



Government Cloud Service Models

Cloud Computing East 2014

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Introduction

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- Cloud Service Provider
- Focused exclusively on the U.S. Federal Government
- GSA Infrastructure as a Service Blanket Purchase Agreement Awardee
 - Storage
 - Virtual Machines
 - Hosting
- In FedRAMP pursuing the JAB P-ATO - approaching the end of the process with a FISMA Moderate cloud infrastructure.

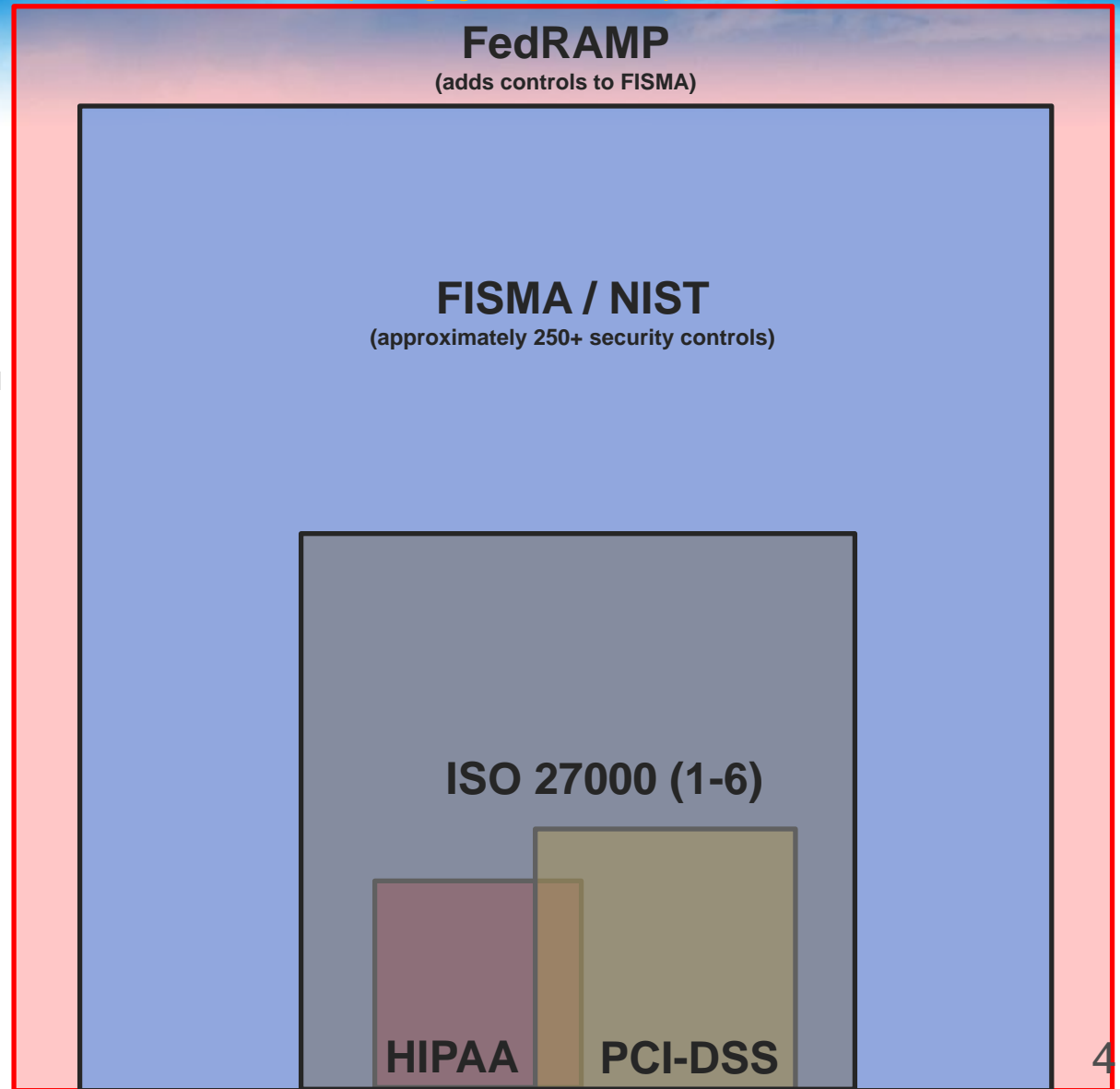


Security

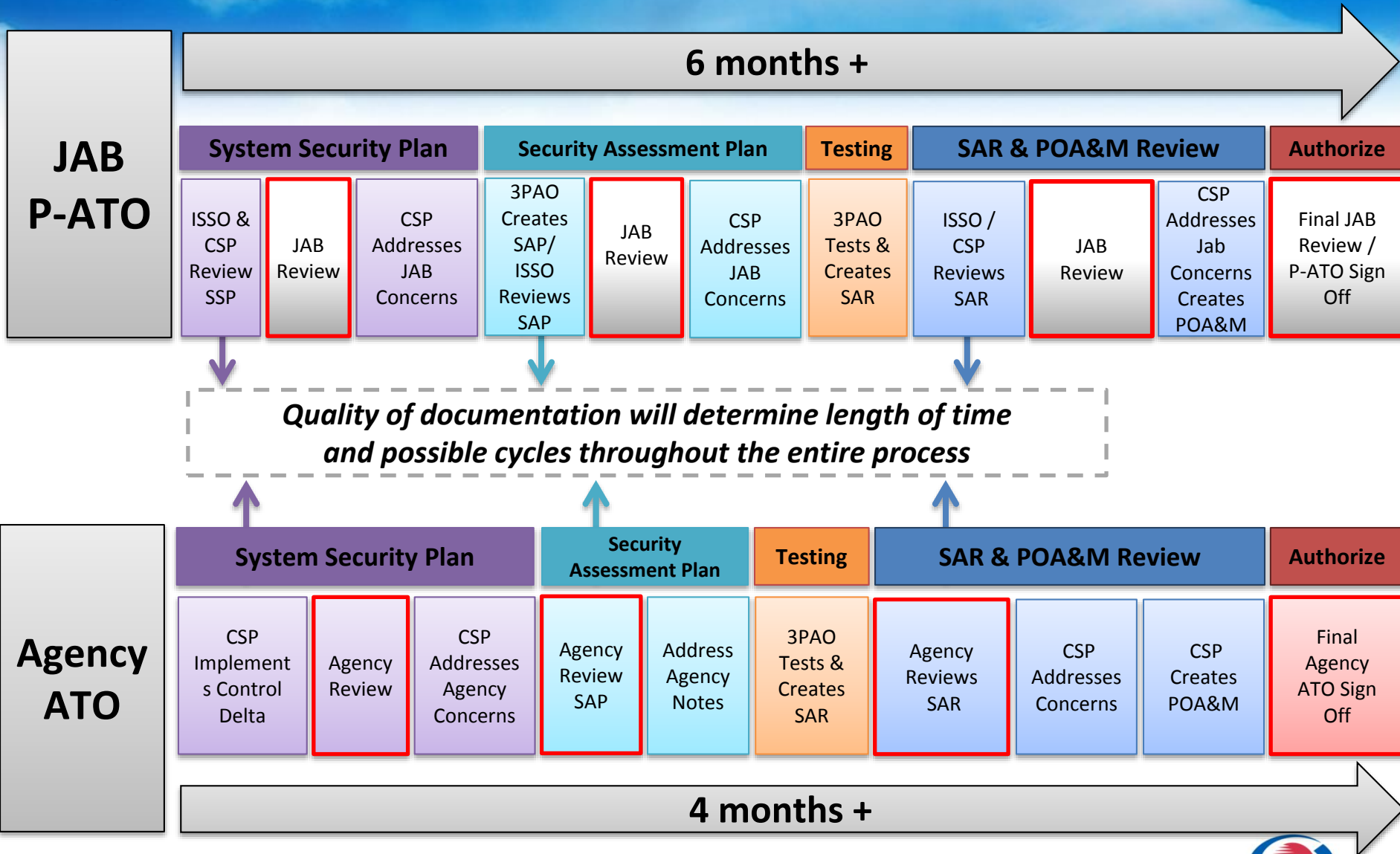
- **HIPAA**
Healthcare Insurance Portability and Accountability Act
- **PCI-DSS**
Payment Card Industry – Digital Security Standard
- **ISO 27000**
International Standards Organization
- **FISMA**
Federal Information Security Management Act
- **FedRAMP**
Federal Risk Assessment and Mgmt Program

