



Technology and America's Recovery

CDW Solutions to Enable Economic Renewal:
Healthcare, Education, Financial Oversight, and Energy Efficiency



Recovery Depends on More Than Money

With the passage of the American Recovery and Reinvestment Plan, our nation enters uncharted waters. Not perhaps since the 1930s has the U.S. government undertaken such broad and bold economic action.

Whether one supports the Act or has doubts, one thing is clear: unprecedented spending will not succeed in stimulating the economy without unprecedented focus, transparency, and cooperation.

In other words, we must not just spend a lot, but spend very wisely.

Where will that wisdom come from? In large measure, it must come from understanding complex circumstances, prioritizing practical options, and implementing outstanding decisions.

It absolutely must come from operating under the bright light of accountability.

This is where technology has a role to play in each of the efforts targeted by the stimulus package. And it's where we believe our company can really help to renew America—and contribute to restoring the country all our children should inherit.

"I'm calling on all Americans...to insist that the first question each of us asks isn't 'What's good for me?' but 'What's good for the country my children will inherit?'"

—President Barack Obama



Government and/or Education-Ready Technologies. Ready Now from CDW.

CDW is ready to help agencies enhance their information systems so they can comply with the stimulus package. Together with our solutions partners, we offer a wide range of government-ready technology options that directly support:

Healthcare—with standards-based development tools and applications for improving care, streamlining management, unifying records, and privacy.

Energy Efficiency—with applications that save power, business intelligence for managing environmental initiatives, solutions for visualizing data, and uni-fied communications that eliminate paper and travel.

Education—with solutions for holistic school reform, enhancing workforce preparedness, and providing continuous access to educational resources.

Financial Oversight—with standard data architectures, common systems and tools, and solutions for records retention, governance, risk management, compliance, and payments.

Cloud Computing—with an Internetscale platform for hosting applications that make services and information more widely available while simplifying deployments and streamlining management.

See the enclosed inserts for full details on how CDW is helping to recover America in these areas.

Opportunities for Innovation and Impact in Education

Using Technology to Power Reform

Transforming education and extending its benefits will require extensive institutional, cultural, technological, and infrastructure changes, as well as innovative and effective partnerships between governments, communities, and businesses.

Although technology is not the only tool required to address educational challenges, it can play an important role in broadening access to learning, empowering students and teachers, and enabling schools and education systems to be more relevant, effective, and adaptable.

Building on decades of experience working with leaders in education and developing innovative learning resources, Microsoft is committed to using its expertise, its passion for technology, and its network of alliances to help accomplish the Obama administration's bold new goals for education.

Through our long-standing work with educators, scholars, and analysts, we have not only invested heavily in 21st century educational approaches but have identified critical issues for education stakeholders at all levels as they seek to impact real reform. Our approach can be divided into three key focus areas: *holistic school reform, 21st Century Skills and Workforce Readiness, and Access for All.*

Holistic School Reform

Rebuilding our schools will require a holistic approach that addresses the three critical pillars of *People, Process, and Environment*. These pillars will require systems to address innovation across the areas of people management, school design, community engagement, process management as well as instructional reform.

School buildings must be sustainable and conserve energy. Infrastructures must allow for continuous home/school connectivity and collaboration. Communities must take a central role to the development and maintenance of the school culture. Business practices must leverage technology to gain efficiencies that can then be transferred to classroom investments. And instruction must reflect the lifestyles and needs of students today.

Microsoft has developed numerous best practices around holistic school reform in a number of areas, including: City of Philadelphia and Microsoft's LEED Certified "High School of the Future"; Family Portal and Learning Management Solutions; Education Analytics; Strategic Planning and



Innovation Resources; Technical Blue Prints for 21st Century School Infrastructures; Back-Office Efficacy Solutions; Green Computing; and Dropout Early Warning System.

21st Century Skills and Workforce Readiness

In times of increased global competitiveness, American education must focus on preparing students for the 21st century as well as streamlining systems. To do that, institutions must take a comprehensive look at the relevancy of current content and curriculum, vis-a-vis real-world and future opportunities.

Additionally, educators must identify and develop 21st century skills in fields that promote innovation, economic growth, and sustainable economies. True 21st century preparedness involves more than just an improvement competency. It must include the development of skills such as creativity, collaboration, critical thinking, and communication. Such skills are critical for success in today's communities and economies.

Our work in all of these areas is exemplified through: Career Forward; Education Competency Wheel; Digital Literacy Curriculum; IT Academy; DreamSpark; DigiGirlz; Imagine Cup; CISCO / Microsoft 21st Century Assessment Initiative; and Innovative Teachers Network.

Access for All

21st century learners and educators must have unencumbered access to the best information and expertise available. This access must be ubiquitous across and between organizations. To create a sustainable and scalable model that supports such access, educational institutions must insist that innovation pervade the procurement and acquisition process.

At Microsoft, we believe that access to information isn't just a goal but an essential right for students and educators. Fulfilling this right requires a mobile medium that supports real-time information with the tools of the digital generation.

Municipalities and states must embrace creative, new adoption models for technology that engages families, schools, and communities. Microsoft's access and scaling projects include some of the following approaches: PIL Access Model; Scale Tool Kit and Resources; Distance Learning Resources; Live@EDU; the Digital Constitution and Next Generation Innovation.

