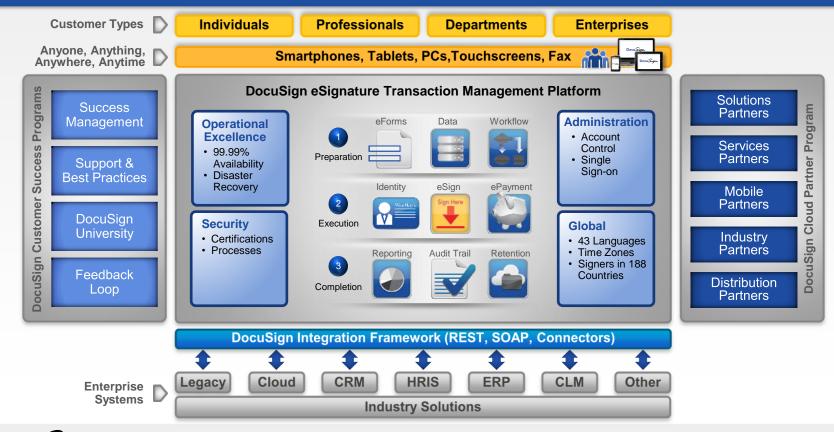
Featured in TechCrunch, WSJ, LifeHacker, USA Today, ZDNet



"This makes life in the business world a whole lot easier and faster. Truly a great app."



