Information Sharing and Safeguarding (IS&S)
Playbook

Created by the IJIS Institute for the
Standards Coordinating Council

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IJIS Institute

Contents

Playbook Principles

This *Playbook* is intended to help users in their quest to create or enhance an effective and efficient Information Sharing and Safeguarding (IS&S) Environment, and can be used at any point in the environment's lifecycle, even starting over from scratch!

The plays included in the *IS&S Environment Playbook* were designed with the following principles in mind:

- ➲ Information sharing and safeguarding environments are built on a set of capabilities and services that provide ways to exchange information for better decision making, across systems, organizations, jurisdictions, and domains.

- ➲ Taking the if-you-build-it-they-will-come approach often does not work – it can be a costly failure and it can result in irreversible damage to trust in the project goals. The continuous engagement of the end user throughout the entire process will increase the probability of IS&S Environment success.

- ➲ IS&S Standards are the lifeblood of information sharing and safeguarding and should be considered in every project and used wherever and whenever possible. If there is a technological reason that will not currently allow for the use of standards, these standards should be a part of the future planning process for enhancements/upgrades.

- ➲ Automation is essential in IS&S testing; it significantly speeds the development and deployment of IS&S Environments and improves process and system replication.

- ➲ Throughout the lifecycle, decisions are coordinated and made at the lowest possible level of organizational competency.

- ➲ It pays to use advanced program and development methodologies where the users are intimately involved in making incremental and iterative progress (e.g., Agile development process) rather than the traditional system development life cycle (e.g., waterfall).

- ➲ Almost every play is iterative, in that initial trials often lead to repetition, but at a higher scale of implementation. For example, initial start-up funding will be easier to acquire than whole project funding at the outset of the project.

There are also a few key principles that will help guide the use of this *Playbook*:

- ➲ The *Playbook* is meant to be functional at a starting-from-scratch level, however, we know that many different types of organizations at varying levels of experience will access these plays. For beginning users, consider the plays as a suggested roadmap and incorporate the tried and tested processes of your more experienced team members. For more advanced users, take an opportunity to view these plays and see if there is anything you are missing in your current process.

➲ While the intent of the Playbook is to make every Play valuable, we understand that players in various roles might have different interests or focuses when viewing the Playbook as a whole. The following table shows the targeted audience for each of the Plays based on three general roles: Executive, Mid-level Managers, and Implementers.

	Executives	Mid-level Managers	Implementers
Play 1	☒	☒	☒
Play 2	☒		
Play 3	☒	☒	
Play 4	☒		
Play 5		☒	
Play 6		☒	☒
Play 7	☒	☒	☒
Play 8		☒	☒
Play 9	☒	☒	
Play 10		☒	☒
Play 11			☒
Play 12		☒	☒
Play 13		☒	
Play 14	☒	☒	
Play 15	☒	☒	
Play 16	☒	☒	

➲ There are plenty of tricky spots that users will encounter along the road towards an IS&S Environment, and one of the most tricky can be the interaction between government and solution providers in the context of procurement. In the pre-procurement phase, there is a low risk for open discussions between government and industry, but as the procurement phase evolves, the risk increases and many limitations may be introduced. We recognize the difficulty in walking this fine line, and the plays try to speak at a very general level so many different agencies can adapt them as needed.

➲ When you discover a resource that others can use in their quest for an IS&S Environment, share it with us! Become a part of the collaborative community by contributing your experience and artifacts for the benefit of future projects. (We think this is so important, we included sharing as a play in the Playbook!)

The *Playbook* was developed by the IJIS Institute for the Standards Coordinating Council using the *U.S. Digital Services Playbook* as the foundational framework and incorporating a number of existing resources and methodologies in the plays.

Your feedback is always welcome, and we are especially interested in hearing from the community of interest about resources that we can add to each of the plays. Please contact us through the Contact page on the Standards Coordinating Council's website or by emailing info@standardscoordination.org.

Play 01 – Understand What People Need

The first step in Information Sharing and Safeguarding (IS&S) Environment projects is exploring and pinpointing the needs of the people who will use the service, and the ways the IS&S Environment will allow them to fulfill their missions. The needs of people and their organizational missions — not constraints of government processes or legacy systems — should inform technical and design decisions. Part of this step is to establish the collaboration environment where the stakeholders agree to work together to create a useful and effective sharing environment.

Desired Outcome	*Representatives of stakeholder organizations approve the written definition of requirements to be met by implementing an information sharing environment.*

Checklist

- ✓ Early in the project, spend time with current and prospective users of the capabilities and services in the IS&S Environment and understand their organizational missions and areas where the missions intersect.
- ✓ Use a range of qualitative and quantitative research methods to determine people's goals, needs, and behaviors; be thoughtful about the time spent.
- ✓ Obtain commitments from key stakeholder organizations to the principle of collaborating in the creation of an information sharing environment.
- ✓ Develop processes to identify and resolve conflicts within stakeholder community regarding needs.
- ✓ Identify the cultural impediments that are keeping stakeholders from implementing the IS&S Environment.
- ✓ Document the findings about user goals, needs, behaviors, and preferences.
- ✓ Share findings with the team, the stakeholders, and agency leadership.
- ✓ Create a prioritized list of outcomes the user is trying to accomplish, also known as user stories.

Key Questions

- ☐ Who are your primary users?
- ☐ Are the key stakeholders willing to collaborate in the building of an information sharing environment?
- ☐ Is the service that is being developed meeting the customer's needs?
- ☐ What user needs will the IS&S Environment address? Is there general agreement on the user needs? Which ones are the most important to the mission?
- ☐ Why does the user want or need the ISE? Is there a common need among potential users?
- ☐ Which people will have the most difficulty with signing up to collaborate? How can that be overcome?
- ☐ Which research methods were used to understand user needs?
- ☐ What are the privacy and safeguarding implications in meeting user expectations in an IS&S Environment?

⭐ Resources

- ★ ***Pre-RFP Toolkit*** (v3-2013), IJIS Institute, http://www.ijis.org/?page=PreRFP_Toolkit
- ★ American Probation and Parole Association (APPA) ***Community Corrections Automated Case Management Procurement Guide with Bid Specifications***, Matz, A. K. (2012), APPA and Council of State Governments, https://www.appa-net.org/eweb/docs/APPA/pubs/Procurement-Guide.pdf

Play 02 – Gather the Stakeholders

▶ Putting in place a governance process where all stakeholders believe they are represented in the making of policy decisions is the fastest way to get complete acceptance and support for an IS&S Environment. A governance body can be created by executive order, legislative action, or by a consensus of leadership from sponsors or leading actors in the IS&S Environment. Essential to success is the formal assignment of responsibility to the individuals who are selected to represent the participating organizations. Governance bodies need a charter to define both the boundaries of their responsibility and authority and the processes for making decisions that affect all participants. Such a body is essential during early policy discussions on issues such as privacy, selection of standards, responsibilities for implementation, and other critical decisions shaping the IS&S Environment. The governance body will remain in place and active for the duration of the IS&S Environment lifecycle.

