



IT Optimization

Increase Efficiency, Improve Service
Reduce Complexity, Realize Savings

Driving Business Value
Status Update 2014

Ohio**DAS**
Service · Support · Solutions

Office of
Information Technology



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Increasing Efficiency, Improving Service, Reducing Complexity and Realizing Savings

The State of Ohio is implementing an IT Optimization strategy to change the way the State does business. The main objective of IT Optimization is to lower the State's total IT costs and redirect those savings into improved IT services and programs that benefit Ohio citizens and businesses.

The goal of IT Optimization is to focus the assets of the State's IT organization and collectively streamline its technology and services which make Ohio a better place to live, work and do business.

Since establishing the IT Optimization program in Fiscal Year 2012, the State of Ohio has made significant progress in realizing this goal. While we still have a way to go, we are seeing real and meaningful results. These results change lives, drive business, reduce costs and complexity, and align IT with the missions of State agencies, boards and commissions in serving the public.

I think it is a great time to share these results with you, and highlight the next phase in our journey. Thanks to all of you for your continued support and efforts in our transformation.

Stu Davis, CIO
State of Ohio



Stu Davis, CIO

Robert Blair, Director

Spencer Wood, COO

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IT Optimization Overview



2,036

Total Agency Applications

67%

IT Program Spending Focused on Agency Mission and Improving the Lives of Citizens and Business Growth in Ohio Reducing Investment in Common Infrastructure

57%

Life, Safety or Mission Critical Applications

3,445

IT Vendors Supporting the State

50,000

Email Accounts Migrated from 87 Agencies - **Goal 54,500**



19,260

Users Migrated to VoIP from 57 Agencies - **Goal 30,000**



9,600

Network Devices Managed to State Networks - **Goal 75,000**



63

State Networks Still in Operation - **Goal 1**



Technology Board Left to Right: Jeff Rowley, Tom Croyle, Katrina Flory, Spencer Wood, Stu Davis, Bruce Hotte, Randy Cole, Michelle Burk, Jencie Smith and Mark Walker.
(Not Pictured: MaryBeth Parisi.)

IT Optimization 2014 Accomplishments

State of Ohio Computer Center Remediation (SOCC) Facility

remediation efforts are now complete. A number of enhancements are in place including increased power capacity, a new generator building and consolidation of State computing assets to the 2nd floor.

Ohio Benefits Integrated Eligibility

Multiphase project to modernize and consolidate state Medicaid and public assistance systems go live October 2013. Project costs are significantly under budget and only 8 percent of the federal Healthcare.gov project costs.

Voice over IP (VoIP) 19,260 users converted to VoIP from 57 agencies, boards and commissions. 24 agencies, boards and commissions with 4,000+ users are in process, and 10 with 2,000 more users are in the planning stages.

Ohio Administration Knowledge System (OAKS)

Human Resource systems upgrade completed and financial systems and technology upgrades initiated.

Desktop/Productivity Five agencies migrated to Windows7/ Office365 within 90 days.

Enterprise e-mail More than 50,000 mailboxes from 87 agencies, boards and commissions have been migrated from 19 separate email systems to a single platform.

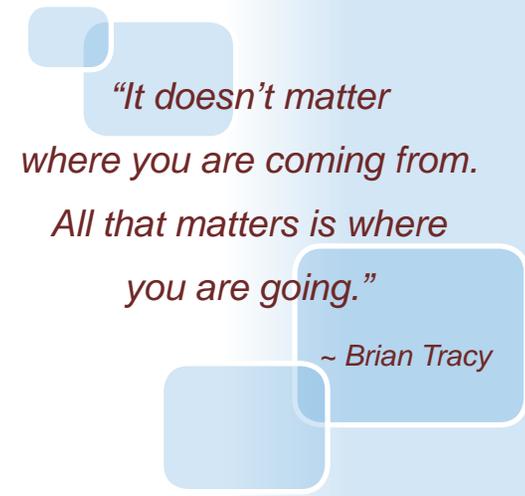
Mobile Device Management 20 agencies and 12,000 devices are now migrated to Ohio's mobile device management service, MOBI.

Multi Agency Radio Communications System (MARCS)

All tower sites are now equipped with next-generation radio gear and more than 120 sites are operational, currently under budget and a year ahead of schedule.

Security Implementing and deploying centrally managed end-point protection and vulnerability management tools.

Ohio Private Cloud 11 agencies migrated to Ohio's private cloud in the closing 6 months of Fiscal Year 2014.



"It doesn't matter

where you are coming from.

All that matters is where

you are going."

~ Brian Tracy

Refocusing IT - Investing in What Matters

The key tenet of IT Optimization is to refocus the State's IT investment costs on what's important: improving the lives of citizens in Ohio, providing for the health and safety of everyone in our state, helping Ohio-based businesses create jobs and opportunities as well as protecting our most vital data in a secure environment.

In Fiscal Years 2012-2014, the state has refocused its spending from being more than 40% infrastructure (hardware, networks and data centers) to being directly focused on the missions of state agencies in the delivery of state services to the citizens and businesses of Ohio.

