

How SOA Fits into Cloud Computing

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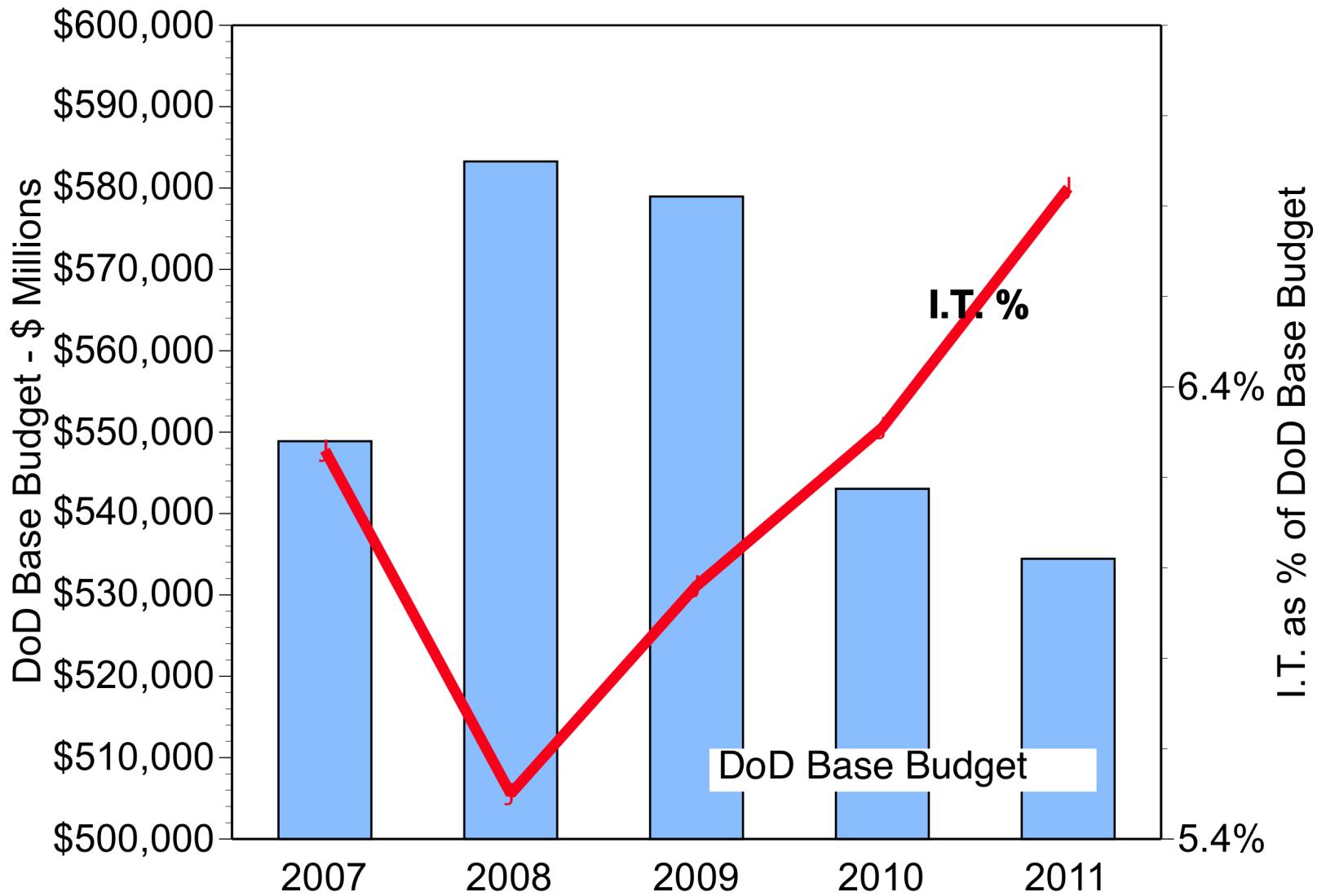
FY2011 Spending for I.T.

IT Spending	FY2009 Actuals	FY2010 Enacted	FY2011 Budget
DoD - \$Billions	\$34.5	\$34.3	36.5 ?