Desired Outcome	*Representatives of relevant stakeholder organizations are appointed to a governance body authorized and empowered to proceed to implement an information sharing environment.*

✓ Checklist

- ✓ The governance body must include representatives of all stakeholder organizations that are impacted by the development of an IS&S Environment.
- ✓ The members assigned to the governance body should be formally appointed to serve by their agency's executive.
- ✓ The governance body must be empowered to make the important decisions that will shape the IS&S Environment.
- ✓ All meetings should be issue-driven and documented.
- ✓ Transparency of the governance body deliberations is essential.
- ✓ The governance body must be supplied with adequate staff support to get things done.
- ✓ Governance works best when the governance body develops its own charter and other organizational documents.
- ✓ Work leading to policy decisions can be delegated to operational committees to expedite decision making.

? Key Questions

- ☐ Who are the stakeholders and who represents them in the governance process?
- ☐ Do the stakeholders believe they are represented in the governance process?
- ☐ Have leadership roles/responsibilities been established?
- ☐ Have boundaries of authority been defined?
- ☐ What committees need to be established to guide the work of the governance organization?
- ☐ What is the governance plan for the long term?
- ☐ Is the decision-making process well understood and documented?
- ☐ Is there a communications plan to explain the governance process to interested external parties?
- ☐ Do committees understand their responsibilities and deliverables?

☐   What policy implications need to be addressed?

Resources

★ ***Establishing Governance for Health and Human Services Interoperability Initiatives*** (2013), Illinois Framework for Healthcare and Human Services

★ ***The Good Governance Standard for Public Services*** (2004), Office for Public Management Ltd. and the Chartered Institute of Public Finance and Accountancy, file:///C:/Users/AndiDell3847/Downloads/governance_standard%20(2).pdf

★ ***Governance Guidance for Horizontal Integration of Health and Human Services*** (2012), American Public Human Services Association, http://www.aphsa.org/content/dam/aphsa/pdfs/NWI/Governance-Guidance.pdf

★ ***Governance Structures in Cross-boundary Information Sharing: Lessons from State and Local Criminal Justice Initiatives*** (2012), Theresa A. Pardo, J. Ramon Gil-Garcia, and G. Brian Burke Center for Technology in Government, University at Albany, SUNY, https://www.ctg.albany.edu/publications/journals/hicss_2008_governance/hicss_2008_governance.pdf

★ **Information Sharing Environment Common Profile Framework Description**, http://project-interoperability.github.io/common-profile/

★ **Governance Agreements** for Information Sharing Projects

Play 03 – Develop the Concept of Operations

It is important to understand how users and stakeholders will interact with the IS&S Environment and by what means. The vision of how the IS&S Environment will operate must be tied to direct improvements in mission effectiveness. Think of the IS&S Environment as an information highway – the user organizations need a roadmap to identify on ramps, define the rules of the road for managing traffic interactions, and show the off ramps for delivering information.

Desired Outcome	*Governance body adopts a written concept of operations on behalf of all stakeholder organizations.*

Checklist

- ✓ Understand the different points at which users will interact with the IS&S Environment.
- ✓ Put the identified cultural impediments on the table, discuss them, and determine ways to minimize the obstacles to building the IS&S Environment.
- ✓ Identify difficulties and obstacles in the current way users interact with the existing IS&S Environment or data sources, and prioritize these according to user needs.
- ✓ Identify the business requirements for the IS&S Environment.
- ✓ Define the highest priority information exchanges as a starting point for the IS&S Environment – the priorities should be based on meeting the greatest needs as expressed by the users.
- ✓ Document the *as-is* model of how these exchanges now get handled versus the *to-be* model of how the IS&S Environment will handle a more productive exchange of information.
- ✓ Identify the privacy and safeguarding constraints that must be met by any ultimate implementation of information sharing.
- ✓ Identify the roles of all the participants in the information exchanges to be clear about who initiates the exchange, who receives the information, and under what conditions the exchange takes place.
- ✓ Develop metrics that will measure how well the IS&S Environment is meeting business and user needs at each step of the service.
- ✓ Develop a change management process.

Key Questions

- ☐ What are the different ways (both online and offline) that people currently accomplish the task the IS&S Environment will be designed to help do more effectively?
- ☐ Where are user difficulties and obstacles in the current way people accomplish the tasks?
- ☐ What are the business requirements for the IS&S Environment?
- ☐ What kind of exchanges will be supported by the IS&S Environment?
- ☐ How is the exchange of information initiated and received?
- ☐ What are the roles and responsibilities of the participating organizations?
- ☐ How do individuals request information?
- ☐ How will the request for information be fulfilled by the IS&S Environment?
- ☐ What services will be involved in producing the information requested?

☐ What are the technology considerations?
☐ What are the funding constraints?
☐ How we are going to manage and address risk?
☐ How will privacy be protected and security assured through the information exchange processes?
☐ What metrics will best indicate how well the service is working for its users?
☐ Can you demonstrate return on investment?

⭐ **Resources**

★ *N-DEx: Understanding the National Data Exchange (N-DEx) System*, Chief Mark A. Marshall, Smithfield (VA) PD, Vice President, International Association of Chiefs of Police, (https://www2.fbi.gov/hq/cjisd/ndex/ndex_understanding.htm

★ *Comprehensive Regional Information System Project Volume 2: Concept of Operations* (2007), Noblis (for the National Institute of Justice),
https://www.ncjrs.gov/pdffiles1/nij/grants/219378.pdf

★ **Information Sharing Environment Common Profile Framework Description**, http://project-interoperability.github.io/common-profile/

★ *NIEM Cost Model User Guide (2012)*,
[https://www.niem.gov/aboutniem/roadmap/Documents/NIEM_Engagement_Process_CostModel UserGuide_v2.0.pdf](https://www.niem.gov/aboutniem/roadmap/Documents/NIEM_Engagement_Process_CostModelUserGuide_v2.0.pdf)

Play 04 – Identify and Get Support from Critical Sponsors

It is important to identify the sponsors who support the IS&S Environment's mission-critical endeavor and are willing to provide support, resources, and funding to enable capabilities and showcase the project value. It is helpful to engage these key sponsors in a collaborative process to develop a funding strategy built on a strong and well-defined business case that demonstrates the mission problem an IS&S Environment will solve.

Desired Outcome	*A satisfactory business case is defined and one or more legislative or executive organizations agrees to sponsor the initial work to move the project forward.*

Checklist

✓ Getting sponsors starts with identifying user groups or organizations that care about the problem of information sharing and believe the IS&S Environment is an important step in solving problems.

