Department of Technology Services Performance Review

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5/7/2010

CountyStat

CountyStat Principles

- Require Data-Driven Performance
- Promote Strategic Governance
- Increase Government Transparency
- Foster a Culture of Accountability

Agenda

- **Performance Review: Headline Performance Measures**
- **Discussion: Cloud Computing Solutions**

Meeting Goal

- **Determine the impact of DTS work on headline measures and establish new performance expectations and goals**
- **Evaluate potential for use of IT cloud solutions in Montgomery County**

Utilizing Cloud IT Solutions to Meet County Business Needs

Cloud computing refers to hosted applications and platforms built on shared infrastructure delivered via a web browser.

- **Types of Cloud-Shared Services**
  - SaaS (Software as a Service) – Delivers software applications as a service over the Internet, eliminating the need to install and run the application on the customer's own computers and simplifying maintenance and support.
  - PaaS (Platform as a Service) – Facilitates deployment of platform specific applications without the cost and complexity of buying and managing the underlying hardware and software layers.
  - IaaS (Infrastructure as a Service) – Rather than purchasing servers, software, data center space or network equipment, clients instead buy those resources as a fully outsourced service
- **Public Cloud vs. Private Cloud**
  - Public cloud - describes cloud computing in the traditional sense, where resources are dynamically provisioned on defined, self-service basis over the Internet, from an off-site third-party provider who shares internal and bills on a granular, utility-use basis
  - Private cloud - are new structures that some vendors have recently used to describe offerings that emulate cloud computing, but are contained within existing private networks.

Utilizing Cloud IT Solutions to Meet County Business Needs

Benefits

- Opportunities for cost savings
- Potential to add capabilities without new infrastructure and staffing
- Flexibility: Enables the County to scale up or down to the level of needed service with relative ease
- Mobility: Employees can access information in more locations
- Innovation: Alleviates burden placed on DTS for maintenance, allowing them to spend more time on creative solutions
- Increased storage abilities
- Increased automation

Drawbacks

- Issues of privacy and security need to be considered when making choices about migrating to cloud IT services
- Change Management for users to adapt to new solutions/methodologies
- Reliability may be a concern; County DTS will have less control over downtime outages on cloud systems
- Network connection made not be fast enough to meet all County needs
- Features can be limited (i.e. Google presentation software v. MS PowerPoint), which impact power users

Utilizing Cloud IT Solutions to Meet County Business Needs

Plans and Existing Adoption by Montgomery County

Current Production	**Web 2.0 applications being used as Enterprise 2.0** YouTube, Facebook, Twitter **Traditional security team services to the cloud** **Deployed cloud-based vertical applications** Department of Fire and Rescue ePCR OHR - Performance Review and Recruitment Police Citizen Reporting System (CRS) and Parking/Light Violation MyMontgomery (Google Maps) **On Demand** – Training Instances; Server Instances
Planned	***Last 8 months: DTS is reviewing all new application requests for opportunities to use cloud services. (IT Review has a "cloud option" in the evaluation.)** **In Development** **W/in 60 days:** Small pilot for the RSC Directors to use the Google Apps, or similar application, for desktop video conferencing in order to leverage their need with a small application testing and evaluation. *Funding may be an issue now with the total freeze on purchases.* **W/in 60 days:** Google Site Search, replacing on premise hardware **Being Researched and Evaluated** Large Enterprise Applications (Mail, Desktop Applications, Collaboration, Video) **Last 12 months:** IT Security is reviewing integration and security issues that could be managed through this policy. **In Progress** - Email Encryption pilot (implementation subject to funding)

Content provided by DTS

Utilizing Cloud IT Solutions to Meet County Business Needs

Decision Model for Selecting Cloud Solutions

- **Meets Business Requirements**
  - Fills a need with “Out of the Box” functionality and capability
  - Should require minimal changes to the core solution
  - Ability to sustain with long lead time for business-specific enhancements
  - Service levels should meet business needs
- **Fulfills Return on Investment**
  - Low cost for the initial implementation
  - Subscription should cost less than internal support
  - Ability to validate cost savings
- **Sustains Internet Connectivity Requirement**
  - Business sustainment of robust internet connectivity
    - No control on internet congestion or cloud disruptions
  - Offline capabilities / Impacts of connectivity loss

Utilizing Cloud IT Solutions to Meet County Business Needs

Factors that impact will impact cost of migration to cloud services

- **Scope and timing of migration**
  - Depends on how extensive the migration is and whether the focus is on applications, service delivery or platform storage
- **Reliance on public v. private cloud**
  - Private clouds typically cost more due to greater security needs and lower utilization rates
- **Need for privacy and security**
  - Greater safeguards (secure facilities and personnel with security clearances) raise the cost of storage and service delivery
- **File server storage utilization rates**
  - Higher capacity utilization means more cost savings because the number of file servers can be reduced after the migration
- **Potential labor savings**
  - Ability of the migration to enable personnel re-allocations, avoidance or reductions translates into savings

