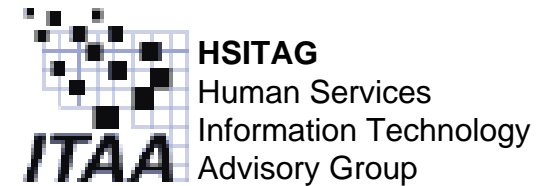


# MITA Technical Architecture Committee (TAC)

2007 MMIS Conference Breakout Session  
August 15, 2007



# Opening Statement

**Technical Architecture Committee (TAC)**

**Turning the MITA Vision into Reality**

John Thomas, CMS

# Presentation Overview

<b>Speaker &amp; TAC Introductions</b>	<b>Dave Walsh &amp; Kimberly Ellison-Taylor</b>
<b>Proof-of-Concept &amp; Demonstration</b>	<b>Tim Skeen</b>
<b>Interoperability &amp; Security</b>	<b>Patrick Fendt and Amin Zaman</b>
<b>Performance &amp; Testing</b>	<b>Arvinder Singh</b>
<b>Operations &amp; Deployment</b>	<b>Steve Reynolds</b>
<b>A State's Perspective</b>	<b>Tom Baden (Minnesota)</b>
<b>Next Steps</b>	<b>Dave Walsh</b>
<b>Panel Discussion</b>	<b>Kimberly Ellison-Taylor</b>

# Private Sector Technology Group (PS-TG)

## The Members

- Information technology companies and professionals that provide solutions in the health care information systems environment and all related activities. The group's expertise spans all aspects of the health care information technology industry.



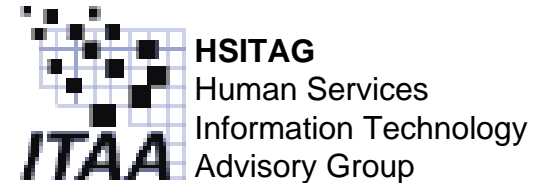
## The purpose of PS-TG

- Provide a discussion and information forum for a broad based and diverse group of companies
- Serve as a valuable resource for federal and state governments to obtain information regarding the application of information technologies to health care services administration

# Human Services Information Technology Advisory Group (HSITAG)

## The Members

- The Human Services Information Technology Advisory Group (HSITAG) was founded in 1993
- HSITAG membership includes 47 of the nation's leading companies working with public human services programs at all levels of government—federal, state, and local.



## The purpose of HSITAG

- HSITAG provides a unique perspective and vision regarding public sector human service issues including program management, service delivery and performance; and improved outcomes for program participants.
- HSITAG partners with a number of Federal departments and agencies including U.S. Department of Health and Human Services' Administration ACF, CMS, and FNS. HSITAG also collaborates with APHSA, NGA, NCSL, NASCIO, and NASWA.

# TAC Short Team Goal (Demonstration at MMIS Conference)

- **Organize TAC (4 sub-committees)**
  - Proof of Concept & Demonstration
  - Interoperability & Security
  - Performance & Testing
  - Operations & Deployment
- **Establish Communication Channels**
  - Conference Calls (4 per week)
  - Web Site, WIKI, List-Serve
- **Establish goals of demo**
  - Security, interoperability, WSDL...
- **Establish business process to be demonstrated**
  - Enroll Provider
  - Script (demo flow)
- **Establish authoritative sources for information**
  - CMS, HL7, MITA Team, NMEH, other expert bodies...
- **Collaborate with authoritative sources to produce demo**
  - Script, WSDL, narrative, slides, speakers

## TAC Long Team Goal

- **Recommend MITA Technical Architecture to CMS**

- Follow the outline presented by CMS & recommend a comprehensive set of technologies that together form the MITA Technical Architecture.
- Establish an initial recommendation process that encourages participation & suggestions from all parties.
- Establish a recommendation process that (over time) becomes more structured with established adoption procedures. The goal is to promote buy in & assurance that the process is fair & objective.
- Model our recommendation process (with appropriate revisions) after established standards organizations (JAVA JCP, HL7, OASIS)
- Coordinate versions with other authoritative sources (i.e. HL7 on version of WSDL)

# TAC Benefits

- **CMS**

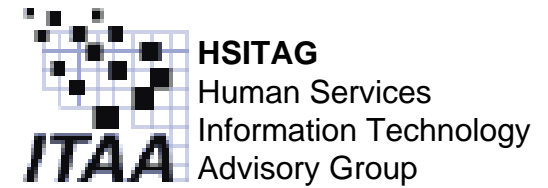
- Long-Term source of recommendations on the MITA technical architecture