✓ Gather small groups of people who are stakeholders or who care about improving information sharing in order to prevent harm or promote resiliency.

✓ Seek start-up investments to get the concept moving.

✓ Funding for a complete IS&S Environment is rare, and teams should always consider scalability and sustainability. Develop a funding plan that doesn't rely on one-time, up-front, complete funding.

✓ Have a phased funding plan to share with potential sponsors.

Key Questions

☐ Have you accurately identified potential stakeholders and defined the role of each stakeholder organization?

☐ Are there individuals in stakeholder organizations who are passionate about the need for information sharing and might wish to help find sponsors?

☐ What will it cost to get the project off the ground and start something that people can rally around to finish?

☐ Have you developed an approach for critical sponsor support that clearly defines the return on investment?

☐ How will you document critical sponsor support commitments (e.g., memoranda of understanding)?

☐ Who are the stakeholders that might step up to become sponsors?

Resources

★ **Funding Sources and Programs**, Bureau of Justice Assistance-Justice Information Sharing, https://it.ojp.gov/implementation/funding/sources

★ ***Multi-agency Working and Information Sharing Project*** (2013), United Kingdom Home Office,
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/225012/MASH_Product.pdf

★ **Funding Awarded for Enhancing Public Safety through Justice Information Sharing Implementation**, http://www.ncja.org/advancing-criminal-JIS-TTA/jis-funding-award-announcement

Play 05 – Identify Existing Capabilities and Gaps

▶ Defining IS&S Environment capabilities shouldn't be confusing or daunting – capabilities should be simple and intuitive with the goal of enabling users to support their mission and overcome obstacles. Technical capabilities identified, if already developed/implemented by other communities, should be evaluated and reused when applicable. Where possible, leverage existing investments with proven track records of success and documented lessons learned in developing the IS&S Environment's capabilities.

Desired Outcome	*Governance body agrees on the determination of technology and human resources and processes that must be developed in order to succeed in implementing an IS&S Environment.*

✓ Checklist

- ✓ Identify role-based user requirements for the IS&S Environment that are more specific to the user experience than the business requirements identified in an earlier play.
- ✓ Identify the existing systems and technologies that can be used in the creation of an IS&S Environment.
- ✓ Identify the additional technology resources and capabilities necessary based on collected business, user, and technology requirements, with a focus on maximizing reuse of existing technology.
- ✓ Identify the advantages and challenges of different environments (internal, cloud-based, hybrid) and make the decision about hosting considering the identified items in light of the user needs and other relevant parameters such as cost.
- ✓ Document an assessment of the existing resources that can be applied along with a statement describing the approach to filling the gaps in capability that must be filled.

? Key Questions

- ☐ What primary tasks are the users trying to accomplish?
- ☐ What are the user requirements to support role-based information sharing and safeguarding?
- ☐ What are the systems and technologies already in place that can be built on to create the sharing environment?
- ☐ What are the capabilities that will developed or reused?
- ☐ What technologies are required to meet the user needs?
- ☐ What are the pros and cons of the technology approach? How does this impact the buy versus build decisions for hosting (i.e., software as a service, cloud storage)?
- ☐ Are there legacy systems that can be reconstituted to better share and safeguard information and meet identified user needs?
- ☐ What specific safeguarding measures will be employed?
- ☐ How does the IS&S Environment's design visually relate to other government services?

⭐ **Resources**

Pre-RFP Toolkit (v3-2013), IJIS Institute, http://www.ijis.org/?page=PreRFP_Toolkit

Play 06 – Identify and Select Relevant Standards

Early in the process, identify applicable IS&S standards. IS&S standards were created to provide a common approach to sharing electronic information among tribal, territorial, local, state, and Federal organizations. Standards help define business processes, provide a common framework, platform, and language to exchange information, and assist with security and privacy. The governance body must be actively engaged in the identification and the application of these standards especially in the context of the policy including privacy concerns.

Desired Outcome	*Governance body adopts a policy specifying the standards to be used in IS&S Environment implementation.*

✅ Checklist

- ✓ Cast a wide net when considering information sharing and safeguarding standards, including national and international standards that contribute to project success.
- ✓ Standards are the lifeblood of information sharing and safeguarding efforts and must be used where applicable. If standards are not an immediate option, consider how they may impact the IS&S Environment over the complete lifecycle.
- ✓ Whenever possible, seek training opportunities to become more familiar with existing standards and their application.
- ✓ Define a specific list of standards that will become the basis of the project (e.g., NIEM, security, privacy, and geospatial standards).
- ✓ Reconcile standards to bridge any gaps and make them interoperable.
- ✓ Acquire training for developers in the application of standards in building out an IS&S Environment.
- ✓ Ensure that the governance body and participating agencies are committed to the use of standards.

❓ Key Questions

- ☐ What standards will be most helpful in expediting information exchanges in less time for development and implementation?
- ☐ What standards will be applied to ensure privacy and security in the IS&S Environment?
- ☐ What expertise is required of the development team to ensure that the standards are appropriately included in the solution designs?

⭐ Resources

- ★ **National Information Exchange Model (NIEM),** http://www.niem.gov
- ★ **Global Information Sharing Toolkit**, Bureau of Justice Assistance-Justice Information Sharing, https://it.ojp.gov/about-gist
- ★ **OASIS** (a nonprofit consortium that drives the development, convergence and adoption of open standards for the global information society), https://www.oasis-open.org/
- ★ **Open Geospatial Consortium (OGC) Standards,** http://www.opengeospatial.org/standards

- ★ **Object Management Group**, http://www.omg.org/
- ★ **National Institute of Standards and Technology (NIST)**, http://www.nist.gov/
- ★ **International Organization for Standardization (ISO)**, http://www.iso.org/iso/home/standards.htm
- ★ **Information Exchange Package Documentation (IEPD) Clearinghouse** (IEPDs that have been submitted by individuals and organizations who have implemented the Global Justice XML Data Model and the National Information Exchange Model), http://iepd.custhelp.com/
- ★ **Open Standards and Standards Projects**, Standards Coordinating Council, http://www.standardscoordination.org/standards
- ★ **Information Sharing Environment (ISE) Information Interoperability Framework (I²F)**, http://ise.gov/sites/default/files/FINAL%20-%20ISE_I2F_v0%205.pdf
- ★ **Common Profile Framework,** the ISE Common Profile Framework description (Common Profile) is a means to standardize the way a modular component profile or an information interoperability profile is documented. The Common Profile is an important aid that provides a template for consistently documenting the contents of a profile for inter- and intra-organization information documentation and discovery, https://www.ise.gov/resources/document-library/common-profile-framework-v20
- ★ **Data Aggregation Reference Architecture (DARA)**, http://www.standardscoordination.org/sites/default/files/docs/DARA_v1.pdf
- ★ **Geospatial Interoperability Reference Architecture (GIRA)**, http://ise.gov/sites/default/files/GIRA.pdf
- ★ **Structured Threat Information eXpression (STIX)**, https://stixproject.github.io/
- ★ **Trusted Automated eXchange of Indicator Information (TAXII),** https://taxiiproject.github.io/

Play 07 – Create a Data Management Policy

The IS&S Environment is not just about data or systems, but the fundamental purpose of an IS&S Environment has to do with collecting, analyzing, and disseminating data and doing so across jurisdictional and disciplinary boundaries. As a result, a strong policy dealing with the issues of data management is important. This is a topic best dealt with by the governance body, with input from all stakeholders.

