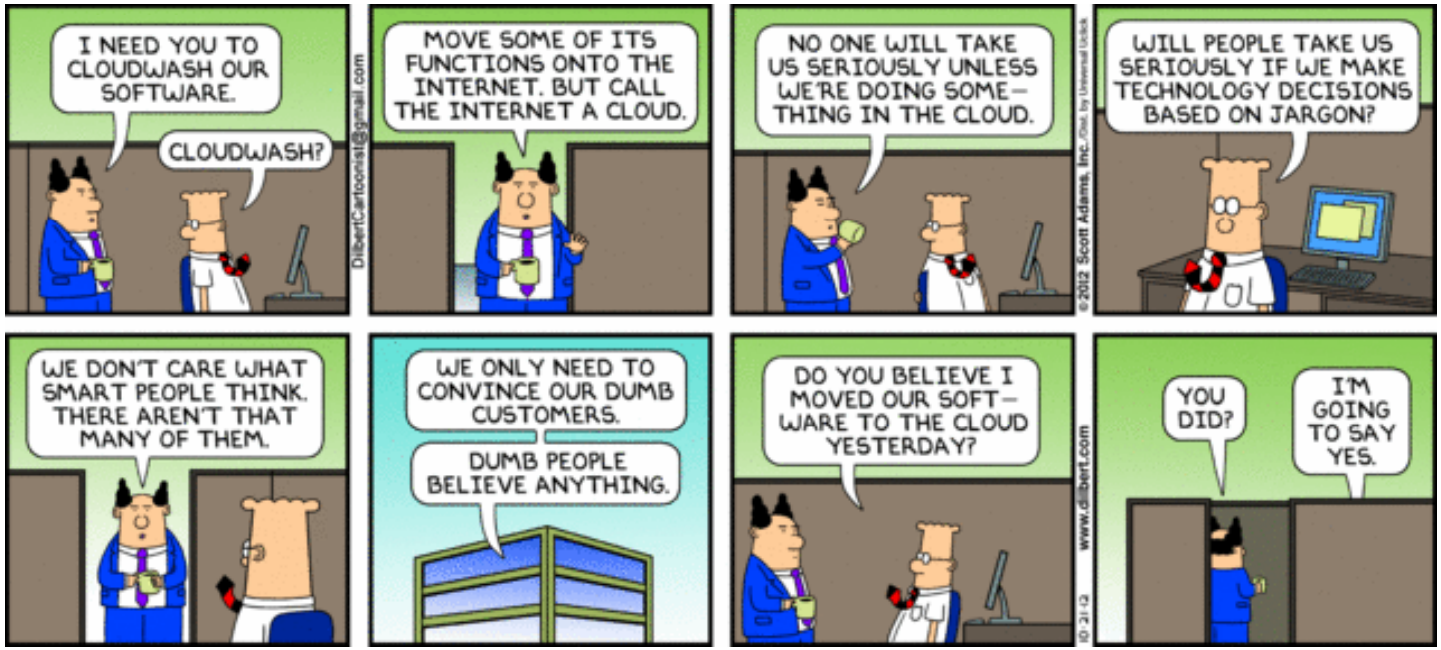
Developing A Business Case For Cloud

Ready for what's next.

Booz | Allen | Hamilton

Cloud or bust!?!?!



Look before you leap to the cloud

<u>The Problem:</u> Organizations have pursued cloud implementation strategies without a business case

<u>The Solution:</u> Our model offers a total-value perspective that evaluates the explicit and implicit value of a migration to cloud-based services

"Is The Cloud Overhyped? Predicted Savings Hard To Verify."

- Federal Times, 10/08/2012

LA's Google Apps Rollout Hits the Skids

By Richard Adhikari
TechNewsWorld
10/20/11 2:49 PM PT

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The City of Los Angeles' transition to Google Apps for its 30,000 employees apparently hasn't been going smoothly, according to letters obtained by the group Consumer Watchdog. It seems Google and contractor CSC haven't been able to fulfill the LAPD's security requirements, and now the city is asking for some of its money back.

