



Cuyahoga County Transition Information Technology Task Force Recommendations

September, 2010

Co-Chairs:

John Hunter – Cuyahoga County

Bill Blausey – Eaton Corporation

Agenda

Overall Objectives

IT Task Force Approach

Observations and Findings

Recommendations

Next Steps

Cuyahoga Transition - Overall Objectives

- Recommend efficiencies in county government that will lead to reductions in total county government expenditures of 15%.
- Identify and invest \$50M per year in realized savings into significant job creation and economic growth.
- Shift a greater percentage of overall expenditures and the balance of savings towards direct services to communities and taxpayers.
- Recommend enhanced capacities, streamlined structures, and operational procedures necessary for the effective function of county government by January 1, 2011.

Initial IT Task Force Objectives

- **DRIVE EFFICIENCIES** – Standardize, simplify, and rationalize to drive cost savings
- **EFFECTIVE SERVICES** – Focus on areas that deliver effective services to county constituents

Approach – Areas of Focus

- Formed 7 teams comprised of community volunteers and Cuyahoga County IT personnel:
 1. People Inventory
 2. Applications Inventory
 3. Hardware & Infrastructure Inventory
 4. Network Review
 5. PC, Printer, FAX Benchmark Study
 6. Community Services Opportunities
 7. Governance and Structure

Approach - Charter

- Teams asked to:
 1. Create an inventory, inclusive of current costs
 2. Develop a SWOT
 3. Prioritize and outline benefits of the primary opportunities

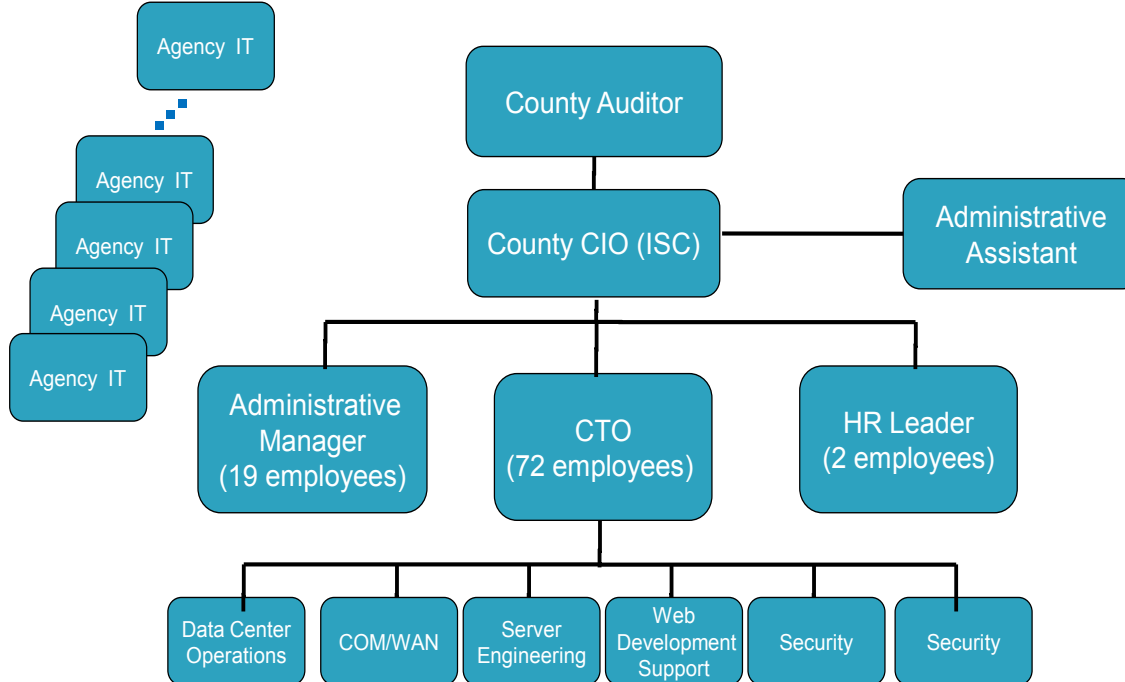
Approach - Recommendations

- The team's ideas were collected and summarized into three broad areas
 1. The IT organization and governance
 2. Standardization of IT hardware and software
 3. Extending services throughout the county
- The team also reviewed the recommendations with IT leaders in the community:
 - CIO's at Progressive, Parker, Sherwin, and Key
 - A partner at Deloitte
 - A deputy CIO from the State-of-Ohio
 - Owners at C.Trac and Fit Technologies.

