



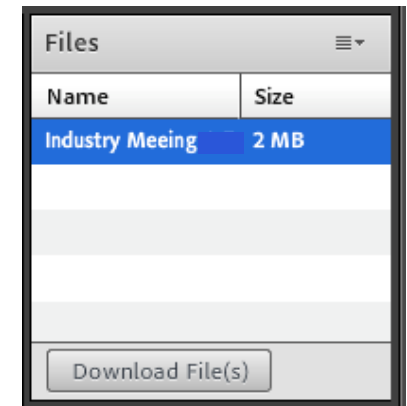
# **Driving Success Through Transparency**

**2013-14 IAE Industry Outreach  
Meeting 3**

**May 13, 2014**



- ▶ We look forward to a dialog today. You will have the opportunity to post questions throughout the presentation. We will post a summary of the questions and answers after this event.
- ▶ You can download this presentation by selecting it under “Files” and clicking “Download File(s)”.
- ▶ We are also posting this presentation and other documents, such as the draft SOO in the near future, to the [IAE Industry Community](#) on [interact.gsa.gov](http://interact.gsa.gov).
- ▶ You can always contact us at [IAEoutreach@gsa.gov](mailto:IAEoutreach@gsa.gov).





# About the Presentation

---



- ▶ **Introduction**
- ▶ **Why Transparent?**
- ▶ **How Transparent?**
- ▶ **Aspects of Openness**
- ▶ **IAE Transparency Champion**
- ▶ **Q&A**

---

# Introduction



**GSA's Integrated Award Environment (IAE) mission is to utilize electronic means to standardize, integrate, and streamline the federal award process.**

**We seek to increase transparency while improving systems and functions for the acquisition and assistance communities and for our business partners.**

## ▶ How IAE works

- IAE is governed by the Acquisition Committee for E-Government (ACE) within the CAO Council
- IAE is co-led by FAS and OCIO within GSA

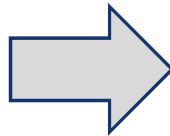
## ▶ Scope of the IAE environment

- More than 1 million active registered users
- 650,000 registered businesses
- 800,000 monthly searches on SAM
- 2M+ database transaction daily
- Every government transaction above the simple acquisition threshold (plus every grant and loan)