"Agencies Have Made Progress Implementing OMB's Cloud First Policy, but Better Planning Is Needed for Future Efforts"
GAO 12-756 July 2012

The White House's "Cloud First" federal IT policy urges agencies to adopt the cloud, and creates the need for a business case

Highlights of Policy

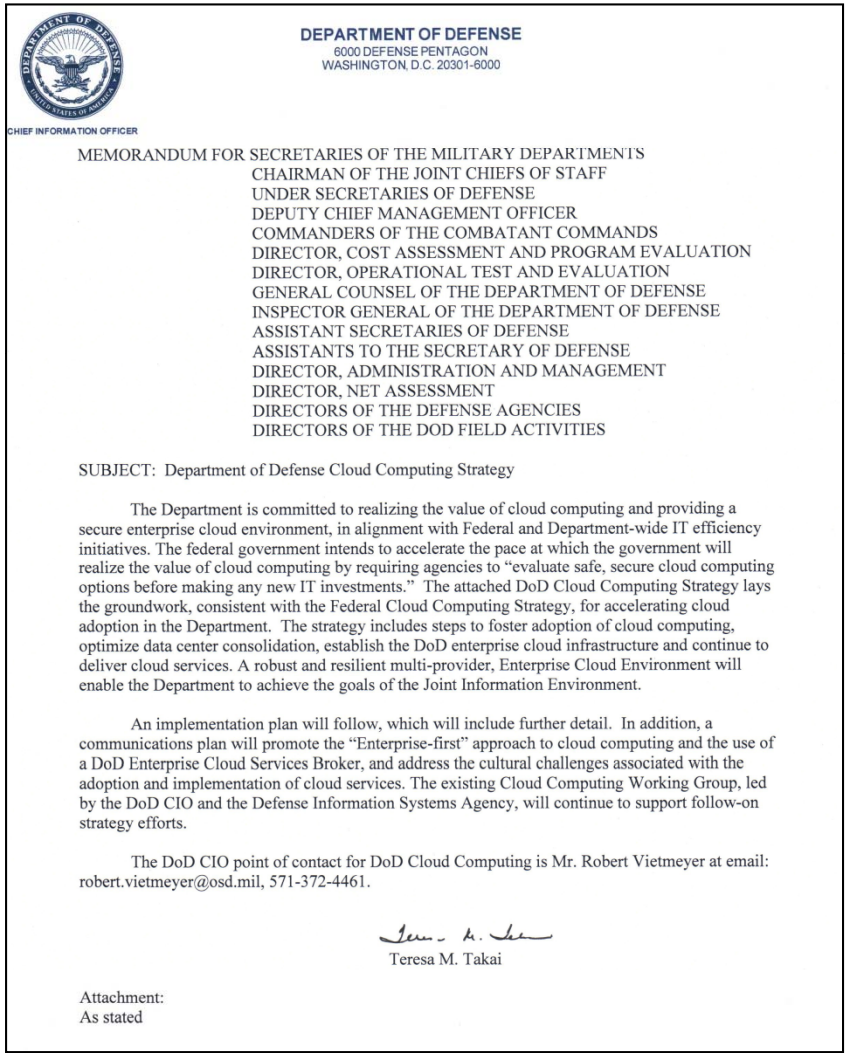
- *Each agency to identify three "must move" services within three months, and move one of those services to the cloud within 12 months and the remaining two within 18 months*
- *Reduce number of Federal data centers by at least 800 by 2015*
- *Work with Congress to: Consolidate commodity IT funding under the Agency CIOs and develop flexible budget models that align with modular development*

Organizational Discovery

- *Extent to which an agency can withdraw from existing legacy infrastructure*
- *Adaptability of existing labor force*
- *Facility costs and other fixed investments*
- *Time required to dispense with legacy system and fully transition to the cloud*
- *Transition costs extend cost of shifting software and applications from the legacy environment to the cloud-enabled environment*
- *Potential productivity gains*