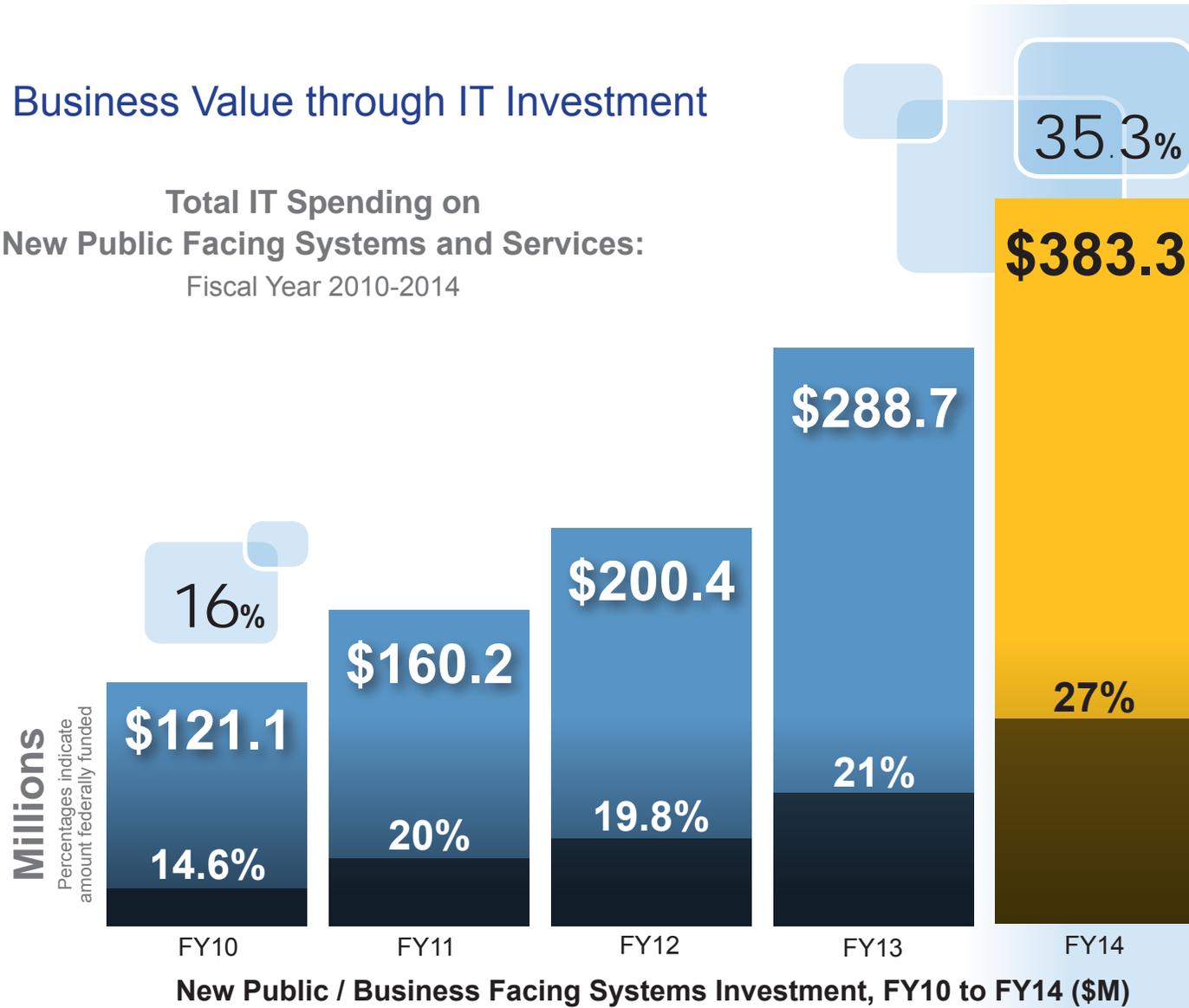
Over the past 5 fiscal years, the State has refocused its spending on systems and services that benefit the public. Public systems and services spending has grown 32.2% on average during the last 5 years, which is consistent with the State's strategy to invest in IT that benefits the public. In Fiscal Year 2014, this spending included:

- Medicaid Expansion: Integrated Eligibility
- Education, Race to the Top
- Public Safety Title Processing Systems
- Tax STARS Program
- SOCC Remediation
- Lottery
- Ohio Business Gateway
- Commerce Liquor Management System
- Bureau of Workers Compensation Core System
- Various ODJFS Public Assistance Programs



