

*George Mason University, Fairfax, VA*

# The DoD CIO Charter: A Template for I.T. Governance?

Paul A. Strassmann, October 3, 2005

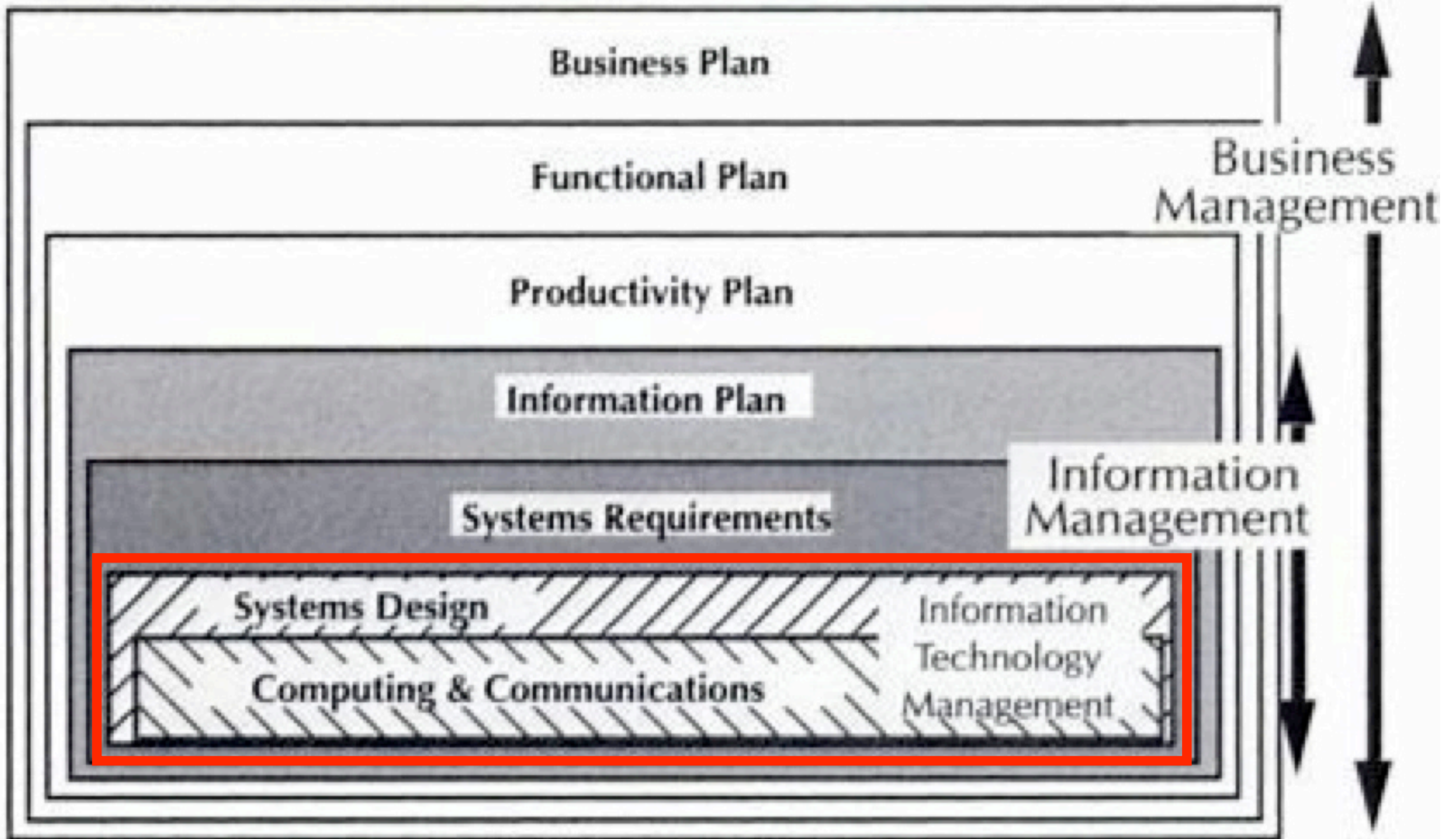
*Authority for the DoD CIO*



Department of Defense  
**DIRECTIVE**

**NUMBER 5144.1**  
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## Traditional Views of the CIO Roles



## *An Expansive View of DoD CIO Responsibilities*

- 1. Information Resources Management;**
- 2. Business Management Modernization;**
- 3. Network-Centric Policies;**
- 4. Command & Control;**
- 5. Communications and Space;**
- 6. Enterprise-wide Strategies;**
- 7. Information Assurance;**
- 8. Spectrum management;**
- 9. Network operations;**
- 10. Positioning, Navigation & Timing;**
- 11. Contingency and Migration;**
- 12. Records Management.**

## Sources of Authority

1. Evaluates against approved metrics;
2. Concurs with budget requests;
3. Initiates continuation, modification or termination of programs;
4. Assures compliance with standards & policies;
5. Verifies compliance with Enterprise Architecture;
6. Dictates data & information management methods;
7. Ensures enforcement of policies and standards;
8. Serves as Milestone Decision Authority of Major Systems;
9. Has direct authority over the Director of DISA;
10. Provides policy guidance to the Director, NSA regarding network operations and Information Assurance;
11. Issues DoD Instructions

## *Supplemental Functions Performed*

1. Inventory of essential information systems;
2. Contingency plans in case of disruption in operations;
3. Internet and Web site administration oversight;
4. Accountability for E-Gov for President's Mgmt. Agenda;
5. Training & career development for DoD systems;
6. Advice on implementation of Business systems;
7. Statement of information-related R&D requirements;