Microsoft Best Practices, Tools, and Models

• Holistic School Reform

- Family Portal and Learning Management Solutions
- City of Philadelphia and Microsoft's LEED Certified "High School of the Future"
- Education Analytics
- Strategic Planning and Innovation Resources
- Technical Blue Prints for School Infrastructures
- Back-Office Efficacy Solutions
- Green Computing
- Dropout Early Warning System

• 21st Century Skills and Workforce Readiness

- Career Forward Online Career Engagement Tool
- Education Competency Wheel
- Digital Literacy Curriculum
- IT Academies for IT Job Certification
- DreamSpark Student Access to Pro Dev Tools
- DigiGirlz Program to Introduce Girls to Technology
- Imagine Cup Student Software Design Competition
- Microsoft /CISCO/Intel 21st Century Assessment Initiative
- Innovative Teachers Network

• Access for All

- Scale Tool Kit and Resources
- Live@EDU
- Partners in Learning Access Model
- Distance Learning Resources
- Digital Constitution
- Microsoft Next Generation Innovation

• Online Resources

- Microsoft Education home:
<http://www.microsoft.com/education>
- Microsoft Education Solutions:
<http://www.microsoft.com/education/solutions>
- Microsoft Partners in Learning:
<http://www.microsoft.com/education/pilus.msp>
- Microsoft Education Products:
<http://www.microsoft.com/education/products>
- Microsoft Career Forward Online Course:
<http://www.microsoft.com/education/careerforward>

For more information on these programs, please contact uspil@microsoft.com

Microsoft & Healthcare

Opportunities and Challenges

Microsoft believes that Information Technology (IT) is a key element in the efforts to improve the efficiency, quality, transparency, and consumer focus of our healthcare system. But healthcare organizations shouldn't simply use IT to digitize disconnected, paper-based systems in a way that proliferates additional electronic data silos.

Instead, they should employ IT strategically—to enable communication with other healthcare organizations and with healthcare consumers themselves. Data exchange and information sharing represent healthcare's greatest opportunities for gaining efficiencies and eliminating costs.

Data exchange also presents complex issues in the areas of security, privacy, and compliance. Most agree that healthcare consumers should have access to and control over their health records. Many would add that those records should be unified so that providers have a complete picture of patients' health and care.

These would be tremendous challenges even without considering privacy and security requirements. But healthcare must comply with HIPAA and other stringent standards while enabling appropriate information exchange among providers, patients, health administrators, and payers.

Healthcare IT challenges manifest themselves as much or more in areas of policy than in those of technology. Technologies exist today for exchanging information safely, reliably, and privately. Standards for governing those systems and processes have yet to be universally implemented.

Gaining Efficiencies While Adapting to Standards

Microsoft is committed to the development of standards. But in the case of healthcare, a common set of standards may still be some years away. That creates a dilemma for healthcare organizations that cannot afford to wait years to begin building effective IT systems.

Microsoft believes the solution is to build on what healthcare organizations already have to develop flexible systems that are compatible with multiple standards now—and that can easily adapt to common standards as they come into force.



These systems will support immediate gains in quality of care and business efficiencies by giving clinicians and system users access according to current standards. Later, as standards become more universal, they can be defined into flexible systems by adjusting business rules and processes.

Microsoft is Ready to Help Government Advance Healthcare

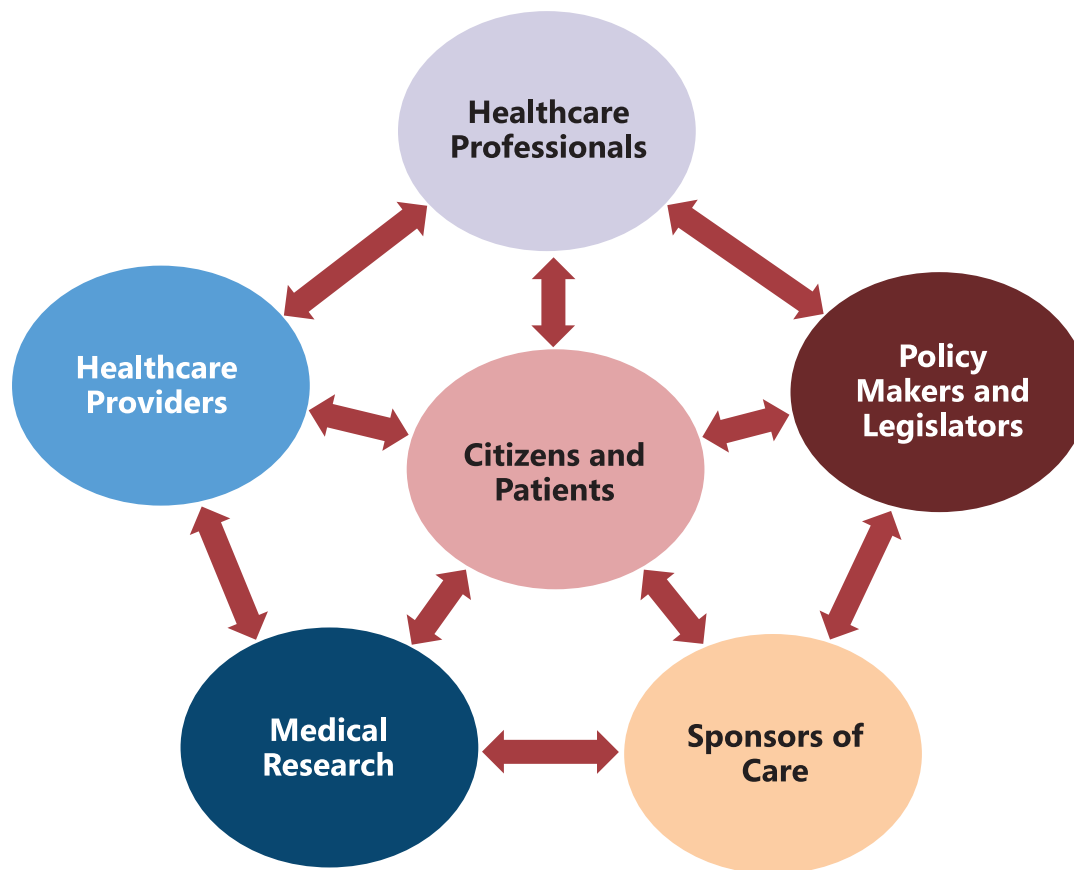
Microsoft is uniquely positioned to support the development of flexible, adaptable health IT systems. We have healthcare infrastructure applications and common development tools that are available now. We also have an ecosystem of partners with extensive past performance in developing and supporting healthcare solutions based on our technologies.

Microsoft-based healthcare applications meet a variety of needs, including chronic condition management, patient flow optimization, quality maximization, organization and team management, and many others.