Driving Business Value through IT Investment

**Total IT Spending on
New Public Facing Systems and Services:**
Fiscal Year 2010-2014





Reducing IT Complexity

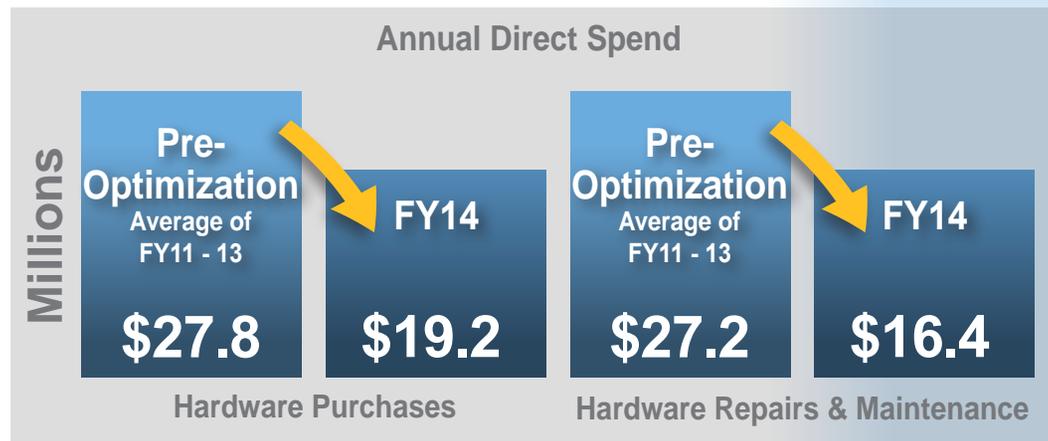
The State maintains more than 32 data centers and computing concentrations statewide, including a strategic State asset and one of the largest data centers in the U.S. at the State of Ohio Computer Center (SOCC).

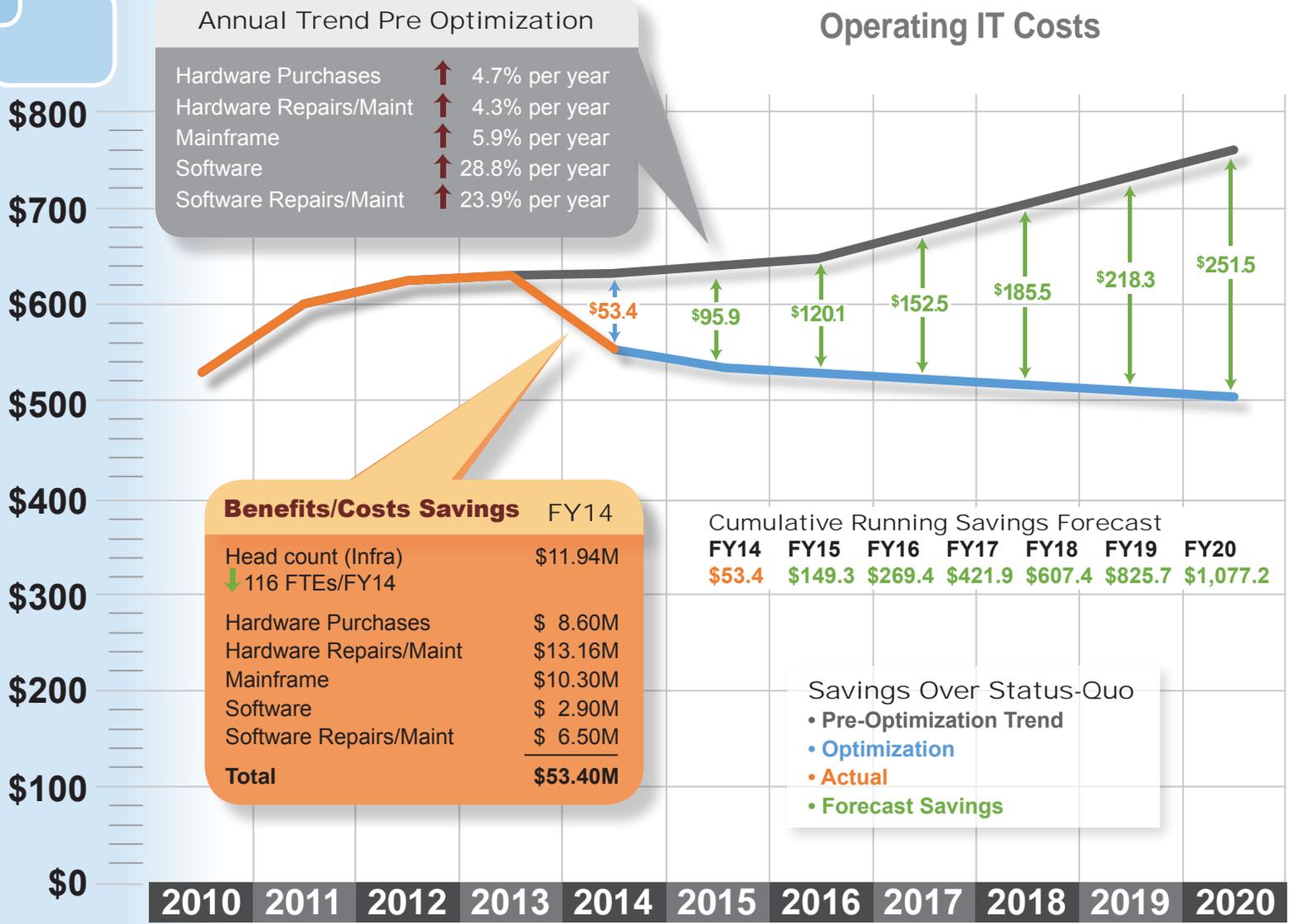
The SOCC is the cornerstone of IT Optimization. Prior to IT Optimization, this center was space-rich and power-poor, and the home of 17 agency “tenants” that performed administrative and computing functions for the State as well as colocation services for local government and higher education partners.