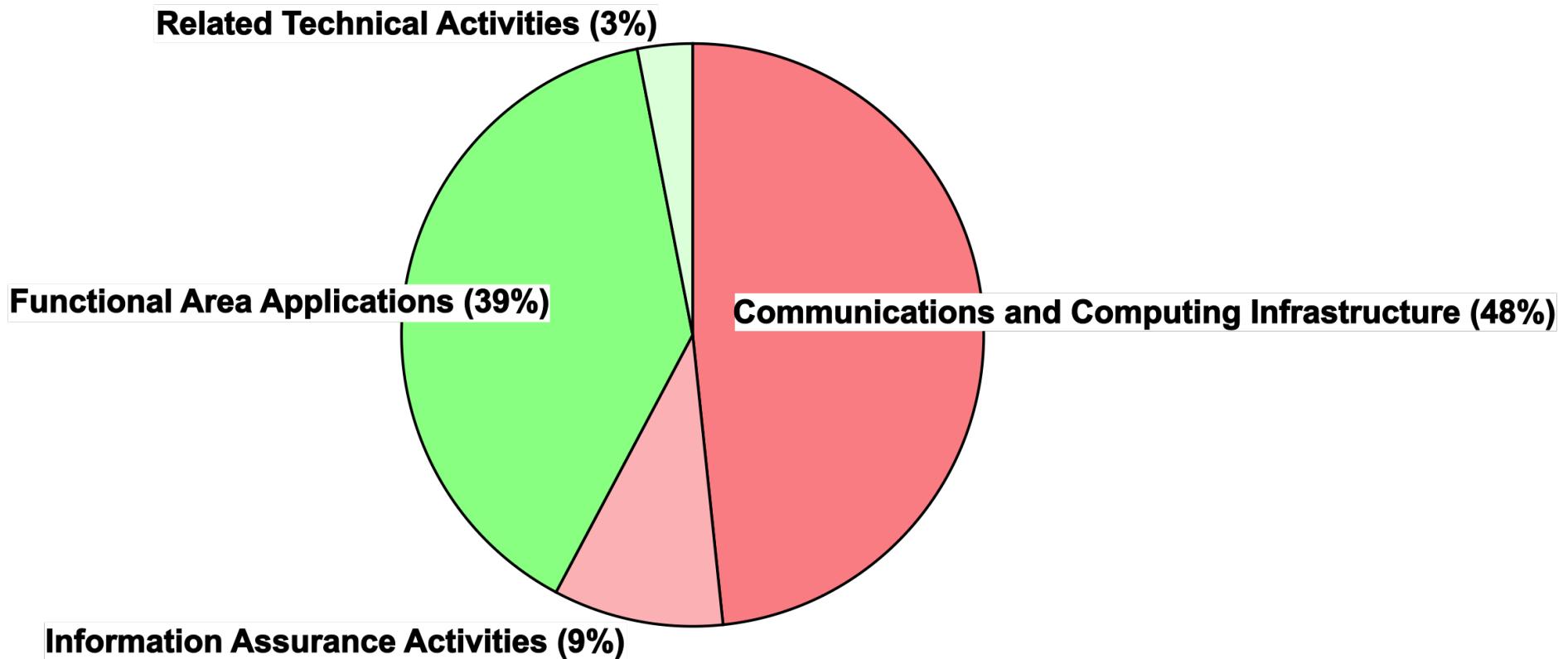
Note: I.T. spending does not include costs of >150,000 soldiers & civilians, or >\$15 Billions

SOURCE: <http://www.whitehouse.gov/omb/e-gov/>

Will I.T. Increase as the Base Budget Declines?



57% of I.T. Costs Are in an Expensive Infrastructure



SOURCE: <http://www.whitehouse.gov/omb/e-gov/>

Cost Reductions Through SOA

SOA Targets 42% of DoD I.T. Costs

OMB Budget Grouping	Number of Programs	FY2010 IT Spending - \$ Billions
Communications and Computing Infrastructure	1,547	\$16.3
Information Assurance Activities	353	\$3.2
Functional Area Applications	3,244	\$13.2
Related Technical Activities	156	\$1.0
Total DoD IT Spending	5,300	\$33.7

SOURCE: <http://www.whitehouse.gov/omb/e-gov/>

Potential SOA Benefits (Without Reduction in Applications)

