WHITE PAPER:

STRATEGIC CONSIDERATIONS FOR DELIVERING BIG DATA IN THE PUBLIC SECTOR: SAAS, PAAS, IAAS OR ANYTHING AS A SERVICE

IntelliDyne, LLC

September 2012

IntelliDyne
EXPERIENCE ABOVE & BEYOND

STRATEGIC CONSIDERATIONS FOR DELIVERING BIG DATA IN THE PUBLIC SECTOR: SAAS, PAAS, IAAS OR ANYTHING AS A SERVICE

Executive Summary:

Big Data *has transformed rapidly from an abstract IT challenge that describes anything and everything, to a strategic challenge for public sector CIOs in the quest to improve and enhance their ultimate mission: enable the delivery of citizen services faster, securely, efficiently, and with greater access across multiple platforms.*

At IntelliDyne, we approach Big Data by questioning "what does it mean to meet the mission of a government agency?" Technology isn't the end goal but a means to an end, which is being accountable to the public.

What Does Big Data Mean to Your Agency?

A strategic examination of the enablement of an effective solution must first include aligning the agency's mission and goals of how Big Data could work in your particular environment:

1. **SECURITY** – What is the level of access for my data?
2. **FLEXIBILITY** – How unique are my requirements?
3. **TECHNOLOGY** – How well can my technology accommodate the move?
4. **GOALS** – What are the Department or Agency goals?
5. **STAFFING** – What does your team do? Are you a fully functional IT operation?

What Can Big Data Do Specifically for Your Agency Service Mission?

Once you are able to articulate the meaning of Big Data to your agency, the next strategic step is to truly examine and articulate how Big Data can align with your specific agency application that will not only be deployable, but will achieve the government agency's mission. Failure to address these steps increases your risk of failure because this understanding and alignment is critical to producing a successful Big Data strategy.

1. Provide an integrated single view of agencies' customers. Currently, many public sector agencies that share the same constituent interest do not have the capability of sharing the same data in a uniformed and easy to access fashion. For example, medical records of the same citizen

could reside in two disparate locations, causing replication and loss of productivity for making meaningful decisions faster and more efficiently. Whether they are Electronic Health Records of soldiers residing at Department of Defense and Department Veterans Affairs, or two regional municipalities trying to analyze and monitor the logistical data that handles parking violations and collection fees, if your Big Data solution is not designed to provide a single view, it is missing the point.

2. Big Data is about getting the Right information to the right people.

If you have Big Data residing in databases that are not accessible, "throwing it all in the kitchen sink" and making it accessible may meet the top line criteria, but would certainly not make it easier for a decision maker to quickly extract what they need out of it. Looking at it as a whole, the big idea is to analyze and determine which relevant data will become useful to decision makers in real-time from the mounds of binary code. Outlining these standards first will help improve and meet the mission of citizen services at any government agency.

3. Big Data is about delivering the right data in the proper context. Imagine the ability to select a qualified and capable doctor to a citizen who needs information now, on their mobile device, which appears as they type in their zip code to geo-locate what they need. In many public sector agencies, this very data may exist internally on a legacy system, but unless it is made available to the citizen on a BYOD that can be accessible to them, are we helping meet the mission?