- **States**

- Provides an organization where state run Medicaid agencies are able to help formulate the technical architecture.
- Provides a source of consolidated / interoperable technologies that the states can use as basis for integration. (Plug and Play)

- **Vendors**

- Provides a resource for vendors to understand and embrace the MITA technical architecture
- Eliminate risk
- Highlight benefits of MITA



# Proof-of-Concept Demonstration & Presentation

Tim Skeen

## Goals & Objectives

- Consolidate sub-committees' substantive research findings for demonstration and presentation integration
- Coordinate schema and WSDL completion
- Facilitate presentation script and white paper generation
- Determine project schedule
- Orchestrate software development and presentation slides

# Lessons Learned

- **Clearly define web service business functions up front**
  - Use a story board to define the steps that a web service must complete in order to successfully process a transaction (e.g. enrolling a provider)
  - Loosely couple these steps as much as possible as business rules will change, minimizing the amount of work required to re-engineer each web service implementation, and maximizing component reusability across web services
- **Test schemas in a live environment prior to officially publishing**
  - Test web service interoperability on multiple platforms as each technology implementation (Java, .Net, etc.) produces a slightly different WSDL schema based on the source XSD
  - Test web service clients against web service interfaces using cross-technology implementations (e.g. Java client against a .Net web service backend, and vice versa), not just like-technology clients and services against themselves
- **Keep the schema simple**
  - Do not include future-use elements in schemas intended to be deployed immediately – this unnecessarily complicates schema definitions and adds elements that may not be tested fully causing issues with interoperability
- **Make your schemas and test web services Internet-accessible**
  - By placing your web services on the Internet, you enable other vendors to test their clients against your web service to add to successful interoperability tests. Simultaneously, you receive feedback from these vendors that add to the flexibility of your service and its ability to interoperate with more clients and technology platforms
  - Use a wiki or similar mindshare application to publish your XSD and WSDL schemas on the Internet for third parties to download and use to produce clients that interoperate with your service. Likewise, you will receive feedback on how to improve your schemas to support evolving business

## Next Steps

- **Engage state and CMS participation in defining how the TAC should continue to engage in the evolution of the MITA Technical Architecture**
  - Participation guidelines
  - Continued prototyping development teams
  - Wiki to support continued collaboration and standards development for future business services
- **Work on documenting a white paper on the process of developing a web services standard**
  - Provide suggest guidelines based on industry best practices and lessons learned
  - Recommend standards groups structures, process flows and governance

## Recognition of Key Contributors

- **Jeff Strand EDS**
- **Jack DeVos ACS**
- **Patick Fendt Oracle**
- **Manny Mkrtichian Fox Systems**
- **Greg McGuffey Fox Systems**
- **Seth Kaplan Unisys**
- **June Zhu Unisys**
- **Julie Walsh Unisys**



# Interoperability and Security in the Context of MITA

August 15, 2007

Patrick Fendt, Oracle Corp.  
Amin Zaman, CA, Inc

# Agenda

- Goals of Interoperability and Security Sub-Committee
- Interoperability+Security Sub-Committee and Best Practices
- Security and MITA
- Security Framework and Solutions
- Security Implementation Planning

# Goals of Interoperability & Security Sub-Committee

- Research status quo and roadmap for interoperability- and security-related standards
  - Leverage other standards where applicable (e.g. OASIS WS-\*, HL7)
- Provide guidance and best practices for implementing MITA-based solutions
  - Which standards apply?, What do they mean?, How do we use them?
- Help extend MITA with further detail on Technical Architecture
  - Interoperability and security are key aspects of MITA
- Contribute to MITA TAC POC/Demo
  - Focus was interoperability; no security in 1<sup>st</sup> version

## General Lessons Learned and Best Practices

- Design your services “top down”
  - Services must be designed for interoperability
- Adhere to WS-I Basic Profile
  - Version 1.1 is appropriate now
- Test your services for interoperability and with multiple toolkits
- Pay attention to namespaces
  - Be specific: qualified versus unqualified elements