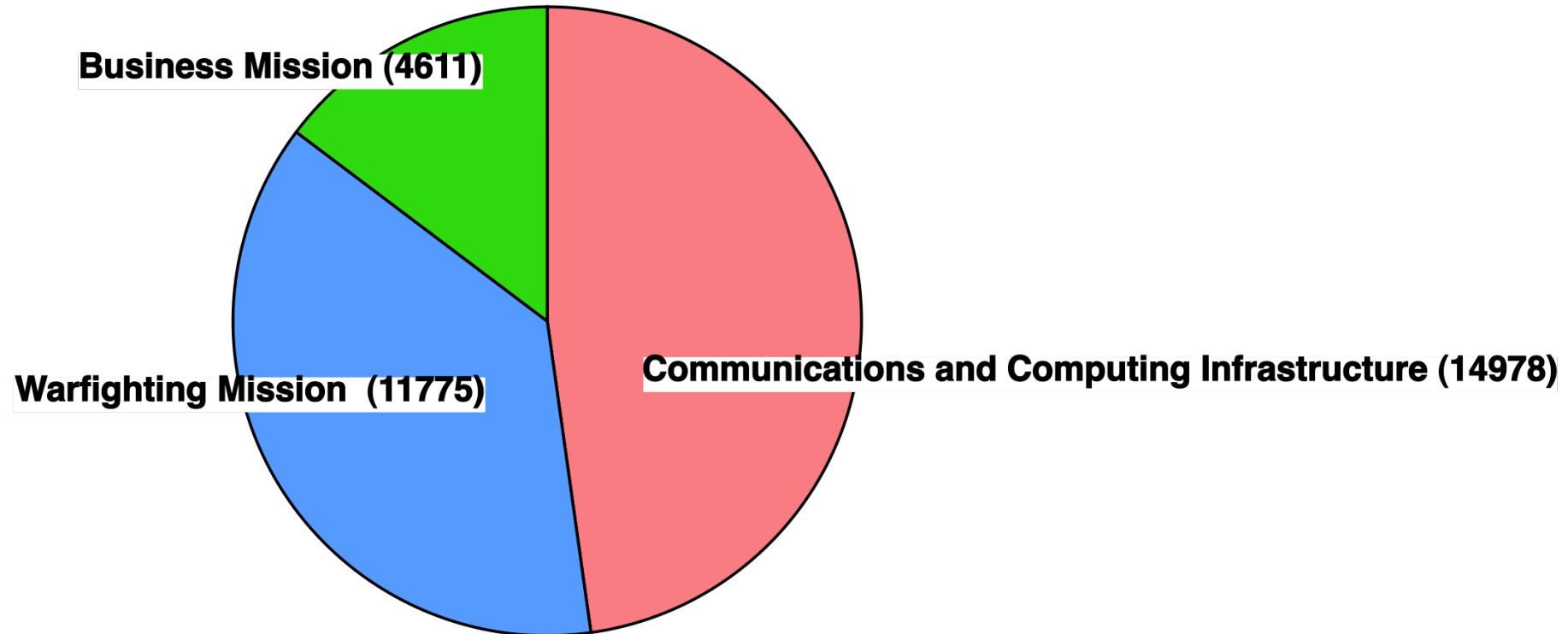
SOA Benefit Category	Best Estimated 5 yr Savings - \$ Billions
Decreased Integration Costs	\$1.8
Decreased Interface Maintenance Costs	\$4.5
Decreased Application Development Costs	\$0.3
Total SOA Savings	\$6.6

SOURCE: http://media.tibco.com/soa/soa_roi_calculator/index.html; by Alinean, Inc.

What Are the Primary Benefits of SOA?

- Discover Data from a Data Registry;
- Discover Applications Anywhere;
- Mediate the Extraction of Data from Data Bases;
- Execute Requests from Multiple Servers;
- Provide Credentials Validation to Everyone.