## Current IAE Environment

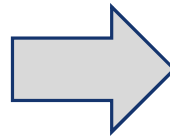
### 1. SAM today includes

- CCR
- ORCA
- EPLS
- FedReg



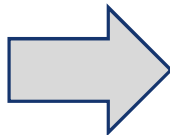
### 2. Past Performance Systems

- PPIRS
- CPARS
- FAPIIS

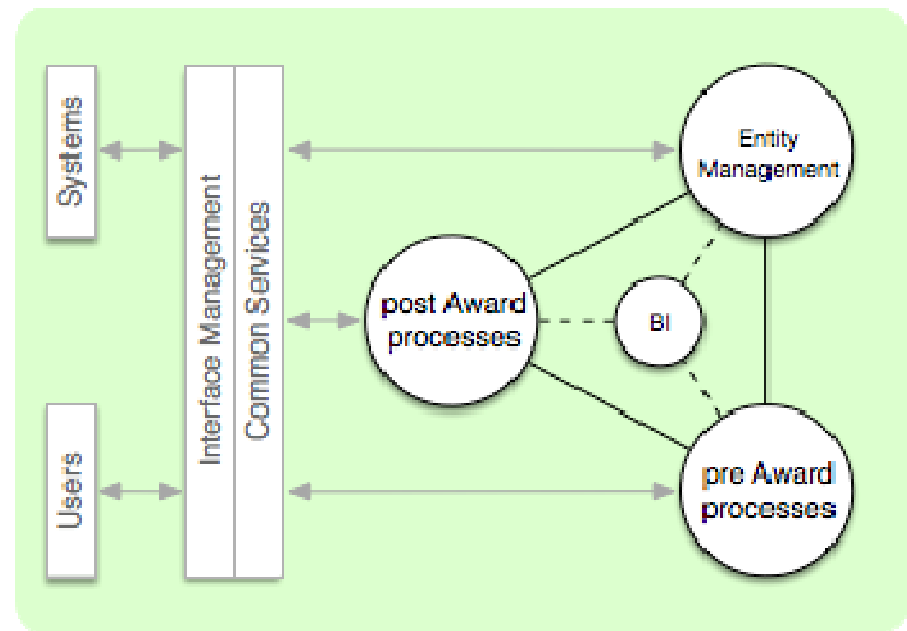


### 3. Other Systems

- eSRS
- FSRS
- FedBizOpps
- FPDS-NG
- CFDA
- WDOL



## Future IAE Environment





# Fostering Transparency in the Federal Award Process

---



**“We’re talking about a culture change; a shift in the way we operate. Being transparent and open is at the very foundation of what we’re collaboratively building: easy-to-use shared systems that reduce burden, enhance speed and access to innovation, and provide more transparency to continuously improve federal award management.”**



*Kevin Youel Page, IAE Assistant Commissioner, GSA*





# Today's Presenters

---



**Sonny Hashmi**  
**Interim CIO, GSA**



**Navin Vembar**  
**Branch Chief, Integrated Award  
Environment Branch, GSA IT, GSA**



# GSA Focus on Transparency

---



- ▶ The Executive Order and Open Data Policy issued May 9, 2013 expanded on the principles of Open Government.
- ▶ GSA is focused on being more open, transparent and collaborative with its citizens, stakeholders and the public; see our Open Gov initiatives on GSA.gov.
- ▶ Administrator Tangherlini issued a Memorandum on Increasing Data Sharing, Transparency and Reuse at GSA on February 14, 2014.
- ▶ CIO Office is leading this charge; looks to each program and division to embrace this.