4. Big Data can help deliver decision support analytics with the right information for critical decision makers. Once Big Data becomes meaningful and usable information, it can be analyzed to create predictable usage models for strategic planners that need to predict demand surge for resource allocation. Imagine the ability to support your internal stakeholders by providing the capability to locate legal case support by region and time of year.
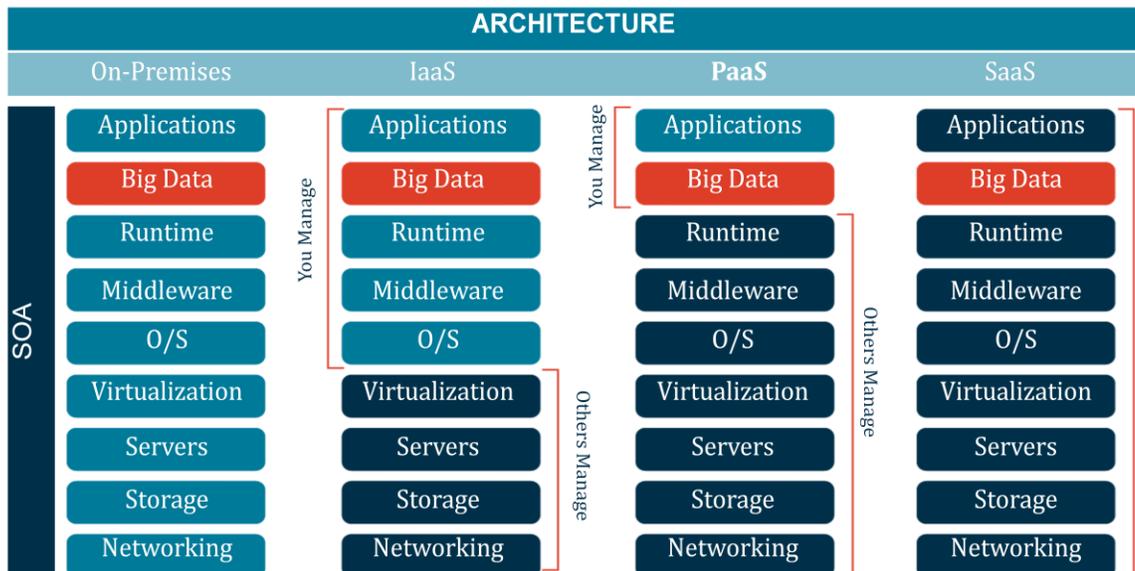
Consider the Realistic Options You Have to Deliver on the Promise.

Now that you have considered what is paramount to meeting your mission, it is time to consider the realistic options that may or may not fit your agency's resources, culture, stakeholders, budget or technology challenges. The cardinal rule is that there is no silver bullet and no 'one size fits all' for Big Data. Investigate, validate and stress-test the pros and cons of each option to make it sure it withstands reality.

1. Introduce New Tools Implemented In Existing Infrastructure

2. Integrating Disparate Data Sources

3. Master Data Management (Resolving Data Format Discrepancies)

4. Develop a Common Data Model (Governance) To Build To

5. Anything as a Service

SEPARATION OF RESPONSIBILITIES / AAS: Where You Fit Best

ARCHITECTURE			
On-Premises	IaaS	PaaS	SaaS
Applications	Applications	Applications	Applications
Big Data	Big Data	Big Data	Big Data
Runtime	Runtime	Runtime	Runtime
Middleware	Middleware	Middleware	Middleware
O/S	O/S	O/S	O/S
Virtualization	Virtualization	Virtualization	Virtualization
Servers	Servers	Servers	Servers
Storage	Storage	Storage	Storage
Networking	Networking	Networking	Networking

SOA

You Manage — You Manage — Others Manage — Others Manage

Which Architecture is Right for Your Agency? Strategic Decision Factors:

Once you have review the realistic option for your agency, you must still be cognizant of the strategic implications of effectively implementing your decision. You've got organizational culture, people, business processes, technology vendors and solutions, as well as the job of ensuring people will actually use what you have delivered. By incorporating the decision factors below into your overall approach, you can be assured that you have not omitted a significant factor that could blind-side your success.