Major Program Interfaces – Why SOA Has Limits (\$ Mission Costs)



SOURCE: <http://www.whitehouse.gov/omb/egov/vue-it/index.html#path5/path5.json|path2/path2.json>

Cost Reductions Through Cloud Computing

Cloud Computing Targets 57% of DoD I.T. Costs

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Potential Cloud Benefits in Capital and Operating Costs

Cloud Benefit Category	Best Estimated 5 yr Savings - \$ Billions
Data Center Savings	\$5.2
Business Continuity Savings	\$8.7
Desktop Savings	\$18.6
Total Cloud Savings	\$32.5

SOURCE: https://roianalyst.alinean.com/ent_02/AutoLogin.do?d=593411470991915416

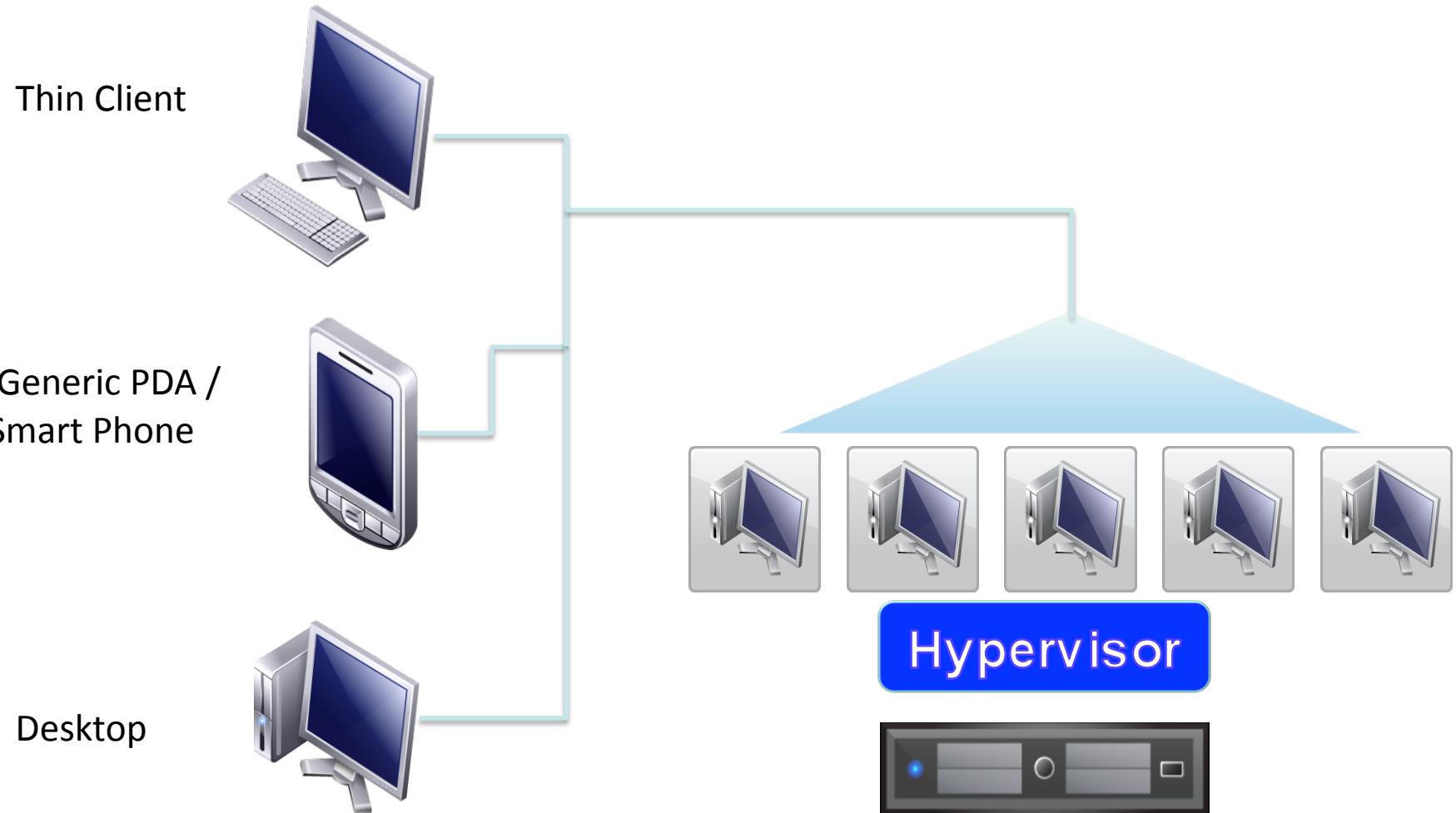
What Are Primary Benefits of Cloud Computing?

- Thin Client Management;
- Power and Cabling;
- Data Center Hardware Utilization;
- Data Center Security;
- Disaster Recovery.

