

Top 10 Strategic Technology Trends for Smart Government, 2013

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Public-sector leaders must deliver value to citizens that is affordable and sustainable while making government more efficient. CIOs can apply 10 strategic technology trends to work more effectively across boundaries and improve government performance.

Key Findings

- Global economic stress and uncertainty continue to depress government spending, while citizen demand for government services increases.
- Government agency leaders recognize that prerecession business models are not sustainable, and are willing to pursue radical service changes by making targeted IT investments.
- Commoditized cloud, social, mobile and advanced analytic technologies — referred to as the Nexus of Forces — are disrupting the traditional role of government IT organizations.
- Government CIOs can accelerate transformational change by investing in strategic technologies and services that will have a major impact on the enterprise during the next three to five years.

Recommendations

- Factor these technology trends into your strategic planning processes, and examine the potential impacts they may have on your IT service catalog, vendor relationships, organizational capabilities, application portfolio and strategic road map.
- Identify the technologies and services you will continue to support or must acquire, and those you will divest or broker over the next three years.
- Define a new set of core capabilities for your IT organization. Evaluate them in terms of individual productivity, organizational effectiveness, constituent experience and overall public value.

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Analysis

Before the Great Recession began in December 2007, the adoption of new technologies in government in all tiers and jurisdictions lagged behind industry, often constrained by ineffective IT management practices. Since the recession and related ongoing uncertainties, government leaders and program administrators have begun to realize that things will never be the same again. A key emerging conclusion is that unsustainable business models must be radically redesigned with the use of IT (see "Agenda Overview for Government, 2013").

Governments need to become smarter by investing in affordable technologies that clearly contribute to sustainable services and operations, and are capable of crossing traditional boundaries between agencies, tiers, jurisdictions and constituencies.







A great opportunity to do this is offered by a nexus of four forces that have now reached comparable levels of maturity at same time: social, information, cloud and mobile. These are creating an inflection point as organizations in all industries leverage IT (see "Predicts 2013: Government IT Will Be Disrupted by the Nexus of Forces").

These forces have the potential to produce permanent changes in how government performs, in the way citizens and governments interact, and in the expectations that citizens have of government. Moreover, these forces are not easily controlled by CIOs, even as they consume greater portions of IT spending. As a result, IT leaders must reconsider and update their organization's IT capabilities if they are going to support the business transformations resulting from social, information, cloud and mobile. Regardless of their tolerance for risk or innovation, no government agency is immune from

the changes that result when information generated by and for the government is collected, stored, accessed, distributed and used by stakeholders throughout society in ways that weren't possible five years ago.

In the context of smart government objectives and the technology landscape created by the Nexus of Forces, this research identifies 10 strategic technology trends that government CIOs can use to support affordable and sustainable business practices through solutions that cross traditional boundaries (which are rapidly dissolving; see Figure 1).

Figure 1. Top 10 Strategic Technology Trends for Smart Government

 Employees and the Workplace	1. Mobile Devices 2. Contextual and Social User Experience	 Government Operations
	3. Next-Generation Analytics 4. Internet of Things	
	5. Citizen-Managed Data 6. Business Process Management	
	7. Big Data Information Management 8. Enterprise App Stores 9. Cloud Computing	
10. Cross-Domain Interoperability		
 IT Department	  	

Source: Gartner (March 2013)

A strategic technology may be an existing technology that has matured and/or become suitable for a wider range of uses. In the case of a mainstream technology that risk-averse agencies have confidence in, the strategic decision will likely revolve around product/vendor selection and the extent to which the technology can be incorporated into the agency's broad IT environment (see "The Top 10 Strategic Technology Trends for 2013").