DocuSign Platform: A Complete Solution





DocuSign Signature: Trust in the Cloud

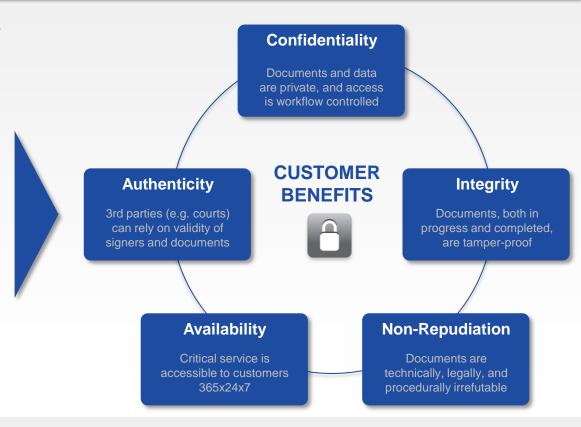




DocuSign Security and Infrastructure Leadership

Broadest Set of Security Certifications







Why Organizations Choose DocuSign

Easiest to Use Product







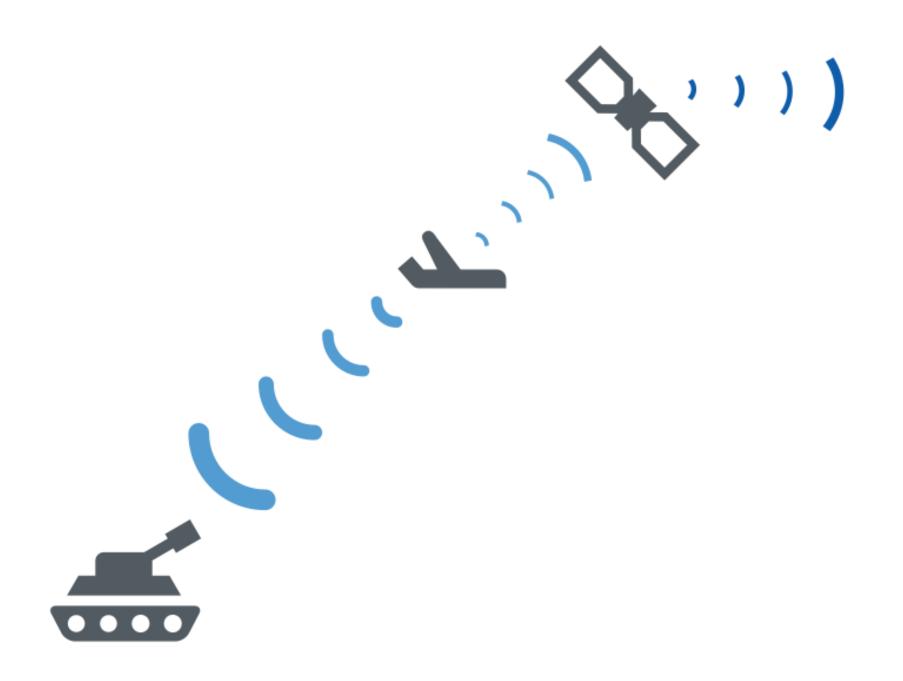


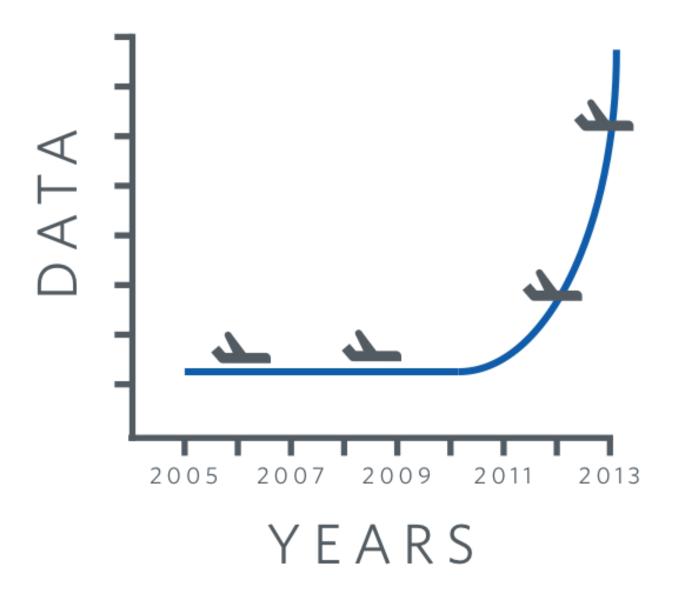
Keep Business Digital

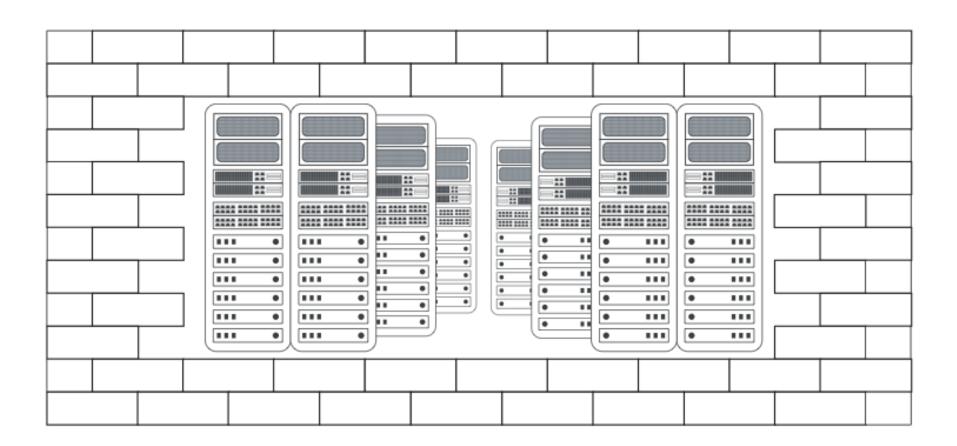
Mike Dinsdale | CFO



Executive Vice President



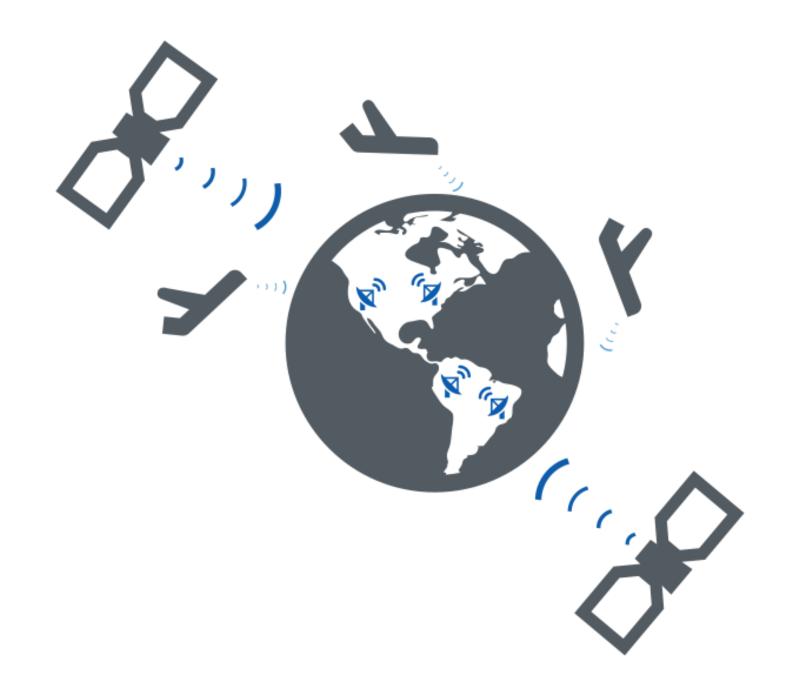






AMAZON







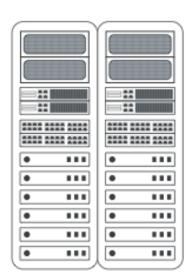


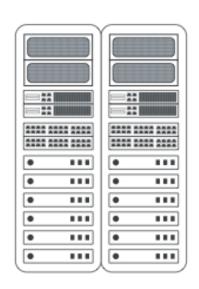