Desired Outcome	*A data management policy is adopted by the governance body and communicated to all stakeholder organizations.*

Checklist

- ✓ Clarify the principles of data stewardship vs. data ownership and identify limitations on both.
- ✓ Define policies and practices upholding the principle that data quality is best established at the point of its origin.
- ✓ Given the high cost of data collection, make clear the principle that data will be reused as much as possible to serve varied needs and interests.
- ✓ Develop a policy that discourages duplicate data collection and entry across systems.
- ✓ Include a policy that data elements will be structured whenever it is responsible to do so in order to maintain maximum search and reuse capabilities.
- ✓ Call for data naming and design conventions such as those created in the NIEM program.
- ✓ Define data dissemination and use rules in connection with a privacy plan.
- ✓ Create a policy for the secondary use and disclosure of data captured that maintains the originator rules on dissemination and access.
- ✓ Define role-based access rules for data in the participating systems.

Key Questions

- ☐ Which organizations will have cross-organizational data access and what limitations on dissemination will be imposed?
- ☐ How will originating agency data access rules be enforced in other organizations?
- ☐ What organization will maintain a directory of system-wide data and definitions?
- ☐ How will users be training on data access and privacy practices?

Resources

- ★ **National Information Exchange Model (NIEM),** http://www.niem.gov
- ★ **Data Management Maturity Model,** http://cmmiinstitute.com/data-management-maturity
- ★ **Master Data Management,** https://en.wikipedia.org/wiki/Master_data_management

Play 08 – Assemble the Implementation Team

Building an IS&S Environment is a team effort. Sponsoring organizations have to assemble a team of strong players who can handle all of the disparate tasks involved. A single project manager (PM) is essential, with the authority to make critical decisions on behalf of the governance body. The *build or buy* decisions will be made in this play, and plans will be developed for the acquisition of in-house talent or contractor services to ensure that all facets of building the IS&S Environment are being handled by experienced and knowledgeable team players. Contracting officers must understand how to evaluate third-party technical competency so in-house teams can be paired with contractors who are good at both building and delivering effective IS&S Environment capabilities. A procurement strategy in keeping with applicable regulatory provisions is essential. Ways to accelerate and establish agility in procurement actions are applicable at this point.

Desired Outcome	*Project manager is on board and key leaders are identified and available for service.*

Checklist

- ✓ Identify a PM that has a product management background with technical experience to assess alternatives and weigh tradeoffs.
- ✓ All stakeholders agree that the PM has the authority to assign tasks and make decisions about features and technical implementation details.
- ✓ The PM has a strong relationship with the contracting officer.
- ✓ The PM is responsible for ensuring that required features are developed, the timeline is being managed as expected, and all issue logs and bugs are addressed appropriately. Other key team members will handle subtasks such as training, implementation, procurement, legal, and technology and other tasks.
- ✓ Implementation is multi-disciplinary – it is essential to have communication across the team and the ability of the team to reach back to the users for feedback where necessary.
- ✓ Member(s) of the team have experience building mission-critical, high-traffic digital services.
- ✓ Member(s) of the team have experience designing applications to meet identified requirements (web, mobile, cloud).
- ✓ Member(s) of the team have experience using automated testing frameworks.
- ✓ Member(s) of the team have experience with modern development and operations (DevOps) techniques like continuous integration and continuous deployment.
- ✓ Members of the team have understanding and experience in implementing open standards-based solutions.
- ✓ A contracting officer is on the internal team if a third party will be used for development work.
- ✓ A budget officer is on the internal team or is a partner.
- ✓ The appropriate privacy, civil liberties, and/or legal advisor for the department or agency is a partner.

Key Questions

- ☐ What organizational changes have been made to ensure the PM has sufficient authority over and support for the project?
- ☐ What does it take for the PM to add or remove an IS&S Environment feature/capability?
- ☐ What technical skills are available in-house and what skills are missing?
- ☐ What are the options for getting missing skills (e.g., acquisitions, training)?

Resources

- ★ *Pre-RFP Toolkit* (v3-2013), IJIS Institute, http://www.ijis.org/?page=PreRFP_Toolkit.

Play 09 – Acquire Needed Resources

Every IS&S Environment project is likely to need some form of procurement to acquire resources, even those being built in house. To improve the chances of success when contracting out development activities, acquiring resources, or acquiring items in the technology stack, we need to work with experienced budgeting and contracting officers. In cases where third parties are used to help build a service or supplement an in-house team, a well-defined contract can facilitate good development practices. Examples of outsourced services can include conducting research, prototyping, refining product requirements, evaluating open source alternatives, testing, and certification. Strong procurement support allows the flexibility to consider alternative solutions such as cloud computing, storage, and design services.

> **Desired Outcome** | *Internal staff are on board and contracts are in place with all suppliers required to achieve implementation.*

Checklist

- ✓ Budget includes research, discovery, and prototyping activities.
- ✓ Process includes preferences for proven solution providers, such as those with product certifications or compliance certification (e.g., Springboard Certification Program).
- ✓ Contract is structured to request frequent, incremental deliverables, not multi-month milestones.
- ✓ Contract is structured to hold industry solution provider accountable for deliverables.
- ✓ Contract gives the government delivery team enough flexibility to adjust feature prioritization and delivery schedule as the project evolves.
- ✓ Contract ensures open source solutions are evaluated when technology choices are made.
- ✓ Contract specifies that solutions are standards-based, leveraging appropriate information technology, security, geospatial, and data content standards.
- ✓ Contract specifies that software and data generated by third parties remains under our control, and can be reused and released to the public as appropriate and in accordance with the law.
- ✓ Contract allows us to use tools, services, and hosting from vendors with a variety of pricing models, including fixed fees and variable models like *pay-for-what-you-use* services.
- ✓ Contract specifies a warranty period where defects uncovered by the public are addressed by the solution provider at no additional cost to the government.
- ✓ Contract includes testing, or an independent testing contract is created for testing by a different, unrelated provider.
- ✓ Contract includes a transition of services period and transition-out plan.
- ✓ Evaluate hosting providers to ensure they are not simply data centers that market themselves as cloud hosting but require us to manage and maintain hardware directly. This outdated practice wastes time, weakens our disaster recovery plans, and results in significantly higher costs.
- ✓ Resources are provisioned on demand, scale based on user demand, and are provisioned through open standards and the use of common interoperability profiles.
- ✓ Resources are available in multiple regions.
- ✓ Static assets are served through a content delivery network.
- ✓ Application is hosted on commodity hardware.