To convey the scope of each technology and assign ownership, we have grouped the trends listed in Figure 1 according to the constituencies or environments that the technology most immediately affects: employees and the workplace, government operations, and/or the IT department. To varying degrees, all government stakeholders are affected by these trends, and there are overlaps among them. For example, mobile devices — both corporate and personal — are often quickly injected into the workplace without the enabling policies and re-engineered business processes needed to leverage and optimize the value of a mobile workforce. Similarly, IT departments that

need to extend their traditional information management practices must accommodate an increasing variety of data streams and sources, collectively known as big data, so that next-generation analytics tools are fully utilized by a workforce of data and policy analysts. Ultimately, citizens are the beneficiaries of all technologies used to deliver government services.

Government agencies should consider the relevance and impact of these trends in the context of their business and IT planning and enterprise road map by asking key questions and making deliberate decisions about them during the next three years.

With government agencies acquiring numerous technologies and services or adopting practices that have the potential to drive transformative change, many of the discrete technologies profiled in the "Hype Cycle for Smart Government, 2012" can be grouped together to form broader trends. For example, the mobile device technology trend reflects the innovative potential represented by "media tablets in government," "bring your own device" (BYOD) and "mobile device management."

There are logical and operational dependencies among these technology trends. For example, IT proficiency in big information data management may be of limited value if the organization has not developed the next-generation data analytics that are emerging from mature business intelligence (BI) competencies.

We suggest that CIOs and other IT leaders use these top 10 technology trends for smart government to evaluate their IT service catalog, organizational capabilities, application portfolio and strategic road map. They should identify the technologies and services that must be supported or acquired to deliver constituent value and increase operational efficiency, as well as those that must be outsourced or divested. These changes will also require a new set of core capabilities for the IT organization that should be evaluated in terms of employee productivity, constituent experience, organizational effectiveness and public value.

1. Mobile Devices

As smartphones and media tablets continue to gain market share relative to laptops, location-aware mobile devices are now pervasive throughout government agencies. Too often, personal mobile devices are inserted into an agency's IT environment without the governing framework and mobile device management platform needed to support them (see "Critical Capabilities for Mobile Device Management" and "Technology Overview of Mobile Application Containers for Enterprise Data Management and Security"). The challenges currently posed by mobile devices in government make them unlikely replacements for PCs. Thus, they will remain additive devices through 2014.

The definition of "mobile" is applied to other devices, such as pharmaceutical containers, home health monitoring devices, highway systems and fleet vehicles. Moreover, smartphones communicate beyond cellular networks; they also exchange data via Near Field Communication (NFC), Bluetooth LE and Wi-Fi to a wide range of devices and peripherals, such as wristwatch displays, healthcare sensors, smart posters, and so on. These new definitions of "mobile" will enable a wide range of new applications and services. The convergence of IT, operational technology (OT) and consumer technology (CT) is a hallmark of the emerging Internet of Things, and will have significant impact — especially at the local-government level and in the public safety and transportation domains (see "How the Nexus of Forces Will Impact Government").

To foster greater flexibility and innovation in the government workforce, several organizations are adopting BYOD or government-furnished equipment (GFE) policies, and focusing on how to provide secure access to enterprise data and applications by using mobile device management (MDM) platforms (see "For Better Decisions About Costs and Benefits, BYOD Pilots and Policies Need Clarity"). Like their counterparts in the private sector, government employees expect to have more choice in the use of personal devices and software in the enterprise. As a result, many government agencies and IT organizations are restructuring their business and service delivery models to serve the changing needs of employees and constituents alike.

For a CIO, mobile devices are challenging from two perspectives. Internally, there is an increasing need for mobilizing the workforce, which is made more complicated by BYOD strategies and policies. Externally, the complexity of delivering e-services to citizens on different platforms adds to the management challenges posed by the confluence of IT, OT and CT that we have mentioned (see "Governments Must Plan for the Workplace of the Future").

Actions for Government CIOs:

- In conjunction with business executives, determine mobility requirements for the enterprise, security and compliance constraints, and mobile user segmentation.
- Ensure that your mobile strategy is comprehensive enough to include employee apps, social networks and a variety of external data.
- Identify the range of policies needed to regulate new deployments before selecting your MDM vendor or product, and prepare for MDM support across multiple device OS platforms.