Microsoft also offers a Connected Health Framework, Amalga™, HealthVault™ and other applications from the Microsoft Health Solutions Group, and systems consulting expertise. Microsoft healthcare solutions integrate easily with existing workflow and automation tools, as well as with the familiar Microsoft technologies healthcare organizations are already using.

With this combination of technologies, expertise, and resources, Microsoft is dedicated to supporting the new administration's goals for improved healthcare quality, efficiency, transparency, consumer focus, and use of information technology.

Microsoft established the Health Solutions Group in 2005, and has been making investments in healthcare IT for more than ten years. As a result, we're ready now with real solutions to help government advance healthcare throughout the nation and the world.



Microsoft's Commitment to Supporting Healthcare

- Microsoft believes that patient-centered Information Technology is key to improving our healthcare system.
- Healthcare IT must help protect patient privacy while also supporting appropriate electronic sharing of information to maximize healthcare quality and efficiency.
- Microsoft supports the development of standards for electronic healthcare communication, but initial systems should help bridge the communication gaps while the standards are developed.
- Microsoft is uniquely positioned to help with healthcare IT progress, as the only company that spans the spectrum with:
 - Well-known and common infrastructure, development tools, and platforms
 - Products that integrate easily with existing processes and workflows
 - A partner ecosystem with existing healthcare applications aligned with administration goals
 - A Connected Health Framework that can be the foundation for widely effective healthcare communication
 - HealthVault, our Personal Health Record platform, and Amalga, our segment-creating Unified Intelligence System

Microsoft: Enabling Environmental Sustainability and Energy Efficiency

Committed to Improving the Environment

Microsoft is committed to innovating software and technology that help people and organizations around the world improve the environment. Our goal is to reduce the impact of our own operations and products, and to be a leader in environmental responsibility.

Microsoft wants to revolutionize our world by using technology to solve the challenges of sustainability and encourage global action. We will accelerate the innovation of accessible solutions through broad technology leadership, our extensive partner network, and most importantly through the effectiveness of our customers.

Leveraging Technology for Environmental Impact

Microsoft believes software is essential to solving today's environmental challenges and enabling long-term sustainability. Microsoft is improving the output from technology, without increasing the energy consumed, by developing solutions that provide built-in efficiency and resource optimization. We provide out-of-the-box settings that minimize the power consumption in products such as Windows Vista® and Windows Server®.

Tests for Windows Server 2008 reveal savings of up to 10% over Windows 2003 for comparable throughput. And a recent study by Climate Savers Computing suggests use of sleep and power management capabilities in Microsoft products can save more than 1,000 tons of greenhouse gas emissions per year for every 10,000 PCs.

We are helping organizations rethink the way they work with tools and technology that allow them to increase productivity, reduce their environmental footprint, analyze operations, monitor their goals, visualize the impact of change, and inspire further improvement.

Visualizing Impacts. Enabling Alternatives

Using Microsoft's Business Intelligence (BI) solution, organizations can build custom scorecards to plan, analyze, and monitor environmental sustainability initiatives. The flexibility of Microsoft BI products allows users to configure data collection and reporting requirements to fit their needs. Organizations can now measure and manage their carbon footprint from greenhouse gas emissions by using Microsoft Dynamics® AX and its integrated Environmental Sustainability Dashboard.

At Microsoft we believe the visualization of data is one of the most important capabilities for effective data analysis.

Microsoft Virtual Earth™ platform allows customers, like the U.S. Environmental Protection Agency, insight into global trends and patterns through online maps and data. Microsoft Unified Communications (UC) solutions streamline communications and collaboration, reducing the need for business travel and commuting. With these tools, customers can collaborate across an integrated platform of e-mail, voicemail, calendaring, instant messaging, and teleconferencing. Studies done in conjunction with Forrester Research shows UC can reduce travel by 10%, and as much as 30% when widely deployed across an organization.

With one of the largest research budgets in the world, Microsoft is committed to driving efficiency in computing and to accelerating fundamental advances in science. Our scientists are doing cutting-edge work in the areas of power management, energy grids, and home metering; traffic flow management; climate change impacts; and the development of computational tools and methods to predict and mitigate the rapid changes occurring in the Earth's life-support systems. We welcome the opportunity to share this research with our government clients and to collaborate on important energy and environmental research in the future.

Partnering for a Global Impact

Microsoft works with global organizations to extend the positive impact technology can have on worldwide sustainability. For instance, Microsoft, the Clinton Foundation, Local Governments for Sustainability (ICLEI), and the Center for Neighborhood Technology offer a free Software-plus-Services application cities can use to measure, track, and improve their greenhouse gas (GHG) emissions. The tool enables cities to collaborate and share best practices on the most effective ways to reduce GHGs.

Microsoft is a board member of The Green Grid, which is developing standard metrics to measure and improve datacenter energy efficiency and we are working with the Environmental Protection Agency (EPA) and Department of Energy's ENERGY STAR® program to develop specific requirements for datacenters, personal computers, and servers. We also partner with our industry colleagues through the Climate Savers Computing Initiative, which aims to reduce the environmental impact of IT with education, awareness, and tools. Together, we have committed to reduce global carbon emissions from computing by over 50 million tons per year by 2010.

Drive Corporate Sustainability and Environmental Stewardship

A large part of our environmental sustainability focus involves greening our own operations and becoming a role model for corporate environmental stewardship.

We empower our employees to build sustainable practices into our operations and we strive to act with complete transparency as we build a sustainable corporate infrastructure.

Microsoft is proud to have been the first corporate campus to achieve Certified Green Restaurant™ status for its food-service facilities. Through the adoption of compostable materials we have successfully reduced our waste by 50%. We operate one of the country's largest private transportation systems, which has eliminated approximately 32,200 miles of travel/day. And through the use of flexible work schedules and telework, we give people the option of working in more efficient ways that reduce travel costs and reduce CO2 emissions.

Microsoft is serious about its environmental footprint. We measure our carbon annually and are actively developing strategies to reduce our impact. Microsoft believes that providing transparency on our company's carbon emissions is important and we report annually to the Carbon Disclosure Project (CDP).