Key Questions

☐ What hardware does your service use to run?
☐ What happens to your service when it experiences a surge in traffic or load?
☐ How much capacity is available in your hosting environment?
☐ How long does it take you to provision a new resource, like an application server?
☐ How have you designed your service to scale based on demand?
☐ How are you paying for your hosting infrastructure (e.g., by the minute, hourly, daily, monthly, fixed)?
☐ Is your service hosted in multiple regions, availability zones, or data centers?
☐ In the event of a catastrophic disaster to a datacenter, how long will it take to have the service operational?
☐ What would be the impact of a prolonged downtime window?
☐ How will testing best prove the solution's ability to meet identified requirements?
☐ What are the performance metrics defined in the contract (e.g., deliverable-based milestone, delivery-based payment after each module or capability is delivered)?
☐ What are the requirements to acquire the necessary resources?

Resources

★ *The Pre-RFP Toolkit*, http://www.ijis.org/?page=PreRFP_Toolkit
★ *TechFAR Handbook*, https://playbook.cio.gov/techfar/, (highlights the flexibilities in the Federal Acquisition Regulation that can help agencies implement plays from the Digital Services Playbook – http://playbook.cio.gov/ – that would be accomplished with acquisition support, with a particular focus on how to use contractors to support an iterative, customer-driven software development process)
★ **Springboard Certification Program**, http://www.ijis.org/?page=Springboard
★ American Probation and Parole Association (APPA) *Community Corrections Automated Case Management Procurement Guide with Bid Specifications*, Matz, A. K. (2012), APPA and Council of State Governments, https://www.appa-net.org/eweb/docs/APPA/pubs/Procurement-Guide.pdf
★ *Request For Proposal Template For A Technological Solution*, Companion to the *Community Corrections Automated Case Management Procurement Guide with Bid Specifications* developed by the American Probation and Parole Association, https://www.appa-net.org/eweb/docs/APPA/pubs/RFPTemplate_Specifications.docx
★ *Functional Standards Development for Automated Case Management Systems for Probation* (2003), American Probation and Parole Association (for Bureau of Justice Assistance), https://www.appa-net.org/eweb/docs/appa/pubs/FSDACMS.pdf
★ **Procurement Innovation Resources**, IJIS Institute, http://www.ijis.org/?page=Procurement_Resource
★ *Strategies for Procurement Innovation and Reform* (2013), IJIS Institute Procurement Task Force, http://c.ymcdn.com/sites/ijis.site-ym.com/resource/resmgr/Docs/procurement_report.pdf
★ *Myth-Busting: Addressing Misconceptions to Improve Communication with Industry during the Acquisition Process*, Office of Management and Budget, https://www.whitehouse.gov/sites/default/files/omb/procurement/memo/Myth-Busting.pdf

★ *Myth-Busting 2: Addressing Misconceptions and Further Improving Communication during the Acquisition Process*, Office of Management and Budget, http://www.gsa.gov/graphics/staffoffices/OFPP_Myth-Busting2.pdf

★ **Information Sharing Environment (ISE) Information Interoperability Framework (I^{2}F)**, http://ise.gov/sites/default/files/FINAL%20-%20ISE_I2F_v0%205.pdf

★ **Data Aggregation Reference Architecture (DARA)**, http://www.standardscoordination.org/sites/default/files/docs/DARA_v1.pdf

★ **Geospatial Interoperability Reference Architecture (GIRA)**, http://ise.gov/sites/default/files/GIRA.pdf

★ **Structured Threat Information eXpression (STIX)**, https://stixproject.github.io/

★ **Trusted Automated eXchange of Indicator Information (TAXII),** https://taxiiproject.github.io/

★ *Responsible Information Sharing: Engaging Industry to Improve Standards-Based Acquisition & Interoperability*, https://www.actiac.org/sites/default/files/Standards-Based%20Acquisition%20and%20Interoperability%20-%20CT%20SIG%2011-2012.pdf

★ *Practical Guide to Federal Service Oriented Architecture*, https://www.whitehouse.gov/omb/E-Gov/pgfsoa

Play 10 – Manage Implementation

A milestone-based development plan with short-term measurement of progress and periodic revisiting of objectives related to the end game is essential to eventual success. Today's advanced methodologies call for iterative development and constant user feedback. An incremental, fast-paced style of software development with close collaboration between technologists and practitioners helps reduce the risk of failure and gets working software into users' hands as early as possible to give the design and development team opportunities to adjust based on user feedback about the service. Breaking down the total IS&S Environment development into subtasks so that each can be monitored and explained to management and the governance body is an important contribution to the likelihood of overall success.

Desired Outcome	*A milestone-based project plan is in place and is used to monitor and manage implementation through initial installation and system testing.*

Checklist

- ✓ A critical capability is being able to automatically test and deploy the service so that new features can be added often and be put into production easily.
- ✓ Ensure the individuals building the services communicate closely using techniques such as launch meetings, war rooms, daily standups, and team chat tools.
- ✓ Hold discussion sessions with stakeholders to help them understand why identified cultural obstacles should not stand in the way of implementation.
- ✓ Keep delivery teams small and focused; limit organizational layers that separate these teams from the business owners.
- ✓ Release features and improvements multiple times each month.
- ✓ Create a prioritized list of features and bugs, also known as the *feature backlog* and *bug backlog*.
- ✓ Use a source code version control system.
- ✓ Give the entire project team access to the issue tracker and version control system.
- ✓ Use code reviews to ensure quality.

Key Questions

- ☐ Do you have a project plan? Do you have a budget?
- ☐ How long it is each stage of deployment expected to take before a move to production deployment?
- ☐ What is the estimated timeline for a *go-live* move to production?
- ☐ How many days or weeks are in each iteration/sprint?
- ☐ How are you going to share the status on regular basis among the project team and the project sponsors?
- ☐ Which version control system is being used?
- ☐ How are bugs tracked and tickets issued? What tool is used?
- ☐ How is the feature backlog managed? What tool is used?
- ☐ How often do you review and reprioritize the feature and bug backlog?

☐ How do you collect user feedback during development? How is that feedback used to improve the service?