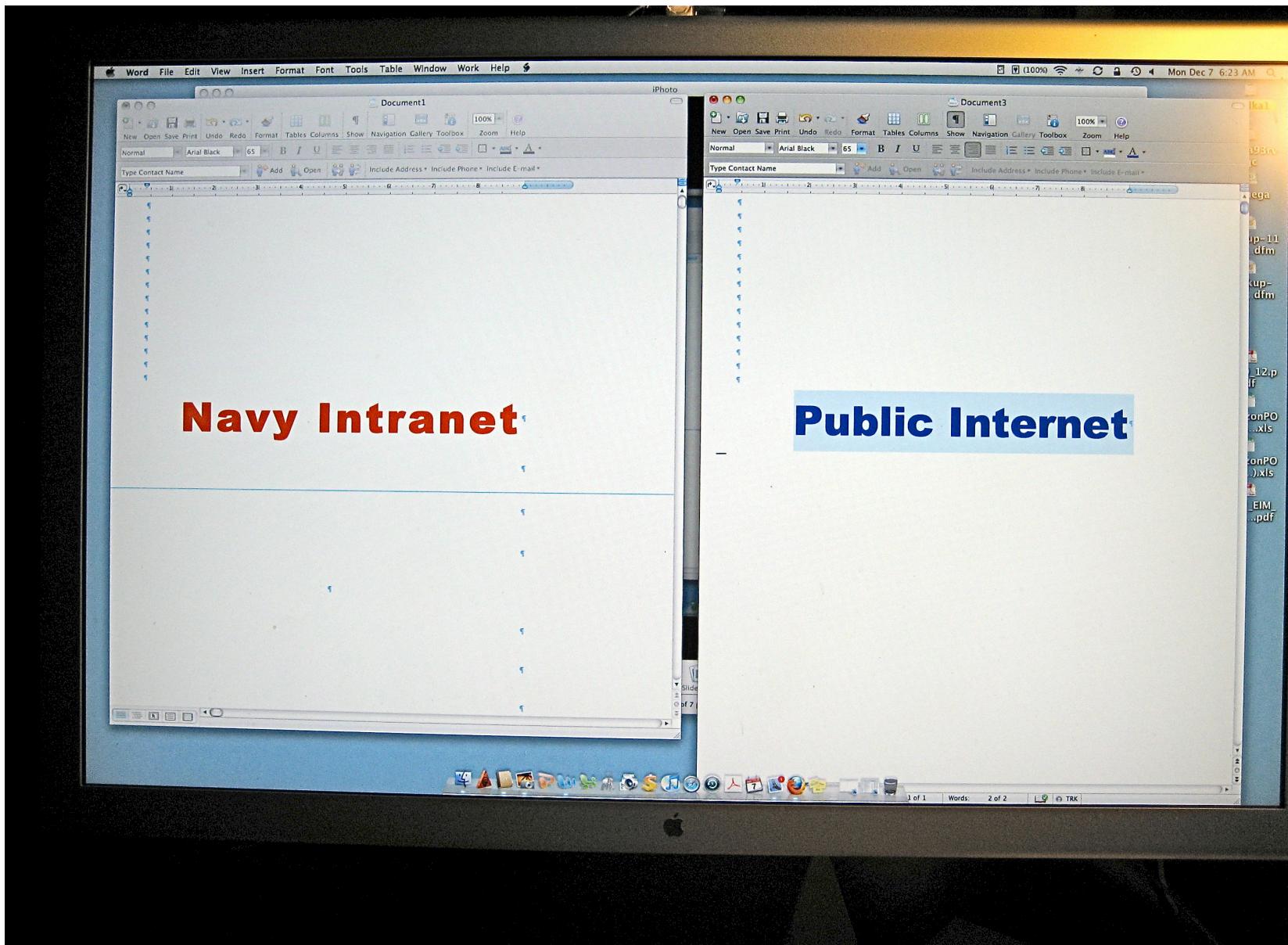
From Fat Clients to Thin Clients