Sources: Brookings Institution, IBM Center for The Business of Government

Utilizing Cloud IT Solutions to Meet County Business Needs

Use of the Cloud in other jurisdictions and government agencies

Jurisdiction	Uses	Details	Reported savings
City of Los Angeles, CA	2009 - Email service was migrated to Google	▪ $7.5 million contract provided 5 years of email service for city employees at a cost of $50 per employee ▪ 30,000 employees	▪ Analysis demonstrated that the 5-year cost of running the Google system would be $17.5 million, 23.6% less than the $22.9 million for operating their former system
Washington, D.C.	2008 - Email service and office applications were migrated to Google	▪ New email contract with Google ▪ Non-exclusive arrangement, some employees continued to rely on Outlook ▪ Google Apps: $50/user/year ▪38,000 employees, 86 agencies	▪ 48% savings on email expenditures ▪ Cost for Google Apps over previous software was reduced from $96 to$50 per user/year
Miami, Florida	2009 - 311 Management	▪ Selected Microsoft Windows Azure for service hosting and mapping ▪ Cloud was essential to meeting Miami's storage needs. (Original estimate = 4 terabytes, Actual needs = 27 terabytes) ▪ Took advantage of "pay-as-you-go" option	▪ Estimated 75% savings in 1st year between hardware, software, and staff efficiencies
National Aeronautics & Space Administration (NASA)	Infrastructure platform used for mission support, public education, and data communications and storage	▪ Developed Nebula in-house due to internal bandwidth and security needs ▪ $2 million project ▪ Able to share extra capacity with other govt agencies (i.e. OMB), and reuse for other purposes when the project is complete	▪ New type of project for NASA, so there isn't a good comparison to estimate savings ▪ Staff time and costs to develop Nebula are thought to be much less than time and cost to procure new infrastructure

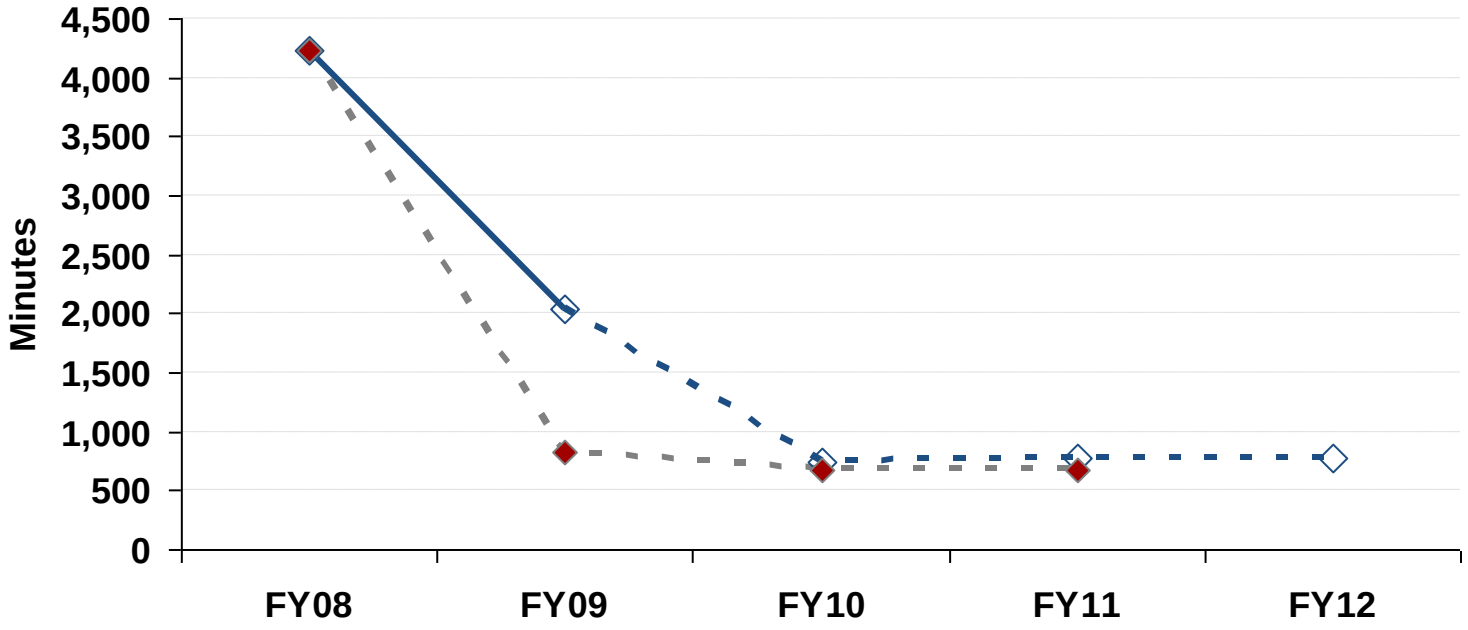
Sources: Brookings Institution, IBM Center for The Business of Government

Headline Measures

Changes since last CountyStat meeting on DTS performance.

- **Number of minutes identified Information Technology (IT) systems are out of service**
- **County Email Messaging**
  - Number of email messages sent and received by County email account holders
  - Number of email messages filtered or blocked from entering County email account holders inboxes
- **Average number of workdays to complete telecom requests**
- **Average number of seconds to serve a web page**
- **Percent of DTS Help Desk requests that are resolved on the first call**
- **Percent of customers satisfied with Cable Office complaint handling**
- **NEW - IT Security**
  - Average system security vulnerabilities per device
  - Internet browse time by risk class
- **NEW - Project Management**
  - Project budget performance - % over baseline
  - Project schedule performance – average days past baseline
- **NEW - Transmission Facilities Application Process**

Headline Measure
Number of minutes identified Information Technology (IT) systems are out of service



Measure	FY08 Actual	FY09 Actual	FY10 Estimate	FY11 Target	FY12 Target
Minutes	4,238	2,039	745	775	775
Measure	**FY08 Actual**	**FY09 Estimate**	**FY10 Target**	**FY11 Target**	
As presented in FY10 budget	4,238	825	675	675	