Microsoft continually looks for ways to minimize the impact of its datacenters. Microsoft's new datacenters are expected to consume 50% less energy for the same level of output compared to facilities built just three years ago.

We've done this with efficient datacenter design that allows for flexible configuration, optimization of power and cooling requirements, effective reporting and monitoring of server utilization, and proactive management of issues.

We welcome the opportunity to work with our government customers whose goal is to reduce their own carbon footprint by driving more functions to cloud-based services hosted in some of the world's most efficient datacenters.

Microsoft Research Projects

- Data Center Genome project motivates the use of wireless sensor network to understand and control cooling in datacenters.
- Power Aware Computing Awards give grants to four recipients totaling \$500,000 on proposals that ranged from datacenters through compilers and micro-architecture, to instrumentation and the measurement of energy use.
- MSR is working to reduce energy consumption for hosting Internet services. Dynamic server provisioning techniques are effective in turning off unnecessary servers to save energy.
- SenseWeb project aims to build an open and diverse community of sensor data publishers/consumers and to develop shared infrastructure and tools for data publishing, data management, and data querying and visualization.
- Clearflow enables drivers to find routes based on least traffic, thereby significantly reducing time on roads and pollution.
- Computational tools and methods to predict and mitigate the rapid changes occurring in the Earth's life-support systems. Working with the scientific community to identify critical problems and develop novel computational methods and tools for addressing these problems.
- Geospatial analysis through collaboration with hydrology scientists at the University of California, Berkeley Water Center and the Lawrence Berkeley National Laboratory to build a "Digital Watershed."
- Enabling climate change insight through a collaboration with scientists at the University of Oxford, England and the Freie Universität, Berlin, to develop new technology to study individual and populations of animals and their sensitivity and response to changes in their environment in real time.

For more information on environmental solutions, visit: www.microsoft.com/environment

Elevating Government Financial Oversight and Compliance

One clear factor aggravating the current financial crisis is that the regulatory structure governing the U.S. finance industry has not changed since the 1930s. Consequently our regulatory regimes are fractured; responsibilities are divided and no one agency is responsible for seeing the big picture.

As a result, there is no overall authority that can effectively monitor systemic risk in the financial services industry. No agency is in a position to prevent or mitigate the negative impacts of financial crises on the economy.

This fragmentation is reflected in the IT systems regulators depend on. Agencies (and many of their internal departments) operate as distinct entities from an IT perspective. In the private sector, financial institutions also operate as distinct entities. Each is likely to employ its own proprietary models, systems, and methods for risk and valuation.

The result is that information regulators could use to determine risk remains scattered and inaccessible across incompatible systems and sources.

Current IT Systems Can't Support Effective Regulation

Effective information sharing would provide the transparency and analysis necessary to effectively monitor systemic risk in the financial system. But because IT architectures do not parallel the distribution of authority across different organizations, they cannot support:

- Shared collection of information
- Common data and information architectures
- Common risk assessment methodologies and rating systems
- Systemic risk profiling
- Coordination, communication, collaboration, and data exchange among primary regulators
- Governance, transparency, and collaboration
- Integrated information sharing
- Dissemination of timely and actionable information

Information technology has been deployed to meet the requirements of individual regulatory agencies. These disparate IT systems have created obstacles as financial services have evolved:

- Disparate and proprietary systems cannot be formed into an enterprise architecture to support a global, holistic regulatory framework
- Lack of standards for information management prevent agencies from effectively exchanging and utilizing other agencies' regulatory information
- Common tools and applications for processing and managing information across agencies are not available or effectively utilized
- Lack of security and data protection standards threaten the exchange and utilization of information across agencies
- Lack of flexible and open platforms slows innovation and broadening of knowledge, based on many years of regulatory reform and experience

Until these issues are addressed, information technology will inhibit rather than support a modern, unified, and collaborative financial regulatory environment.

Recommendations for Effective Regulation

Establish a standard data architecture

The nation needs a data architecture for financial regulation that is enhanced with unstructured financial data. Establishing a common data architecture will help ensure that that information can be accessed, communicated, and utilized by the entire community of financial regulatory agencies in a timely manner. Potential IT options include establishing:

- Standards for data collection across the enterprise
- A standardized ontology and taxonomy
- An enterprise/regulatory data warehouse
- Migration capabilities for legacy data
- A standard data language, e.g., XBRL
- A common vision for data stewardship and maintenance
- Common operating platforms and data exchange standards
- An enterprise-wide disaster recovery and data backup methods

Improving the data architecture of regulatory agencies will help ensure that regulators can effectively utilize the most current data available to oversee the financial industry, ensure compliance with evolving regulations, perform analyses to support the development of new regulations, and monitor the evolution of financial markets. Data could also be shared with the public and academic institutions for greater transparency into the financial system.

Establish common systems and tools

Establishing common systems and tools across the regulatory environment will help integrate agencies towards a more unified regulatory environment. Options include developing:

- An automated workflow capability through COTS products (via a target architecture)
- Real-time collaboration and data sharing capabilities
- Integrated business intelligence and analytics
- Standard reporting mechanisms and leveraging automated work flow and collaboration capabilities
- Capabilities for ad hoc analytics and reporting based on a common data warehouse

The development of common systems and tools could help streamline processes and workflows as well as facilitate more effective collaboration, analysis, and reporting. For example, as banks are downgraded, the OCC could readily share the exam report with the FDIC to enable early resolution strategy planning.

How Microsoft Helps Agencies Improve Financial Regulation and Oversight

As a leading technology vendor and trusted advisor to the financial services industry, Microsoft remains committed to helping enterprises meet the unprecedented challenges of these turbulent times. While technology is not a cure-all for the credit crisis, Microsoft and its partners help financial institutions manage risk and meet compliance needs with solutions that automate and simplify governance, compliance, and risk management.

Microsoft combines its position as a leader in Financial Services solutions with a Federal team that understands the imperatives of the regulatory mission to offer agencies a powerful, high-value platform for collecting, analyzing, and monitoring risk reporting and performance metrics. Working with its partners, Microsoft develops customized solutions that meet the intersecting compliance challenges of corporate governance, IT governance, and industry regulations.