⭐ **Resources**

★ **Project Management Resources**, Project Management Institute (PMI), http://www.pmi.org/
★ **IS&S System Development Life Cycle (SDLC) Methodologies**
★ **Manifesto for Agile Software Development**, http://www.agilemanifesto.org

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Play 11 – Automate Testing and Demonstrate Success

Today, government agencies, solution providers, and open standards organizations are developing standards and solutions that automate testing that verifies conformance to standards. Testing for code development can be done in-house but testing for conformance to the standards can be very challenging because the standards don't come with the detailed conformance criteria or how-to adoption guidance. Demonstrating conformance to the implemented standards is important, and while manual tests and quality assurance are still necessary, automated tests provide consistent and reliable protection against unintentional regressions, and make it possible for developers to confidently release frequent updates.

Desired Outcome	*Automated testing of systems against requirements and conformance to standards is in place and used to test various component systems as a part of the IS&S Environment.*

Checklist

✓ Run usability tests frequently to see how well the IS&S Environment components works and identify improvements that should be made.

✓ Conduct a pilot test of the use of the product in a scenario bearing resemblance to the original scenario (use case). This is sometimes called an alpha test of the product and must be realistic and result in actual implementation even if temporary. Evaluate results of the pilot.

✓ Conduct a replication test where three to five other organizations not participating in the original development actually implement the product and test it in the real world. Evaluate the results of the replication process.

✓ In parallel with the testing processes, prepare a documentation plan and package that includes release notes, user documentation, marketing collateral, and promotional materials such as video testimony.

✓ If possible, work with software providers whose software products are certified to be in conformance with the standards adopted for the project.

✓ Insist on the creation of a capability to automate software testing to allow for frequent retesting under load conditions to show conformance.

✓ Require service providers to certify their products using the IJIS Institute Springboard Certification Program.

Key Questions

☐ At each stage of usability testing, which gaps were identified in addressing user needs?
☐ Has the software proposed been certified to conform to selected standards?
☐ What tools are available for automating software testing?
☐ What software product certifications does the software provider maintain for the proposed products?
☐ Has the software provider employed automated testing in the past and what were the results?

Resources

★ Compliance Testing and Certification Programs such as:
- **Springboard Certification Program**, http://www.ijis.org/?page=Springboard
- **Open Geospatial Consortium (OGC) Compliance Testing and Certification**, http://www.opengeospatial.org/compliance

★ **Information Sharing Environment (ISE) Information Interoperability Framework (I²F)**, http://ise.gov/sites/default/files/FINAL%20-%20ISE_I2F_v0%205.pdf

★ **Data Aggregation Reference Architecture (DARA)**, http://www.standardscoordination.org/sites/default/files/docs/DARA_v1.pdf

★ **Geospatial Interoperability Reference Architecture (GIRA)**, http://ise.gov/sites/default/files/GIRA.pdf

Play 12 – Deploy the IS&S Environment

▶ After the development and testing are done, it is time to begin operations. The IS&S Environment should be deployed on flexible infrastructure, where resources can be provisioned in real time to meet identified user requirements and user demand. Going live is more than simply flipping the on switch – it involves user acceptance testing as a proof point for identified user requirements, organizing all the stakeholders for the transition, and training users on the new IS&S Environment.

Desired Outcome	*Component systems required to implement the IS&S Environment are in place, tested, and user training has been completed so that the system is ready for operation.*

✔ Checklist

✓ User acceptance testing on live systems should be correlated with previously-identified requirements and documented.
✓ Identify training requirements for different categories of users and develop a plan for providing training during the go live period and into the future as staff changes occur.
✓ Ensure the availability of user help resources.
✓ It helps to have an assigned person from a solution provider so you don't have to educate a new person each time on what is happening and what should or should not be occurring.
✓ Consider the continuity of operations plan and the relationship to the new IS&S Environment.
✓ Develop the processes for the collection, documentation, and dissemination of performance measures.
✓ Evaluate the need for subsequent releases and prepare the follow-up release plan and structure.

? Key Questions

☐ What data redundancy do you have built into the system, and what would be the impact of a catastrophic data loss?
☐ How often do you need to contact a person from your provider to get resources or to fix an issue?
☐ Is there a triage plan if patches or fixes are needed to ensure the more *critical fixes* are addressed immediately and less critical fixes are appropriately schedule?
☐ What are the different types of IS&S Environment users? What training will they need to use the IS&S Environment to achieve stated goals?
☐ Does your IS&S Environment involve data that is open to the public? How will you communicate this availability to the public and educate them on the use of the interface?
☐ Do the various groups of users know how to get help when using the IS&S Environment?
☐ Have you developed the test scripts for user acceptance testing?
☐ Have you identified the test group?
☐ How are you collecting user feedback for bugs and issues?

⭐ Resources

★ *Coming soon! Visit* www.standardscoordination.org/iss-playbook *for* Playbook *updates.*

Play 13 – Measure and Report the Impact

At every stage of a project, teams should measure how well service components are working for users. At the point of going live, it is critical to have in place the methodology for measuring outcomes and the evaluation plan to provide feedback to the sponsors and stakeholders on initial performance. The measurement methodology and the evaluation plan should both be in accordance with the metrics chosen to describe the outcome of the work but also on improvements required after going live. Reporting the impact should never shy away from failures as they can be valuable learning experiences. The performance measurement process should also serve to identify fixes and improvements and prioritize them based on user needs and input. Along with monitoring tools, a feedback mechanism should be in place for people to report issues directly.

Desired Outcome	*A measurement system is in place to report output and outcomes of system implementation and reports have been issued for initial system operation.*

Checklist

✓ Collect data on reuse of data elements across domain boundaries.
✓ Measure extent of information exchanges across organizational boundaries.
✓ Determine outcome improvements in mission performance due to improved information sharing across boundaries.
✓ Determine the extent of reuse of data that avoids duplicate data entry.
✓ Study time saving in production environments due to automating information exchanges.
✓ Consider the use of an independent third party, such as an academic institution, to review metrics and results of the IS&S Environment implementation to ensure that the evaluation is accurate, unbiased, and neutral.

Key Questions

☐ What are the key metrics for the IS&S Environment?
☐ How have these metrics performed over the life of the service?
☐ Which system monitoring tools are in place?
☐ What is the volume of each of your service's top 10 transactions?
☐ Which tools are in place to monitor/measure user behavior?
☐ How do you measure user satisfaction?
☐ How are you reporting performance to the governance body and agency executives?
☐ Are your policies and procedures adequately addressing safeguarding and privacy issues?

Resources

★ *Coming soon! Visit* www.standardscoordination.org/iss-playbook *for* Playbook *updates.*

Play 14 – Share your Experiences

Every IS&S Environment project offers value for all the projects that come after it. As members of the greater community of interest, sharing our IS&S Environment successes and failures is critical to the success of the information sharing and safeguarding mission. Not only will contributing your project information help others build IS&S Environment capabilities, but as you become more familiar with the community and the resources it includes, it will improve your chances of success in your next IS&S Environment endeavor!