"This is why we instituted a cloud-first policy that directs each federal agency to move three technology services (such as e-mail) to the cloud within the next 18 months. We're already seeing results. The Department of Agriculture is migrating 120,000 e-mail users across 5,000 locations to the cloud, saving $27 million over five years. Overall, based on our estimates, up to $20 billion of annual federal IT spending could potentially be migrated to cloud computing solutions."
Federal Chief Information Officer Vivek Kundra – CNN, February 2011

The DoD CIO memo from July 2012 furthers the cloud evolution



DEPARTMENT OF DEFENSE
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WASHINGTON, D.C. 20301-6000

CHIEF INFORMATION OFFICER

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
UNDER SECRETARIES OF DEFENSE
DEPUTY CHIEF MANAGEMENT OFFICER
COMMANDERS OF THE COMBATANT COMMANDS
DIRECTOR, COST ASSESSMENT AND PROGRAM EVALUATION
DIRECTOR, OPERATIONAL TEST AND EVALUATION
GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE
INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE
ASSISTANT SECRETARIES OF DEFENSE
ASSISTANTS TO THE SECRETARY OF DEFENSE
DIRECTOR, ADMINISTRATION AND MANAGEMENT
DIRECTOR, NET ASSESSMENT
DIRECTORS OF THE DEFENSE AGENCIES
DIRECTORS OF THE DOD FIELD ACTIVITIES

SUBJECT: Department of Defense Cloud Computing Strategy

The Department is committed to realizing the value of cloud computing and providing a secure enterprise cloud environment, in alignment with Federal and Department-wide IT efficiency initiatives. The federal government intends to accelerate the pace at which the government will realize the value of cloud computing by requiring agencies to "evaluate safe, secure cloud computing options before making any new IT investments." The attached DoD Cloud Computing Strategy lays the groundwork, consistent with the Federal Cloud Computing Strategy, for accelerating cloud adoption in the Department. The strategy includes steps to foster adoption of cloud computing, optimize data center consolidation, establish the DoD enterprise cloud infrastructure and continue to deliver cloud services. A robust and resilient multi-provider, Enterprise Cloud Environment will enable the Department to achieve the goals of the Joint Information Environment.

An implementation plan will follow, which will include further detail. In addition, a communications plan will promote the "Enterprise-first" approach to cloud computing and the use of a DoD Enterprise Cloud Services Broker, and address the cultural challenges associated with the adoption and implementation of cloud services. The existing Cloud Computing Working Group, led by the DoD CIO and the Defense Information Systems Agency, will continue to support follow-on strategy efforts.

The DoD CIO point of contact for DoD Cloud Computing is Mr. Robert Vietmeyer at email: robert.vietmeyer@osd.mil, 571-372-4461.

Teresa M. Takai

Attachment:
As stated

Four concurrent steps to enable DoD Enterprise Cloud Environment

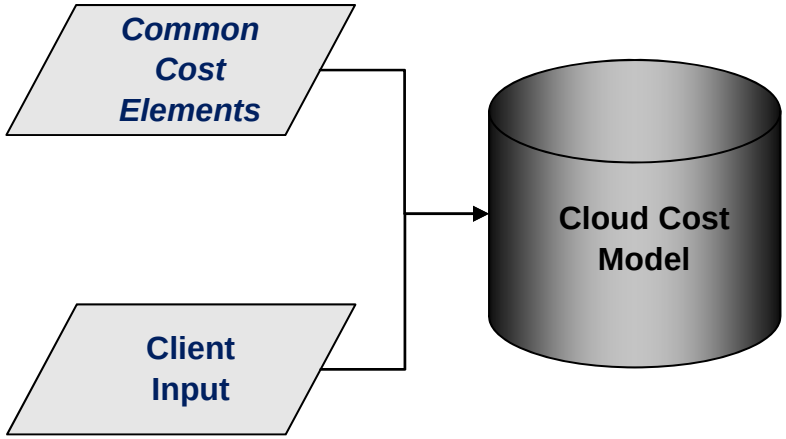
- **Step 1: Foster Adoption of Cloud Computing**
  - Adopt an Enterprise First approach that will accomplish a cultural shift to facilitate the adoption and evolution of cloud computing
- **Step 2: Optimize Data center Consolidation**
  - Consolidate and virtualize legacy applications and data
- **Step 3: Establish the DoD Enterprise Cloud Infrastructure**
  - Incorporate core cloud infrastructure into data center consolidation
- **Step 4: Deliver Cloud Services**
  - Leverage externally provided cloud services, i.e., commercial services, to expand cloud offerings beyond those offered within the Department