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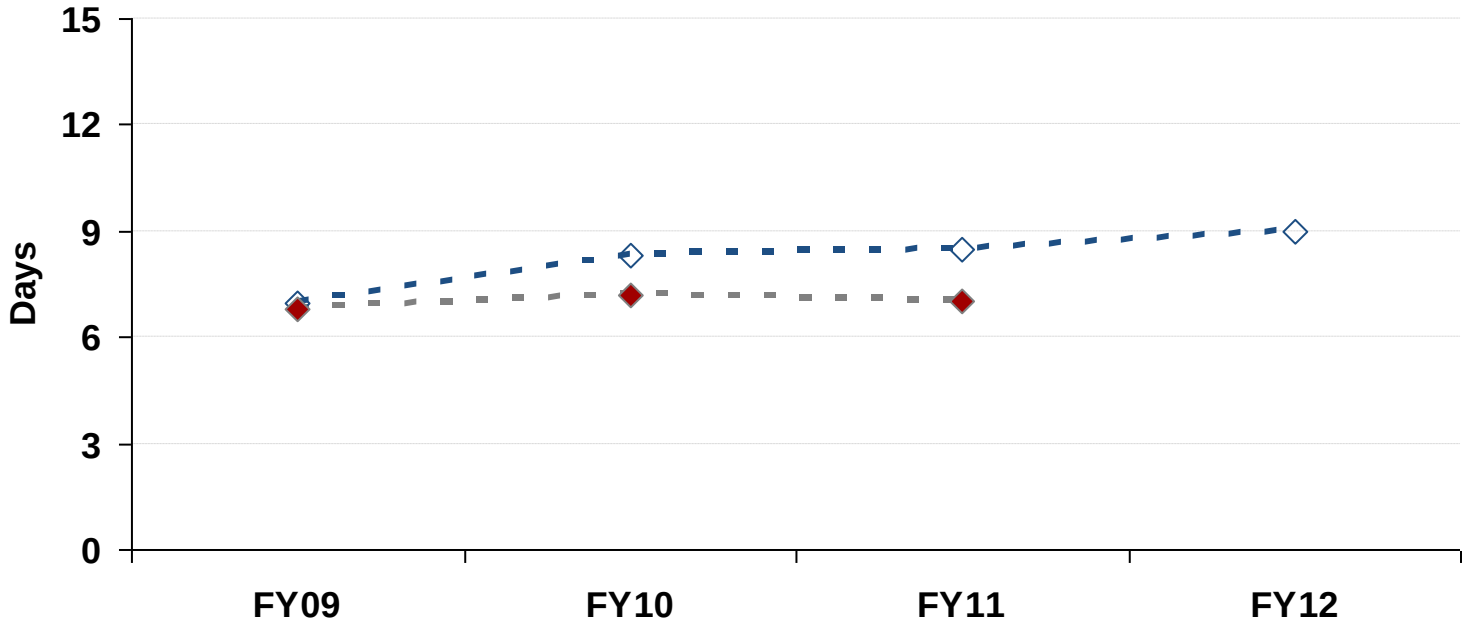
Headline Measure
Number of minutes identified Information Technology (IT) systems are out of service

Identified IT Systems

System	FY08 Actual	FY09 Actual	FY10 Estimate	FY11 Target	FY12 Target
Mainframe	1,080	0	0	0	0
CAD	54	457	120	0	0
Email (internal)	108	248	100	250	250
Email (external)	105	0	0	0	0
Internet access	263	283	0	0	0
Network (internal)	2,628	1,051	525	525	525
Critical enterprise systems	--	--	--	*TBD*	*TBD*
Total Minutes	4,238	2,039	745	775	775
Hours	71	34	12	13	13

Headline Measure: Telecommunications
Average number of workdays to complete telecom requests



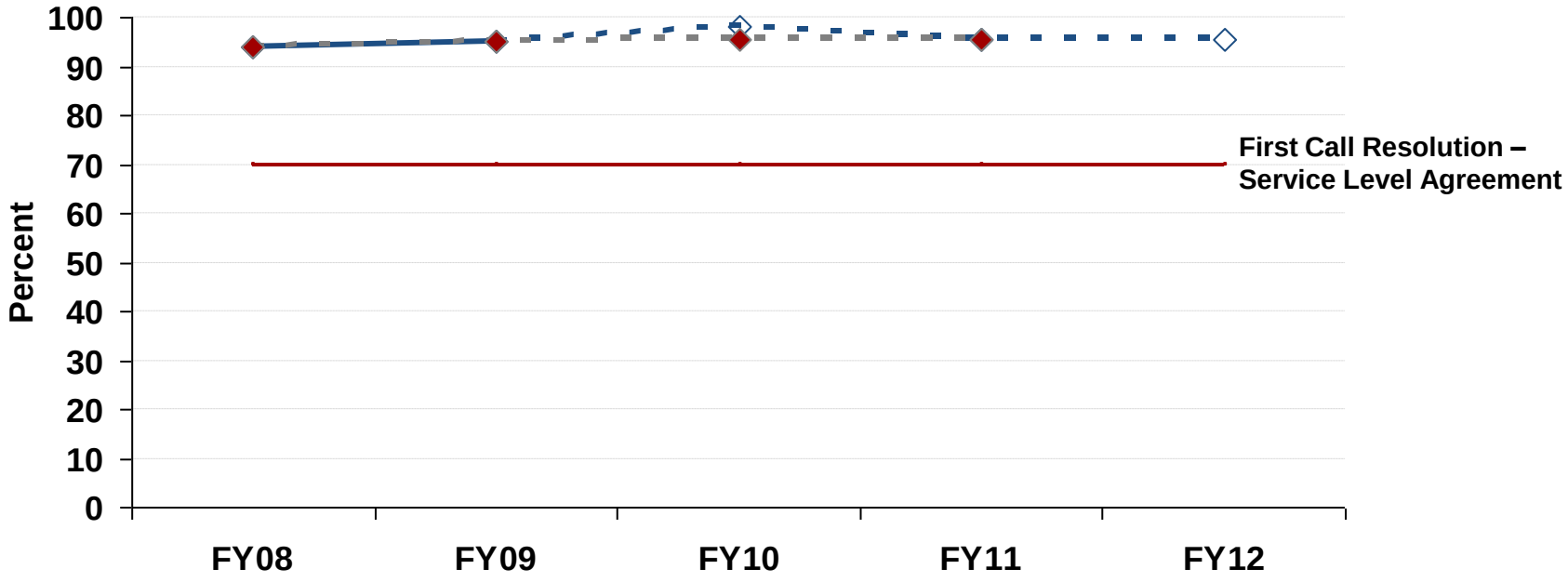
Measure	FY08 Actual	FY09 Actual	FY10 Estimate	FY11 Target	FY12 Target
Average Days	--	6.97	8.30	8.50	9.00
Measure	**FY08 Actual**	**FY09 Estimate**	**FY10 Target**	**FY11 Target**	
As presented in FY10 budget	--	6.8	7.2	7.0	