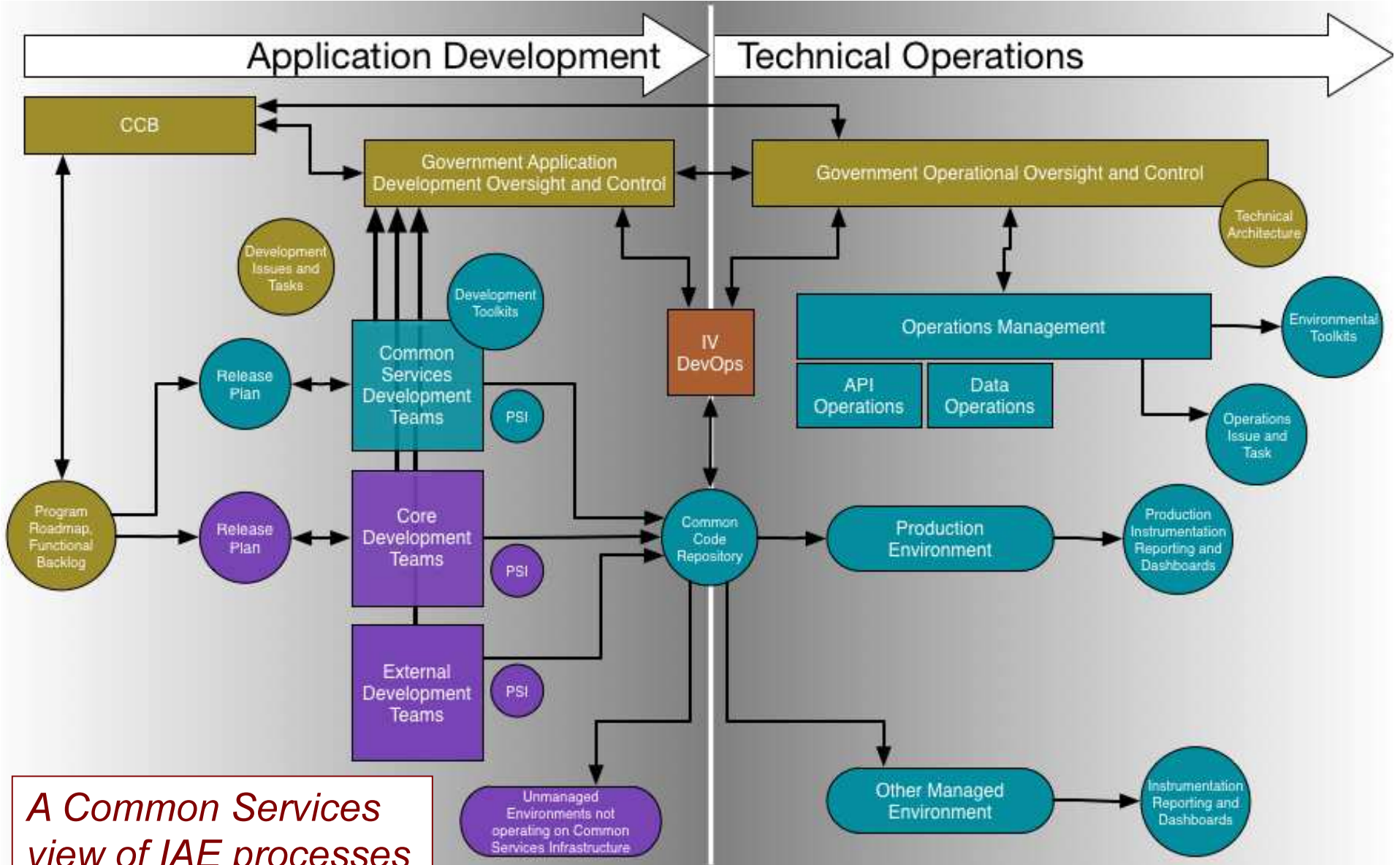


# IAE Architectural Principles



- ▶ **IAE must be open**
- ▶ **Treat data as an asset**
- ▶ **Use continuous improvement to drive innovation**
- ▶ **Provide an effective user experience for all stakeholders**
- ▶ **Business transactions must be time- and cost-measurable**
- ▶ **Treat security as foundational**
- ▶ **Build value over maintaining status quo**

*The Principles are frequently in tension; the best technical solution for IAE will balance these for the benefit of the government and the users.*



*A Common Services view of IAE processes*

---

# Why Transparent?



# Why Transparent?: Macro View



## From the *Open Data Barometer*:

- ▶ More efficient and effective government
- ▶ Innovation and economic growth
- ▶ Transparency and accountability
- ▶ Environmental sustainability
- ▶ Inclusion and empowerment

*This is the view for the US government and also internationally.*

## Objectives tied to IAE in *2014-2018 GSA Strategic Plan*:

- ▶ 1.1: Deliver contracting solutions to generate customer savings
- ▶ 3.1: Deliver excellent customer service
- ▶ 3.2: Support small and disadvantaged business



# Why Transparent?: Program View

---



- ▶ **Reduced schedule, cost and quality risks**
- ▶ **Lower cost**
- ▶ **Reduced transition/switching costs for new products and services**
- ▶ **Allow edge use cases to be addressed**
- ▶ **Allow 3rd Party UIs and software development innovation**
- ▶ **Increased accountability to IAE's government, industry, and public stakeholders**

- ▶ **Risk Mitigation through Transparency**  
Providing transparency at all levels before system launch minimizes surprises and program risk and increases the chance of a successful first day
- ▶ **Building a 3rd Party UI into IAE**  
Such work requires a significant technical environment to exercise transactions
- ▶ **Solution Identification**  
Having the code base be available allows vendors to design and present viable solutions to the government
- ▶ **Cost Management & Proposal Preparation**  
Understanding of the code base will allow vendors to more confidently bid, reducing the risk premium required when less information is available