# Interoperability and Security

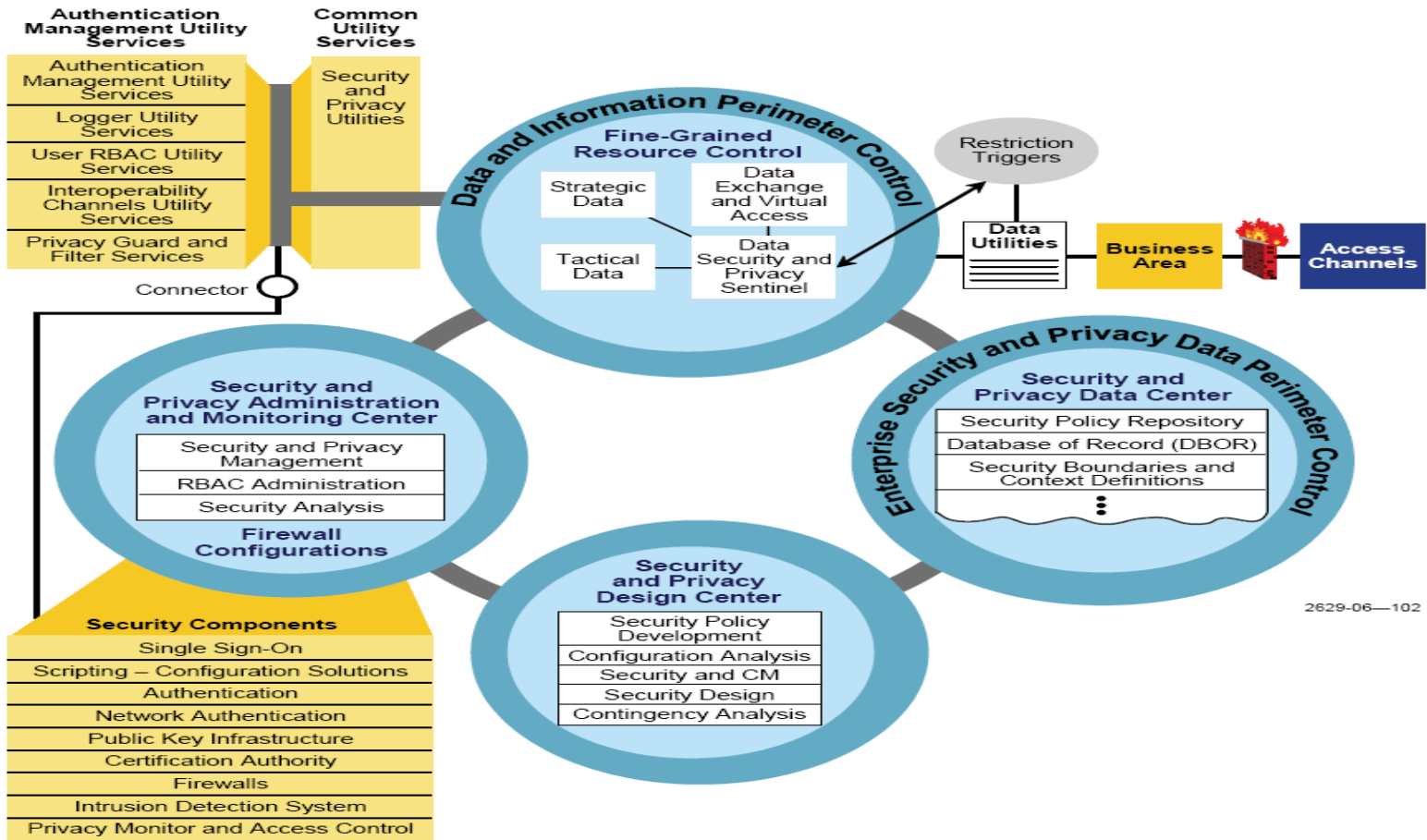
- Security is a common area where interoperability is important
- Examples:
  - client-side developed with MSFT and Java-server-side needs to authenticate
  - JSP client-side encrypts message and MSFT server-side decrypts
- WS-Security defines several relevant standards
  - XML Encryption and XML Signature
  - Token Profiles (Username, X.509, SAML, Kerberos)
- WS-I defines interoperable security
  - “Basic Security Profile 1.0” is appropriate standard/version now
- Federation: securing services between/among organizations
  - SAML/WS-Federation standard is becoming accepted and implemented
- Choose security products that support multiple token types

# Agenda

- Goals of Interoperability and Security Sub-Committee
- Interoperability Discussion and Best Practices
- Interoperability and Security
- • Security and MITA
- Security Framework and Solutions
- Security Implementation Planning

# MITA - Security & Privacy Model

Reference: Application Architecture –Part iii Chapter 7



2629-06—102

Figure 7-16. S&P Goals and Policies

# Security Needs to be Managed



# Security to be Managed

Authentication  
Authorization  
Federation  
Web Services  
Provisioning  
Password Management  
SSO  
Access Management

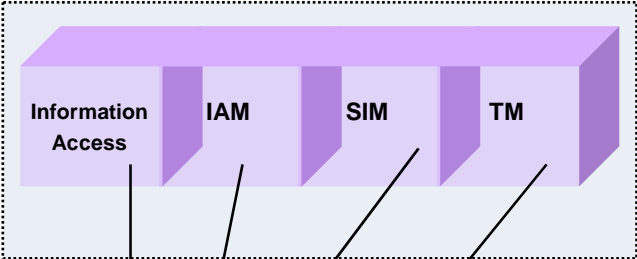


Asset Discovery & Classification  
Event Collection  
Vulnerability Assessment  
Correlation  
Forensics  
Compliance Mapping  
Policy Management  
Reporting