In 2014, we have invested in, and completed a project for the SOCC to improve power and cooling limitations and make the best use of this vital consolidation point for the State.



4	Megawatt increase in available power at the SOCC to support agency computing consolidation, a 15-fold increase in Fiscal Year 2014
1	State agency computing location in the building, down from 17
3	Agencies that will close data centers in Fiscal Year 2015 and move operations to the SOCC
19	Agencies that will complete their migration to the State's private cloud in Fiscal Year 2015
\$19.4	Million dollar cost reduction in annual hardware purchases and maintenance statewide as a result of consolidation





Realizing Ohio's IT Savings

IT Optimization has been underway since Fiscal Year 2012. The State is seeing direct IT spending levels flatten and in many cases trend downwards from pre-Optimization levels. In Fiscal Year 2015 we will continue to focus on completing infrastructure consolidation efforts which are already driving savings to the State, as well as areas that require our attention within the scope of Optimization.

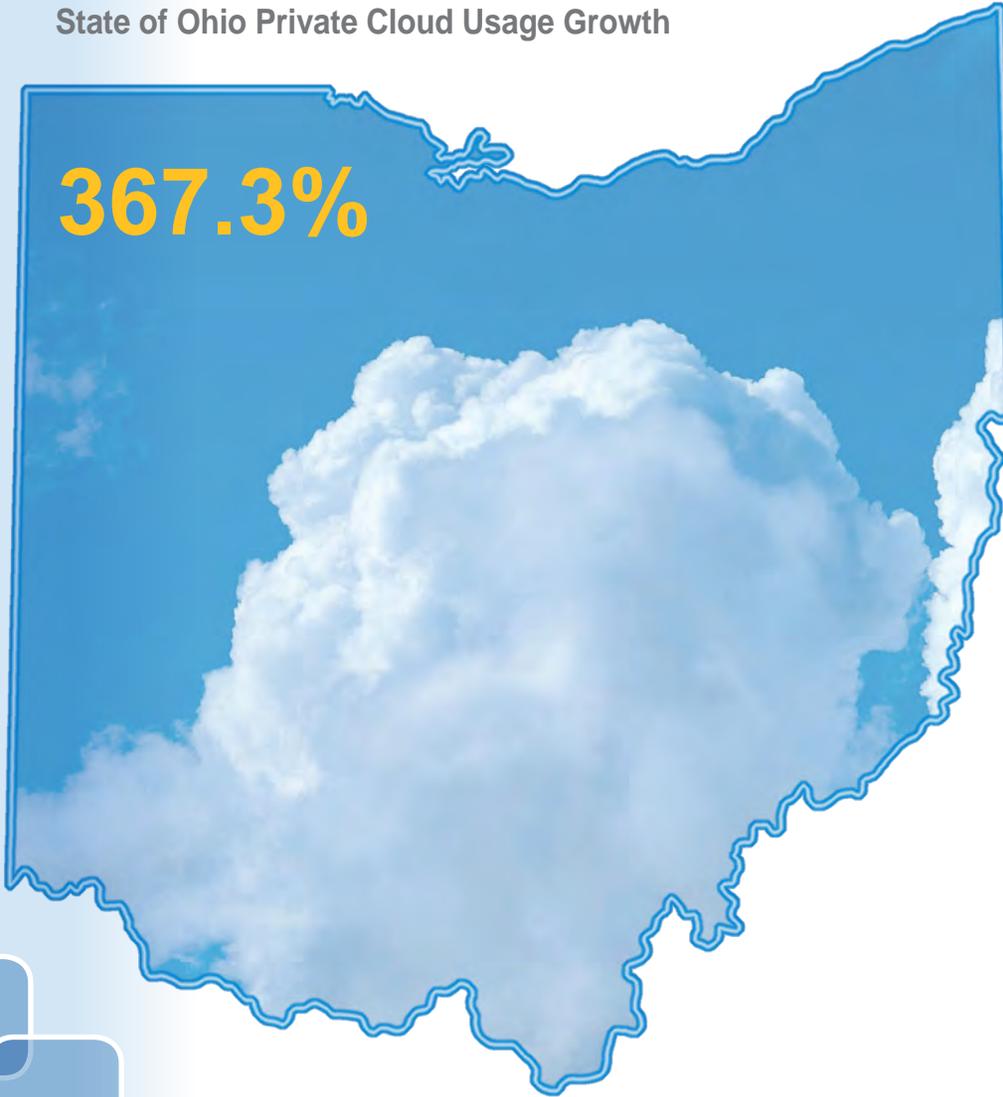
In Fiscal Year 2015 we anticipate further savings in these key areas of the IT Optimization program potentially including the following in the IT Optimization program:

- Hardware and Maintenance
- Software and Maintenance
- Unified Network
- Switched Network Retirement in lieu of VoIP Implementation
- Staff Augmentation and Contractors
- Mainframe Operations
- Enterprise Contract Management



State of Ohio Private Cloud Usage Growth

367.3%



State of Ohio Cloud Adoption

86%

Cloud Staffing from
DAS External Agencies

2.03

Petabytes of Storage

*1 Petabyte holds approximately
20 million four drawer filing
cabinet full of text*

0.870

Petabytes
(Backup Service)

20.7:1

Virtual to Physical
Server Ratio

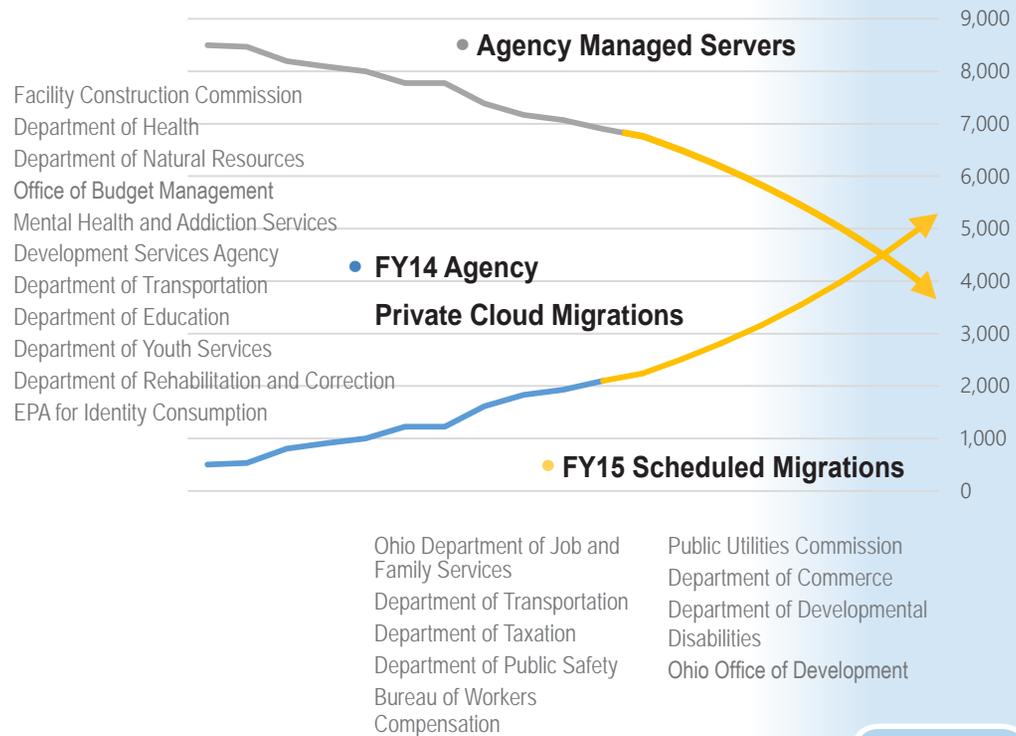
Increasing IT Efficiency

The State has implemented a private cloud infrastructure to support agency applications and service delivery in a secure unified environment at the State's primary data center.

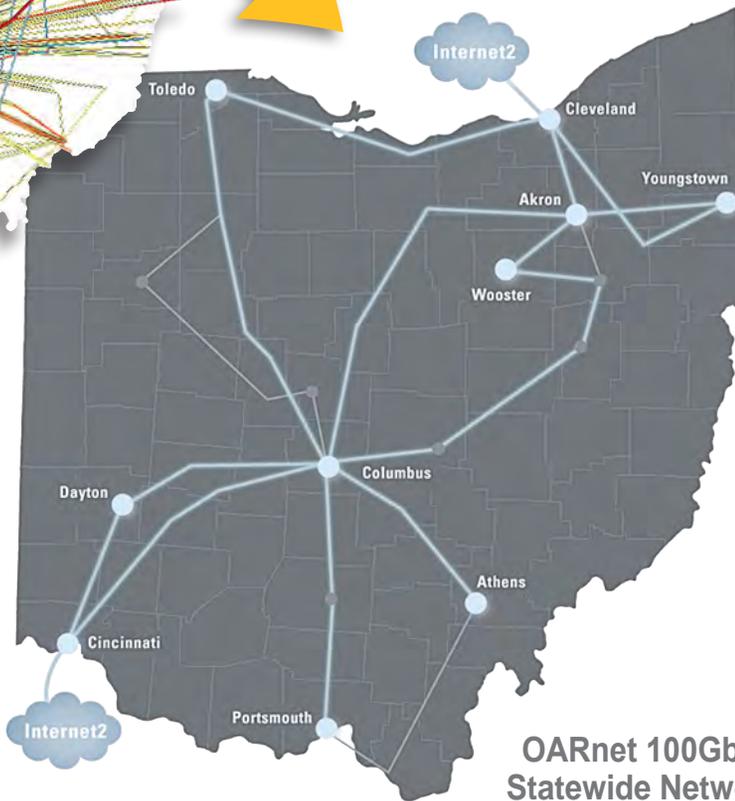
In Fiscal Year 2014, more than 2,000 server images were migrated to the State's cloud and there is capacity for an additional 3,000 images which will be migrated in Fiscal Year 2015. These migrations allow the State to realize savings and cost avoidance by elimination of duplicative hardware, operating software, storage and networking devices and migrating the State's servers as a single logical cloud with a dedicated State team comprised of experts from agencies statewide.