---

# How Transparent?

# How Open?

---



*There is a range of possible openness*

**We can be too open...**

- ▶ Publishing data with PII in it **X**
- ▶ Report the details of unresolved security weaknesses **X**
- ▶ Releasing materials prohibited by regulation (e.g. past performance info) **X**

**We can be too closed...**

- ▶ Locked into a single vendor and vendor solution **X**
- ▶ Fail to be accountable to the public by not being transparent about operations and making it difficult to access public info **X**
- ▶ Not providing vendors with sufficient information pre-acquisition **X**

**We are working to strike a balance.**



# Trust: Demonstrate Technical Competence

---



- ▶ **To achieve our goals, the IAE program needs to be trusted and stable.**
- ▶ **Agile approach is intended to be predictable, both internally and externally.**
- ▶ **This will persuade others to build on and use the services provided by another organization.**
- ▶ **Our openness will give people the trust needed to build businesses on IAE.**

*Goal is to have an ecosystem as robust as IRS tax preparation*

**This is also why we need to be open.**

---

# Aspects of Openness



# Aspects of Openness

---



- ▶ **Product:** The technical components of IAE
- ▶ **Services:** The services that these components provide
- ▶ **Operation:** How the technical system operates
- ▶ **Processes:** The processes we use to run IAE
- ▶ **Data:** The data we manage within IAE

*We will be measuring our openness going forward.*



# Product: Architecture



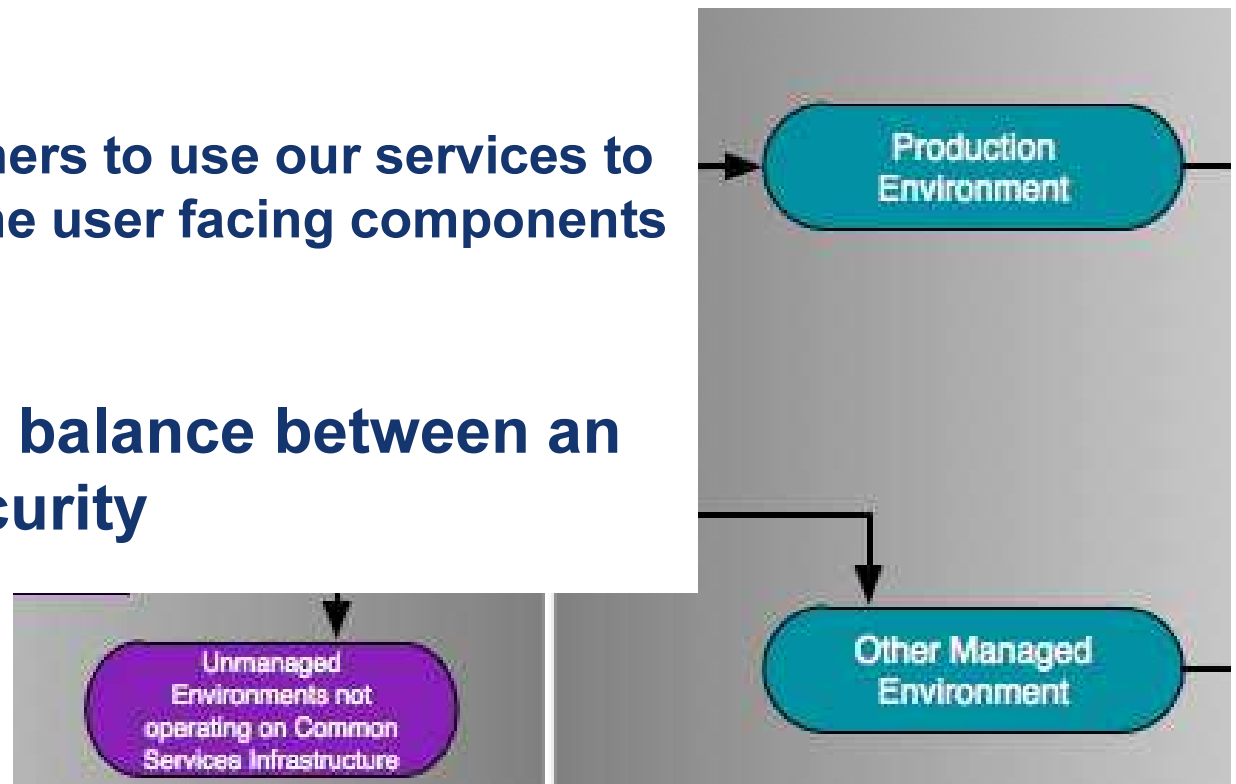
## Anyone can build IAE:

- ▶ Containerization and Infrastructure-as-Code are enabling concepts
- ▶ Continuous Integration ensures constant measurement of quality

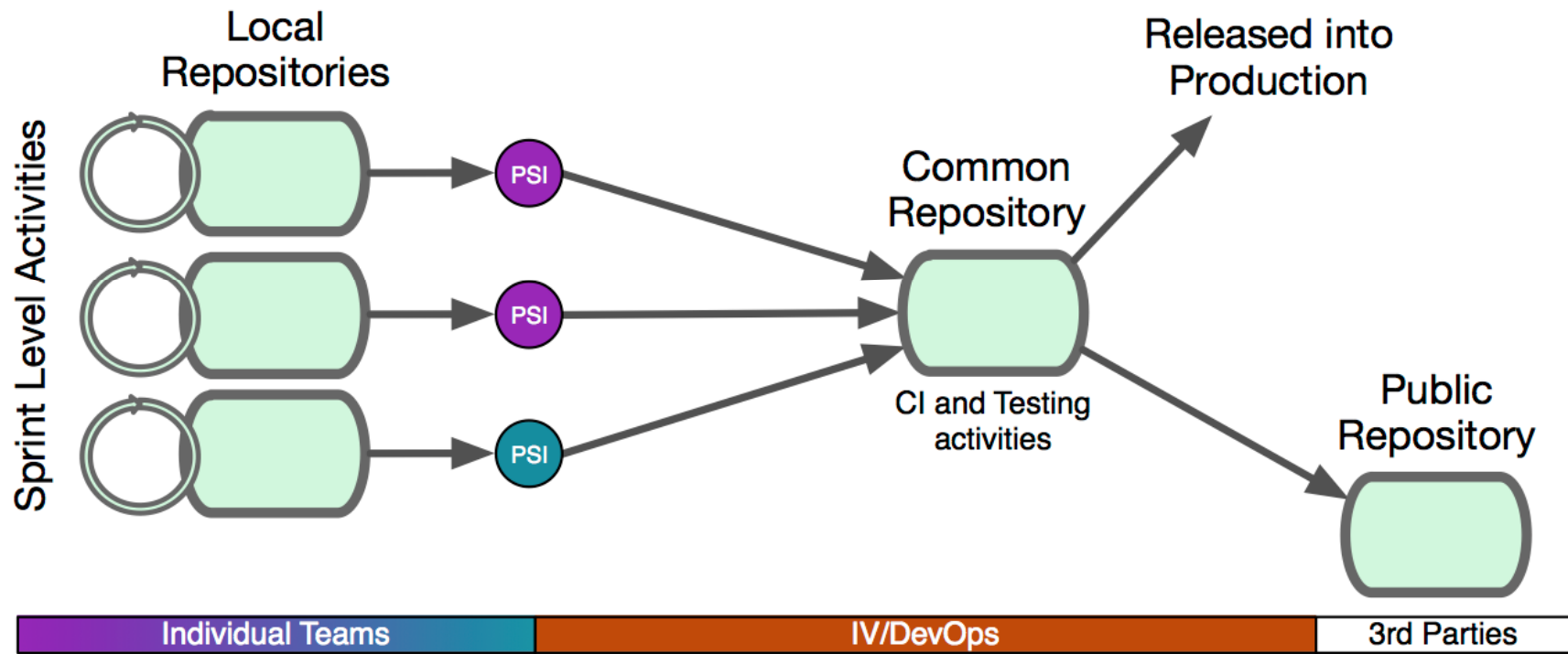
## APIs:

- ▶ APIs will enable others to use our services to enhance or replace the user facing components of IAE.