8. Criteria for Command & Control reliability and survivability;
9. Compliance & reporting to OMB directives;
10. Compliance with Federal Enterprise Architecture.

## Organizational Matters

- Reports directly to SECDEF and DEPSECDEF;
- Chairman, DoD CIO Executive Board;
- Member, Intelligence Community CIO Council;
- Member, Federal CIO Council;
- Advisor to the Defense Acquisition Board and the Defense Space Acquisition Board;
- Represent the SECDEF on the NATO C3 Board;
- Coordinator with Department of Homeland Security for systems interoperability;
- Sponsor of C3I Federally Funded Research and Development Centers;
- Certification Authority for Business Management Modernization Process (BMMP).

*Part 1 - IRM Management*

# Information Resources Management



## *Directive 8000.1: Management of Information Resources (2002)*

- I.T. is only a part of Information Resources;
- Enable full data and information interoperability;
- Deliver integrated architecture;
- Components will use DoD-wide applications;
- Use shared networks, computers, databases, software reuse;
- Require quantitative metrics to gauge progress;
- Use consistent risk-adjusted returns for investments;
- Assure goals alignment through verifiable measurements;
- Benchmark functional processes vs. models of excellence;
- Information Assurance defined during process engineering;
- Work process improvements.

## *DoD FY 2006 I.T. Budget by Function*

Number of Projects	Budget Category	FY 2006 Budget - \$000	% of total	
585	Warfighter	\$7,644,381	25.4%	Teeth
102	Acquisition	\$251,225	0.8%	
1,891	Infrastructure, Enterprise Environment	\$15,333,534	51.0%	
251	Finance, Accounting	\$643,210	2.1%	Tail
440	Human Resource Management	\$2,218,081	7.4%	
680	Installation, Environment, Logistics	\$2,551,152	8.5%	
172	Planning, Budgeting and Other	\$1,444,902	4.8%	
4,121	Total I.T. Spending	\$30,086,485	100.0%	