DISA IaaS Pre-Solicitation

(Leveraging the FedRAMP Requirements)



Agency vs. JAB Authorization Process



Cloud Service Models – In the Wild

AaaS

Architecture as a Service

CaaS

Communication as a Service

DaaS

Data as a Service

Desktop as a Service

Database as a Service

EaaS

Everything as a Service

Ethernet as a Service

FaaS

Framework as a Service

GaaS

Governance

Globalization

IaaS

Infrastructure

IDaaS

Identity

MaaS

Monitoring

Mashups

Messaging

Migration

Media

Mobility

OaaS

Optimization

Operations

Organization

PaaS

Platform

SaaS

Software

Security

StaaS

Storage

XaaS

Anything as a Service



Service Models – Specified by NIST

The SPI Model

Includes the most common Cloud Computing Service Models.

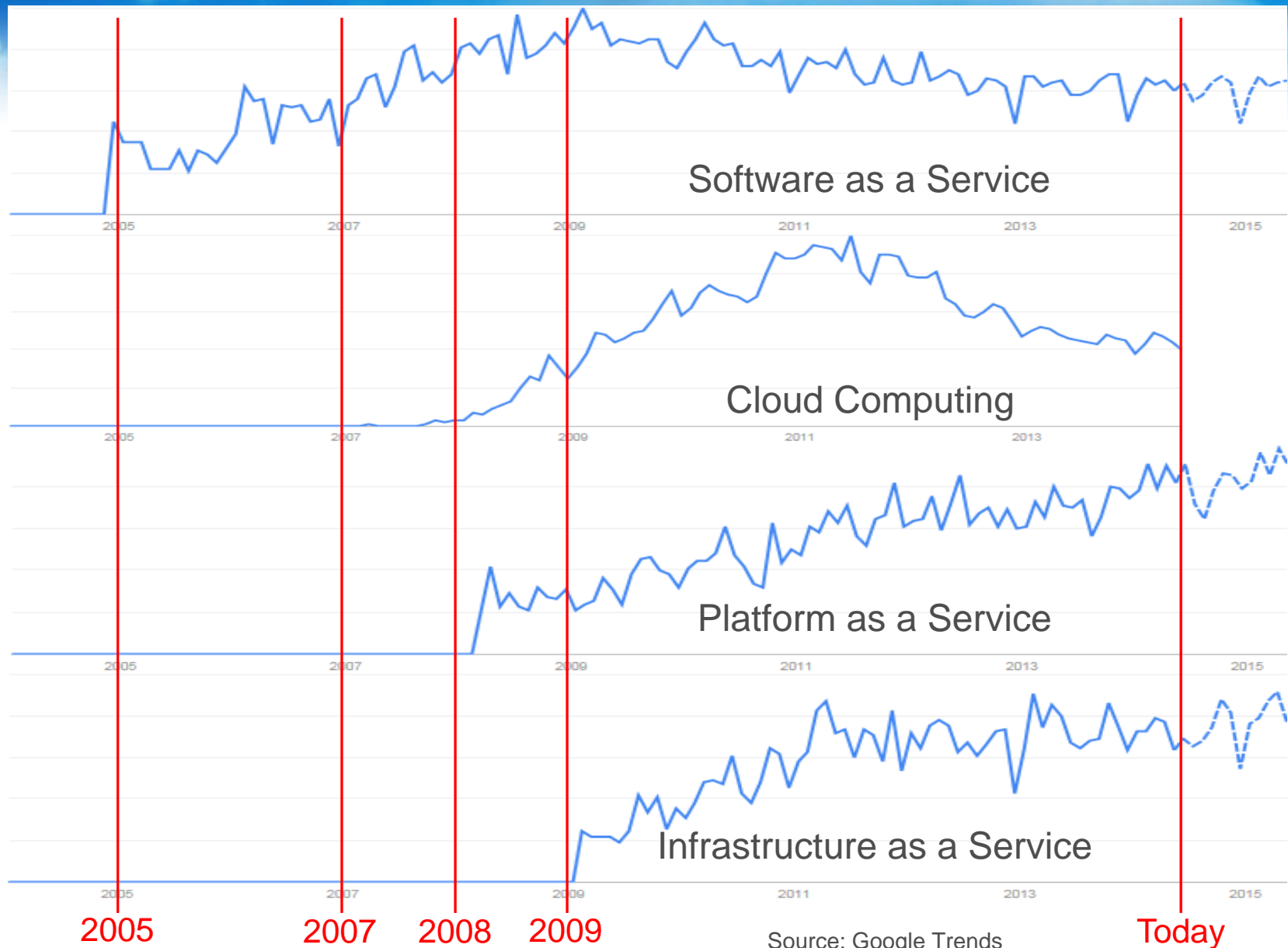
SaaS (Software as a Service)