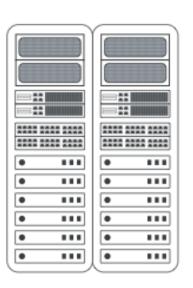
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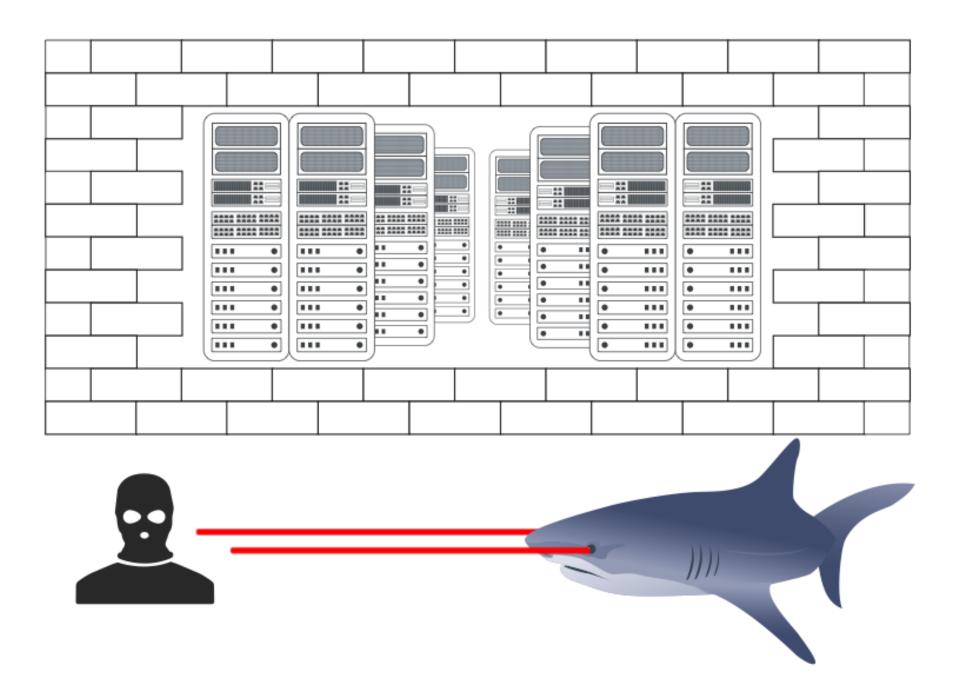


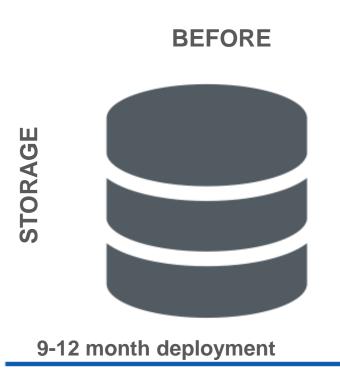
ARCHIVE

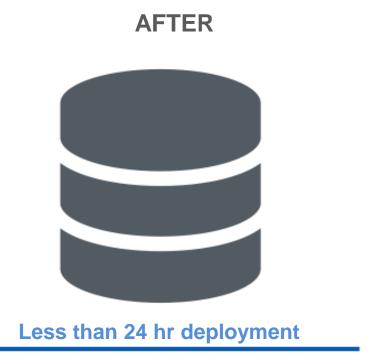


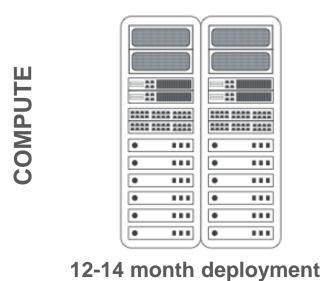


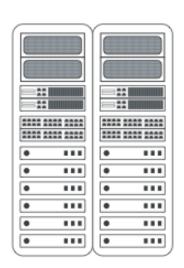












Less than 24 hr deployment

BPaaS: HR Case Study in Government

Marlyn Zelkowitz, Director, SAP Industry Business Solutions May 20, 2013

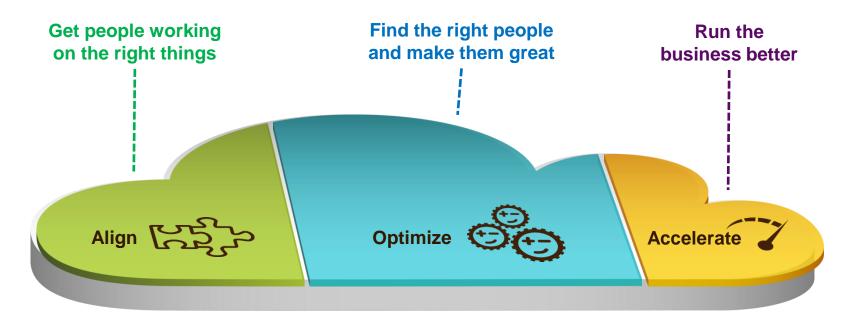
CLOUD COMPUTING Revolutionizing Business Processes in

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SuccessFactors can help...