T-T Ratio:  $25.4\% / (100 - 25.4) = 34\%$

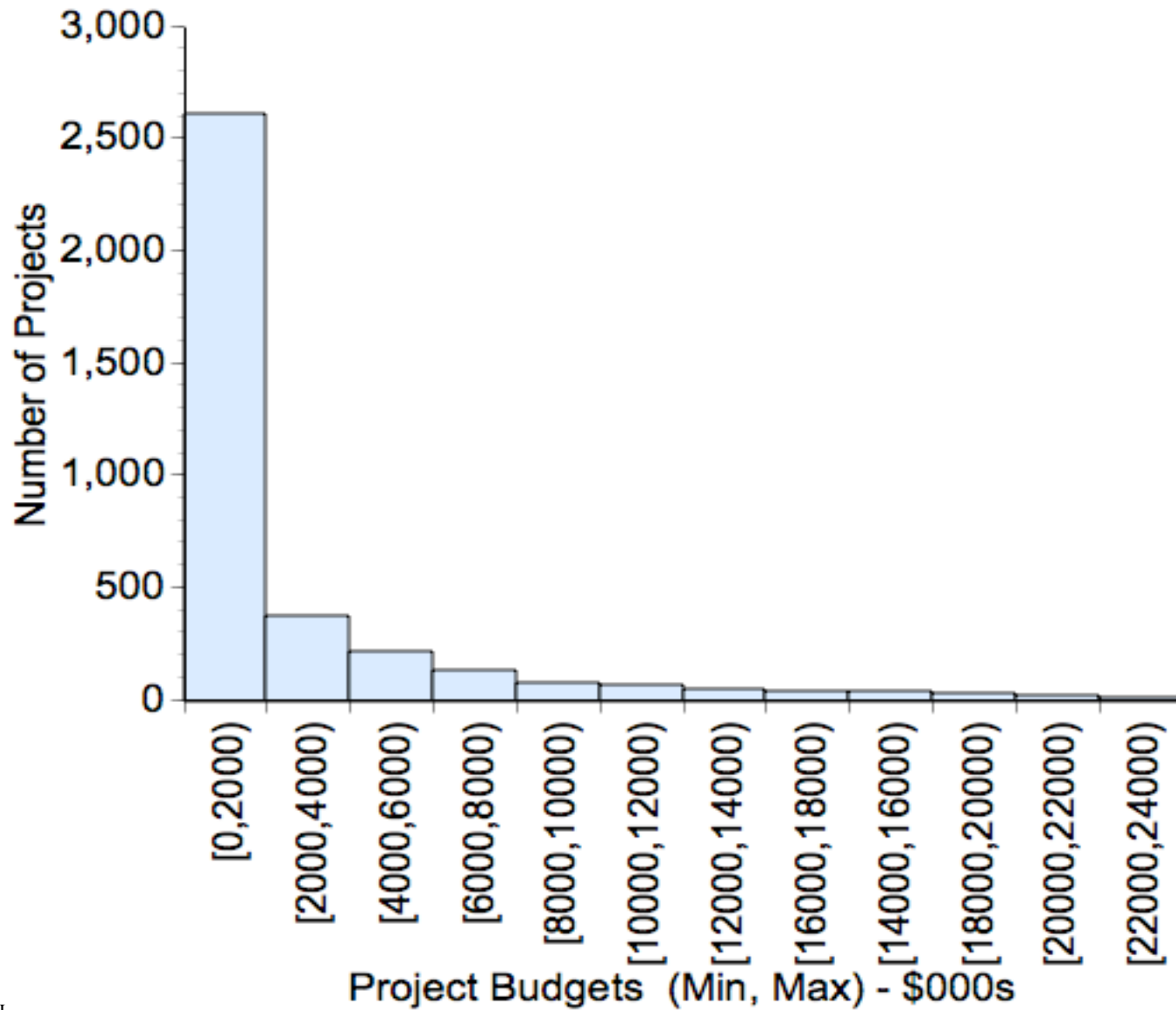
*There Are Only Enterprise Solutions*

Information Technology Spending - \$M	FY2006	% of Total
Navy	\$6,771	23%
Army	\$6,112	20%
Air Force	\$7,333	24%
Agencies & OSD	\$9,870	33%
DoD	\$30,086	100%
Embedded I.T.	> \$20 B	
National Intelligence I.T.	> \$10 B	
Military Personnel in I.T.	> \$5 B	
Military Personnel Performing I.T.	> \$5 B	