Data management choices are a strategic issue

- The impact a technology investment will have on the organization's overall operations and strategic planning process is amplified with the cloud
  - Potential costs, savings and productivity gains can be particularly diffuse, reaching far beyond a CIO's typical area of range and control
  - Individual IT project teams run the risk of failing to see the whole picture, both of the current data system's costs and of the cost savings and productivity potential of a move to the cloud
- Cloud decisions should be made at the agency level
  - Recommendations from the CIO and their department should weigh heavily on this decision, but agency leaders should also ensure that they consider all aspects of costs and benefits.

Optimizing investments, achieving objectives

- ***What Are Your Most Important Objectives?***
  - *Booz Allen's model optimizes cloud implementation goals*
- ***Can You Trust a One-Size Fits All Approach?***
  - *Booz Allen's model provides a custom detailed roadmap*

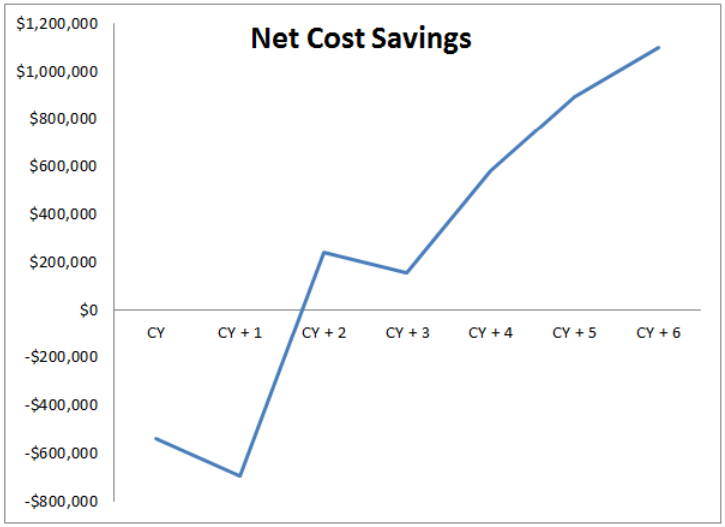


Key Benefits

- *Customized Analysis*
- *Includes "Soft" and "Hard" Factors*
- *Government Specific Analysis*
- *GSA and Government Cost Factors*

Return-On-Investment calculations

The Cloud Cost Model offers a forward looking, total-value perspective on IT cost that evaluates the explicit and implicit value of a migration to cloud-based services.



$$ROI = Cost\ Savings + Cost\ Avoidances + Productivity\ Gains$$

$$Cost\ Savings = Cost\ of\ Status\ Quo\ - Cost\ of\ Cloud$$

$$Cost\ Avoidances = Reduction\ to\ Future\ Facilities\ and\ Labor\ Costs$$

$$Productivity\ Gains = Increased\ Effecieny + Increased\ Outputs$$

Our model offers a total-value perspective on IT cost that evaluates the explicit and implicit value of a migration to cloud-based services

Business Activities

Mission Support
- *Organization Activity and Output Framework*
- *Activity Based Costing to evaluate impact to mission*
- *Compare to existing IT budget*

Productivity
- *Calculate increased output*
- *Lessened FTE cost to maintain current output*

Effectiveness
- *Measure impact to mission through ABC modeling*
- *Repurpose staff to increased focus on mission critical tasks*