2. Contextual and Social Experience

Context-aware computing (CAC) links context-aware content and user experience (UX) with business goals. It is one of the top disruptive trends of this decade, and smart government agencies can leverage context for cost-savings opportunities and productivity increases. CAC will produce significant shifts in the people, process and technology domains by disrupting public policy development, program design and implementation, and application programming (see "Context-Aware Computing and Social Media Are Transforming the User Experience").

One of the greatest opportunities for government enterprises will be using context-aware computing to segment constituent groups based on behaviors, demographics and inferred service needs. For example, in the U.S., some innovative states consider call centers for public health insurance exchanges a mission-critical business capability that must not be outsourced. These states are moving to cloud-based citizen relationship management (CRM) and customer contact center management services while using state personnel as customer service agents. CAC will be used to identify market dynamics among distinct populations and provide constituents with personalized attention. Establishing a strong brand identity and conducting effective marketing and outreach campaigns backed up by a best-in-class consumer experience are key success factors. These are not standard practices typically associated with the public sector (which increasingly finds itself in direct competition with private and nonprofit entities).

CAC will also be used by government agencies to improve enterprise security systems by bringing suspect events into focus and eliminating distracting noise (see "Innovation Insight: Innovation Drives Seven Dimensions of Context-Aware Enterprise Security Systems").

Actions for Government CIOs:

- Develop CAC use cases with agency leadership and program managers, taking into account both the service improvement potential and the real and perceived implications for privacy.
- Create or update your technology road map that uses context as a catalyst to link mobile, social, location, and payment and commerce to enhance government e-services.

3. Next-Generation Analytics

The need to improve operational performance and deliver better outcomes for citizens is driving government to use information for more than measuring and describing the past activities. To ensure services are sustainable and affordable, program managers must be able to predict what is likely to happen, and optimize what should happen, based on an increasingly varied set of data sources and types (see "Actionable Analytics Will Be Driven by Mobile Social and Big Data Forces in 2013 and Beyond"). For example, government agencies are using predictive algorithms and advanced data analysis to identify suspicious patterns to detect and prevent fraud or anticipate the future location of criminal activity (see Note 1). Mobile business intelligence and location-based data can be correlated with other information to support key performance indicators, predict behavior, identify assets and individual locations, and improve service delivery (see "Innovation Insight: Mobile BI Innovation Expands Business Analytics Boundaries" and "Critical Capabilities for Search and Visual Interactive Web Mapping Services").

Given the dependence of next-generation analytics on foundational information management infrastructure and responsibilities such as BI platforms, data warehousing, data integration and data quality, CIOs largely retain control of business analytics investments. However, an increasing focus on usability, speed and relevance is shifting BI budgets and expenditures to program areas and business units, so that, by 2015, Gartner predicts business units will control or influence at least 60% of business analytics purchasing decisions (see "How to Align Business and IT to Succeed With Business Analytics").

To ensure that information remains an enterprise asset that is leveraged via powerful analytic tools, IT organizations and business users must work together to develop a shared understanding about what can be achieved with business analytics (processes), who will play each role (people), and how advanced analytic capabilities will be implemented (platforms).

Further, an increasing percentage of data that will be relevant for decision making will come from unlikely sources, such as social media and citizen communities. Finding and using this data requires different tools, such as Salesforce Radian6 or Oracle Endeca, as well as consumer-grade applications. This blurs the boundaries of traditional data analytics.

Actions for Government CIOs:

- Work with line of business (LOB) owners to develop an advanced analytics strategy, plan and develop a road map with new roles, responsibilities, processes, technologies, vendors, ecosystems partners and skills.
- Identify, develop and acquire the new roles and skills needed to support an advanced analytics strategy, including the creation of business analysis units, contracting with analytic service providers and promoting "challenge" contests to engage citizen analysts.
- Evaluate the possibility of creating the role of chief data officer (CDO), who would focus on realizing value from information and analytics inside and outside the organization — instead of on the delivery of technology, like the CIO does.