## Management of Systems Integration Major Challenge

<b>\$ Billions</b>	<b>FY05</b>	<b>FY06</b>	<b>FY07</b>
<b>Overall DOD IT Spend</b>	<b>\$28.7</b>	<b>\$29.9</b>	<b>\$30.7</b>
<b>Contracted DoD IT Spend</b>	<b>\$21.1</b>	<b>\$22.6</b>	<b>\$24.1</b>
<b>% Contracted</b>	<b>73.5%</b>	<b>75.6%</b>	<b>78.5%</b>

80% of I.T. Projects <\$2 Million



## *Scope of IRM Responsibilities*

- Design a process for maximizing the value of I.T. and NSS acquisitions;
- Design and implement process for assessing and management the risks of I.T. and NSS acquisitions;
- Scope includes coordination with USD(AT&L), USD(C)/CFO, USD(I), CJCS;
- Reduce data and information-collection burdens to the public and business;

## *Part 2 - Business Systems*

# **Business Management Modernization**

## *Defense Business Systems Management*

- Guides implementation of DoD Manual 8020.1-M, *<Functional Improvement Process>*, August 1992;
- Accountable for any business system that support information technology infrastructure and Information Assurance;
- Acts as Certification Authority as member of the *<Business Management Modernization Program>* (BMMP) Investment Review Board;
- Ensures consistency and interoperability between business systems and C2 systems;
- Identifies opportunities presented by communications and information technologies.



## *Part 3 - Network Policies*

# **Network Centric Policies and Concepts**

## *Directive 8100.1: Global Information Grid (2002)*

- GIG shall support all DoD missions for I.T. and NSS, Joint Operations, Joint Task forces and Combined Commands.
- GIG will fulfill requirements defined by JROCM 134-01, 8/2001.
- GIG shall be interoperable according to a common C4ISR Architecture.
- Plans, design, hardware, software and support will be reviewed for compliance.
- GIG program investments shall be reviewed annually to verify synchronization of projects

*Part 4 - Command and Control*

# Command & Control

## Command & Control (C2) Responsibilities

- Develop and integrate the overall C2 strategies, structure and policies for the DoD;
- Provide program oversight and guidance over C2 programs;
- Identify the governance of C2 that meets the needs of the President;
- Facilitates C2 integration, including support for the White House Military Office;
- Oversees C2 research, experiments, metrics and analytic methods;
- Directs DoD Components to plan, program and budget programs that deliver Joint capabilities;
- Negotiate and conclude international agreements related to Coalition C3.

*Part 5 - Communications*

# Communications & Space

## *Specific Functions*

- Negotiate and conclude international agreements related to the sharing or exchange of DoD communications equipment, facilities, support, services or resources;
- Oversees non-intelligence space matters, including space-based communications, satellite control, space-based systems and space launch issues;
- Manage issues related to meteorology, oceanography and space weather programs to assure interoperability and integration with GIG.

## *Part 6 - Enterprise Integration*

# **Enterprise-wide Integration Strategies**

## Defense Strategies

- Non-intelligence space strategies;
- Architect for the Enterprise Environment;
- Oversight of architecture implementation;
- Assurance of interoperability;
- Architecture integration with Intelligence;
- Measure advantages from using Commercial-Off-the-Shelf software solutions;
- Adopt Knowledge Management technologies;
- Apply commercial I.T. solutions.



## *Directives on Data Management*

- Guides and oversees the implementation of:
  - DoD Manual 8320.1-M-1, Standard Data Element Development, Approval, and Maintenance Procedures, May 1992.
  - DoD Manual 8320.1-M, Data Administration Procedures, March 1994.
  - DoD Directive 8320.2, Data Sharing in a Net-Centric Department of Defense, December 2, 2004.
- Install capabilities that enable the discovery, access, posting, processing, retrieving and fusing data to “make sense of the data gathered.”