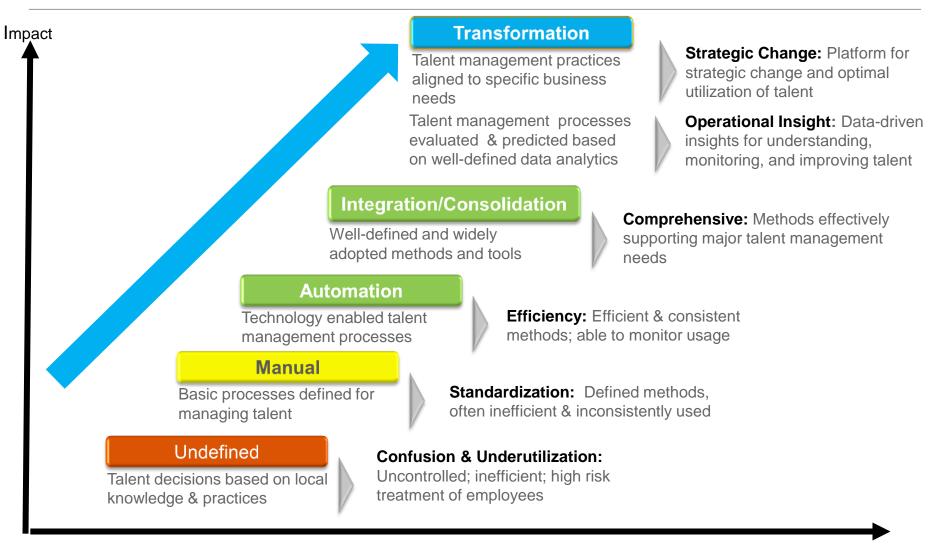
"About 60 percent of our workforce is eligible to retire in the next five years. SuccessFactors JAM will help us show that municipal governments use cutting-edge technology—which will give us an edge in attracting top talent."

Hank Stuchel, Risk/Employee Relations Manager, Schaumburg, IL

SuccessFactors BizX



Deployment Stages.. Evolve & Grow



Organization Maturity

Organizations that use SF strategically see 5x the impact

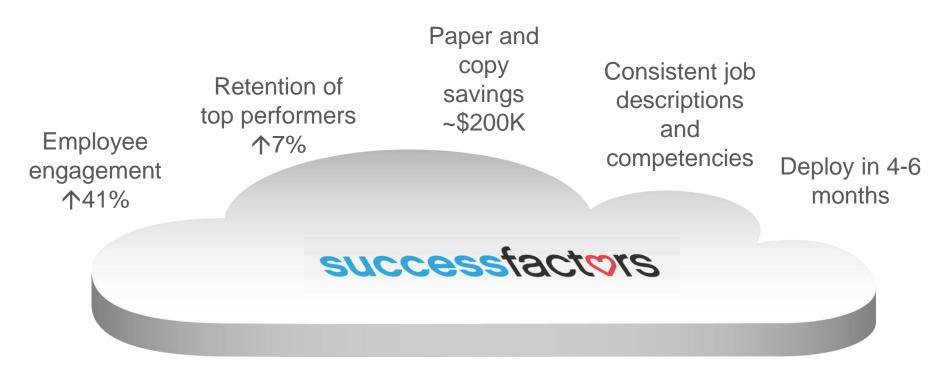
Average of Perforr	nance Change
Use	Total
Strategic	5.4%
HCM	3.3%
Automation	0.9%
Average	2.8%

Productivity impact based on increased investments in strategic execution.

Source: Post SuccessFactors Implementation data, Q1 2009, Top tier consulting and SF Research Analysis, n=527