Observations – People and Organization

Current County IT Structure

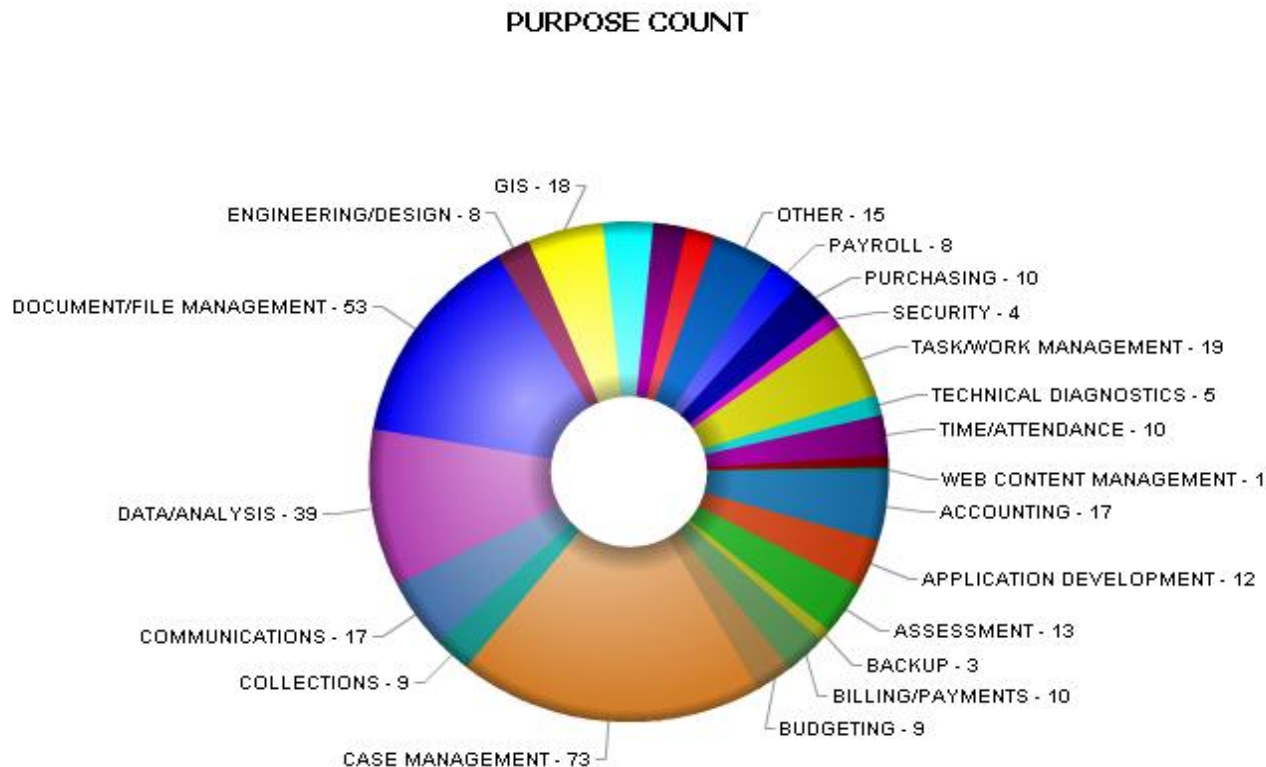
105 IT Employees



95 IT Employees

- 105 of 200 IT people in the agencies
- Low mgr-emp ratios
- 40% infrastructure personnel decentralized
- 50% of budget in the agencies
- Back-office application development/support decentralized
- CIO has limited influence
- ADP doesn't challenge