*Part 7 - Information Assurance*

# Information Assurance

## *Responsibilities for Information Assurance*

- To protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation.
- To provide for restoration of information systems by incorporating protection, detection, and reaction capabilities.
- To protection of information against unauthorized disclosure, transfer, modification, or destruction, whether accidental or intentional

## *Information & Security Assurance*

- Oversight over information security;
- Includes integration of sensitive information;
- Integration with National Security Systems;
- Compliance with DoD S-3600.1 on *<Information Operations>*.

## Part 8 - Spectrum

# Spectrum Management

## Spectrum

- Allocation of ground-based and space spectrum for non-intelligence uses;
- Negotiate and conclude international agreements regarding the use of the DoD electromagnetic spectrum;
- Manage policies and practices with regard to the uses of DoD communications resources;
- Manage the spectrum according to Directive 4650.1, including environmental impacts nationally and internationally;

## *Part 9 - Operations*

# Network Operations

## *Specific Responsibilities*

- Enterprise-wide oversight about the development, integration and implementation of the Global Information Grid (GIG);
- Oversight, guidance, approaches and demonstrations for Information Assurance as related to GIG implementation and deployment;
- Oversight of network-centric systems engineering for the GIG;
- Validates the technical performance for key programs on the GIG



*Part 10 - Geographic Standards*

# **Positioning, Navigation & Timing**

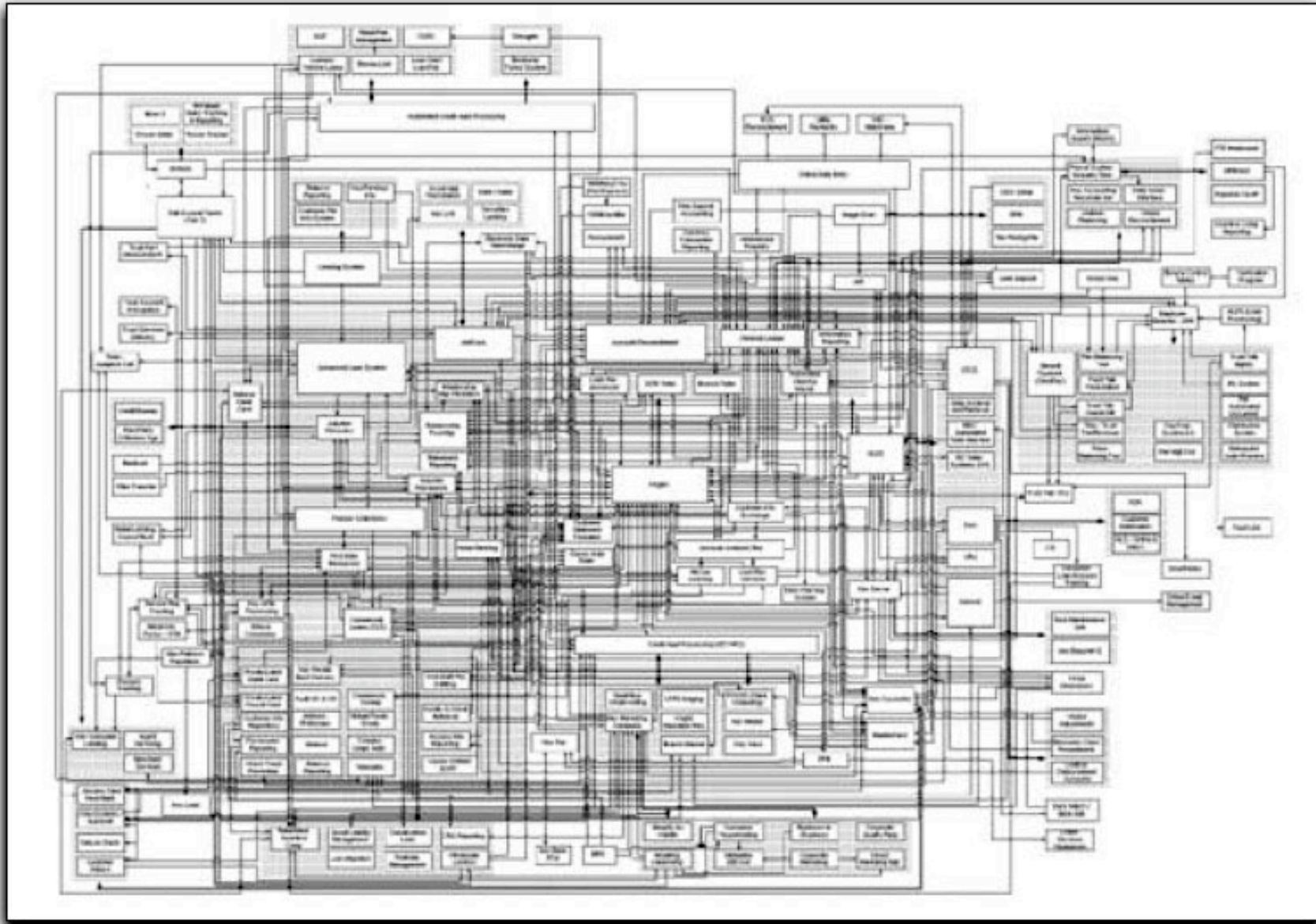
## *Position, Navigation and Timing (PNT)*