Always requires a balance between an openness and security



*Private Code Repository modeled on Git; public portion on GitHub.*



## Subject Area: Business

- ▶ Business Process definitions including workflows, role definitions, performance metrics
- ▶ User Personas
- ▶ Business Objects (Logical Data Model)
- ▶ Business Process Metadata (number of transactions, record counts, number of users, logins per user etc)

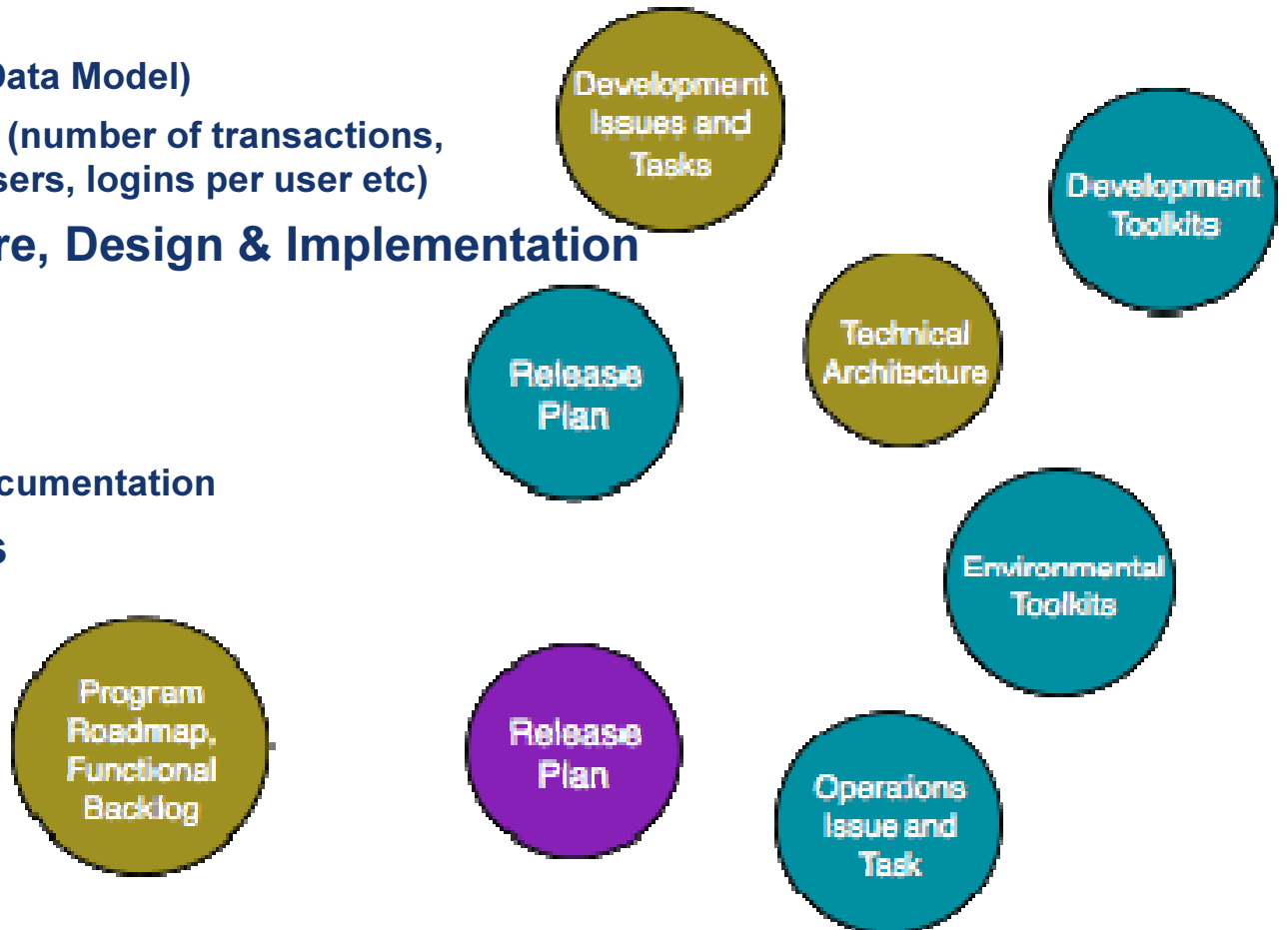
*Release of materials is always limited by security considerations.*