As federal regulators deal more directly with a consolidated financial services industry, Microsoft can help them rapidly implement upgraded oversight solutions. The company and its partners can quickly integrate disparate silos and unlock value by:

- Connecting systems
- Increasing transparency
- Driving new operational efficiencies
- Accelerating innovation across the enterprise

Most financial institutions in the world have standardized on our familiar platform and solutions from our partners. This provides a powerful network effect for federal financial regulatory oversight agencies, making their systems compatible with information from the organizations they are required to oversee.

Microsoft Financial Solutions

Microsoft focuses on three core areas for government oversight and compliance:

Document and Records Retention: Microsoft and its partners can help align IT and business to embed DMRR best practices into your day-to-day processes and workflows.

Governance, Risk Management, and Compliance: Simplifies document management and helps ensure that you comply with requirements on how you store, retrieve, archive, and dispose data.

Payments: Solutions from Microsoft's partner ecosystem span every aspect of the payments business, including treasury cash management, payments delivery channels, and clearing and settlement.

Microsoft Customer Success Stories

Bank of America—To comply with the operational risk aspects of Basel II, the bank created a portal solution based on Microsoft® Office SharePoint® Server 2007.

The Peoples Bank in Winder, Georgia—A solution developed by a Microsoft partner provides more accurate and frequent reports, cutting reporting time in half.

Mercer, a global pension consulting firm—A new actuarial valuation system based on Windows® Compute Cluster Server 2003 enhanced the effectiveness of Mercer's retirement consulting capabilities while keeping cluster management costs low.

Sasfin Bank—To maintain its competitiveness, Sasfin Bank deployed a Microsoft solution to automate processes and enhance reporting and analysis.

SunGard—Upgraded the database of its widely used BancWare ALM application to Microsoft® SQL Server™ 2005 Enterprise Edition 64-bit.

Zurich North America Commercial Deployed a new Microsoft solution for tracking risk inspection data that will provide efficiency savings of U.S.\$25 million over five years.

For these and other case studies, visit:
www.microsoft.com/casestudies

Elevating Applications with Cloud-Based Capabilities

Smoothing Government's Transition to Cloud Computing

The Obama administration continues to emphasize technology and innovation as the keys to making government more transparent, participatory, and collaborative. As a company that has dedicated much effort and investment toward solving difficult challenges (such as clean energy, healthcare, and public safety), Microsoft is also committed to helping government achieve its technology goals.

An essential part of that commitment is smoothing government's transition to cloud-based computing technologies so that agencies and citizens can securely exchange information and access best-in-class capabilities.

Microsoft has already laid the foundation for this transition with continuing investments in state-of-the-art datacenters that support next-generation applications and services. Based on the extensive knowledge Microsoft gained with MSN Online, MSN, Live Search, and other services, these centers are among the most powerful, secure, and eco-friendly facilities in the world.

The Azure™ Service Platform allows government agencies to tap the full power of Microsoft's datacenters as a foundation for providing cloud-based capabilities. Azure is hosted by Microsoft, providing agencies with an Internet-scale operating system and developer services.

Using Azure, agencies can streamline the development and deployment of cloud-based capabilities while avoiding big, up-front investments or sunk costs in new infrastructure.

Why the Transition is So Important

Azure gives agencies options. They can use it as a flexible and interoperable platform for building new applications that run entirely from the cloud. Or they can enhance existing apps with cloud-based functionality (such as additional processing power). In either case, Azure enables agencies to offer new capabilities far more quickly and cost-effectively.

With the open architecture of Azure, developers can quickly build applications that equip agencies and citizens alike with the information they need to make governing a mutual process. Deploying those applications within a Software-plus-Services environment will enable agencies to decide what's available via the cloud.

Employing a Software-plus-Services environment will allow the flexibility to decide what goes in a cloud environment, what stays on premise, and what applications use both environments to ensure the utmost security while meeting the challenges of an open and transparent government.

Our Country's New Administration

President Obama's message is clear as it relates to the use of information technology within the new administration as well as providing access to technically disenfranchised citizens. His administration has made several statements regarding plans to use technology to make the government and its processes more "transparent." President Obama has cited the use of technology and increased transparency in government through the use of innovative Web 2.0 technologies such as wikis, social networking tools, publicly searchable databases, and online video streaming of agency deliberations.

Connecting Our Citizens

President Obama has expressed his desire to smartly leverage technology in his quest to create a better, more connected government and increase citizen access to information through new and innovative means by exploiting the full capabilities of technology-based solutions. The investment Microsoft has made in datacenters, infrastructure, and software places rich capabilities and access well within reach of the American public.

Why Cloud Services?

Cloud services are software application and infrastructure services that can be consumed over the Internet. Cloud services will help enable the government to:

- Reduce capital and operations costs
- Simplify application deployment & management
- Better integrate disparate data
- Improve time to market for new solutions
- Focus on core value-add for America's constituents
- Smartly develop opportunities for new scenarios
- Scale solutions seamlessly, economically, reliably

Key Capabilities

Web Developers: Are able to build and publish their own set of services, use a wide range of tools on a standards-based platform, and extend solutions to millions of users.

Government and Partner Developers: Can augment existing agency software solutions and safely and securely connect agency systems more quickly and easily than ever before.

Independent Software Developers: Can take full advantage of the reach and scalability of the Internet without sacrificing investments in existing applications.

Agencies: Reduce capital and operational costs when maintaining existing applications or planning for new initiatives.

Government and Citizen Value

The Azure Services Platform makes available a diverse set of Internet-based tools and services designed to help developers take advantage of the power of the Internet while maintaining as much control over their applications as they need.