Benefits: Case study

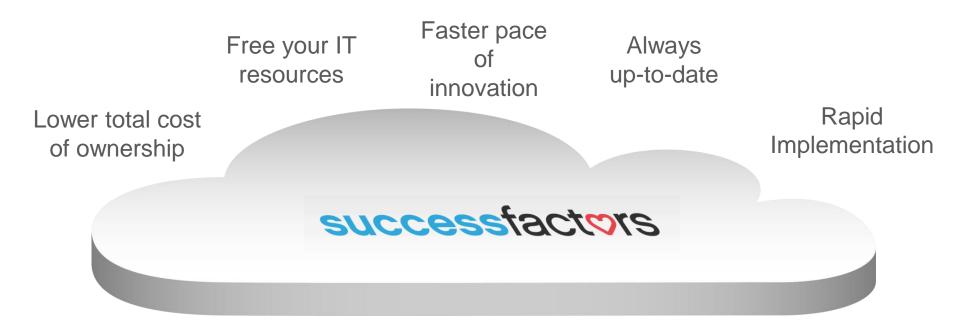




Training costs down 10%, recruiting down 29%

Delivered in the Cloud





Improve organizational performance

Vision for a government organization





Goal Alignment



Performance Management



Compensation Management

Reward talent

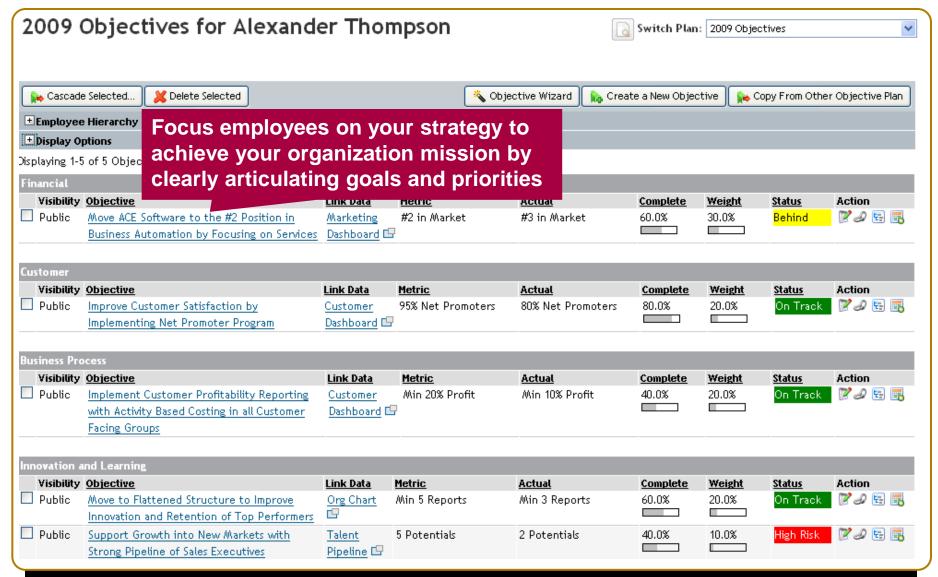
- Everyone is aligned behind the organizational leader's strategic priorities
 - Individual accountability
 - Measure performance



Talent & Development

- Identify competency gaps
- Develop new leaders

Disseminate strategy and align your employees



Confidence in the Cloud



Eleven years all in the cloud



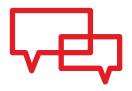
4,000 customers/~23M users



~ \$500 Million in 2012 Billings



An SAP Company



Largest cloud deployment- 2M users

Healthcare and government choose SuccessFactors





WEST PENN ALLEGHENY HEALTH SYSTEM





















































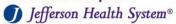






Carolinas HealthCare





















Gartner

SuccessFactors "...offers
market-leading performance
and learning solutions with
functional depth and
breadth across the full
talent management suite."

Figure 1. Magic Quadrant for Talent Management Suites



Source: Gartner (March 2013)

Analysts Agree

SuccessFactors continues to be the clear market share leader

SuccessFactors leads
the market

FORRESTER*

Gartner

Prominent end-to-end solution, *leading* the marketplace



SuccessFactors' ...a global powerhouse in end-to-end talent management software.