4. Internet of Things

Gartner defines the Internet of Things as the network of physical objects accessed through the Internet that contain embedded technology to sense or interact with their internal states or the external environment.

In practice, the collective "smartness" of physical objects (and the potential for innovation and value creation) exponentially increases when automobiles, city infrastructure, buildings, medical and consumer electronics devices, and embedded sensors can autonomously communicate and negotiate with one another. New government workforce or citizen experiences, operating efficiencies, and business models can be created, and deliver enhanced value through improved utilization of government-owned assets that are connected and in continuous communication (see "The Internet of Things Is Moving to the Mainstream").

An early example of how governments are using the Internet of Things is demonstrated by the use of sensors and controls to dynamically price parking rates based on demand (see "The Internet of Things Will Support a Wide Range of Business Models"). As motor vehicles become more fuel-efficient, the Internet of Things potentially will enable activity-based revenue models that may replace consumption taxation schemes such as gasoline taxes.

Actions for Local Government CIOs:

- Evaluate the impacts of an increasingly intelligent set of real-world assets combined with traditional Internet and IT systems on government programs, services or business models.
- Develop use cases in which equipment, products or infrastructure could incorporate additional sensing, communications and control features to enable government innovation and change how government interacts with citizens.

5. Citizen-Managed Data

The emergence of personal health records (PHRs) as cloud-based services encourages citizens to develop expectations that they "own" their health information and have direct control of it, rather than the government or even their healthcare provider. This can apply to other data as well.

Citizen data vaults offer significant potential benefits in meeting the evolving expectations of Internet, providing more transparent control of individual privacy and access rights for electronic data, easing the task of integrating different government services, and creating conditions for the creation of value-added services from commercial, nonprofit and peer-to-peer organizations (such as social networks).

The shift from having a government-controlled single point of contact to providing greater choice to constituents about how to access the services they require will accelerate. This trend is causing a fundamental rethinking of how government information and electronic services are structured and made accessible on the Web (see "The Key to Smart Government Is Choice" and "Government Open Services Are the Next Step for Government Open Data").

There are also significant challenges to overcome, such as interoperability, latency issues, data availability and reliability, credibility and security issues, and the size and complexity of healthcare and other government programs. Another challenge is the risk of actual or perceived liabilities for government agencies that may fail to deliver services due to the unavailability of data vault services. While cloud-based storage and processing services — in combination with high-speed communication infrastructures — can significantly reduce overall transaction-processing times, reliable availability of data vault services will require government agencies at all jurisdictions to adopt "interoperability by design" principles as they modernize legacy architectures (see "Reimagining Enterprise Information Architecture: Improve Information Sharing Through Interoperability by Design").

Other citizen data sources — such as tax records, Social Security information or criminal records — are candidates for a data vault approach. Initiatives like the Blue Button in the U.S., Qiy in the Netherlands and Mydex in the U.K., as well as the move toward federated identities (such as the ID Assurance scheme in the U.K.), are precursors of citizen data vaults.

Actions for Government CIOs:

- Monitor the evolution of PHRs in the healthcare industry, and use lessons learned as a basis to develop concrete examples of opportunities and risks created by the mashup of public government information with third-party information.
- Migrate to open, secure architectures and standards that give users the ability to choose among a variety of applications and enable them to access government information through multiple channels and within well-defined security policy boundaries.

6. Business Process Management

In the belief that every agency or government program business process is unique, program managers have historically favored the development of highly customized IT solutions over commercial off-the-shelf (COTS) products or cloud-based business services. More often than not, the presumed uniqueness of a business process is overstated. Taking the time to decompose and document processes with a business process management (BPM) methodology will identify business functions where variability is low and common practices (and software applications) can be shared.