PaaS (Platform as a Service)

IaaS (Infrastructure as a Service)



Cloud is really about Service(s)



SaaS Service Model Highlights

SaaS (Software as a Service)

- Easiest way to consume services – It's a finished ready-to-use product.
- Software is delivered as a web-based one-to-many model typically based on a per-user billing basis.
- Software is centrally managed by the vendor – no patches or updates
- Perfect for Applications that present significant engineering challenges
 - **Demand Spikes**
 - Applications where demand spikes significantly.
 - **Security**
 - Applications requiring significant interaction with the general public.
 - Applications where mobile access is central to the service

Cons: It's the most abstracted layer of all of the service models typically making it difficult to migrate from especially if it is replacing IT staff.



PaaS Service Model Highlights

PaaS (Platform as a Service)

- It's a platform meant to facilitate development, testing, deployment, hosting and maintenance of applications on a unified and integrated development environment.
- It's not a finished product like SaaS or a clean slate like IaaS
- Purpose: Rapidly create your own cloud applications using supplier-specific tools and languages without maintaining the software or hardware beneath it.
- Rapid development at low cost is possible via developer hooks and tools for that particular platform.

Cons: Risk of vendor lock-in via proprietary languages or approaches.

IaaS Service Model Key Characteristics

IaaS (Infrastructure as a Service)

- Delivers Network, storage, servers, and operating systems as an on-demand service.
- Utility Pricing Model - Metered Billing
- Run any operating systems or applications you wish (or offered by CSP)
- Maintain the most control over your environment without maintaining any equipment.
- Existing applications can be migrated from your internal infrastructure
 - Physical to Virtual Migration (P2V)
 - Virtual to Virtual Migration (V2V)

Cons: ?

Guide to Understanding FedRAMP – Page 26

http://www.gsa.gov/portal/mediaId/170599/fileName/Guide_to_Understanding_FedRAMP_042213

“It’s possible that an agency may want to use three providers that each provide a different layer.”