Software distribution, updates, maintenance, operations, backup, intrusion detection/prevention and other operational aspects of supporting the State's infrastructure will result in more than \$100 million in savings over the next few years.

State of Ohio Cloud Adoption: Migrations



Non-Optimized State Networks (Fiscal Year 2014)



OARnet 100Gb/s
Statewide Network

Source:
OARnet

Driving Savings through Optimized Network Services

25%

IT Optimization Savings Target:
Circuit Costs, Equipment,
Repairs/Maintenance

9,600

Managed
Network Devices

\$54M+

FY14 Network Spend

3,700

Core Network Circuits

2,550

Locations Served

Consolidating Ohio's IT Assets

As part of the migration to the State's private cloud, we have initiated a review of our network usage to serve State office locations with voice, data and multimedia services. Based on this analysis, we have determined that many multi-tenant Agency locations are served by multiple networks and telecommunications carriers, each with duplicative network equipment and services.

In parallel with the State's investment in OARnet to upgrade the core network to 100Gb/s, we have identified substantial opportunities that will benefit all State agencies.

In Fiscal 2015, we will expand the network consolidation to the Ohio One Network, started in Fiscal Year 2014. This will result in savings to State agencies, increases in service capability and quality, and a diminished risk profile from a security and access perspective.

Ohio One Network Key Milestones

-
- OARnet 100Gb/s Upgrade**
 - SOCC Network Consolidation (19 Agencies)**
 - Statewide Multi-Tenant Circuit Aggregation Analysis**
 - Migration to VoIP Services Commences**
 - Savings/Consolidation Targets Identified**
 - Metro Columbus Network Consolidation**
 - Statewide Migration to Ohio One Network Commences**



Protecting Ohio's IT Data and Privacy

The State's security mission is to protect and prevent unauthorized access to vital State, citizen and business data maintained in our systems that serve the public.

Under the IT Optimization program, we have initiated a comprehensive redesign of the State's approach to security, threat identification and virus and malware prevention around centralized tools, monitoring and reporting.

We will be centralizing security oversight functions in Fiscal Year 2015 to protect our data through consistent application of identity and access management, designing and operating our systems with data protection standards included from design, ensuring that our systems and services are consistently implemented, monitored and protected.

5,120,900

Attempts by intruders detected and prevented by State security systems

17

Dedicated IT security staff responsible for monitoring, policies and oversight

5

Virus and malware detection programs implemented in statewide agencies across 55,000 desktops and 9,000 servers

1

Fiscal Year 2015 target: number of threat identification and prevention solutions centrally administered and managed



Security Team Left to Right: Jillian Burner, Russ Forsythe, John McCarty, Bob Pardee, Paul Kamenan, Carolyn Jordan, Daren Arnold, Jason Mather, Matt Williams, James Matheke, Rick Shipley, Miki Calero and Dave Brown.

Transforming Ohio's IT Workforce

The IT Optimization program is working to better align our IT professionals in meeting future technology needs.

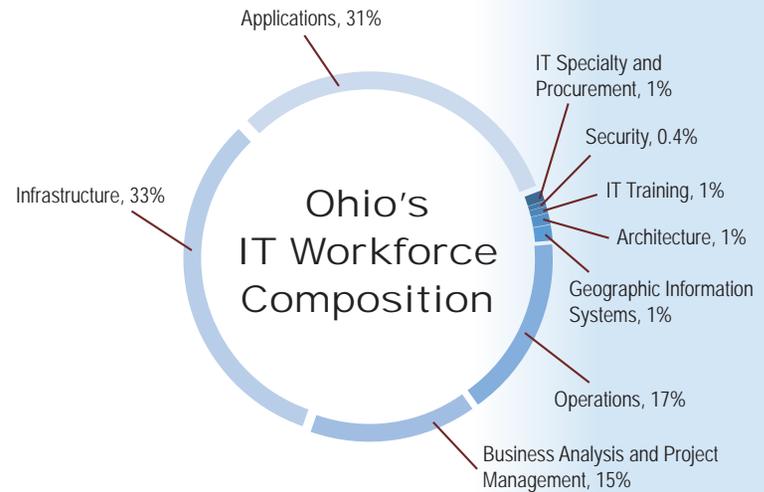
To equip the State with the right skills to support agency missions while reducing the effort associated with supporting duplicative infrastructure, we are transforming our workforce by leveraging IT expertise from across the state government which will result in cross-training opportunities and skill development.

We are transforming our workforce by building technical and business acumen around a set of standards, core competencies and leadership skills. We seek to foster an environment around accountability, responsibility and business relationship management.