Unfortunately, BPM programs are usually viewed by business units as primarily the responsibility of IT, and the value of BPM is lost when the focus is more on "process" and less on "business" (see "Gain Business Buy-In for BPM or Consign Your BPM Program to Oblivion").

Numerous methodologies are available — including well-known ones such as Six Sigma, lean, kaizen and Rummier-Brache, as well as proprietary ones that consulting firms and BPM technology vendors use. Gartner recommends using a toolkit approach — that is, select the best information from each methodology, tailor it to your project, and use what fits best to accomplish your BPM goals (see "[Opening the BPM Toolbox: A Pragmatic Approach to Methodologies](#)"). These methodologies are used to help organizations achieve dramatic improvements in speed and quality of service delivery, while at the same time reducing complexity and cost.

To quickly demonstrate the value of business process improvement activities, BPM team members do not need to be experts in lean, Six Sigma or other BPM methodology toolbox choices. However, they must be proficient in developing simple process models like swim lanes for projects (see "[Early BPM Efforts Benefit Most From a Focus on Future-State Processes](#)").

BPM applications include a number of capabilities also found in enterprise content management (ECM), CRM, and specialized case management systems. Business process improvement initiatives may involve one or more process management applications, depending on how structured or unstructured the workflows are and whether the outcomes are standard or unique (see "The Case for Case Management Solutions").

Actions for Government CIOs:

- Use common business terminology when working to solve business problems, rather than focusing on processes and BPM. Otherwise, business executives and users will lose interest.
- Determine what BPM is expected to achieve within your organization and what the priorities are. From this, select the group of methodologies that is the best fit for achieving the goals of the organization.
- Conduct an analysis of the skills and experience already available in-house, and determine what resources are required for the project.

7. Big Data Information Management

Information management, as it has long been practiced in government, is being profoundly affected by the arrival of information sets known collectively as big data (see "Big Data Forces Big Change in the Age of Smart Government"). Similar to next-generation analytics, big data broadly encompasses data acquired from multiple sources and channels — some of which are outside government control — that are linked and combined in novel ways to reveal phenomena that would not otherwise be detected.

Big data is a first manifestation of the extreme information challenges that are increasingly difficult to address unless information management strategy and governance evolve to accommodate data volume, variety, velocity and the complexity that big data represents. Today's big data will

eventually become tomorrow's "little data" as government agencies develop a range of big data use cases and increase their proficiency in advanced analytics. The power of information processing engines — such as Apache Hadoop, LexisNexis High-Performance Computing Cluster (HPCC) systems, Oracle's Exalytics or SAP's Hana (High-Performance Analytic Appliance) in-memory computing technology — provides an opportunity for IT organizations to engage the business by demonstrating how peer agencies or other industries are using large datasets to improve performance and support innovation. For example, public safety and emergency response capabilities are being enhanced with real-time analysis of aerial, fixed and mobile data acquired from a variety of sources and in numerous formats.

As with citizen-managed data, big data requires government CIOs to adopt comprehensive enterprise information management practices, enterprise architecture principles and new methods for data sharing, such as "interoperability by design," to achieve operational advantages (see "Predicts 2013: Advancing Data Management Maturity" and "Big Data Strategy Components: Business Essentials").

Actions for Government CIOs:

- Invest in current data management architectures, technologies and processes to support new data volume, variety, velocity and complexity requirements.
- Complement the consolidation of agency data silos and standardization of redundant data across the enterprise by building shared information environments and agreeing to a common business vocabulary to obtain the benefits of real-time analytics.
- Involve the business in data quality improvements to avoid a purely IT-focused data management strategy without formal enterprise roles, funding and an accountability structure.

8. Enterprise App Stores

Consumer app stores raise expectations among government employees who are accustomed to quickly downloading applications on demand, exposing agencies to unknown risks. Enterprise app stores help address these expectations and security risks, as well as reduce administration costs, improve software adoption, increase business agility and drive application innovation.