## Subject Area: Architecture, Design & Implementation

- ▶ Architectural Principles
- ▶ Technical Architecture
- ▶ Physical data models
- ▶ Requirement and design documentation

## Subject Area: Operations

- ▶ Source Code
- ▶ Functional Backlog
- ▶ Release schedule
- ▶ Lists of Defects
- ▶ Database meta-data
- ▶ Help Desk summary data
- ▶ User meta-data - browser usage, session length
- ▶ Operational metrics that describe system usage







## Product: Openness & Architectural Principles

---



- ▶ **IAE wants everybody to be able to examine and understand our code base.**
- ▶ **3<sup>rd</sup> Parties should be able to easily deploy and run the application in a non-production environment.**
- ▶ **Technical components that inhibit this kind of usage will be in CONFLICT with the architectural principle of “Be Open”.**

## More in conflict with the Architectural Principles:

- ▶ **Proprietary technology that is not licensed or licensable**
- ▶ **Any component (SaaS/PaaS components or software products) that do not allow scripted configuration**
- ▶ **Technology that restricts the creation of open source products**
- ▶ **SaaS/PaaS solutions that are publically available but do not allow easy and inexpensive non-production deployments**
- ▶ **Authoring tools to support data modeling, BPMN or similar that represent significant parts of the development tool chain and do not allow easy export/import and manipulation of the content using alternative tools**



# Product: Conflict Examples

---



## Less in conflict with the Architectural Principles:

- ▶ Implementations that rely on technology that is scriptable, licensable at no cost or priced based on usage
  
- ▶ Technologies or technology stacks that are ubiquitous
  
- ▶ Technologies that are not open or easily usable but are substitutable by a 3<sup>rd</sup> Party
  - DNS based failover or global load balancing services
  - local load balancers
  - Content Delivery Networks (CDNs)



# Product: Cost Curve & Innovation

---



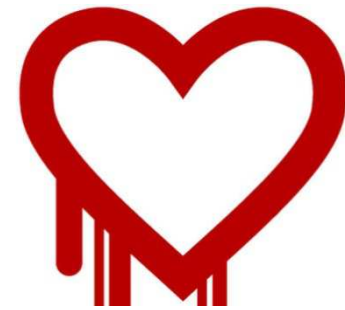
- ▶ **Buying assets – hardware, licenses – locks in costs for the lifetime of the equipment. Open promotes substitution and continuous cost reduction.**
  
- ▶ **In the new IAE, 3rd Parties will be able to examine the code, build their own environment, test their technology and propose to the government cost savings, performance or functional improvements that are **ALREADY VALIDATED**.**
  
- ▶ **Probable scenarios:**
  - **A new database that is faster/better/cheaper**
  - **A search tool that improves search quality**
  - **A change to the APIs that improves performance**
  
- ▶ **As a result, our cost models estimates an annual reduction in infrastructure costs.**

**Allowing anybody to inspect the IAE code allows a more honest and broader assessment of code quality.**

- ▶ **At the same time it also opens up new attack vectors.**
- ▶ **This is no different than any other open source project.**