Virus Prevention  
Spyware Prevention  
Anti-Spam  
Gateway Protection

Firewall Protection  
Scan and Clean  
Malware Protection  
Proactive Management

# 6 Step Implementation Plan



Identity Management Plan

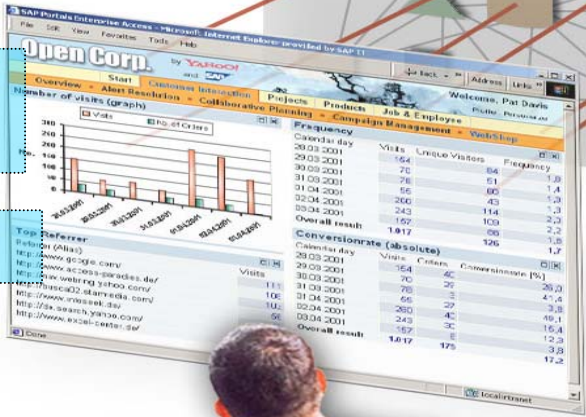
Privacy Plan

Business Continuity Plan

System & Infrastructure Plan

System Management Plan

Application Integrity Plan



Private Sector  
 Required Products  
 Optional Products  
 Private Sector

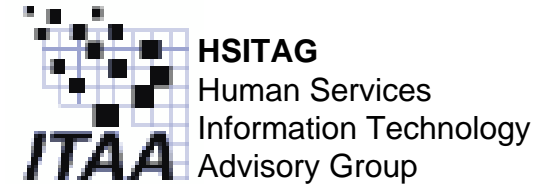
**TG** Technology Group  
[www.pstg.org](http://www.pstg.org)

# Summary

- **Security & Privacy are important**
- **Standards and Tools have reached adequate level of maturity**
- **Security Segments**
  - **Identity and Access Management**
  - **Security Information Management**
  - **Threat Management**
- **6 Step Implementation Plan**
- **Security cost savings exceed total cost of ownership**

# Recognition of Key Contributors

- **Manny Mkrtychian, Fox Systems**
- **Amin Zaman, CA, Inc**
- **Murray Wood, CA, Inc**



# Performance & Testing

Arvinder Singh

## Sub-committee goals & objectives

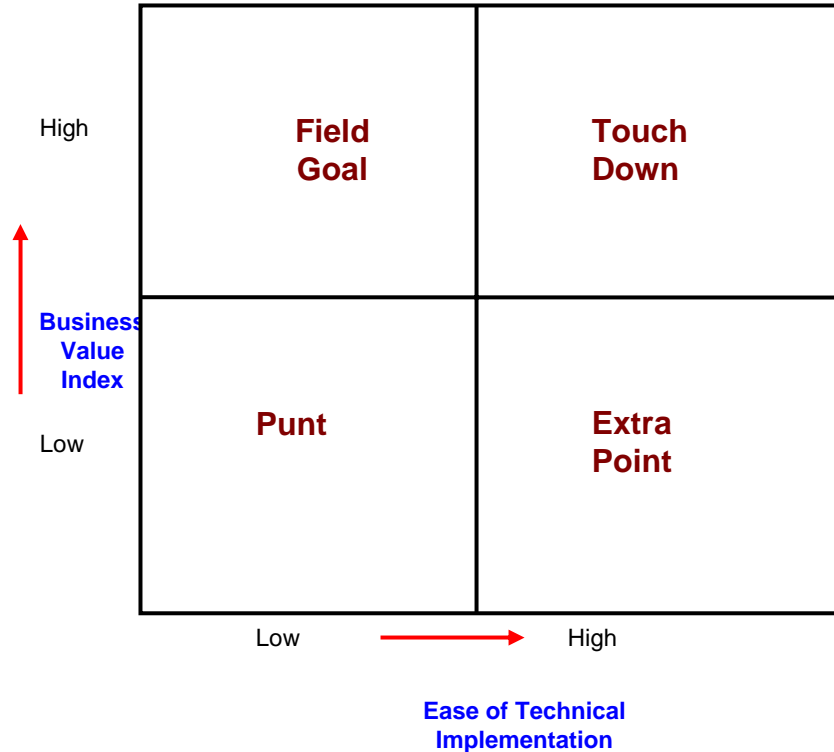
- **Establish an objective methodology for service evaluation and absorption**
  - Educate the constituents of the inter-relationships of business value and technical implementation risks in choosing which services to develop
- **SOA Life Cycle Quality**
  - Identify complexities of testing, evaluating and accepting SOA based environments
  - Guidance on quality measures and processes across life of a SOA implementation
  - Guidance on industry acceptable SOA implementations