Headline Measure: Telecommunications
Average number of workdays to complete telecom requests

	FY08 Actual	FY09 Actual	FY10 Estimate	FY11 Target	FY12 Target
Average Days to Complete Request	--	6.97	8.30	8.50	9.00
# of Closed Requests	--	231	234	240	250
# of Requests Completed Before SLA	--	198	208	190	180
Total # of Requests	--	285	242	300	320

This measure provides telecom services to internal County users. It remains under development and proposed to include the number of service requests and align total requests to service delivery metrics.

Headline Measure: Help Desk
Percent of DTS Help Desk requests that are resolved on the first call



Measure	FY08 Actual	FY09 Actual	FY10 Estimate	FY11 Target	FY12 Target
Percent	94.1	95.2	98.0	95.5	95.5
Number of Calls	31,092	29,592	31,703	32,700	32,100
Measure	**FY08 Actual**	**FY09 Estimate**	**FY10 Target**	**FY11 Target**	
% - As presented in FY10 budget	94.1	95.2	95.5	95.5	

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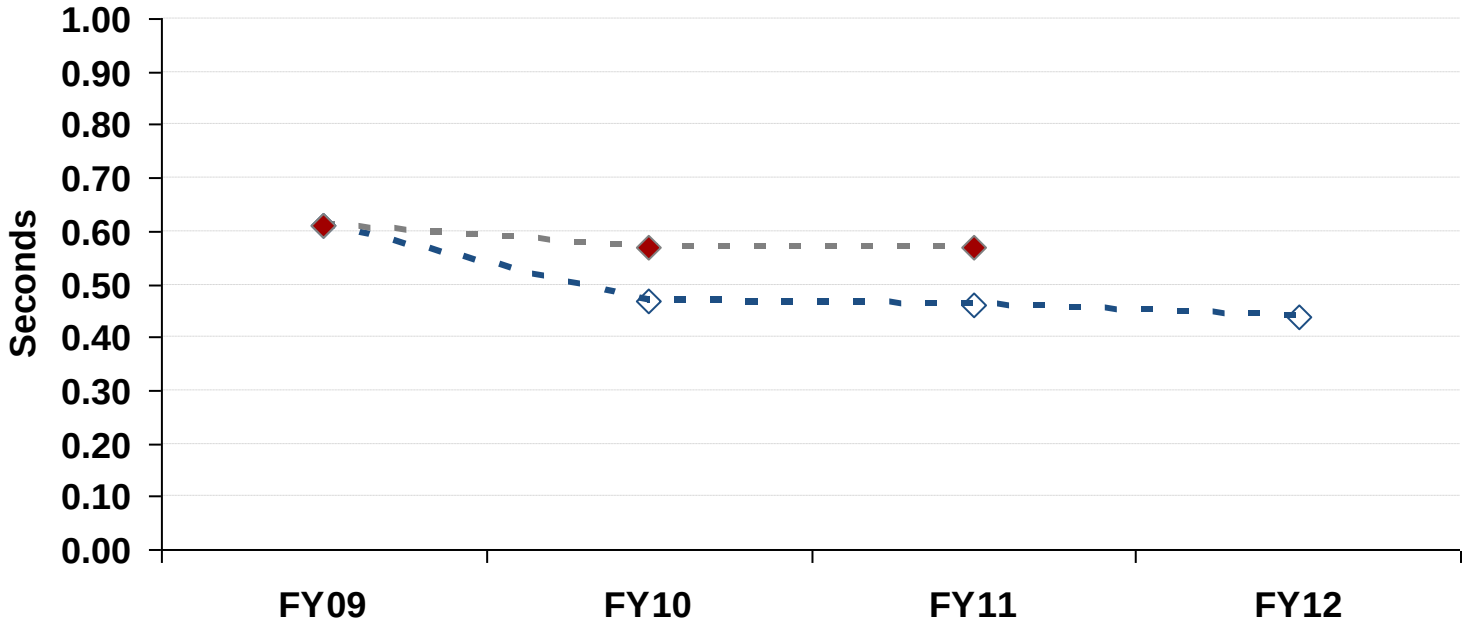
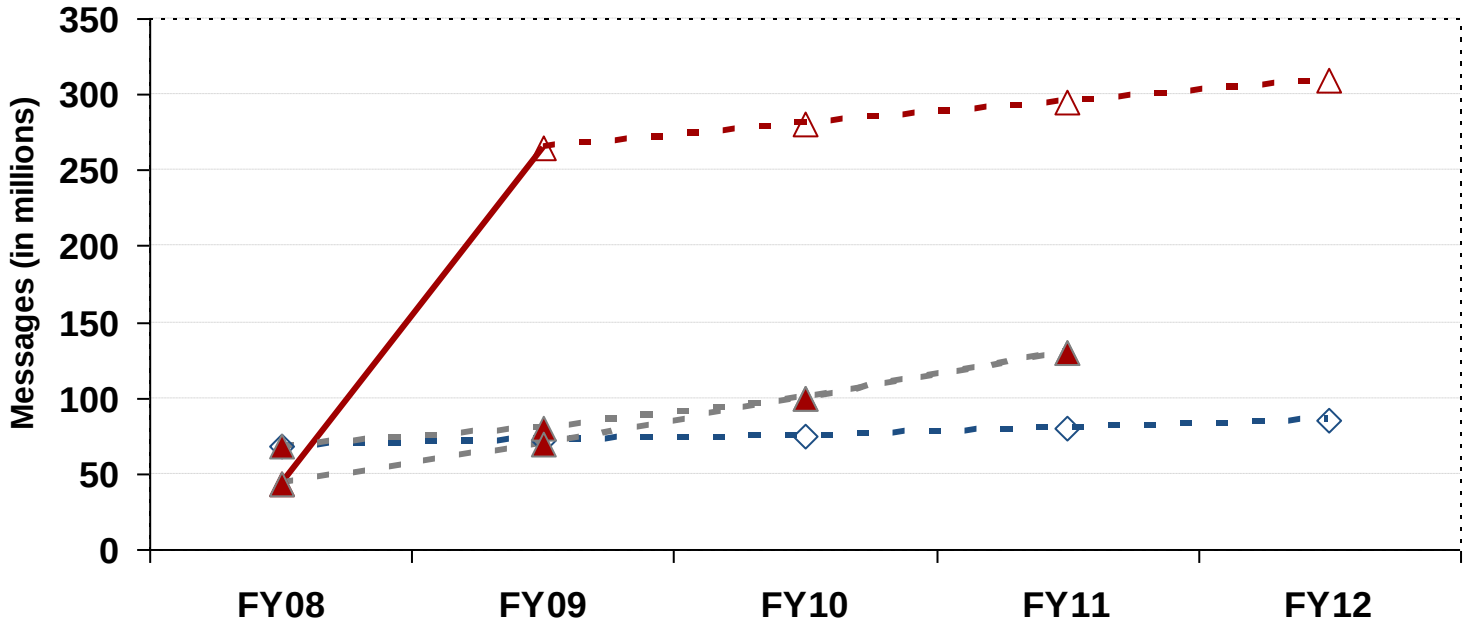
Headline Measure
Average number of seconds to serve a web page