Desired Outcome	*Reports covering system implementation and outcome measures have been posted to appropriate websites and portals and announced organizations that may be interested in project outcomes.*

Checklist

- ✓ Document successes and failures as both are equally valuable to your future projects and the IS&S Environment projects of the greater community of interest.
- ✓ Identify the relevant community of interest organizations related to your IS&S Environment project (i.e., standards development organizations, industry organizations, government repositories, Standards Coordinating Council) and share your experiences, best practices and documentation as allowable.
- ✓ Contribute specific information about standard use to the organizations with ownership of the standards used in your IS&S Environment.
- ✓ Consider compliance certification (e.g., Springboard Certification Program, Open Geospatial Consortium Compliance Testing and Certification), which will document the success of your IS&S Environment and contribute to the larger body of knowledge in the process.
- ✓ Contribute Information Exchange Package Documentations (IEPDs) to the IEPD Clearinghouse.
- ✓ When appropriate, publish source code of projects or components online.
- ✓ When appropriate, share your development process and progress publicly.
- ✓ Consider presenting your findings at conferences and educational summits within appropriate communities of interest.

Key Questions

- ☐ What do I have that will be useful to others?
- ☐ How can the team get involved in organizations within the community of interest?
- ☐ Where do I go to share my lessons learned and best practices?
- ☐ How do we share our success stories with the legislators and sponsors?
- ☐ What are the failures and how are we going to address them to ensure corrective actions in the current IS&S Environment and prevent future failures?

⭐ **Resources**

★ **Standards Coordinating Council**, http://www.standardscoordination.org
★ Relevant Standards Development Organizations (SDOs)
  - **Open Geospatial Consortium (OGC) Standards**, http://www.opengeospatial.org/standards
  - **Object Management Group**, http://www.omg.org/
  - **OASIS** (a nonprofit consortium that drives the development, convergence and adoption of open standards for the global information society), https://www.oasis-open.org/
  - **National Institute of Standards and Technology (NIST)**, http://www.nist.gov/
  - **International Organization for Standardization (ISO)**, http://www.iso.org/iso/home/standards.htm
★ **IJIS Institute**, http://www.ijis.org
★ **Information Exchange Package Documentation (IEPD) Clearinghouse** (IEPDs that have been submitted by individuals and organizations who have implemented the Global Justice XML Data Model and the National Information Exchange Model), http://iepd.custhelp.com/
★ Compliance Testing and Certification Programs
  - **Springboard Certification Program**, http://www.ijis.org/?page=Springboard
  - **Open Geospatial Consortium (OGC) Compliance Testing and Certification**, http://www.opengeospatial.org/compliance
★ **National Information Exchange Model (NIEM)**, http://www.niem.gov
★ **Global Information Sharing Toolkit**, Bureau of Justice Assistance-Justice Information Sharing, https://it.ojp.gov/about-gist
★ **Information Sharing Environment (ISE) Information Interoperability Framework (I^{2}F)**, http://ise.gov/sites/default/files/FINAL%20-%20ISE_I2F_v0%205.pdf
★ **Data Aggregation Reference Architecture (DARA)**, http://www.standardscoordination.org/sites/default/files/docs/DARA_v1.pdf
★ **Geospatial Interoperability Reference Architecture (GIRA)**, http://ise.gov/sites/default/files/GIRA.pdf
★ **Structured Threat Information eXpression (STIX)**, https://stixproject.github.io/
★ **Trusted Automated eXchange of Indicator Information (TAXII)**, https://taxiiproject.github.io/
★ **Relevant Practitioner Associations**

Play 15 – Maximize Responsible Data Transparency

Consider the ways in which the public might be interested in seeing data so that the work of criminal justice, public safety, and homeland security agencies is as transparent as possible. When we collaborate in the open and publish relevant data publicly and with respect to security and privacy guidelines and best practices, we can work towards mission success together. By building services more openly and publishing open data, we simplify the public's access to government services and information, allow the public to contribute easily, and enable reuse by entrepreneurs, nonprofits, other agencies, and the public.

Desired Outcome	*Anonymized data sets are posted to an open data portal to make information available to the public for research and innovation purposes.*

✓ Checklist

- ✓ Explore the presentation of raw data (incident reports, for example), crime and other statistics, and spatial representations through bulk downloads, open standards, and common interoperability profiles.
- ✓ Consider participation in open data forums and data sets such as are provided with data.gov and various state and local versions of open data portals.
- ✓ All presentations of data to the public must preserve privacy and security policies for the protection of individual civil liberties and the control of access to detailed data.
- ✓ Ensure that data from the service is explicitly in the public domain, and that rights are waived globally via an international public domain dedication, such as the Creative Commons Zero waiver.
- ✓ Catalog data in the agency's enterprise data inventory and add any public datasets to the agency's public data listing.
- ✓ Ensure that we maintain the rights to all data developed by third parties in a manner that is releasable and reusable at no cost to the public.
- ✓ Ensure that we maintain contractual rights to all custom software developed by third parties in a manner that is publishable and reusable at no cost.
- ✓ When appropriate, create an API for third parties and internal users to interact with the service directly.
- ✓ Offer users a mechanism to report bugs and issues, and be responsive to these reports.
- ✓ When appropriate, publish source code of projects or components online.
- ✓ When appropriate, share your development process and progress publicly.

? Key Questions

- ☐ How are you collecting user feedback for bugs and issues?
- ☐ If there is an API, what capabilities does it provide? Who uses it? How is it documented?
- ☐ If the codebase has not been released under an open source license, explain why.
- ☐ What components are made available to the public as open source?
- ☐ What datasets are made available to the public?

⭐ Resources

★ *Coming soon! Visit* www.standardscoordination.org/iss-playbook *for* Playbook *updates.*

Play 16 – Make it Scalable and Sustainable

In an earlier play we discussed how challenging a task it can be to fund an IS&S Environment. The goal for any project should be the long-term sustainability of the systems to meet the mission-critical needs of the agencies. To do this we can break the overall project into logical pieces or phases so that funding can be obtained across a longer period of time. Plans for IS&S Environment's development and the technology stack must be scalable to meet any identified future phases. As the capabilities in the IS&S Environment are enabled, there will also be changes in user needs, corrective actions, and enhancements that will arise, and there should be a plan in place to not only sustain the project funding but also to keep the IS&S Environment meeting the needs of its end users.