## Issues being Addressed

- **Completed White Paper on Service Evaluation Matrix**
  - **Service Value Matrix**
  - **Developed example case studies using MITA identified services and processes**
- **Addressing issues of testing, acceptance and validation of SOA implementations**
  - **Document testing patterns**
  - **Prepare guidance towards building generally accepted practices of SOA implementation**

# Service Value Matrix

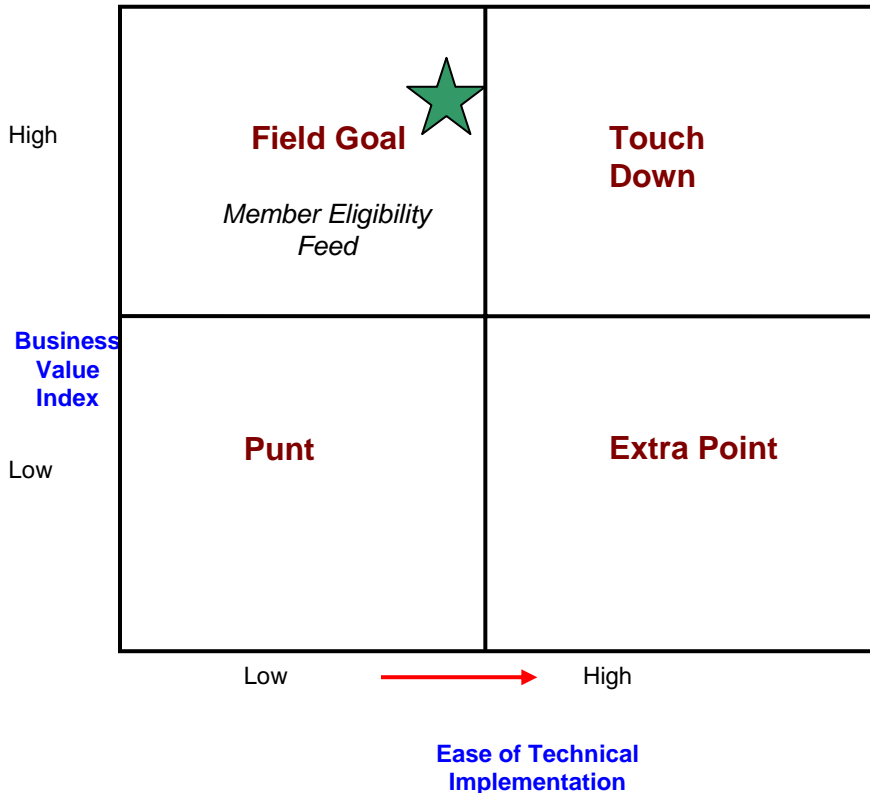
- Evaluate service enablement of business processes across two dimensions
  - Business Value Index
  - Ease of Technical Implementation
- Touch Down: Magic quadrant for the services evaluation portfolio
- Field Goal: Benefits of the service is high but technical risks are high
- Extra Point: Low business value and low technical implementation risks
- Punt: Low business value and high technical risks