Measure	FY08 Actual	FY09 Actual	FY10 Estimate	FY11 Target	FY12 Target
Seconds	--	0.61	.47	.46	.44
Measure	**FY08 Actual**	**FY09 Estimate**	**FY10 Target**	**FY11 Target**	
As presented in FY10 budget	--	0.61	0.57	0.57	

Headline Measure: County Email Messaging

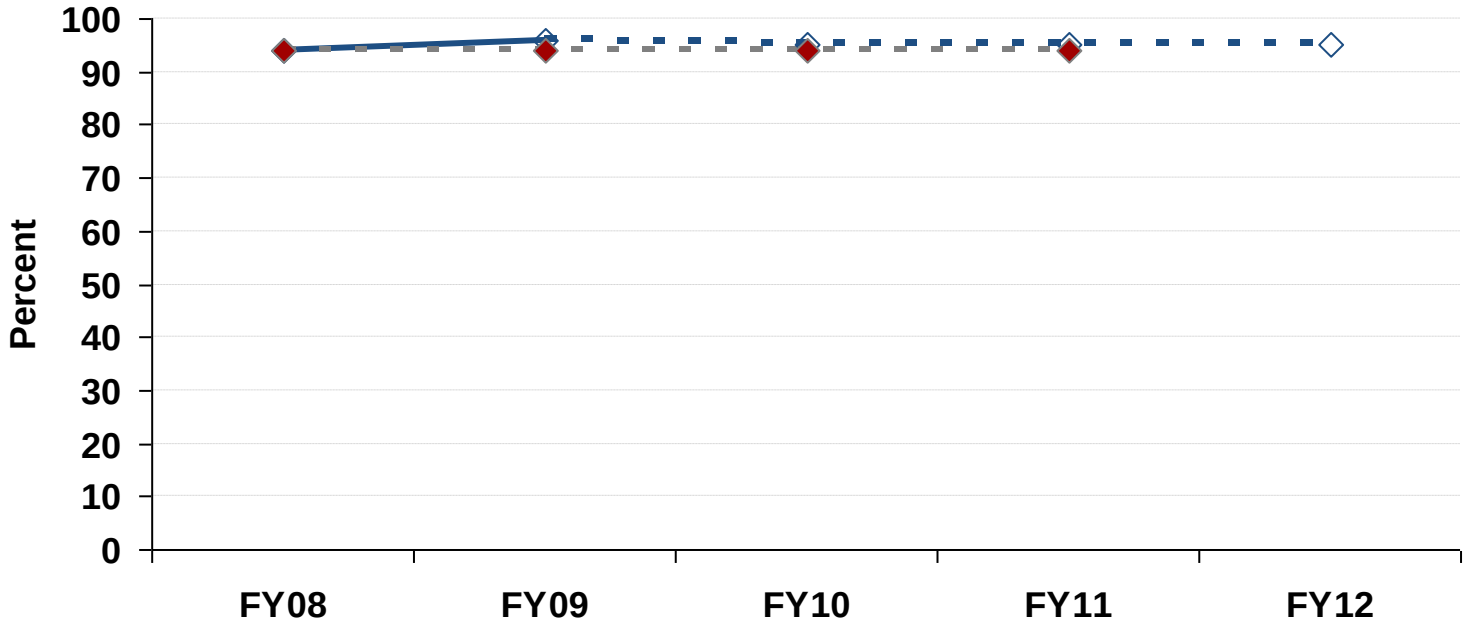
Number of email messages sent and received by County email account holders
Number of email messages filtered or blocked from entering County email account holders inboxes
(In millions)



Measure	FY08 Actual	FY09 Actual	FY10 Estimate	FY11 Target	FY12 Target
Sent and Received	68.7	71.6	75.0	80.0	85.0
Filtered/Blocked	43.1	265.2	280.0	295.0	310.0