Additionally, enterprise app stores promise greater control over the apps used by employees, greater management of software expenditures and greater negotiating leverage with app vendors. Enterprise app stores should also be seen as a frictionless conduit to preauthorized cloud services providers (see "The Emerging Use of App Stores in the Government: Procuring Cloud Services and Beyond").

However, the benefits of greater control over expenditures and apps are only possible if the enterprise app store is widely adopted. Typical security and procurement policies, which limit application choice, can doom the effort to failure (see "Enterprise App Stores Can Increase the ROI of the App Portfolio").

The value of enterprise app stores is established by three trends that are affecting IT service delivery and software procurement:

1. The industrialization of IT services is creating opportunities to leverage commodity e-procurement practices to improve IT procurement.
2. The rapid adoption of consumer devices and applications is making app stores popular as an application delivery model.
3. A renewed interest in the sharing and reuse of services, applications and software components across organizational boundaries calls for exchange mechanisms with many of the characteristics of an app store.

Actions for Government CIOs

- Start developing government app stores to facilitate the procurement of highly commoditized IT products and services, with particular reference to cloud services.
- In conjunction with procurement officers, negotiate enterprise terms and volume discounts from popular app providers to enable more choice for enterprise users.

9. Cloud Computing

Cloud computing remains a major technology trend that is one of the four nexus forces shaping IT during at least the next five years. As the cloud continues to affect virtually all aspects of IT, new disruptive elements and approaches continue to evolve. Cloud computing is spawning a broader focus on hybrid models that deal with traditional and new cloud computing models across internal and multiple external providers (see "Top 10 Technology Trends, 2013: Cloud Computing and Hybrid IT Drive Future IT Models").

Government centralized and shared-service providers are striving to provide scalable and elastic services that are provided on a consumption basis. To do so, they must build private clouds and/or broker external cloud services (see "How Cloud Is Affecting Government Agency CIOs and Shared Services"). To be affordable and remain sustainable, government shared-service organizations must be able to compete with commercial cloud service brokerage (CSB) offerings by leveraging the inherent advantages or roles available only to an internal government CSB provider.

It is important for IT departments and shared-service organizations to determine the most effective role they can play vis-à-vis the cloud (see "Five Roles for Government in Cloud Computing"). The emergence of hybrid environments gives rise to hybrid IT process models and the positioning of IT as a service broker (ITaaS). In addition to this, the increasing maturity of some software as a service (SaaS) and, in the longer term, business process as a service (BPaaS) solutions suggest a "storefront" role, where the IT organization will mostly advise about services that could be directly purchased by business departments or individual business users.

Actions for Government CIOs:

- Transform the IT department into a service broker for your organization.

- Establish security, management and governance models to coordinate the use of cloud services across isolation and provider boundaries, particularly across internal and external boundaries.
- Explore available private or community cloud offerings when called for by regulatory and security constraints, but consider public cloud offerings where agility and cost containment drivers are particularly strong.

10. Cross-Domain Interoperability

Government organizations and technology providers have been defining, developing, deploying, designing and operating frameworks to support the integration of data, applications and processes required to achieve the objective of citizen-centric, seamless and efficient service delivery (see "Smart Governance Operating Framework: At the Heart of Smart Government").

Until recently, these frameworks have been limited to dealing with information technologies. They did not encompass operational technologies like those that characterized by sensor-based, real-time systems. Also, their deployment has been rather limited, serving specific vertical purposes or extending the reach of vendors across different domains.

The emergence of architectures and tools that support a more affordable integration of operational and information technologies and advances in information management and analytics are leading to the emergence of a new breed of interoperability frameworks that we call smart government operating frameworks. These support:

- Event capture and processing
- Information exchange and analysis
- User interface interactions
- Technical and semantic interoperability between different applications and subsystems
- Scalability and different deployment models

While no vendor has yet developed a full-fledged framework of this nature, efforts by vendors such as IBM, Microsoft, SAP, Oracle and others in the area of smart cities and e-government are moving in this direction.