# Objective Evaluation Matrix

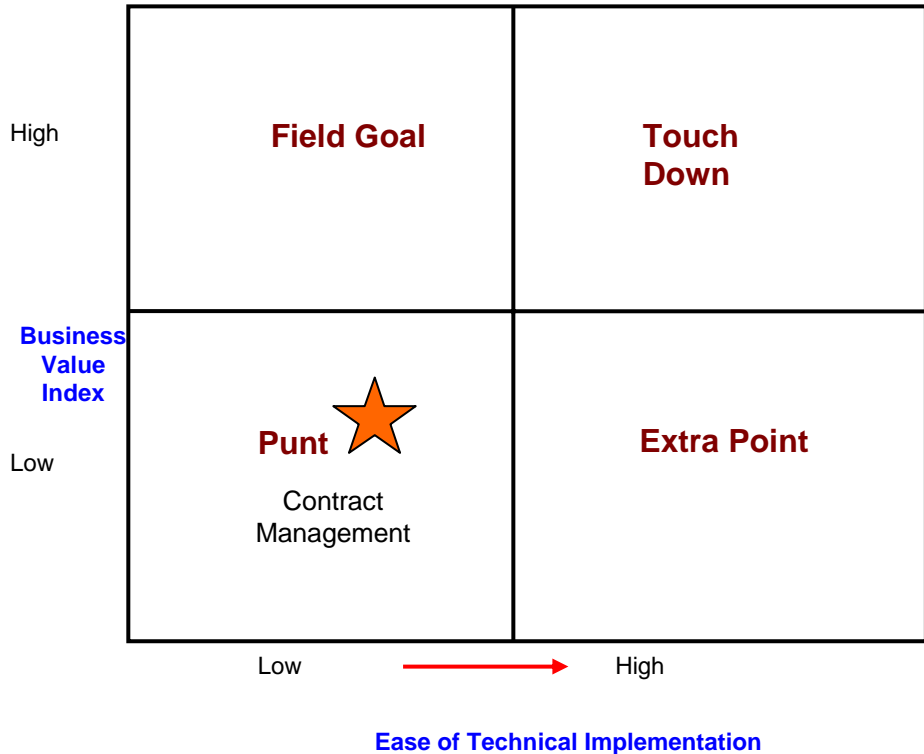
- **Establish Criteria for evaluating service**
  - **Business Value**
    - Agility
    - Cost savings
    - Stakeholder satisfactions
    - Reuse across units
  - **Technical Feasibility Index**
    - Performance
    - Access scope of service
    - Security considerations
    - Ease of service abstraction
    - Maturity of resource pool
    - Pervasiveness of services
- **Determine a scoring scheme**
  - A governance board should establish relative weights across criteria for each project
  - Rank each criteria individually with a rating factor of low, medium and high
  - Use the calculated score (rating factor \* relative weight) to assess the desirability of the service project

# Case Study 1: Real-Time web service for member eligibility feed



- **Business Value determined high**
  - Increased responsiveness for same day eligibility cases
  - Reduction in operational errors by improving of data timeliness
- **Ease of Technical Implementation determined to be average but risks inherent**
  - Performance considerations and uptime
  - New unproven technology area for the organization

# Case Study 1: Service enablement of contractor management business process



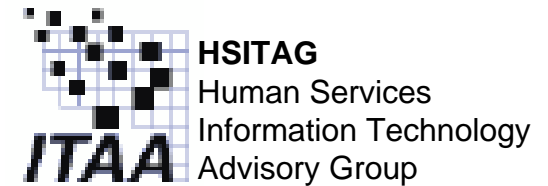
- **Business value is determined low**
  - Undocumented business processes flow
  - State legal requirements
  - Not a significant day-to-day operational value
- **Technical risks are also high**
  - Security access issues since exposure not on a trusted network
  - New unproven technology area for the organization

## Next Steps

- **Engage state participation to refine on the service evaluation processes**
  - **Use of Governance Board**
  - **Enterprise Architecture Committees**
  - **Develop empirical models to assess criteria scores**
- **Work on documenting a white paper on SOA Quality Life Cycle**
  - **Identify testing scope and industry patterns**
  - **Develop road map to validate SOA implementations for industry accepted practices**