Measure	FY08 Actual	FY09 Estimate	FY10 Target	FY11 Target	
FY10- Sent and Received	68.7	80	100	130	
FY10- Filtered/Blocked	43.1	70	100	130	

Headline Measure
Percent of customers satisfied with Cable Office complaint handling



Measure	FY08 Actual	FY09 Actual	FY10 Estimate	FY11 Target	FY12 Target
Percent	94	96	95	95	95
Cable Survey Rate	56	62	63	64	65
Measure	**FY08 Actual**	**FY09 Estimate**	**FY10 Target**	**FY11 Target**	
% - As presented in FY10 budget	94	94	94	94	

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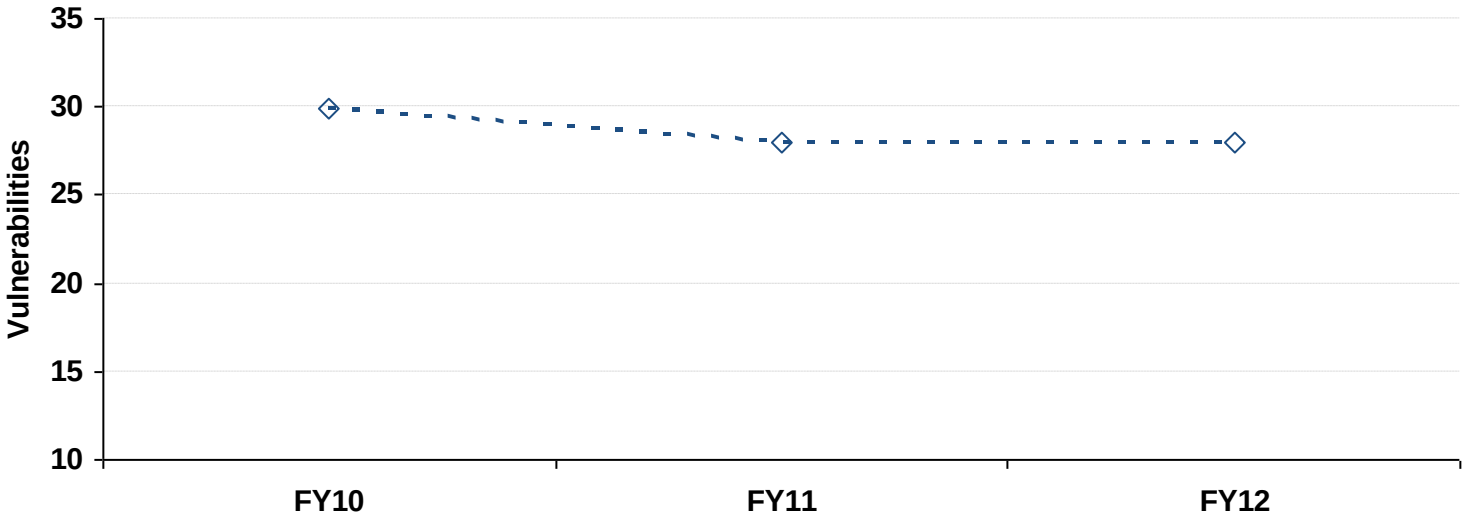
Headline Measure: IT Security
Average security vulnerabilities per device

This provides the results of the ongoing County effort to minimize the impact of security vulnerabilities on county devices.



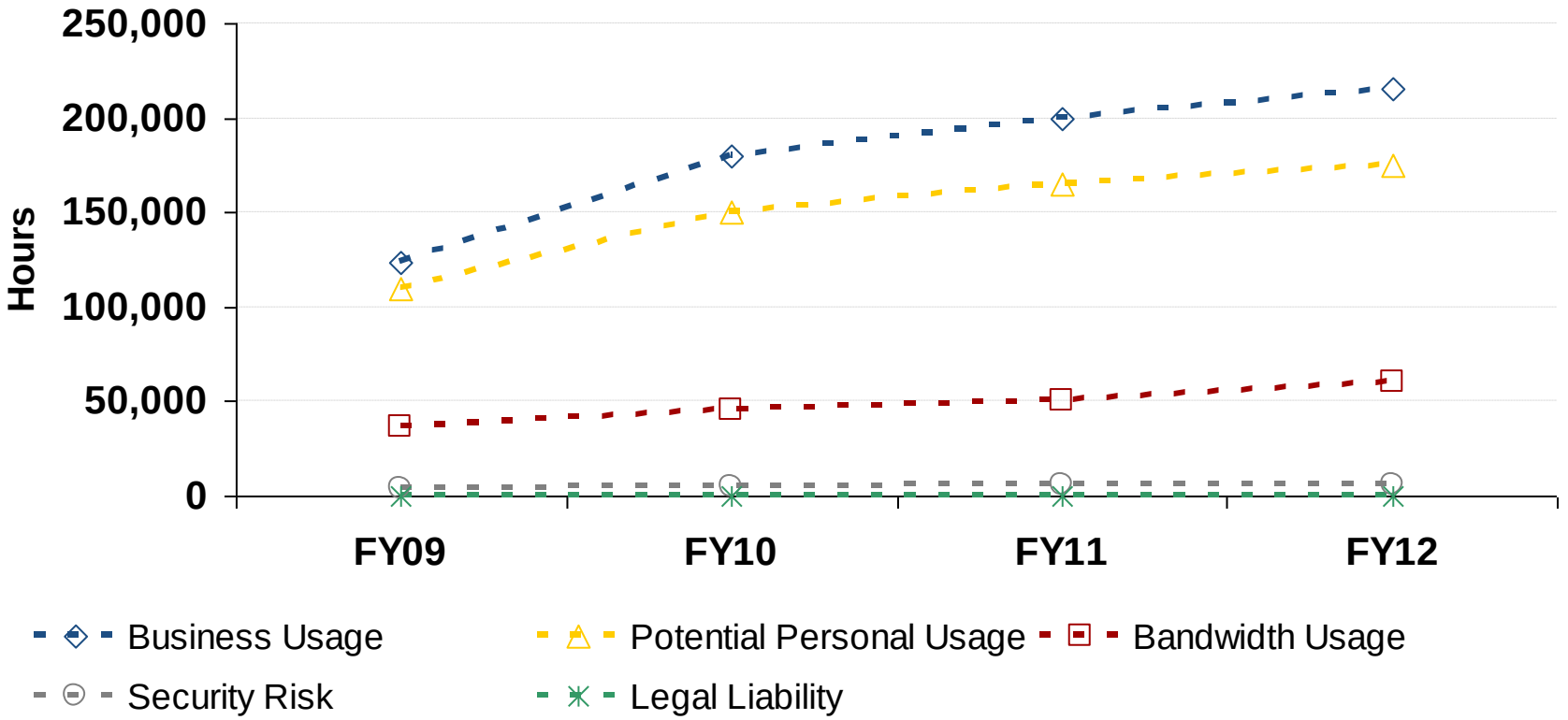
Vulnerability: A weakness in a computing system that can result in harm to the system or its operations, especially when this weakness is exploited by a hostile person or organization.