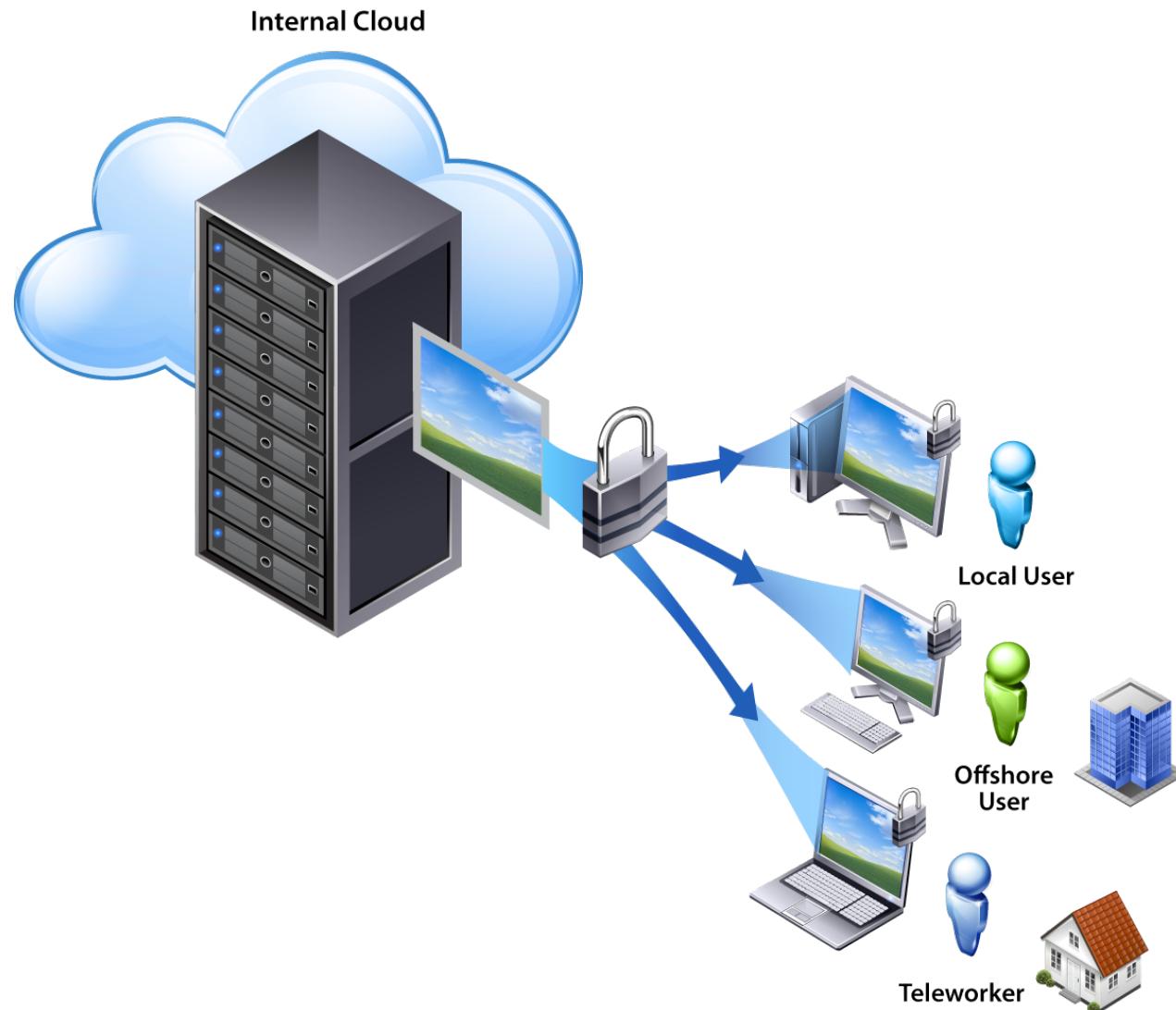
The Concept of Virtual Computers