IT Infrastructure

Hardware
- Servers
- Racks
- San Storage
- Network Switches
- Spam Filters
- Load Balancing
- Firewall

Software
- Microsoft
- Middleware
- Red Hat
- Oracle
- VM Ware
- Widows
- Network Maintenance

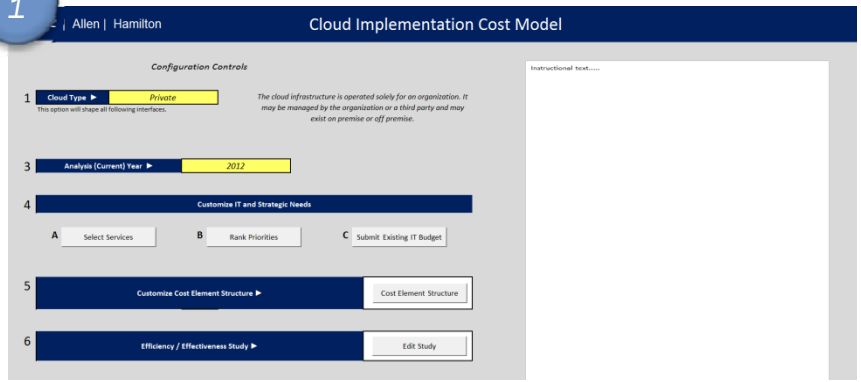
Labor
- Planning
- Implementation
- Acquisition
- Maintenance
- Upgrades/Updates
- PC Virtual Private Cloud
- Business Support

Facilities
- Warehousing
- Offsite Backup / Recovery
- Personnel Office
- Business Services
- Risk Contingency
- Physical Securi

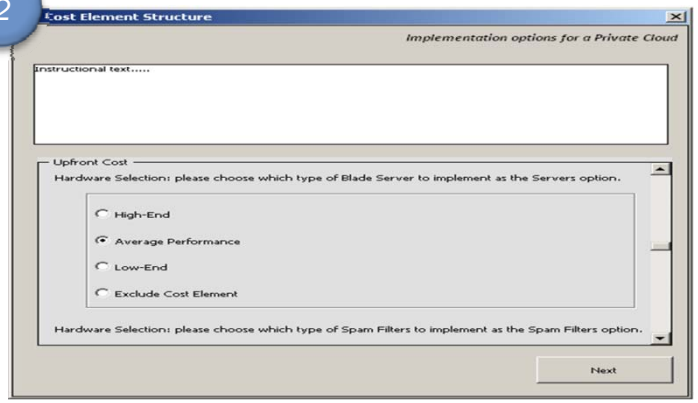
Captures Cost of Transition and Phase-Out and Projected Savings

Our model benefits include: “soft” and “hard” elements with government specific analysis based on GSA pricing