In Fiscal Year 2015, we will begin efforts to better understand and focus our vendor community, which will be designed to allow the State to replace long-term, high-cost contractors with existing state government staff.



Ohio's IT Workforce Statistics End of Fiscal Year 2014





Leveraging IT Assets for Public Good

The Multiagency Radio Communications System (MARCS) is dedicated to providing Ohio's first responders and public safety providers with state-of-the-art wireless digital communications, and to promote interoperability, in order to save lives and maximize effectiveness in both normal operations and emergency situations.

In Fiscal Year 2013, a \$90-million upgrade to the next-generation P-25, IP-based 700/800 MHz radio system was initiated with original completion schedule of July 2016. The first phase of the project will be completed more than a year ahead of schedule. All 225 tower sites have been equipped with the next-generation radio gear and 122 sites are fully operational with the required FCC licensing.

As part of this upgrade, a high bandwidth backhaul functionality using a combination of above-ground microwave and in-ground fiber connectivity and

OARnet, has been initiated. Connectivity is scheduled for all tower sites linked back to the Columbus, Lake County and Jefferson County zone controllers by the fall of 2014.

Currently, 83 of 93 MARCS Towers have fiber connectivity with increased bandwidth for 113 of the 218 towers from 1.5 to 5 mbps – reducing the State's reliance on costly carrier connectivity services.

Service agreements have been entered into with The Ohio State University, Warren County, Clermont County, Clinton County, Jefferson County, Greene County, Licking County, Lake County, Franklin County, Union County, Summit County, the City of Findlay and the City of Green.

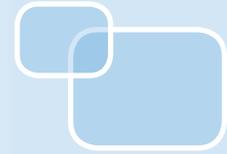
Implementing MARCS in Schools and Rural Communities

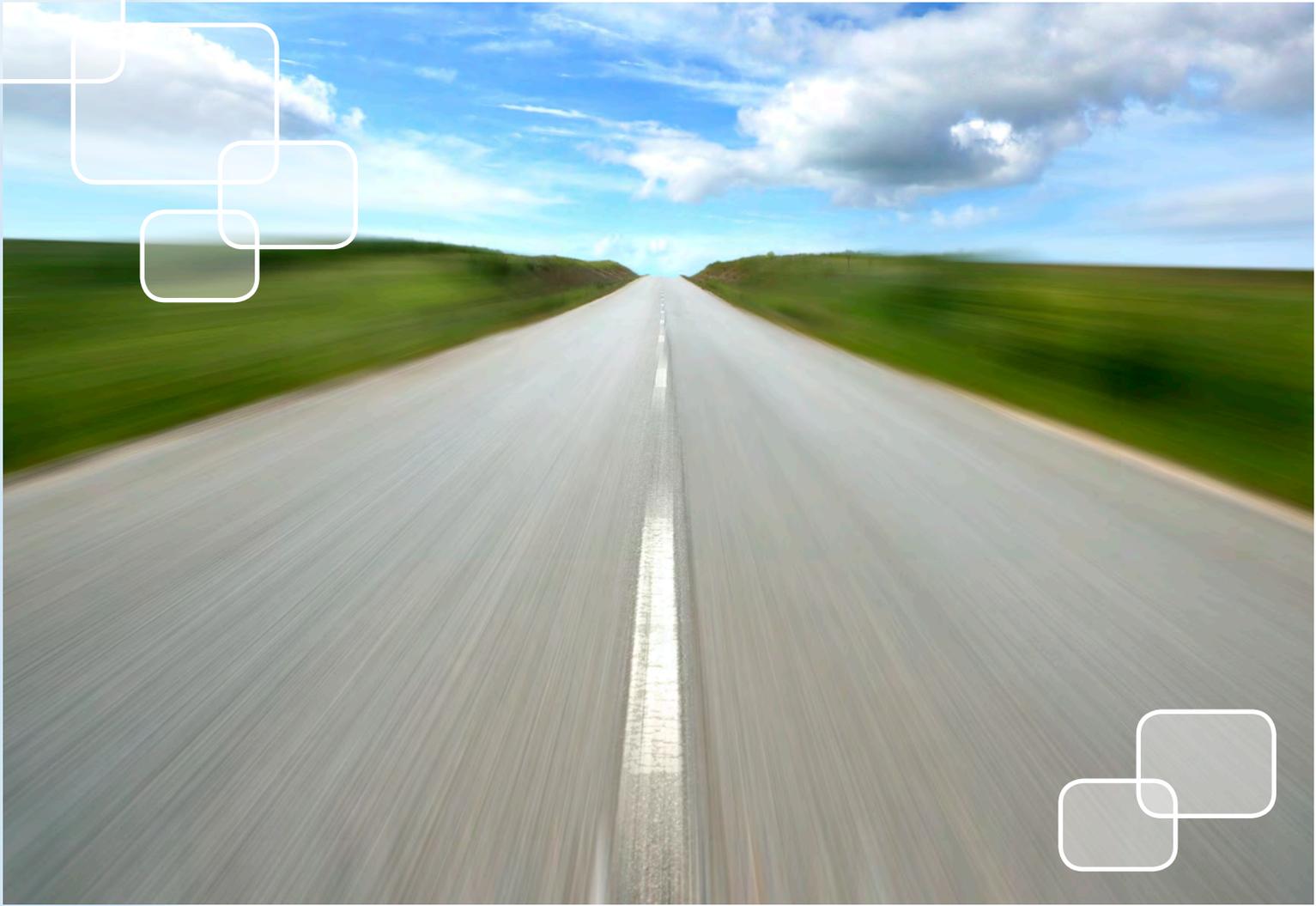
The State of Ohio's operating budget included \$5 million to fund "MARCS-in-Schools" radios and 1,332 schools in 71