# Recognition of Key Contributors

- Jeff Strand EDS
- Seth Kaplan Unisys
- Scott Stokes IBM
- Arvinder Singh CNSI



# Deployment Issues

## In a MITA Aligned SOA Development and Implementation

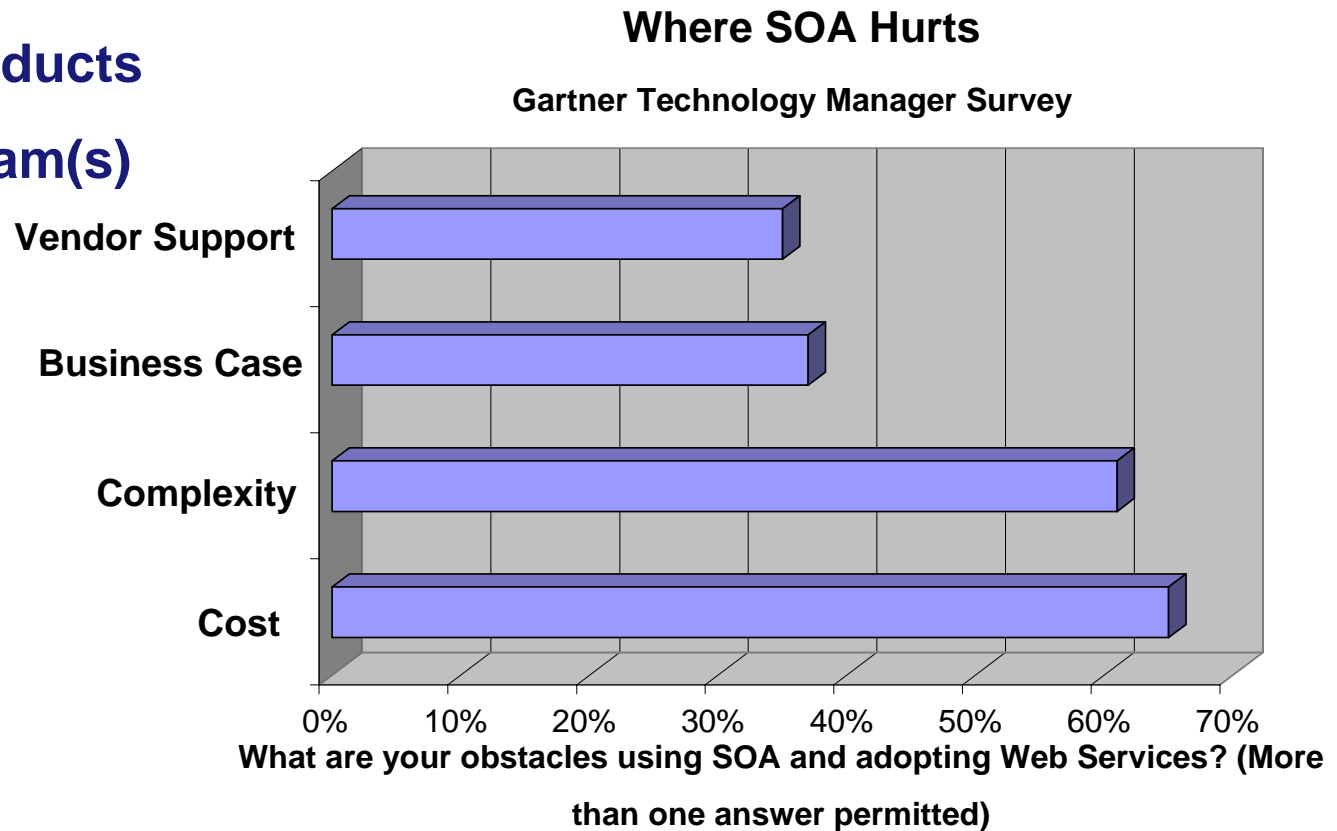
Steve Reynolds

## Goals & Objectives

- **Recognize deployment challenges in SOA developments**
  - **Business Issues – including project initiation**
  - **Deployment considerations during planning and development**
  - **Issues to address during operational deployment**
- **Describe possible courses of action and resources to address deployment issues**
- **Provide information to Medicaid community**

# Business Related SOA Deployment Issues

- One shot deal? Proponents and Evangelists
- Changing Roles – Two Parts
- Services as Products
- Governance Team(s)

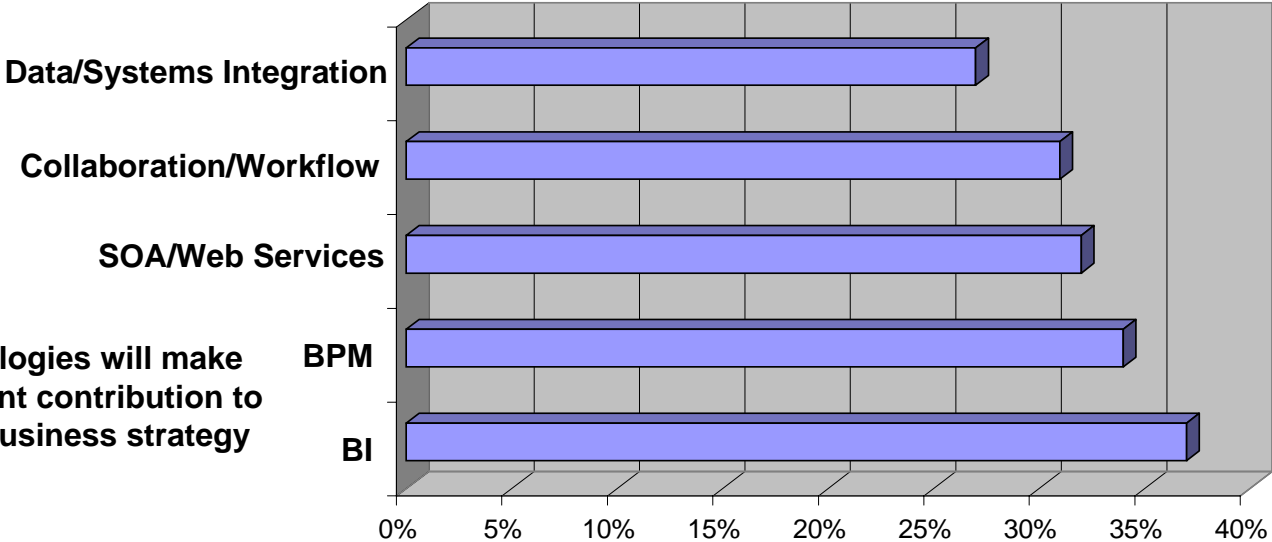


# SOA Deployment Concerns During Development

- Complexity
- Standards
- Scalability
- Testing Process
- Reusability

**Top Five Technologies - Most Significant Contribution to Business Strategy – 2007**  
CIO Insight Survey of 215 technology Managers, January 2007.