With the increasing demands to access, share and exploit all forms of content (including database transactions, text, images, big data, operational data or other nontraditional forms of digitized content), Gartner maintains that silo-centric, stand-alone information architectures and one-size-fits-all models are insufficient for today's emerging data economy (see "Overcoming Silos: Evolving From Stand-Alone Information Architectures to Shared-Information Architectures for the Emerging Data Economy").

Actions for Government CIOs:

- Evaluate and adopt cross-jurisdiction interoperability standards and compare emerging vendor offerings, with a preference for solutions that support open standards for technical and

semantic interoperability, and that provide (or have a road map for) different deployment models.

- Support "outside-in" business strategies by designing shared-information architectures that allow organizations to connect more directly with customers, partners and markets.

Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Agenda Overview for Government, 2013"

"Predicts 2013: Government IT Will Be Disrupted by the Nexus of Forces"

"The Top 10 Strategic Technology Trends for 2013"

"Hype Cycle for Smart Government, 2012"

Mobile Devices

"Critical Capabilities for Mobile Device Management"

"Technology Overview of Mobile Application Containers for Enterprise Data Management and Security"

"For Better Decisions About Costs and Benefits, BYOD Pilots and Policies Need Clarity"

"Governments Must Plan for the Workplace of the Future"

Contextual and Social User Experience

"Context-Aware Computing and Social Media Are Transforming the User Experience"

"Innovation Insight: Innovation Drives Seven Dimensions of Context-Aware Enterprise Security Systems"

Next-Generation Analytics

"How to Align Business and IT to Succeed With Business Analytics"

"Actionable Analytics Will Be Driven by Mobile, Social and Big Data Forces in 2013 and Beyond"

"Innovation Insight: Mobile BI Innovation Expands Business Analytics Boundaries"

"Critical Capabilities for Search and Visual Interactive Web Mapping Services"

Internet of Things

"The Internet of Things Is Moving to the Mainstream"

"The Internet of Things Will Support a Wide Range of Business Models"

Citizen-Managed Data

"The Key to Smart Government Is Choice"

"Government Open Services Are the Next Step for Government Open Data"

"Reimagining Enterprise Information Architecture: Improve Information Sharing Through Interoperability by Design"

Business Process Management

"Gain Business Buy-In for BPM or Consign Your BPM Program to Oblivion"

"Early BPM Efforts Benefit Most From a Focus on Future-State Processes"

"Opening the BPM Toolbox: A Pragmatic Approach to Methodologies"

"The Case for Case Management Solutions"

Big Data Information Management

"Big Data Forces Big Change in the Age of Smart Government"

"Predicts 2013: Advancing Data Management Maturity"

"Big Data Strategy Components: Business Essentials"

Enterprise App Stores

"Enterprise App Stores Can Increase the ROI of the App Portfolio"

"The Emerging Use of App Stores in the Government: Procuring Cloud Services and Beyond"

Cloud Computing

"Top 10 Technology Trends, 2013: Cloud Computing and Hybrid IT Drive Future IT Models"

"How Cloud Is Affecting Government Agency CIOs and Shared Services"

"Five Roles for Government in Cloud Computing"

Cross-Domain Interoperability

"Smart Governance Operating Framework: At the Heart of Smart Government"

"Overcoming Silos: Evolving From Stand-Alone Information Architectures to Shared-Information Architectures for the Emerging Data Economy"

Note 1 Lowering Government Costs and Improving Outcomes With Predictive Analytics

See ["Departments of Justice and Health and Human Services Announce Record-Breaking Recoveries Resulting From Joint Efforts to Combat Health Care Fraud: Government Teams Recovered \\$4.2 Billion in FY 2012"](#) and ["Advanced Crime Prediction Model Trialled."](#)

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