The Azure Platform provides these key benefits:

A flexible Internet-scale Microsoft-hosted Services Platform

- Comprehensive and composable features for simple and complex scenarios
- Hosted in secure Microsoft geo-distributed datacenters
- Automated infrastructure and platform designed for high availability and scalability
- Competitively positioned "Pay-as-you-Grow" service model

An Internet standards-based and Interoperable solution

- Multiple protocol support including HTTP, REST, SOAP, and XML
- Broad investment in open, community-based access to services

The ability to leverage and extend existing investments and skills

- Familiar tools, languages, and frameworks with .NET & Visual Studio or tools of choice
- Provides the choice to build on-premises, cloud, or hybrid solutions
- Consistent programming models for client, server, and services

Azure Services Platform Components

Windows Azure is a cloud services operating system that serves as the development, service hosting, and service management environment for the Azure Services Platform. Windows Azure provides developers with on-demand compute and storage services to host, scale, and manage Web applications and services on the Internet through Microsoft datacenters.

Live Services

Live Services are a comprehensive set of Web services that represent the core functionality of Windows Live (including Windows Live Messenger, Live Search, and many more services), and an open and interoperable client runtime technology that can connect the power and scale of Web experiences to consistent and rich client applications across a world of devices.

Microsoft SQL Services

SQL Services is a suite of cloud-based SQL Server capabilities. The first of these capabilities is SQL Data Services, which offers an Internet-facing database and advanced query processing services for customers building new applications or integrating with existing investments into the cloud—delivering flexibility, scale, and developer agility.

.NET Services

Microsoft .NET Services is a suite of Web services for customers with integration and business-to-business collaboration requirements. These services include workflow, access control, and service bus connectivity—enabling developers to extend applications to the cloud through a flexible, scalable, and interoperable platform.

Microsoft® SharePoint® Services & Dynamics® CRM Services

Developers will have access to SharePoint and CRM functionality in the Azure Services Platform. With the flexibility to use familiar developer tools like Visual Studio, developers will be able to rapidly build applications that take advantage of SharePoint and CRM capabilities as developer services. Developers can expect a breadth of SharePoint & CRM capabilities across the spectrum of on-premises, online and the Azure Services Platform.

Microsoft Online Services

Microsoft also offers cloud applications ready for consumption by customers such as Windows Live™ and Microsoft Dynamics™. Additional Microsoft Online Services offered for business are Microsoft Exchange Online, SharePoint® Online and Office Communications Online. The Azure Services Platform, when used in conjunction with MS Online, lets developers provide their own unique customer offerings by offering the foundational components of compute, storage, and building block services to author and compose applications in the cloud.

These online services are designed to provide government users streamlined communication with high availability, comprehensive security, and simplified IT management. The government benefits from always up-to-date technologies that are deployed rapidly, maximizing valuable IT resources and reducing the need for infrastructure investments.

Microsoft and Open Source Software

Today, Microsoft is actively participating in open source. We share the view with many others that software users will continue to see a comingling of traditional commercial software (open source software or OSS), commercial and non-commercial open source software, and, increasingly hybrid and mixed-model products for the foreseeable future. In this “world of choice,” OSS products and practices may, in some cases, provide a healthy competition that challenges us to innovate in new and different ways. In other cases, OSS may complement Microsoft® technologies, or even become a core part of Microsoft product group business and technical strategy.

We recognize that today technology users have diverse needs that neither a single vendor working alone, nor any one way to make software, is likely to meet. OSS has established itself as an enduring part of this heterogeneous information and communications technology (ICT) environment. Thus, under conditions where developers, users, and technology entrepreneurs exercise independent choice based on their goals—such as value for cost, productivity, or economic opportunity—the additional options for software development and distribution commonly associated with “open source” are constructive and welcome additions to the “tools in the toolbox.”

Fundamentally, we see respect for healthy competition and choice in the fast-changing ICT industry and openness to working with others in new ways as unambiguously consistent with shareholder value. This value is also consistent with Bill Gates’ original vision of the role of Microsoft as a commercial software company that makes technology more widely available to more people than previous generations would have imagined.

The Move to Mixed Models

It is important to acknowledge that the relationship between open source and Microsoft has at times been characterized by strong emotions and harsh words, up to and including assertions that open source or Microsoft could not thrive if the other continued to exist. But the past decade—during which Microsoft as a technology provider and the commercial and community-based open source ecosystems all have grown—has proven that these claims do not reflect the dynamic and continuously evolving ICT environment.

Today:

- More than 80,000 OSS applications run on the Windows® operating system—30,000 of which were built specifically to run on Windows.



- More than 500 projects have been initiated by Microsoft engineers releasing code to the developer community.
- Microsoft offers an open source project hosting site (or forge), www.CodePlex.com, and maintains an internal collaborative development practice called Codebox.

In today’s “world of choice,” we believe the bottom line for any technology, development, and distribution approach or business model is to provide technology professionals and users with the best tools for the job. Customers want software providers to deliver differentiated value while respecting the importance of choice and interoperability in a heterogeneous world—regardless of the underlying development model.

To meet this need, Microsoft is committed to working with open source business partners and communities to help customers develop, deploy, and manage Microsoft and open source technologies together. This is reflected in our adopting mixed source and mixed model approaches:

Windows Server and IT Infrastructure. Microsoft engineers have contributed patches to widely used OSS applications. They are also working with Zend, the commercial PHP company and the PHP community to ensure that the Windows Server® operating system and other Microsoft products are great platforms for PHP applications and the open source PHP development language. Microsoft System Center Operations Manager offers cross-platform systems management across Windows, UNIX, and Linux in part through working with an OSS technology called OpenPegasus.

Developer Community and Platform Technologies.

The Microsoft .NET Dynamic Language Runtime (DLR) has been released under a license approved by the independent Open Source Initiative (OSI) and the Microsoft Public License (MS-PL). Language implementations like IronRuby are being developed as open source projects, with contributions by both Microsoft engineers and the developer community at large. The Silverlight™ browser, a technology for building rich Internet user experiences, is cross-browser and cross-platform. And Microsoft is working with Linux vendor Novell to enable Moonlight, an open source implementation of Silverlight, for the Linux operating system.