Desired Outcome	*Line item budget or other ongoing means for sustaining operations have been adopted by legislative or executive bodies.*

Checklist

- ✓ Develop a long-term sustainability plan.
- ✓ Create a maintenance and upgrade path responsive to user needs.
- ✓ Seek placement of ongoing support in an established budget process with multi-year support defined.
- ✓ Engage the community of interest in the product to ensure that a continual increase in usage is achieved to justify ongoing support.
- ✓ Maintain an ongoing roadmap to add new capabilities and services based on user demands.

Key Questions

- ☐ Where in the budget is ongoing maintenance and enhancement funded?
- ☐ What organization is responsible for the care and feeding of the IS&S Environment beyond initial implementation?
- ☐ What ongoing staff and contractor capacity is available to ensure responsiveness to user needs for bug fixes or enhancements?
- ☐ Do we have the requirements to ensure scalability?
- ☐ Have we addressed the scalability and new capabilities and services development in our contract with our solution providers?

Resources

- ★ *Coming soon! Visit* www.standardscoordination.org/iss-playbook *for* Playbook *updates.*

Appendix A: Playbook Frequently Asked Questions

The following are Frequently Asked Questions (FAQs) about the use and content of the *IS&S Environment Playbook*. Have a question? Send us an email at info@standardscoordination.org and not only will we get you a response, but you might see your question here in future version of the *Playbook*.

What types of agencies can use the *IS&S Environment Playbook*?

The *IS&S Environment Playbook* is designed for all types of agencies, including federal, state, regional, local, tribal territorial, and industry/private sector. There has also been interest in the *Playbook* by academia and international organizations. While you will find that some resources will apply to a more focused subset of this list, all of the Plays themselves have been designed to keep all types of agencies in mind.

What types of people can use the *IS&S Environment Playbook*?

Not only have the Plays been designed for all types of agencies, but they are also created for many types of users. Examples of types of people include technical practitioners, implementers, mid-level managers and project managers, executives or high-level leadership, representatives from industry, and end users of developed systems. Just as the Plays encourage an inclusive development effort, the Plays speak to the many types of people present in the stakeholder community.

Do the Plays in the *IS&S Environment Playbook* have to be used in order?

The simple answer is no. The first 13 plays do follow along in the general order of occurrences, but Plays 14 through 16 are pervasive across the entire effort.

The Playbook is intended to allow users at any point in a process to pick up the document, identify where they are in the process, and then move forward. However, there are two very important things to consider:

1. If you are starting at a point past Play 1, the Plays that are before your point of entry still may have some relevance to your development effort. Don't just skip over them completely. Read them and see if there is anything you can use to improve your process.
2. The *Playbook* is iterative. You may complete a play and then have to go back to it as you learn more later in your development effort. You may have a phased development approach that brings you back to a certain point in the Plays as you cross each phase milestone.

Are all the Plays in the *IS&S Environment Playbook* mandatory?

No, the *Playbook* is meant to be flexible for many types of projects, people, and agencies, but there are things in every Play that you might find to be useful nuggets of knowledge or helpful questions to ask yourself, even if you are skipping over a Play.

Is skipping any Plays recommended? No. The *Playbook* was designed for maximum success potential and, as such, the Plays are interconnected in subtle ways such that skipping one might have a negative effect in another. For example, choosing to skip over Play 2 and set up a governance group for a project might have serious ramifications in the remaining Plays. The moral of this story is that the *Playbook* was designed with success in mind, and each Play is a step in the direction of that success.

What is the benefit of engaging the end user in the development of the IS&S Environment?

The software and systems development industry as a whole has realized that there are benefits to advanced program and development methodologies where the users are intimately involved in making incremental and iterative progress (e.g., Agile development process) rather than the traditional system development life cycle (e.g., waterfall). That same realization carries over into the development of IS&S Environments, and engaging end users not only speeds development, but it also increases the likelihood of the end result being acceptable and useful to the users, thus eliminating do-overs that can be costly in both time and money.

We can't get a key stakeholder to engage with the team. Can we move forward?

Yes. Progress towards creating an IS&S Environment should not be constrained by any single organization or stakeholder group. The design of the system should provide for all stakeholders to achieve a win through implementation, so never give up trying since the stakeholder who is reluctant to engage may be swayed once early results show progress is being made.

Who should evaluate the results of the IS&S Environment?

It is best to engage and independent organization, like an academic institution, to ensure the results of the IS&S Environment development effort are accurate, neutral, and unbiased.

Are there ways to overcome the procurement obstacles to implementing IS&S Environments?

Yes, procurement reform is an important part of improving our ability to implement systems in a timely and cost efficient way. Play 9 has been designed with this in mind and can help with this challenge in the checklist, key questions, and resources.

At the federal level, the Office of Management and Budget (OMB) has attempted to dispel some of the myths that are commonplace regarding interactions between government and industry in two myth-busting memos. These are included as resources in Play 9 and can also be found online at:

- Myth-Busting: Addressing Misconceptions to Improve Communication with Industry during the Acquisition Process, Office of Management and Budget, https://www.whitehouse.gov/sites/default/files/omb/procurement/memo/Myth-Busting.pdf
- Myth-Busting 2: Addressing Misconceptions and Further Improving Communication during the Acquisition Process, Office of Management and Budget, http://www.gsa.gov/graphics/staffoffices/OFPP_Myth-Busting2.pdf

We are up against a serious lack of funding that threatens the entire project. What can we do?

If we could answer that, the world would be a much greater information sharing and safeguarding environment! It's never easy, and there are always competing priorities and tightening budgets throwing wrenches into the works.

Play 4 talks about structuring the support needed for IS&S Environment development. Here are a few thoughts that might also help:

- Build a solid case that shows the impact of the IS&S Environment, specifically how cost savings can be realized or how a societal problems can be combatted.
- Align your mission to current funder priorities. For example, if there is something at the top of everyone's mind at the state level, and you are competing for state funds, you have to show how your mission aligns to that top issue they are all thinking about to have the best chance at success.
- Consider combining grants in various programs to fund system integration.
- Multi-agency and regional information sharing objectives receive more interest and, by their nature, provide more agencies from which you can request support. Could you broaden your project scope to take advantage of this?
- Adopting national standards and considering innovative technology solutions can both increase your funding probability.
- When you are building your team and your stakeholder group, identify a leader who will sell the concept to funding bodies. There are certain types of personalities that will make great champions for your project. Do you have that person on your team?
- Is a fee-for-service model a consideration for your project?

Got any additional helpful ideas for funding? Email us at info@standardscoordination.org.

How can I suggest changes to the Plays based on my experiences?

Please contact us with any feedback you have about the *Playbook*! This includes suggested changes to the current content, new content for checklists and key questions, and recommendations for resources. Send us an email at info@standardscoordination.org and let us know your thoughts.

We are also welcoming feedback on your experiences using the *Playbook* in your projects. If you have a story to tell, let us know at info@standardscoordination.org.