- Includes airspace and military-air-traffic control;
- Oversight of GPS and GPS-related systems, capabilities and operations;
- Oversees contingency policies of the Federal Aviation Administration and transfer to DoD under emergency conditions;

*Part 11 - Contingency & Migration*

# Contingency & Migration

# *A Partial Diagram a Current DoD System*



## An Architectural Perspective

<i>Generation</i>	<i>Period</i>	<i>Missions for Information Systems</i>	<i>Scope</i>	<i>Response time</i>
1	1955 - 1975	Automate Separate Applications	Within a Department	Months
2	1975 - 1995	Automate Separate Processes	Within a Function	Weeks
3	1995 - 2005	Integrate Processes within a Function	Within an Organization	Days
4	2005 - 2015	Integrate Functions within an Organization	Within Supply Chain	Hours
5	2015 - 2020	Innovate Processes As Needed	Anyone on the network	Minutes
6	2025 -	Sense and Respond	Anytime, anywhere	Seconds; Autonomous

## Legacy Architectures Do Not Scale

<i>Generation</i>	<i>Period</i>	<i>Missions for National Security Systems</i>	<i>Interoperability: Number of Data Sources</i>
1	1955 - 1975	Automate Separate Applications	100
2	1975 - 1995	Automate Separate Processes	1,000
3	1995 - 2005	Integrate Processes within a Function	100,000
4	2005 - 2015	Integrate Functions within an Organization	10 Million
5	2015 - 2020	Innovate Processes As Needed	1 Billion
6	2025 -	Sense and Respond	1,000 Billion

## Contingency Responsibilities

- Oversees contingency and crisis response communications for stabilization and reconstruction, including inter-agency issues;
- Special emphasis to be placed on migration technologies uniquely suited to contingency operations;

*Part 12 - Records*

# Records Management



## *Broadened Interpretation of the Records Management Act*

- Compliance with E-Gov Act of 2002;
- Compliance with Electronic Records Standards;
- Compliance with Records Management Program (DoD 5015.2);
- Compliance with Title 36 of *<National Archives and Records Administration>* Public Law 107-347.