A Time of Change and Opportunity

Competition and cooperation have always coexisted in the ICT industry. Both are necessary for innovation to occur, and open source software does not change that fundamental dynamic. But we are profoundly optimistic that openness to exploring new ways of working together in areas of common concern—whether meeting the needs of shared customers in heterogeneous datacenters or bringing access to technology to the next five billion people around the world who have yet to enjoy its full benefits—will surface new opportunities for Microsoft and open source to “grow together” in purposeful and complementary ways.

We hope constructive, respectful, and customer-focused dialogues around open source and Microsoft in which we have already engaged with many researchers, policy makers, developer community leaders, and commercial companies continue and expand. This is good for our customers and partners, good for our shareholders, and fundamentally consistent with increasing the social and economic benefits of the ICT industry for current and future generations.

For More Information

- Microsoft Open Source Home:
<http://www.microsoft.com/opensource/>
- Microsoft Open Source Technical Community:
<http://port25.technet.com/>
- Microsoft Open Source Project Hosting:
<http://www.codeplex.com/>
- Microsoft Source Code Access Programs:
<http://www.microsoft.com/sharesource/>
- Microsoft Interoperability Programs:
<http://www.microsoft.com/interop/>

“We at Microsoft respect and appreciate the important role that open source software plays in our industry. We respect and we appreciate the passion and the great contribution that open source developers make in our industry. We respect and we appreciate the important role that open source software plays for our customers, customers who almost always have heterogeneous computer networks with software and hardware and services that, as you all well know, come from multiple vendors. That is not what you have always heard from us, and I recognize that.”

—BRAD SMITH
Microsoft General Counsel

“Well, my position toward Open Source generally is that it’s a part of the environment. We have a software business that is based on proprietary software. We tactically or strategically, depending on how you look at it, will take certain aspects of what we do, and we’ll Open Source them where we believe there is a real benefit to the community and to the nature of the growth of that technology in Open Sourcing it. ...we live in a world together with Open Source, and we have to make it possible for you to build solutions and for customers to build solutions that incorporate aspects of both.”

—RAY OZZIE
Microsoft Chief Software Architect

Government 2.0, Choice and Opportunity

Citizen Outreach and Interaction

As soon as President Obama took office, he made clear that his vision of change included a new and vigorous focus on government openness, writing in one of his first directives, "We will work together to ensure the public trust and establish a system of transparency, public participation, and collaboration."

Technology offers the transformative power to promote this openness. With the advent of social networking in recent years, citizens now expect technology to play an instrumental role in creating a more transparent, participatory, and collaborative government. The Internet has the power to bring a transparent government closer to its citizens and to create a dialog that is essential to assisting the country in finding solutions to its most pressing problems.

Microsoft's Commitment to Change and Collaboration

Today's government and enterprise customers pursue missions in a diverse, ever-evolving technology environment. Some customers use traditional commercial software solutions, while others work with open source products. Increasingly, more customers are using "mixed source" applications, which combine both. With more choices than ever before, customers are demanding that software providers offer products that are interoperable in a mixed computing world.

Microsoft is listening. Microsoft has been a contributing force in advancing technology for the last 30 years, enabling individuals and businesses all over the world to innovate and operate the way they do today. But, for all the benefits people and businesses gained from a user-friendly platform used around the world, we also recognize some customers have felt frustrated by what they feel is a lack of choice, or that they are locked in to our products. Today, we know that our customers have complex needs no single vendor can address alone, so we are changing our business and technology practices to become more open, more transparent, and more interoperable.

We are designing products for the realities of customers who work in mixed computing environments. We are working with others in the industry, including competitors, to deliver solutions for heterogeneous environments. Moreover, we are actively involved in open source development, sharing Microsoft® code, and bringing our engineers into external projects. Today, more than 80,000 open source applications run on the Windows® operating

system, 30,000 of which were built specifically and only to run on Windows. And we are committed to continuing to partner with commercial companies and with open source communities.

"Our goal," says Microsoft's CEO Steve Ballmer "is to promote greater interoperability, opportunity, and choice for customers and developers throughout the industry by making our products more open and by sharing even more information about our technologies."

Supporting Interoperability and Standards

A mixed computing environment demands interoperability. With the ubiquity of the Internet, systems and technologies that once stood alone are now connected. Individuals, enterprises, and governments all put more records online every day; document sharing and collaboration is omnipresent. The ability for applications, devices, platforms, and components to connect and share data has become as essential a value in technology as security, privacy, and reliability.

There is no silver bullet to achieving interoperability. Some argue that open source or open standards are the solution. Software business models, though, are not what determine whether a product is interoperable, and mandating the use of one type of software based on its business model seems inconsistent with principles of openness. Industry standards, although important, are but one way to enhance interoperability. In fact, multiple standards for a given technology are quite common and promote innovation and customer choice. Among the most familiar are the several standards that overlap for digital images and digital media. Of course, open standards and open source coding are not the same thing. Developers of traditional commercial software and open source software can both use industry standards in their products to promote interoperability. They can further support interoperability by sharing ideas and information and collaborating to create broader customer value.

Balance is the grounding principle here. While interoperability can foster growth, competition similarly breeds innovation. Ultimately, the marketplace should be allowed to reward companies for innovative and creative differentiation that benefits customers and provides greater choice. Sensible integration of interoperable systems and innovation rewarded by the marketplace generates a richer, more creative technology landscape for all.

Government Neutrality Promotes Choice and Innovation

No single business model, software development model, product, or company can lay claim to realizing the promise of open government. Procurement rules should, therefore, not favor any one model, product, or company over others. Government officials must be free to choose from among many vendors' products, basing procurement decisions on value, as indicated not just by acquisition cost but by total cost of ownership (TCO). Ultimately, government purchasers—as any other customer—should determine which products best suit their missions, free of preferences.

Neutral procurement policies foster competition by creating a level playing field for businesses of varying size, development type, and licensing model. That competition, in turn, will drive innovation and growth among competitors, which is of course beneficial during a time of economic pressure.

Scores of state and national governments, as well as international bodies, have already voiced support for procurement neutrality. From the European Union to Japan, from the United Kingdom to Canada, from the International Chamber of Commerce to the United States Office of Management and Budget, “value for money” has been recognized as the most important guiding procurement principle.