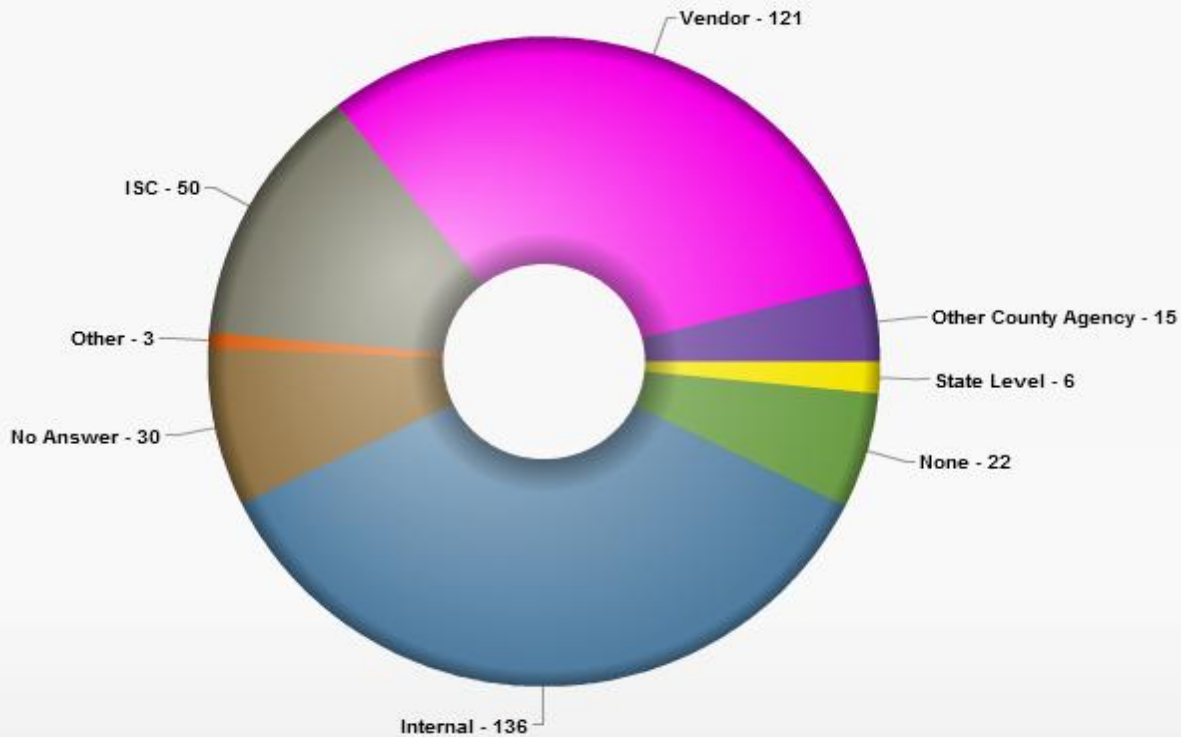
Observations - Applications



- Multiple agencies solving the same processes with different application solutions
- Solutions generally not integrated well
- Some basic functionality not available
- No overall application architecture
- Multiple development tools for back office
- Web development done well.