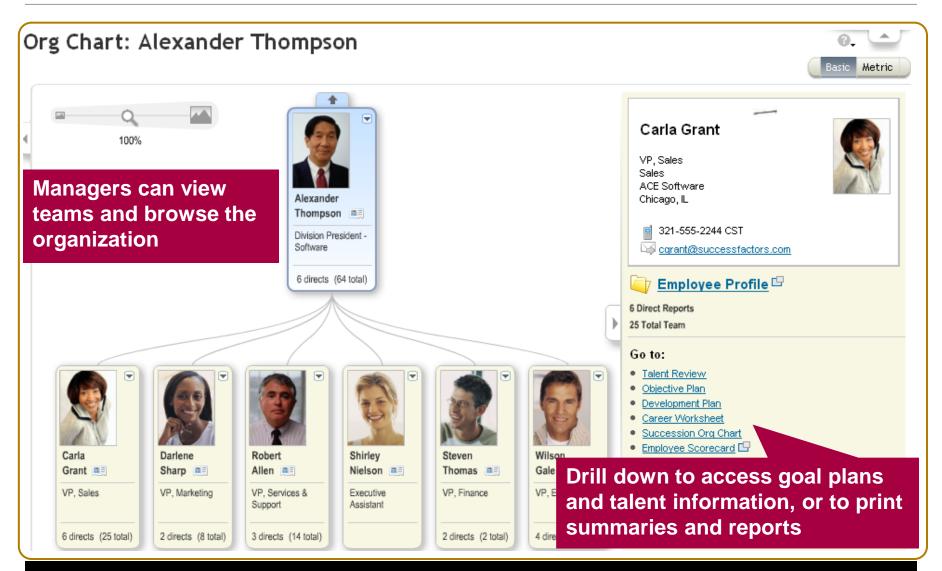


Appendix

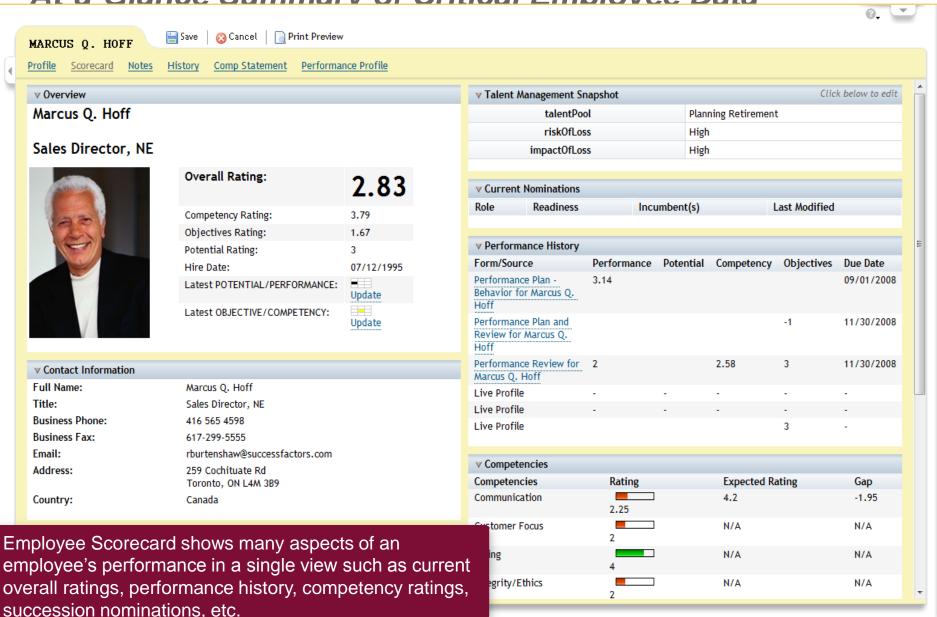
Screen shots



SuccessFactors aligns the organization for execution



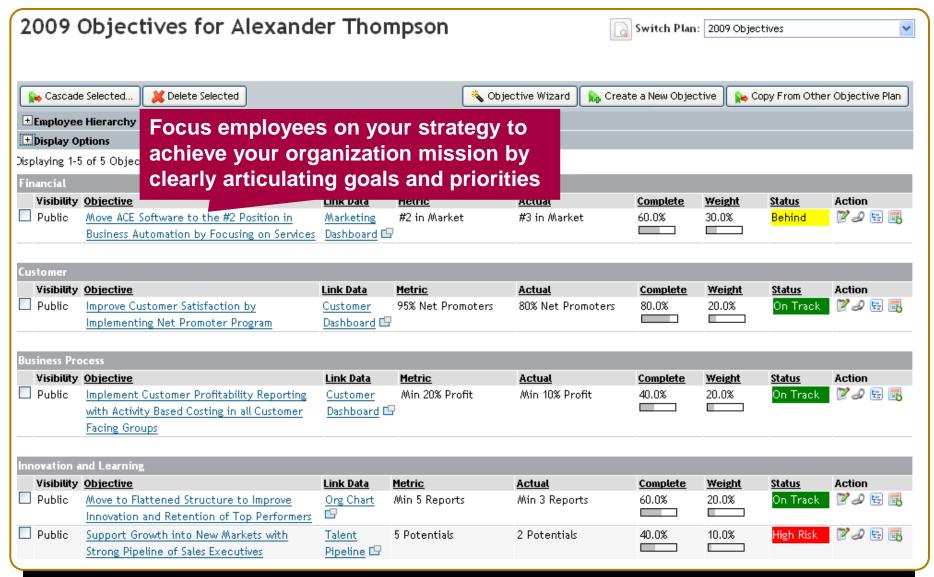
Talent Scorecards for managing talent: At-a-Glance Summary of Critical Employee Data