How Microsoft Helps Create Open Government

Microsoft has a long history of helping governments deliver innovative solutions, become more efficient, and create economic opportunity. We are particularly well-suited to support the Obama administration's move toward openness in government. Microsoft technology enables government to help secure the data it has, and to simplify and optimize the nation's information management infrastructure.

Governments today already rely on many Microsoft products, precisely because of their interoperability and the foundation for innovation they offer. In times of economic distress, it makes sense for governments to leverage those existing assets as they build and innovate in an open way.

The Microsoft platform facilitates transparency, bringing more information to citizens as they look to play a greater role in their government. Because our platform is scalable, it can provide government agencies the tools they need to increase responsiveness to the public and give citizens greater access to services. At the same time, our products encourage the streamlining of processes, saving time and money.

Our platform also provides for more participatory and collaborative government. With Microsoft products, agencies can encourage a robust dialogue with citizens, soliciting their ideas and opinions in open public networks. Additionally, Microsoft products facilitate collaboration within and among government agencies. Users can work together simultaneously online, bringing together formerly disparate lines of business tools and services, providing enhanced insight and thus better decision-making by managers. And because Microsoft tools are familiar, training costs are minimized.

Online Resources

- Microsoft Interoperability Home
<http://www.microsoft.com/interop/default.aspx>
- Microsoft Interoperability Principles
<http://www.microsoft.com/interop/principles/default.mspix>
- Microsoft Interoperability Policy
<http://www.microsoft.com/interop/policy/default.aspx>
- Microsoft Interoperability Government Resources
<http://www.microsoft.com/interop/government/default.aspx>
- Microsoft Open Source Home
<http://www.microsoft.com/opensource/>





Accountability is the Baseline for Action

The stimulus package mandates stringent requirements for transparency in governance and accountability. Under its provisions, agencies must prudently track their efforts, measure their performance, and publicly post their results.

To meet these requirements, many agencies will need additional IT capabilities that allow them to collect, use, and share highly understandable information. This indicates that governance and accountability will come to rely on two major technical enablers:

- Policy-based internal business intelligence and performance management
- Citizen-friendly presentation of information in a Gov 2.0 environment

Agencies may not be able to use certain Web 2.0 technologies, practices, and processes as a platform for governance under the stimulus package because:

- They don't meet stringent security and privacy requirements
- They're not compatible with disparate systems and infrastructure

Instead, they should look for security-enhanced technologies that are proven in the enterprise. That's what we mean by "Government-Ready" solutions.

How CDW Can Help

In our current circumstances, desperate times don't call for desperate measures. They call for well-considered choices, willing cooperation, and decisive action.

"May our children and our children's children... continue to enjoy the benefits conferred upon us by a united country."

—President Abraham Lincoln

As a developer of technologies that facilitate decision-making, support effective operations, and connect people all over the world, CDW is uniquely qualified to help government make those things happen.

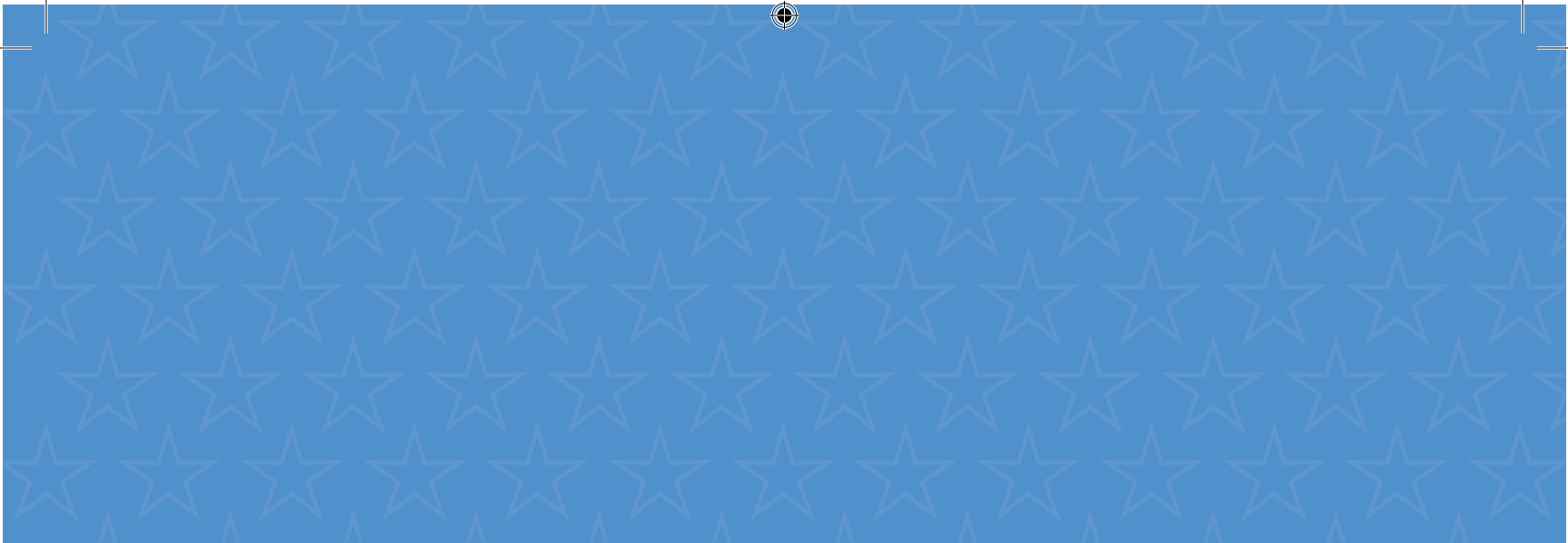
After all, agencies throughout government are already using CDW technologies. They can use those as building blocks for implementing the stimulus package.

Microsoft servers, platforms, and applications already power easy access to government information. Agencies can use them to help ensure transparency and accountability.

Many CDW government partners tailor our technologies to specific mission and compliance requirements. Agencies can draw upon them for knowledge and confidence.

What will it take to renew America? All of us, working together.

CDW is ready. Let's get started!



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