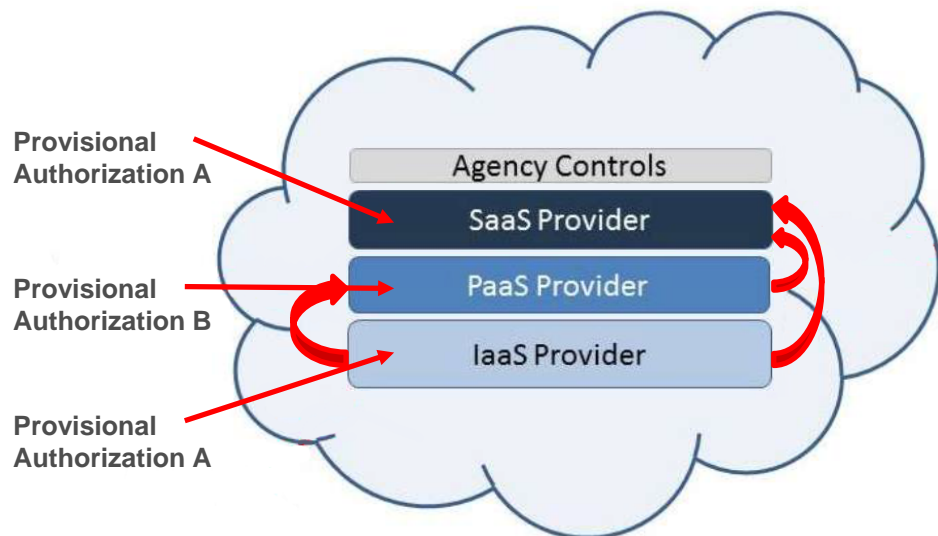


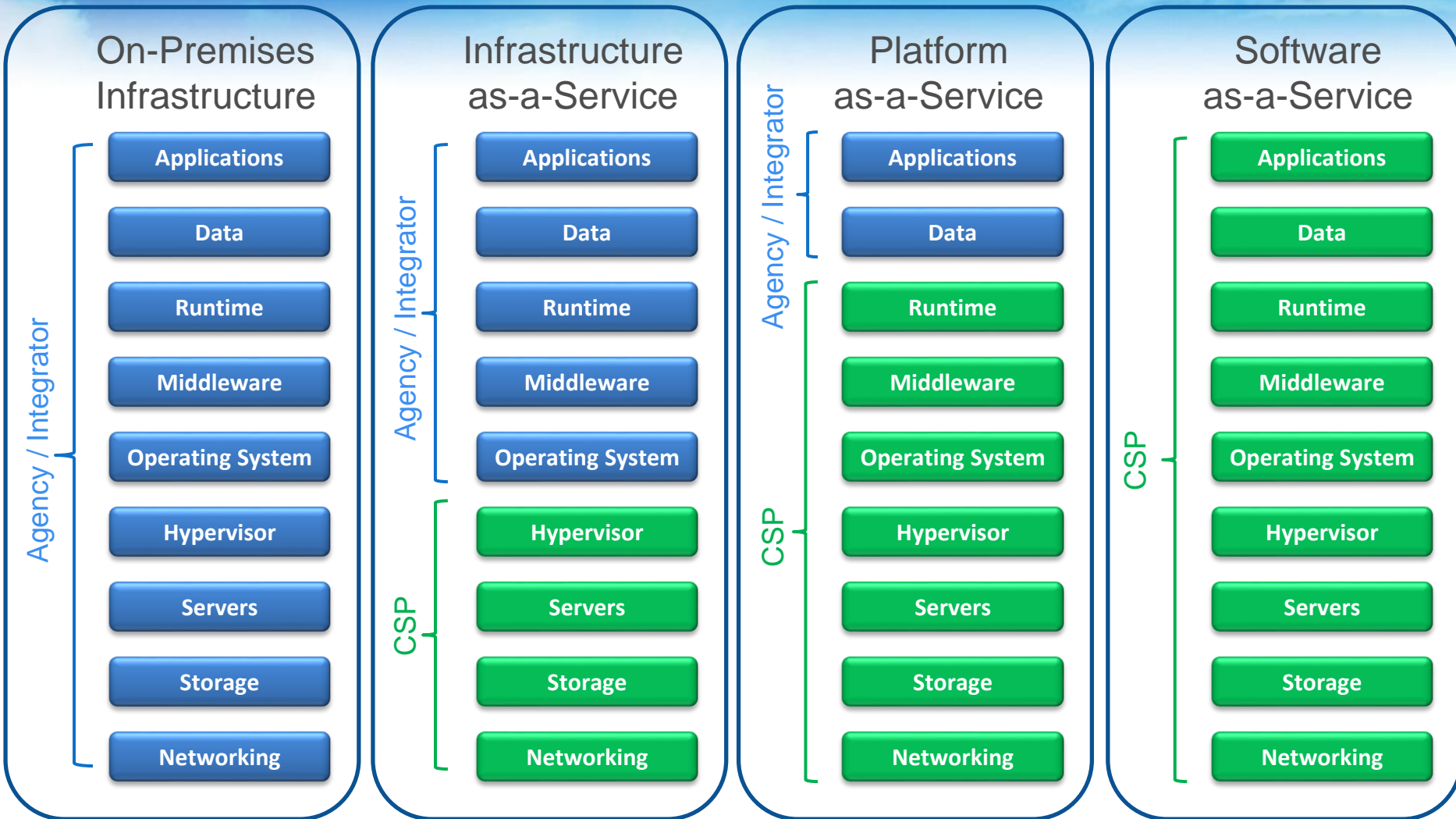
Figure 3-12. Three Providers, One IaaS, One PaaS, and One SaaS

“the PaaS provider is dependent on leveraging a pre-existing Provisional Authorization from the IaaS provider”

“the SaaS provider is dependent on leveraging a preexisting Provisional Authorization from the PaaS provider (and indirectly the IaaS provider)”