### **Mitigation strategies:**

- ▶ **Heightened QA/QC activities around the code**
- ▶ **Active community engagement**
- ▶ **Program agility to improve incident response and real-time mitigation**
- ▶ **Instrumentation to hasten identification of some kinds of attacks**



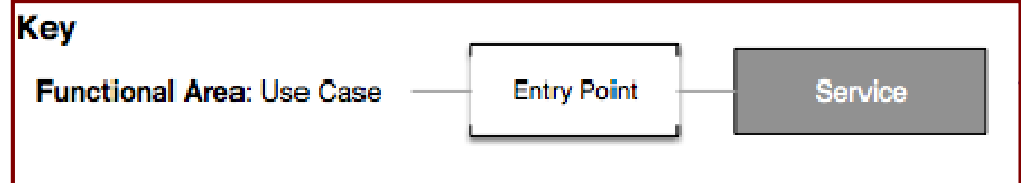
## We must:

- ▶ Be predictable in how we manage services
- ▶ Define, develop, publish, operate, update, deprecate & withdraw our APIs
- ▶ Engage with the groups that use them

## This means being clear about:

- ▶ Rules of the road for API consumers and producers
- ▶ Definitions and capabilities of the services
- ▶ Limitations on usage
- ▶ Any data rights the government maintains
- ▶ Any data management constraints the government operates under

*This is one area where there is already some IAE activity (SAM API/Services, FPDS)*



- ▶ **To have the code is necessary but not sufficient. Understanding how the code is used is also required.**
- ▶ **The new IAE will include requirements for global instrumentation to assist the government and contractors in the operation of the systems.**
- ▶ **A subset of this instrumentation will be made publicly available in real time.**
  - **Factors such as system status, active users, use of particular features, engagement time and many other data points will be captured and made available.**
- ▶ **Long-term historical data will also be available for analysis.**



- ▶ **There are lots of critical processes that are being managed within IAE. As much as possible the outcome from these activities will be made available.**
  
- ▶ **Two key activities identified:**
  - **Backlog Management**
  - **Defect Tracking**
  
- ▶ **Groups that integrate with IAE or rely on our services will be able to use data from these activities to plan.**
  
- ▶ **Changes to the priorities within the backlog will be visible.**





- ▶ Publishing data is well understood including through data.gov
- ▶ IAE will work to drive understanding and usage of the data through:
  - Publishing design documents, schemas
  - Publishing the semantic rules around the data, not just syntax
  - Being open about data processing errors and quality issues
  - Extending user centricity to users of our data

*It is not the focus to provide data visualization tools for example, but to help people understand what the data means and allow them to create solutions based on that data.*





# IAE Transparency Champion

---



- ▶ **Newly appointed to the IAE Team**
- ▶ **Will coordinate the work within the program related to IAE meeting its commitments**
- ▶ **Single point of contact for stakeholders**
- ▶ **Will engage with outside parties**

- ▶ **We regard openness as a necessary component of the overall strategy for IAE success and an essential element for any future technical solutions acquired by the program**
- ▶ **Being open is a process as much as a state; the process will become much more visible over the next few months**
- ▶ **Being successful will require us to balance conflicting concerns**
- ▶ **The appropriate balance will change as the program matures; our new Transparency Champion will closely manage the process.**



# Next Industry Meeting

---



▶ Topic: The Business Case for Change

▶ Date: June 10<sup>th</sup>, 11:00am - 12:30pm



# How You Can Contribute

---



- ▶ **View the presentation on the Target Technical Architecture and supporting documentation on the [IAE Industry Community](#) on [interact.gsa.gov](http://interact.gsa.gov)**
- ▶ **Share your comments and questions through the Interact website**
- ▶ **Contact us anytime at [IAEoutreach@gsa.gov](mailto:IAEoutreach@gsa.gov)**