Device: Can include PCs, servers, systems, printers, switches, etc.

Measure	FY10 Estimate	FY11 Target	FY12 Target
Average vulnerabilities	29.96	28.00	28.00
No. of devices	11,500	11,500	11,500

Headline Measure: IT Security
Internet browse time by risk class (1 of 2)

This provides the tracking of internet use by County systems relative to the categorization identified by County-used COTS software*.



Note: Refer to Slide #22 for further detail and risk class definitions.

**** - COTS vendor risk classifications may not align completely with County categorizations, but are based on cross industry interpretation.***

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Headline Measure: IT Security
Internet browse time by risk class (2 of 2)

Generally Least Risky

Generally Most Risky

Internet browse by risk class - definitions	Hours			
	FY09 Actual	FY10 Estimate	FY11 Target	FY12 Target
Business Usage Definition: Sites that *can be* unrelated to job function based on employee role (e.g. Finance, Search Engines, Government, Travel)	123,638	180,000	200,000	215,000
Potential Personal Usage Definition: Sites that are *not usually* related to job function based average employee position (e.g. News, Internet E-mail, Health, Shopping, Sports)	110,150	150,000	165,000	175,000
Network Bandwidth Usage Definition: Audio/video downloads and streaming media	36,970	45,000	50,000	60,000
Security Risk Definition: Sites that present a potential security risk to the County	3,744	5,000	5,500	5,750
Legal Liability Definition: Sites that are blocked for nearly all County users, but are permitted by approved department director specific requests	36	40	45	45

All internet browsing done on County PCs is accounted for through these 5 classes. "Business usage" is generally of the least risk to the County.

Headline Measure: Project Management
Project schedule performance – average days past baseline

This represents the average schedule variance days for all dashboard projects, using last day of month for each quarter value and including projects completed within that quarter. It compares actual/projected end date to last approved baseline end date.

Measure	FY10 Estimate	FY11 Target	FY12 Target
Average days past baseline	6	6.6	5.6

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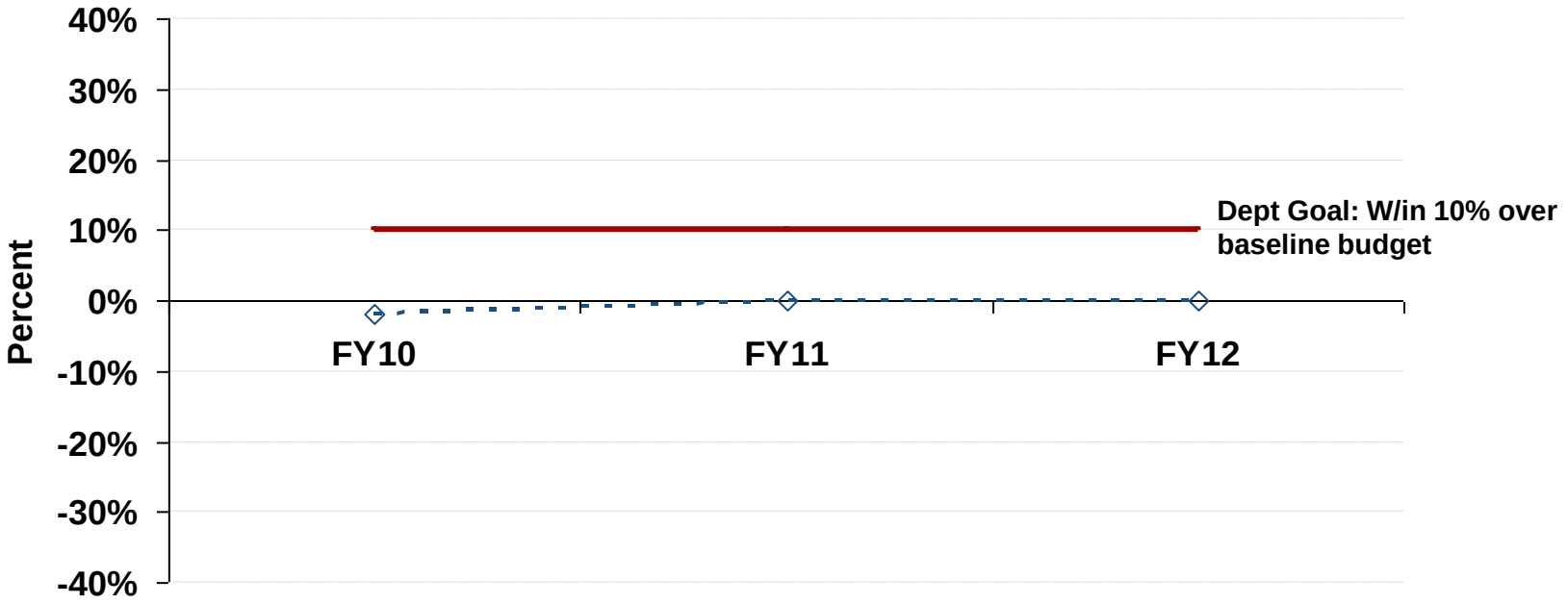
Headline Measure: Project Management
Project budget performance - % over baseline

This represents the average projected project percent budget variance for all dashboard projects. It compares projected project cost (incurred + estimate to complete) to the authorized budget.