Which five technologies will make the most significant contribution to your company's business strategy in 2007?



## Issues to Address During Operational Deployment

- ID and Address Issues During Development
- Physical Distribution of Services / Performance
- Security
- Public Network

### Gartner – 2007 Applied SOA

**SOA will be used in over 1/2 of mission critical applications and business processes created in 2007 and 80% by 2010.**

# SOA What?

- **The Promise**

- Liberate business from IT Constraints
- Improve Agility – Cost Savings – Increase Productivity – Decrease Time to Implement
- Software Assets as Services
- Interoperable, agnostic, independent, reusable, etc.

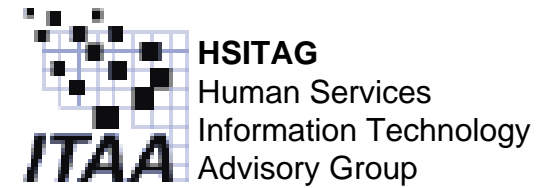
- **The Delivery (Gartner – 2007 Applied SOA) – SOA implementations can fail; You Must**

- Instill SOA discipline
- Anticipate obstacles
- Don't give up

# Sub-Committee Support

- Linda Moore
- Renee LaRosa – Software Engineering Services
- James Harbour – CNSI

***Your Name and Company Here!!***



## A State's Perspective

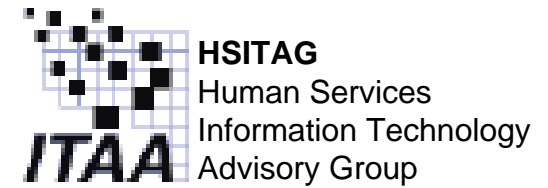
Tom Baden (Minnesota)

## How Participation in the TAC can Benefit a State

- Rich understanding of moving a business requirement into a implementable business service.
- The opportunity to influence the direction of the development of the MITA business services.
- The knowledge acquired from participation is tremendously valuable.
- Greater understanding of the integration of business services.
- Enriched understanding of security and privacy factors that impact design and development.
- Context for states moving to a service oriented architecture infrastructure.

## How a State can Benefit the TAC

- The creation of business service is only as good as the business requirement, states can provide breadth and depth in the design and creation of the business service.
- States may also provide context and a wealth of experience in the delivery of the business service.
- States may also provide socio-political perspective that will assist in the transition to the MITA model for MMIS systems .
- States may also help steer developers around technology, policy, security and privacy constraints that surround their organizations.
- States may also provide additional service design content from their state self assessments.

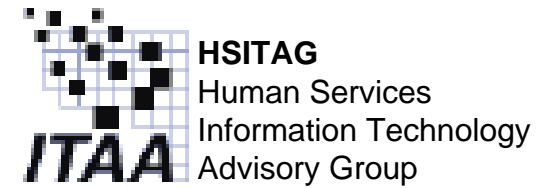


## Next Steps

Dave Walsh

## Ongoing Recommendations to CMS

- **Form a body that can examine various aspects of the technical architecture and present a consolidated recommendation from the industry to CMS.**
- **Institute a set of processes that will allow the TAC to form a consolidated recommendation.**
- **Discuss viability of developing a test suite to determine conformance.**
- **Highlight value of SOA**



## Panel Discussion

Kimberly Ellison-Taylor

## Panel Discussion

- How do we organize to form a recommendation body?
- How do we interface with NMEH and HL7 for Information Architecture?
- How do we validate conformance with MITA service interfaces?
- What are the next steps in the proof of concept?
- How do we introduce new capabilities into MITA?

# Contacts:

**David Nelson**  
**Chair, PSTG**  
Thomson Healthcare  
[David.L.Nelson@Thomson.com](mailto:David.L.Nelson@Thomson.com)

**Bob Stauffer**  
**Chair, HSITAG**  
Deloitte  
[bstauffer@deloitte.com](mailto:bstauffer@deloitte.com)

**Dave Walsh**  
**Chair, TAC**  
eServices  
[DWalsh@esrv.com](mailto:DWalsh@esrv.com)

**Kimberly Ellison-Taylor**  
**Chair, TAC**  
Oracle  
[kimberly.ellison-taylor@oracle.com](mailto:kimberly.ellison-taylor@oracle.com)