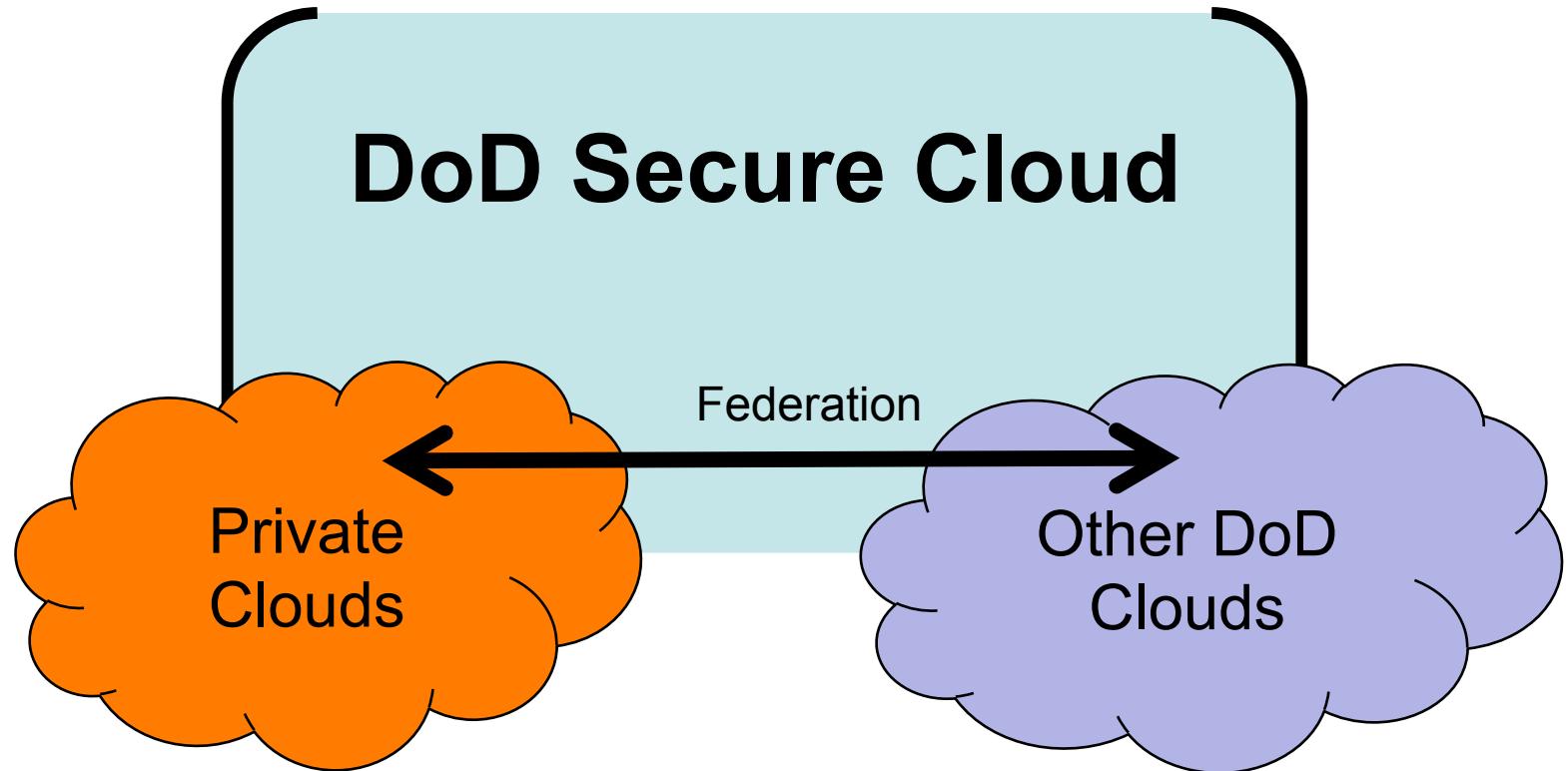
"Thin" Computers Enable Social Computing