Measure	FY10 Estimate	FY11 Target	FY12 Target
Percent over baseline	-1.9%	0	0

Headline Measure: Project Management
Tracked Project Details

Projects		Q2 FY10		Q3 FY10	
		Budget Variance	Schedule Variance	Budget Variance	Schedule Variance
TechMod	ERP 0	0	-28		
	ERP IA/IB	-7.4	0	-5.5	0
	CRM	-3	0	-2.8	0
	MCtime	0	0	0	0
IJIS	SAO	0	52	0	0
	CRIMS	0	0	0	0
	IJIS Core	-83	0		
PSCS	Station Alerting	0	0		
	CAD Server	0	0	0	0
	DataLink Conversion	0	0	0	0
	eJustice	0	0	0	42
	Radio Upgrade	0	0	0	0
	FRS Data911	0	0	0	0
Departmental Initiatives	OTRS	0	70		
	HHS FFP	0	0	0	19
	BOE Election	0	0	0	0
	DGS ICCS QA	0	2		
	Arc GIS	0	0	0	0
	PIO	0	0	0	0
Average		-6.23%	5.05	-0.92%	4.36

Yellow = Projects with no budget data, have been removed from overall budget measure

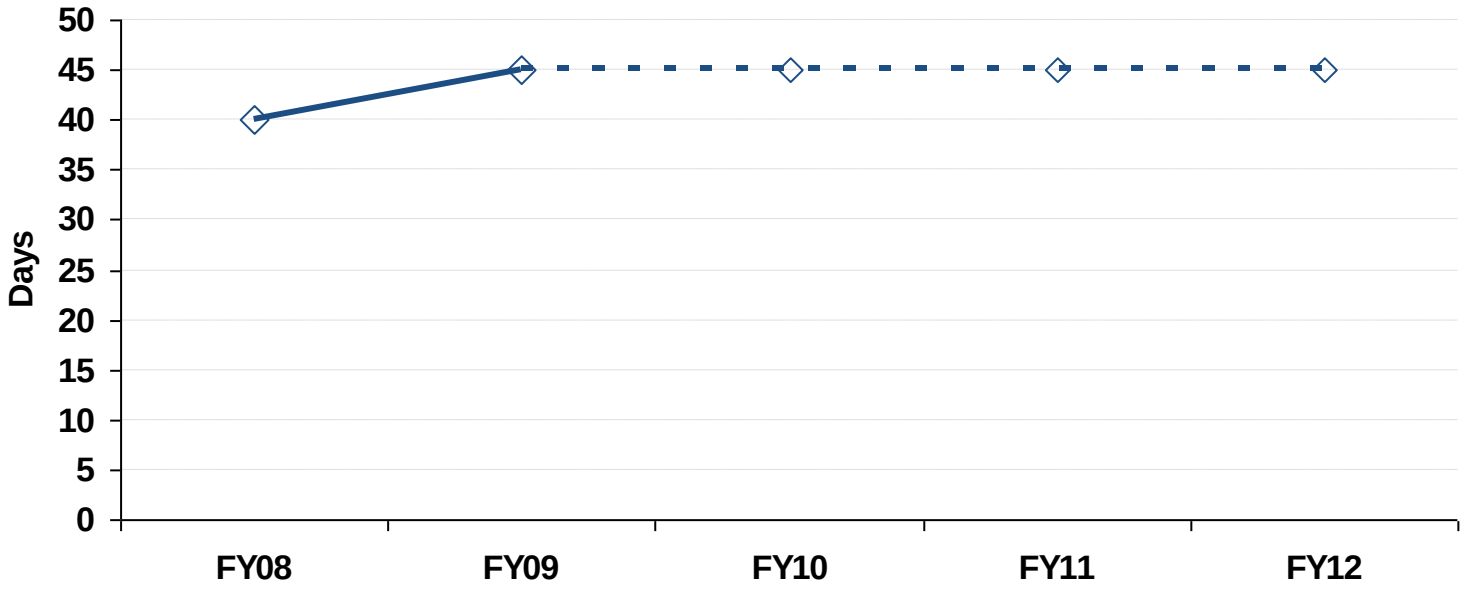
Gray = Period of no activity for project

Source: MCG IT Initiative Dashboard, DTS

Headline Measure: Cable Office Transmission Facilities Application Process

Level of Effort for Transmission Facilities Application Review and Approval

This measure demonstrates Cable Office activities on Communication Transmission Facilities Application Processing. This provides visibility into the efforts to meet application process reviews and approvals for new transmission facility siting requests.



Measure	FY08 Actual	FY09 Actual	FY10 Estimate	FY11 Target	FY12 Target
Average Days to Process ◇	40	45	45	45	45

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Headline Measure: Cable Office
Transmission Facilities Application Process
Level of Effort for Transmission Facilities Application Review and Approval

Measure	FY08 Actual	FY09 Actual	FY10 Estimate	FY11 Target	FY12 Target
Average Days to Process ◇	40	45	45	45	45
Total Undelayed Applications	81	183	165	145	125
Total Applications	112	267	215	200	170

Wrap-up

- **Follow-up items**