1 Organization Input

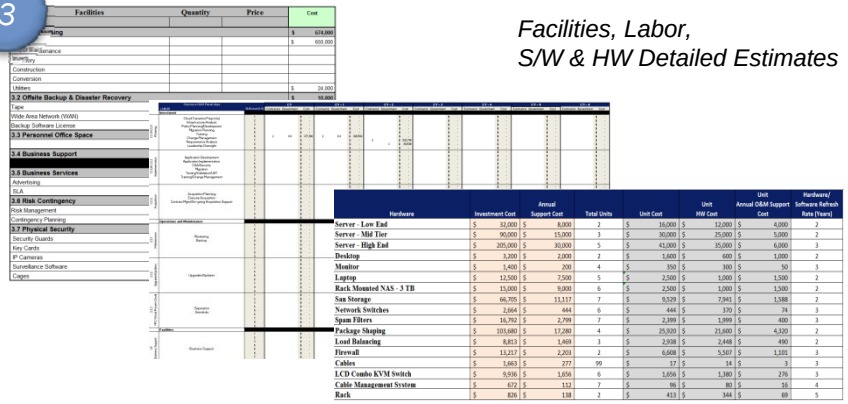


2 Cost Element Structure



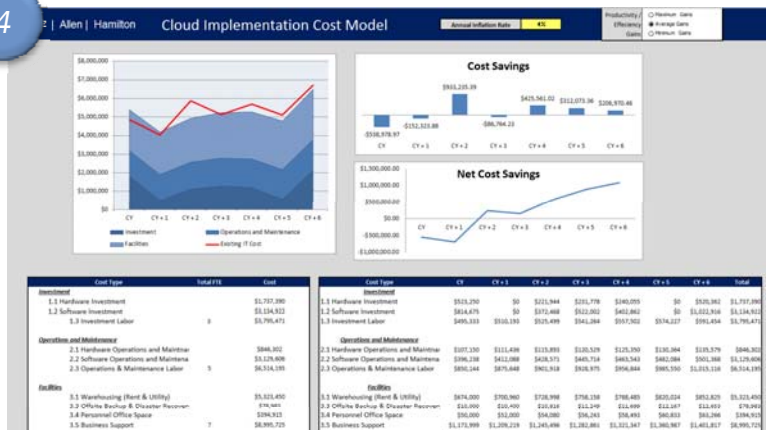
3 Detailed Cost Driver Information

Facilities, Labor, S/W & HW Detailed Estimates



Hardware	Investment Cost	Annual Support Cost	Total Units	Unit Cost	Unit HW Cost	Unit Annual O&M Support Cost	Hardware/ Software Refresh Rate (Years)
Server - Low End	$ 32,000	$ 8,000	2	$ 16,000	$ 12,000	$ 4,000	2
Server - Mid Tier	$ 90,000	$ 15,000	3	$ 30,000	$ 25,000	$ 5,000	2
Server - High End	$ 205,000	$ 30,000	5	$ 41,000	$ 35,000	$ 6,000	3
Desktop	$ 3,200	$ 2,000	2	$ 1,600	$ 600	$ 1,000	2
Monitor	$ 1,400	$ 200	4	$ 350	$ 300	$ 50	3
Laptop	$ 12,500	$ 7,500	5	$ 2,500	$ 1,000	$ 1,500	2
Rack Mounted NAS - 3 TB	$ 15,000	$ 9,000	6	$ 2,500	$ 1,000	$ 1,500	2
San Storage	$ 66,705	$ 11,117	7	$ 9,529	$ 7,941	$ 1,588	2
Network Switches	$ 2,664	$ 444	6	$ 444	$ 370	$ 74	3
Spam Filters	$ 16,792	$ 2,799	7	$ 2,399	$ 1,999	$ 400	3
Package Shaping	$ 103,680	$ 17,280	4	$ 25,920	$ 21,600	$ 4,320	2
Load Balancing	$ 8,813	$ 1,469	3	$ 2,938	$ 2,448	$ 490	2
Firewall	$ 13,217	$ 2,203	2	$ 6,608	$ 5,507	$ 1,101	3
Cables	$ 1,663	$ 277	99	$ 17	$ 14	$ 3	3
LCD Combo KVM Switch	$ 9,936	$ 1,656	6	$ 1,656	$ 1,380	$ 276	3
Cable Management System	$ 672	$ 112	7	$ 96	$ 80	$ 16	4
Rack	$ 826	$ 138	2	$ 413	$ 344	$ 69	5

4 Consolidated Summary



Successfully used model to validate findings and accuracy

SAF/A6 IT Efficiencies

- Model produced results within 2% of previous BCA findings
- Model expanded expected cost range for pre-post cloud environment than BCA
- Model expanded cost drill down capability and provided greater flexibility for “what if” scenario analysis in near real time
- Model provided greater comparison with external organizational benchmarks
- Model was able to rapidly validate BCA results in a 2-hour session

Air National Guard

- Model produced results within 5% of previous BCA findings
- Provided greater detail and drill down capability extending 6 cost drivers into 117 drivers
- Validated cost mapping to software and hardware cost elements in pre and post cloud environment
- Facility and utility cost provided detailed results that correlated with industry standards
- Model was able to rapidly validate BCA results in a 2-hour session

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