Example of a Private Secure Cloud Service

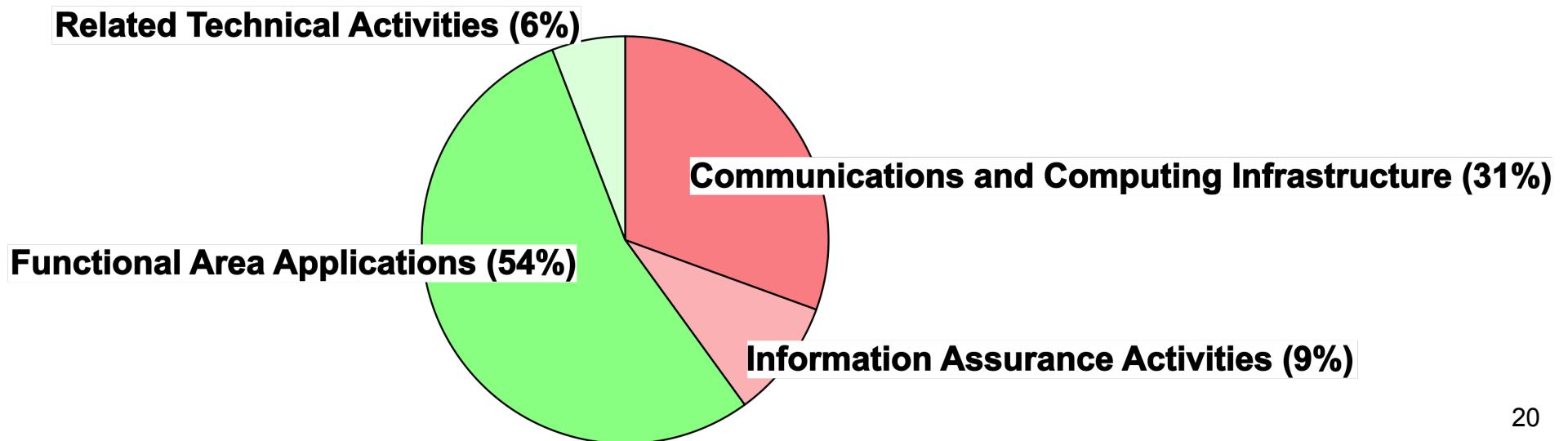
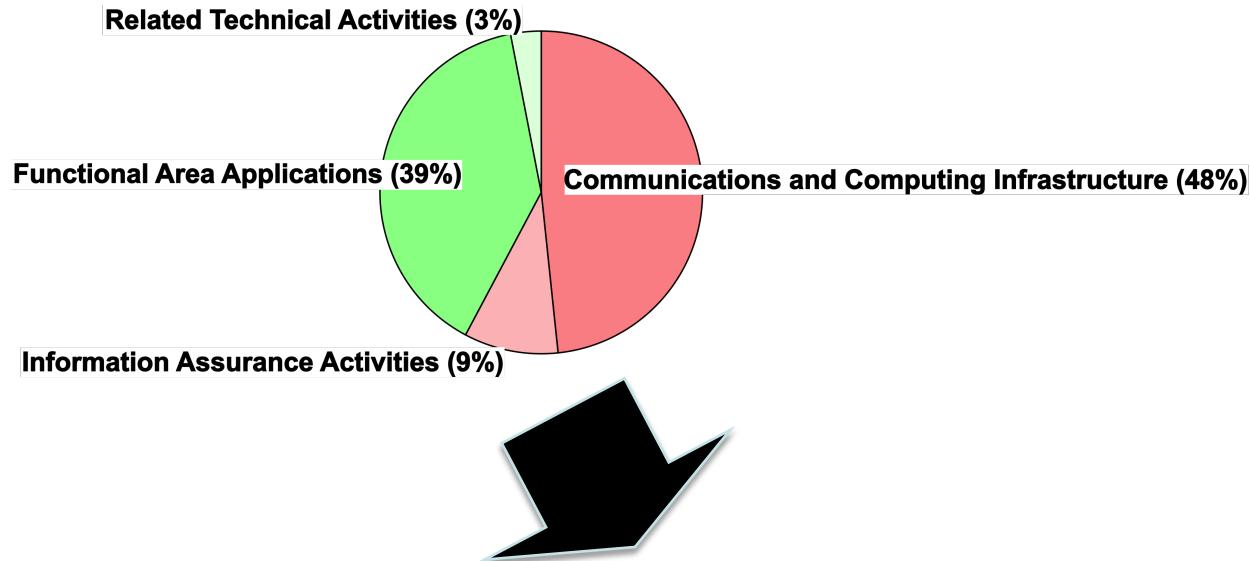


Example of Information Dominance Networks



Directions

Shift Costs from Infrastructure to Applications



Comparison of Potential Ratios

Mission	Total Spending - \$ Billions	Average Best Estimated Savings - \$ Billions	Savings/Spending Ratio
SOA	\$14.2	\$1.3	9%
Cloud Computing	\$19.5	\$6.5	33%

Summary

- DoD will depend on cost reductions to fund IT growth.
- SOA necessary for lower-cost migration to the cloud.
- Cloud computing reduces costs and increases security.

References:

Questions? E-mail: pstrassm@gmu.edu

Further Reference: www.strassmann.com