of 88 counties have ordered Emergency School Radios through this grant program.

Blending private investment with public infrastructure, a Canton, Ohio company is building a statewide network for reliable wireless point-to-point broadband access. MARCS towers and infrastructure are being leveraged to deliver a statewide wireless network to close internet coverage gaps in schools and businesses in rural areas where it is too expensive to bring in fiber-optic cable.

When the network is complete, in December of 2015, it will support education and business economic growth in rural Ohio and cover 3 million address points, including 100,000 homes and 450 schools that do not yet have access to broadband internet.





State of Ohio's IT Direction

In the next phase of the State's IT Optimization journey, there are several important steps to take to realign our focus and priorities. We continue to reduce complexity, bureaucracy and spending while increasing our level of service and support to the citizens and businesses of Ohio.

Culture and Change

- Establish and foster an environment around accountability, responsibility and business relationship management throughout the state government IT.

Infrastructure

- Continue to consolidate computing operations to the State's private cloud based at the SOCC while extending our capabilities.
- Obtain a disaster recovery capability for critical State applications and services.

Telecommunications and Networking

- Consolidate to a single logical State network that is centrally administered, monitored and managed.
- Complete the VoIP implementation and migrate from legacy switched voice networks.

IT Workforce

- Focus State resources on agency applications, services and making a change for the betterment of Ohioans.
- Reduce reliance on outside contractors performing routine and operational staff augmentation.

Security and Privacy

- Implement centralized virus and malware prevention and monitoring.

- Continue to vigorously protect data and computing assets against external threats and improper access.

End-User Computing and Productivity

- Implement standardized and consistent desktops, software and end-user support functions.

Standards and Governance

- Drive cost reductions through moving to a standards-based operating model for infrastructure, operations, enterprise software and services.



IT Optimization Glossary:

- **Network Bandwidth**
A synonym for data transfer rate. The amount of data that can be carried from one point to another in a given time period. The volume of data per unit of transmission time is usually expressed in bits per second.
- **Broadband**
High capacity Internet connection.
- **Race to the Top (Ohio Department of Education)**
Education program to support innovation in education including building data systems.
- **Fiber-optic**
A flexible, transparent fiber made of extruded glass or plastic, slightly thicker than a human hair. Optical fibers are widely used in fiber-optic communications, where they permit transmission over longer distances and at higher bandwidths (data rates) than wire cables.*
- **Ohio Benefits/Integrated Eligibility**
Modernization project to simplify client eligibility based on income, streamline state and local responsibility for eligibility determination and modernize eligibility systems technology. The Ohio Department of Administrative Services is overseeing the project in partnership with the Governor's Office of Health Transformation, Ohio Department of Medicaid and Ohio Department of Job and Family Services. Ohio Benefits went live in October 2013.
- **IT Optimization**
Ohio's strategy to lower IT costs and redirect savings into shared services. IT Optimization has three focus areas:
 - Ohio private cloud expansion
 - Enterprise shared solutions
 - Online government services
- **Malware**
Short for malicious software, any software used to disrupt computer operation, gather sensitive information or gain access to private computer systems.*
- **Ohio Academic Resources Network (OARnet)**
A division of the Ohio Board of Regents' Ohio Technology Consortium. OARnet provides 100 Gbps network backbone for the state's education, health care, public broadcasting and government communities.
- **Ohio Administration Knowledge System (OAKS)**
The state's enterprise resource planning system to support financial and human capital management.
- **Petabyte**
Digital storage unit (kilobyte, megabyte, gigabyte, terabyte, petabyte, exabyte, etc.) of measurement referring to an amount of data equal to 20 million four-drawer filing cabinets.
- **Ohio Business Gateway (OBG)**
Provides electronic filing mechanism for business-related payments and fees. More than \$9 billion was collected last year. An initiative is underway to modernize the OBG from transactional based to a business one-stop portal.
- **State Taxation Accounting and Revenue System (STARS)**
STARS is Ohio Department of Taxation system modernization program.
- **Voice Over Internet Protocol (VoIP)**
VoIP uses the computer network to digitally transmit calls instead of using analog telephone lines.

*Wikipedia



*“Far and away the best prize that life offers is the
chance to work hard at work worth doing”*

~ Theodore Roosevelt

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12/22/2014

John R. Kasich, Governor
Robert Blair, Director
Stu Davis, CIO