1. Implementation Without Interrupting Existing Business

2. Do Not "Blow the Budget"

3. Determine Which Service Best Fits Data Requirements

4. Ensure Adoption Among Stakeholders, User Community
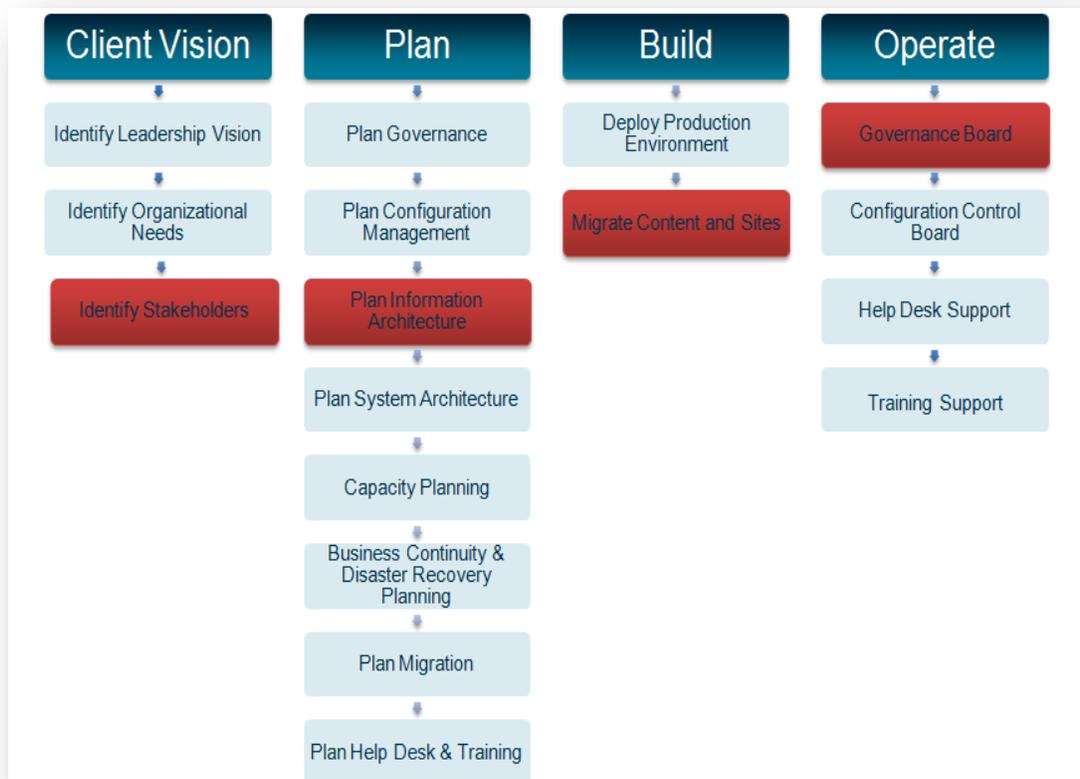
Below is an example of a conceptual strategic framework that allowed one of our clients at IntelliDyne to present a strategic framework for the successful deployment of a SaaS citizen services. This example incorporates leveraging Big Data across websites, call centers, mobile platforms and social media. Yet, it is done securely by using the proper Service Oriented Architecture and without compromising Information Security.

Select a Trusted Partner That Understands Your Mission, Not Just the Technology.

Creating an integrated strategy to enable a citizen-centric application by using Big Data is a necessary and significant endeavor, and one that every agency should take seriously. Surrounded by many technology vendors and consultants can muddy the waters of understanding the key point of why Big Data is so important right now. It is all about meeting the mission of the agency. It is about enabling citizens to get better customer service. Hence, it is critical that you work with trusted partners who have developed strategic relationships with some of the leading vendors. You do not want to dive into a Big Data adventure without assessing the needs of your agency and your employees. A trusted partner, who is experienced in addressing the integrated requirements of the agency's mission and effectively applying SOA to Big Data, can streamline the development process and help create a path to implementation that minimizes the pain felt by all involved parties.

![IntelliDyne logo] **IntelliDyne®**
EXPERIENCE ABOVE & BEYOND

About IntelliDyne, LLC

IntelliDyne, LLC is a consulting firm that enables better business performance through innovative technology solutions. We manage public sector programs that deliver higher operational efficiency and measurable value to clients. We advise, develop, and execute effective solutions in Cyber Security, Cloud Computing, Application Development, Mobile Computing, Business Process Management, Data Center Consolidation, Enterprise Collaboration and Enterprise Infrastructure Management.

For more information, visit our web site at www.intellidyne-llc.com or contact us at AppDev@IntelliDyne-LLC.com