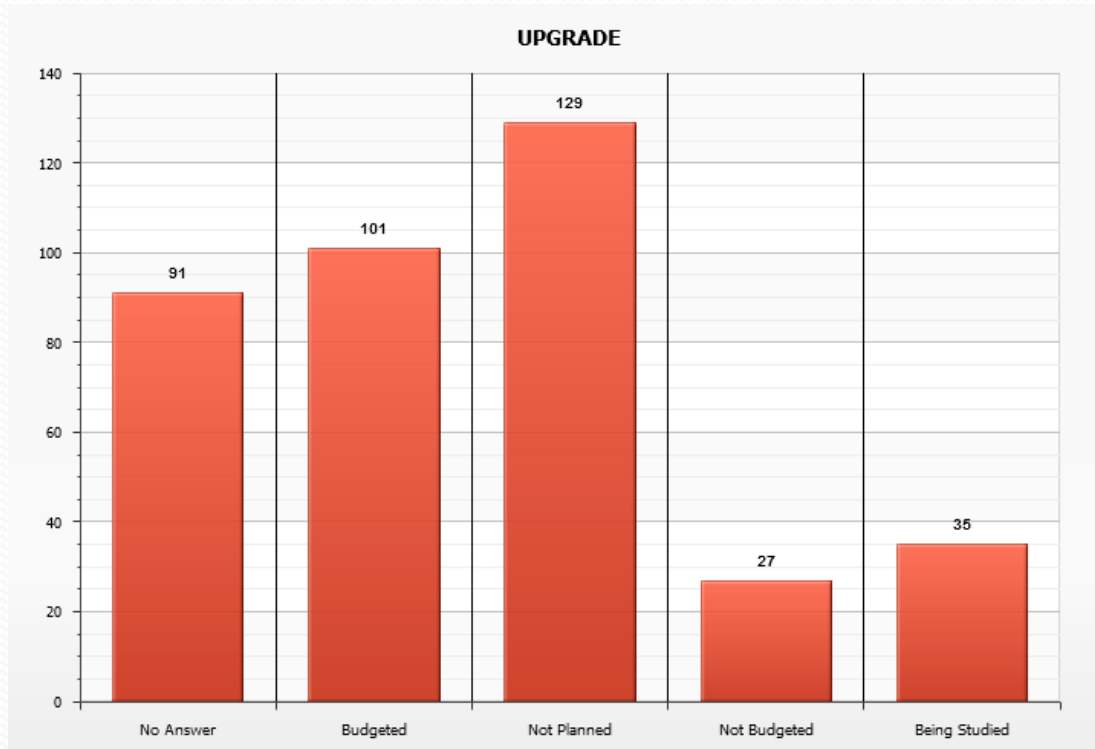
Observations - Applications

SUPPORT



- No common support model
- No common help desk
- We don't leverage volume purchasing when buying applications