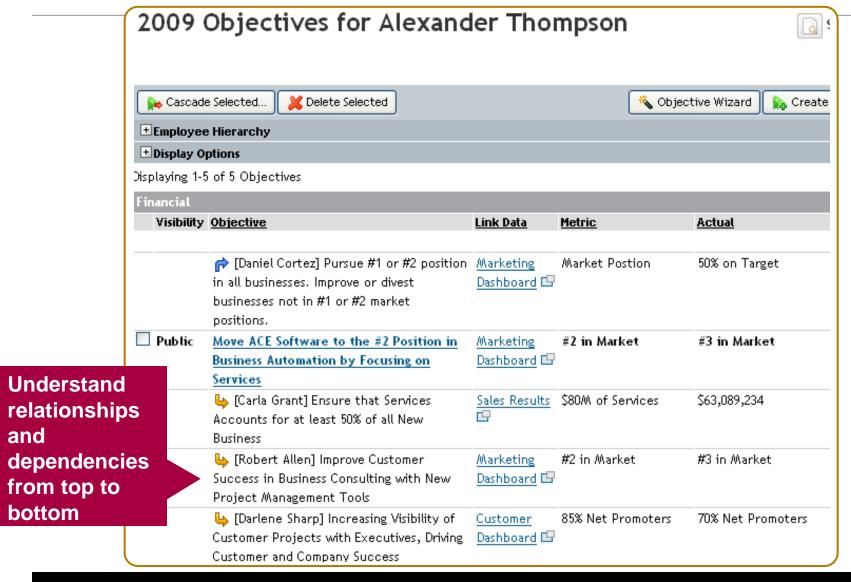
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Internet | Protected Mode: Off

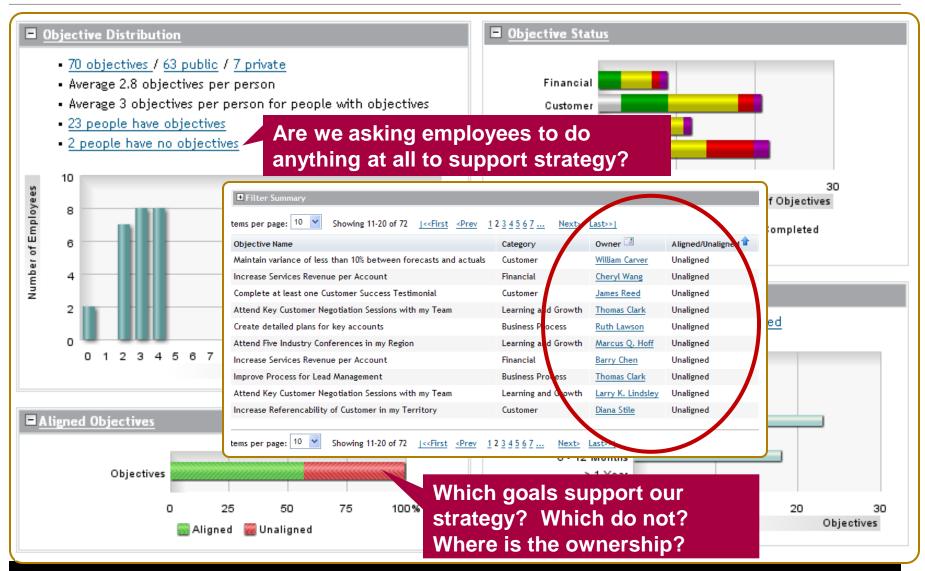
Disseminate strategy and align your employees



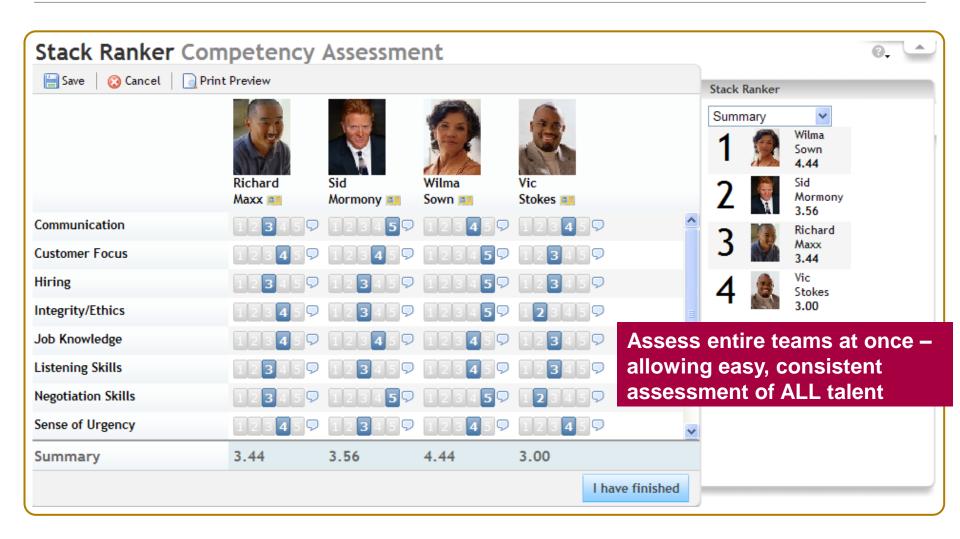
Drive execution with alignment at every level