“if the agency decides to make use of this integrated package, three different FedRAMP Provisional Authorizations are applicable as illustrated in Figure 3-12”

SPI Architecture Responsibilities



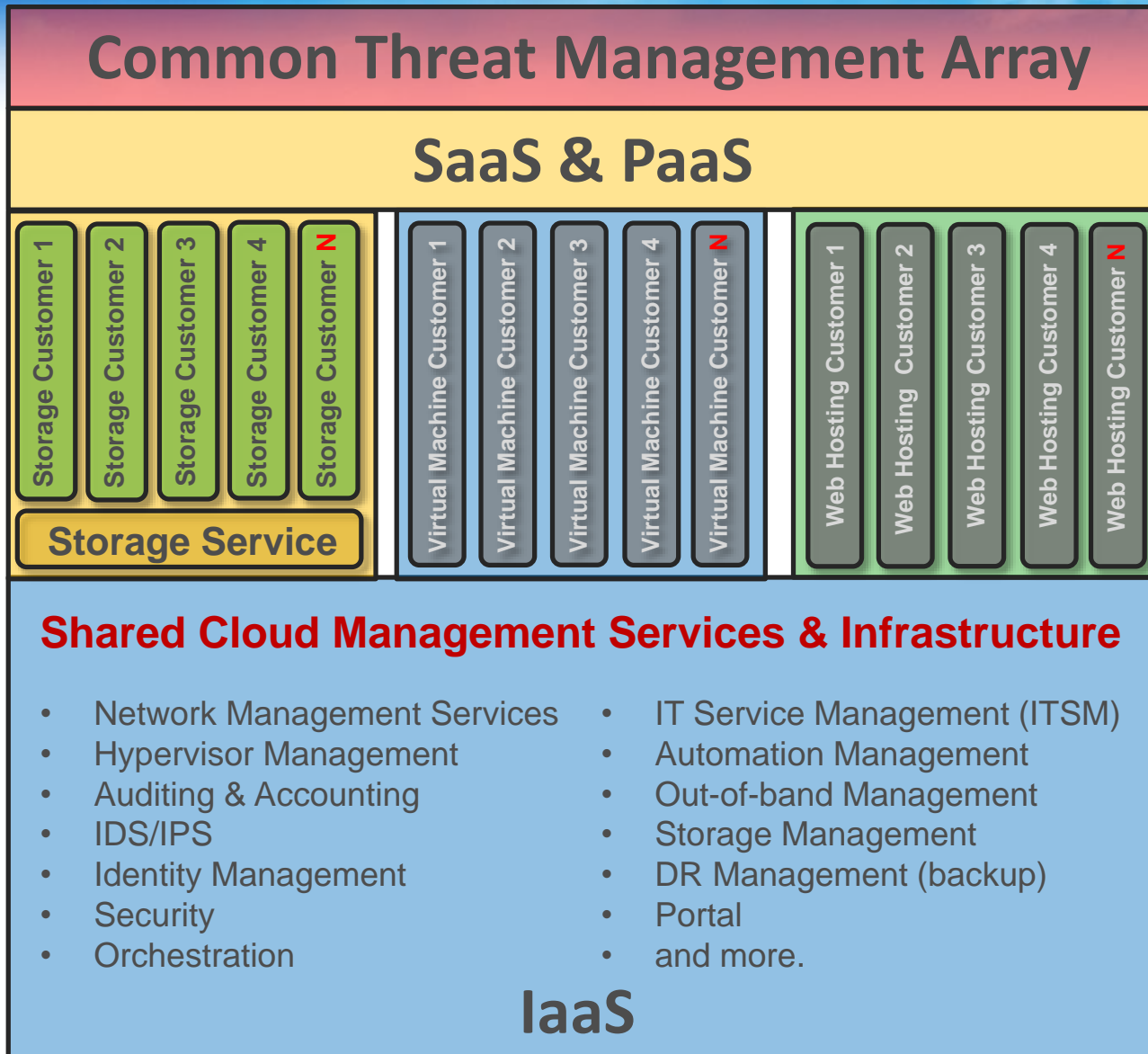
More Control

Less Control

Increase Cost

Decrease Cost

Common Cloud Infrastructure View



Thank You!

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