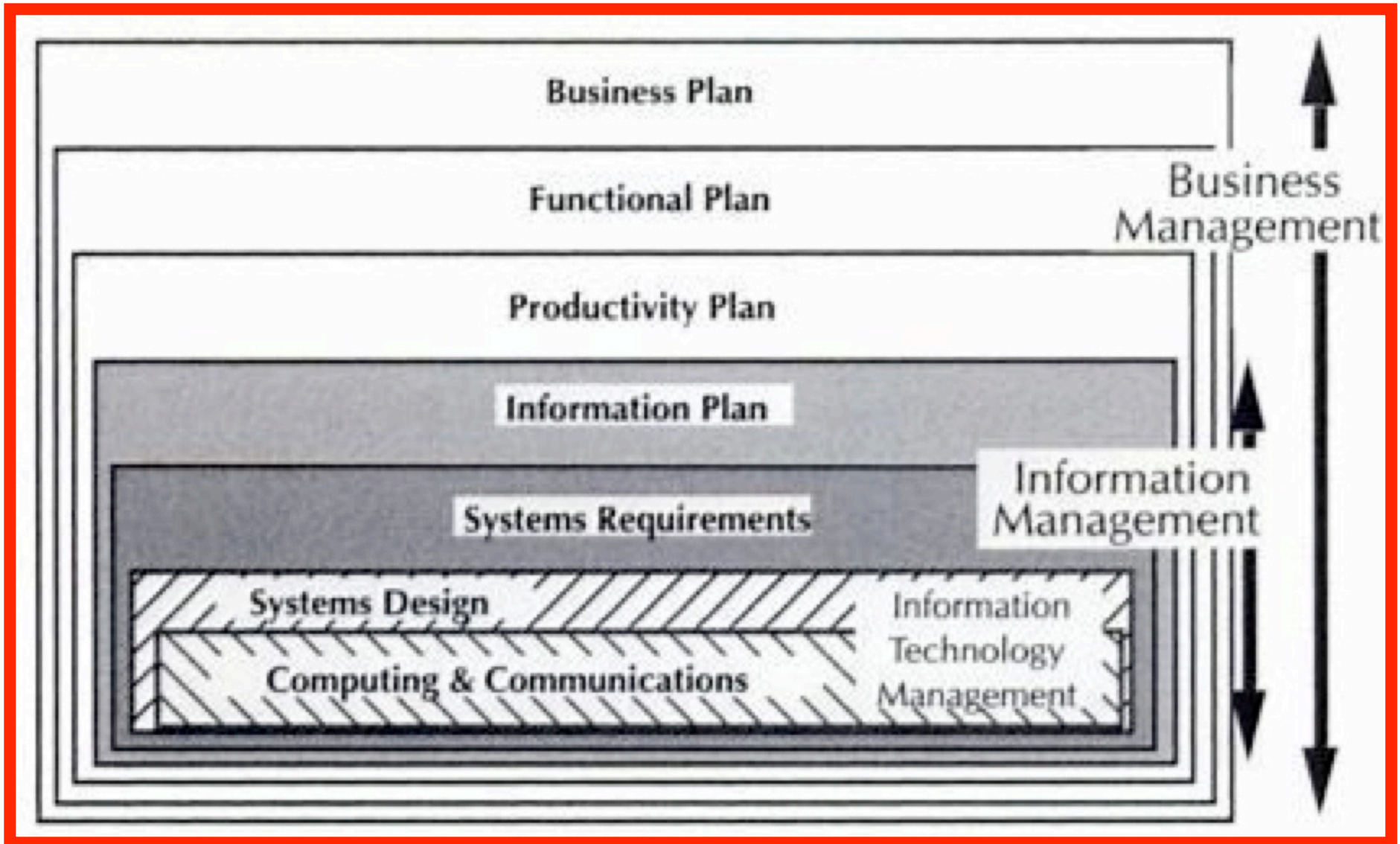
## *Summary of Responsibilities*

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## Summary

- The DoD CIO has the responsibility for delivering the capabilities that will support the doctrine of “Information Superiority”.
- DoD Directive 5144.1 sets the criteria for evaluating the performance of any CIO, including commercial firms that need to acquire “Competitive Superiority through I.T.”
- This presentation establishes a benchmark for judging the adequacy of a CIO’s position.

*A New View of the DoD CIO Roles*



## *Follow up*

- GMU students and faculty may continue a dialogue with prof. Strassmann on <http://www.strassmann.com/blog/dialog/>

# Dialog

**Paul Strassmann receives comments about his writings and lectures that can be found on [www.strassmann.com](http://www.strassmann.com). Some of these exchanges may be of interest to readers. Selected "dialogs" are published here without attribution to protect the privacy of individual commentators. To start a Dialog please e-mail your observations to [paul@strassmann.com](mailto:paul@strassmann.com).**