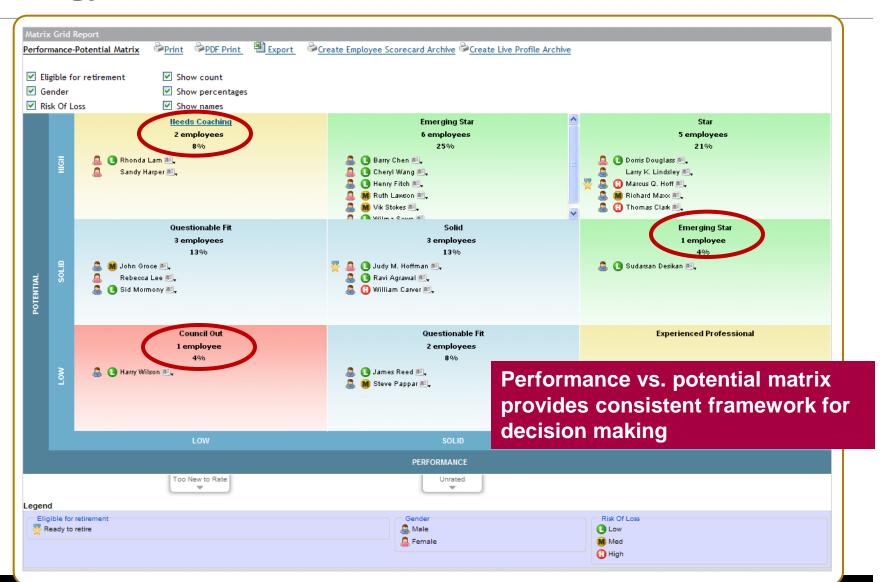
Ensure that the entire organization is aligned to strategy



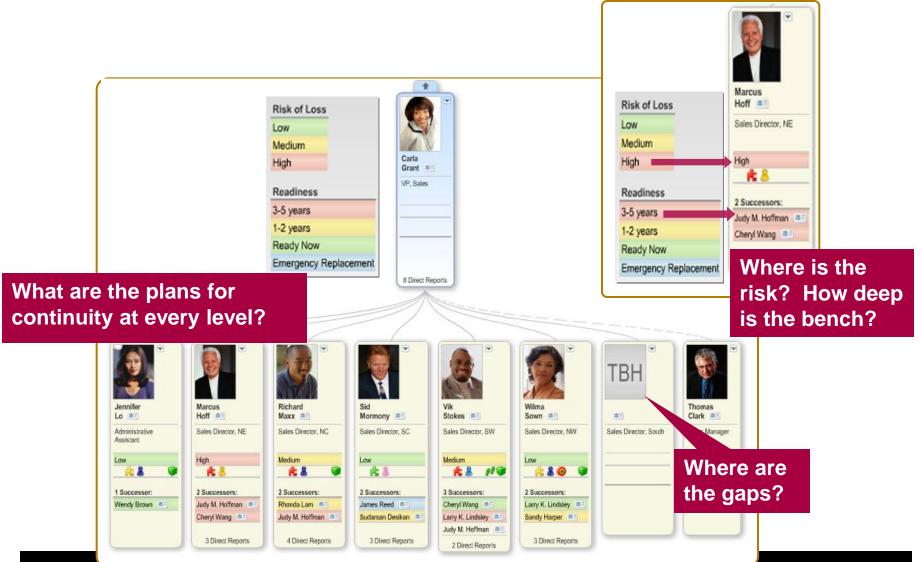
Assess performance and capability to execute



Deploy a deeply understood talent portfolio against strategy



Prepare for business continuity, arm to pursue opportunity



Business Impact Study by Top 3 Management Consulting Firm (n=520)

Business Impact	Average	Average for Healthcar e	High
Productivity improvement	2.9%	6.68%	5.4% (top quartile)
Faster communication of strategy change	1 week	1.25 weeks	8 weeks
Increased time spent on strategic priorities	5.5%	5.28%	40%
Increased project completion	13.8%	1.67%	67%
Increase in high performers	4.9%	37.6%	40.1%
Decrease in low performers	13.9%	12.7%	35.7%
Decrease in turnover rate	15.2%	2.1%	25.0%
Increase in internal job fill rate	12 70/	Hnavailahl	/Q 70/
Business Impact			

Add 1% of revenue to the bottom line Earn 10X return on SuccessFactors investment In one year

About SuccessFactors

15 Million Users

3500+ Customers

500+ Hospitals

168 Countries

34 Languages

60 Industries

Customer Success



Employee engagement increased from 83 – 87% and turnover reduced from 7% to 4.5% since implementing SuccessFactors in 2005



All pay increases and bonuses are now tied to financial results



Over 1000 successors identified for key positions and 58% of executives hired in 2008 were internal



SuccessFactors Solution helps us to drive dialogue between managers and employees and create a culture for high performance



Thank you

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