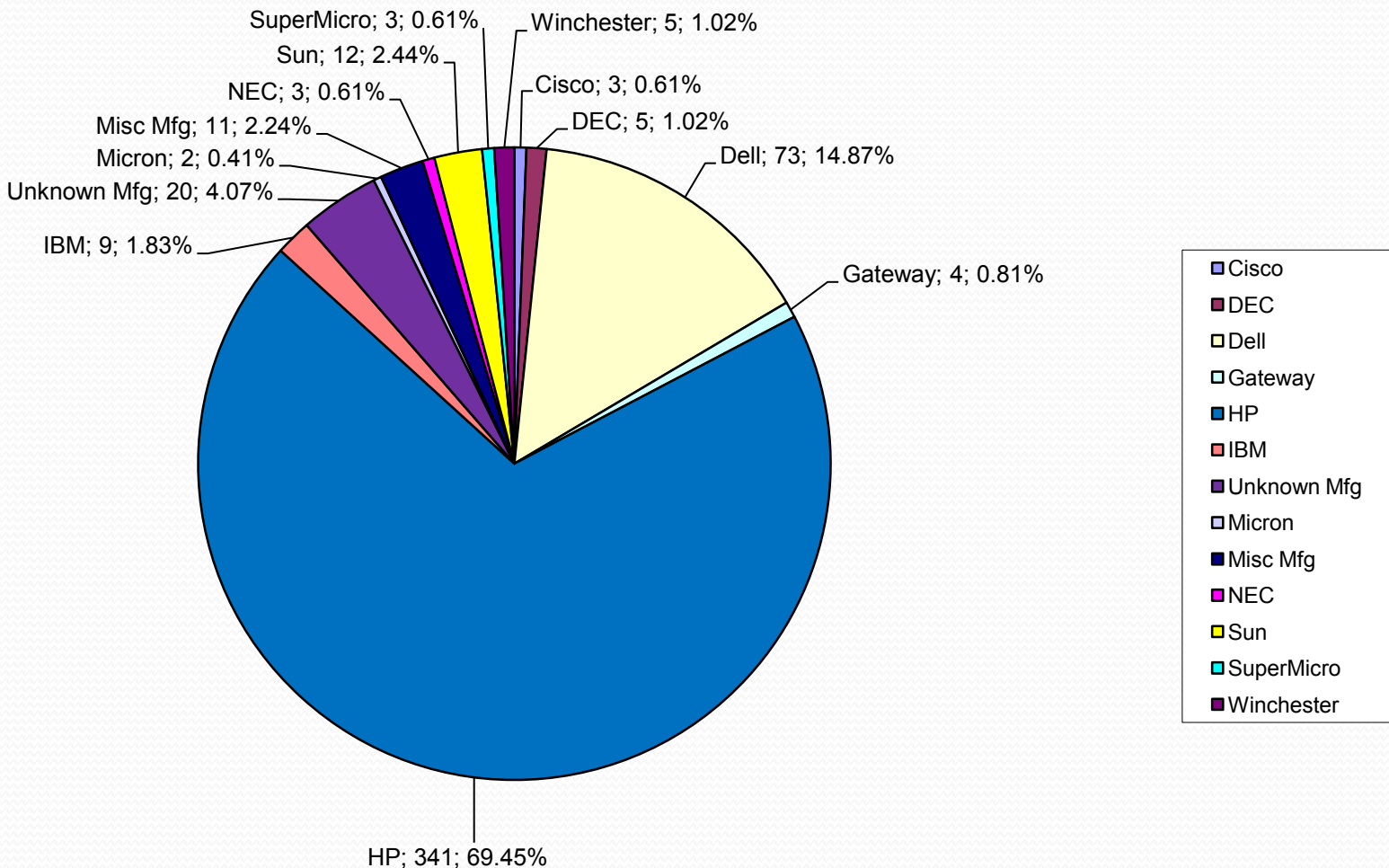
Observations - Applications



- We continue to invest in upgrades for this diverse application environment

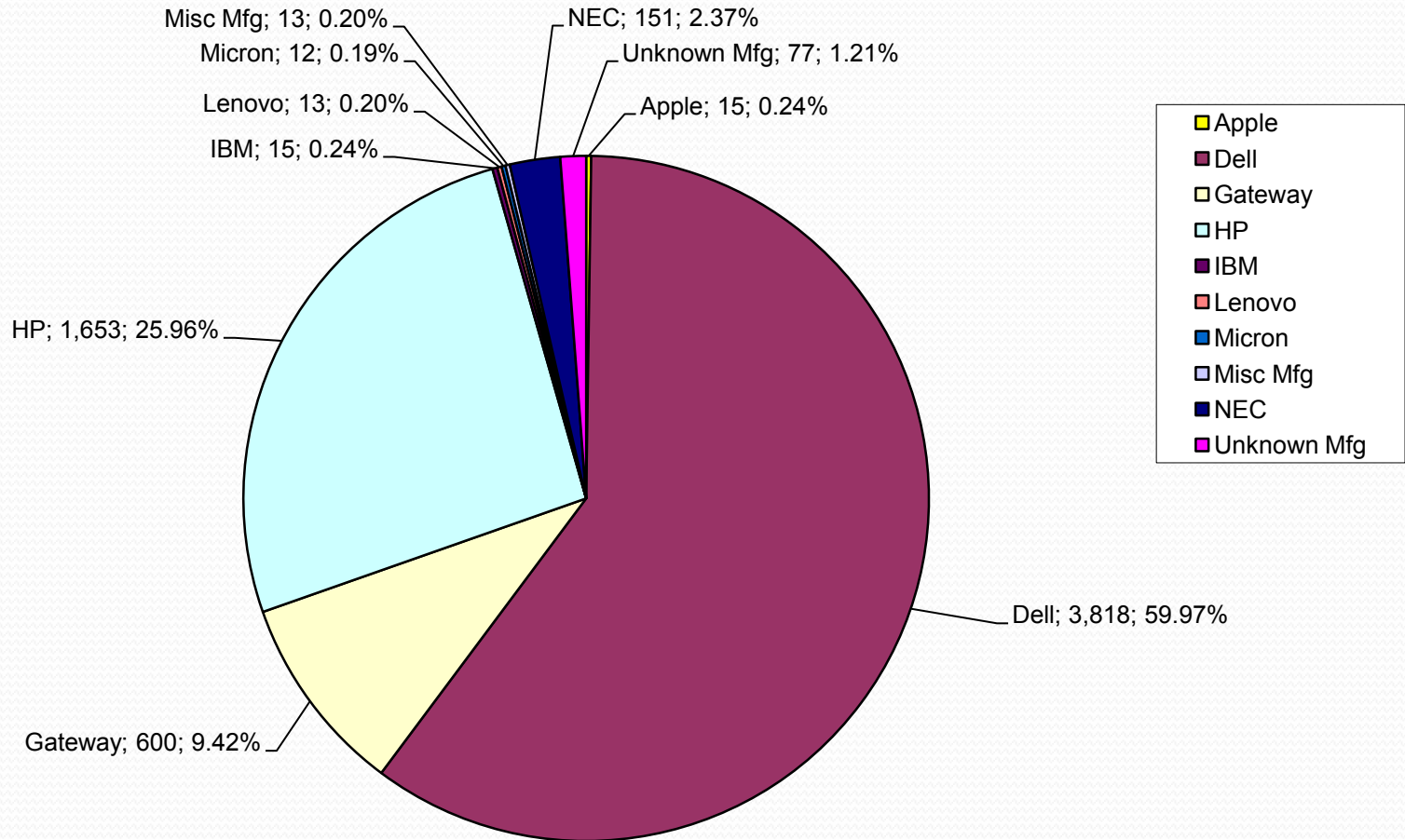
Observations - Infrastructure

- 491 Servers overall with a fair amount of brand standardization
- 40% located outside the central data center



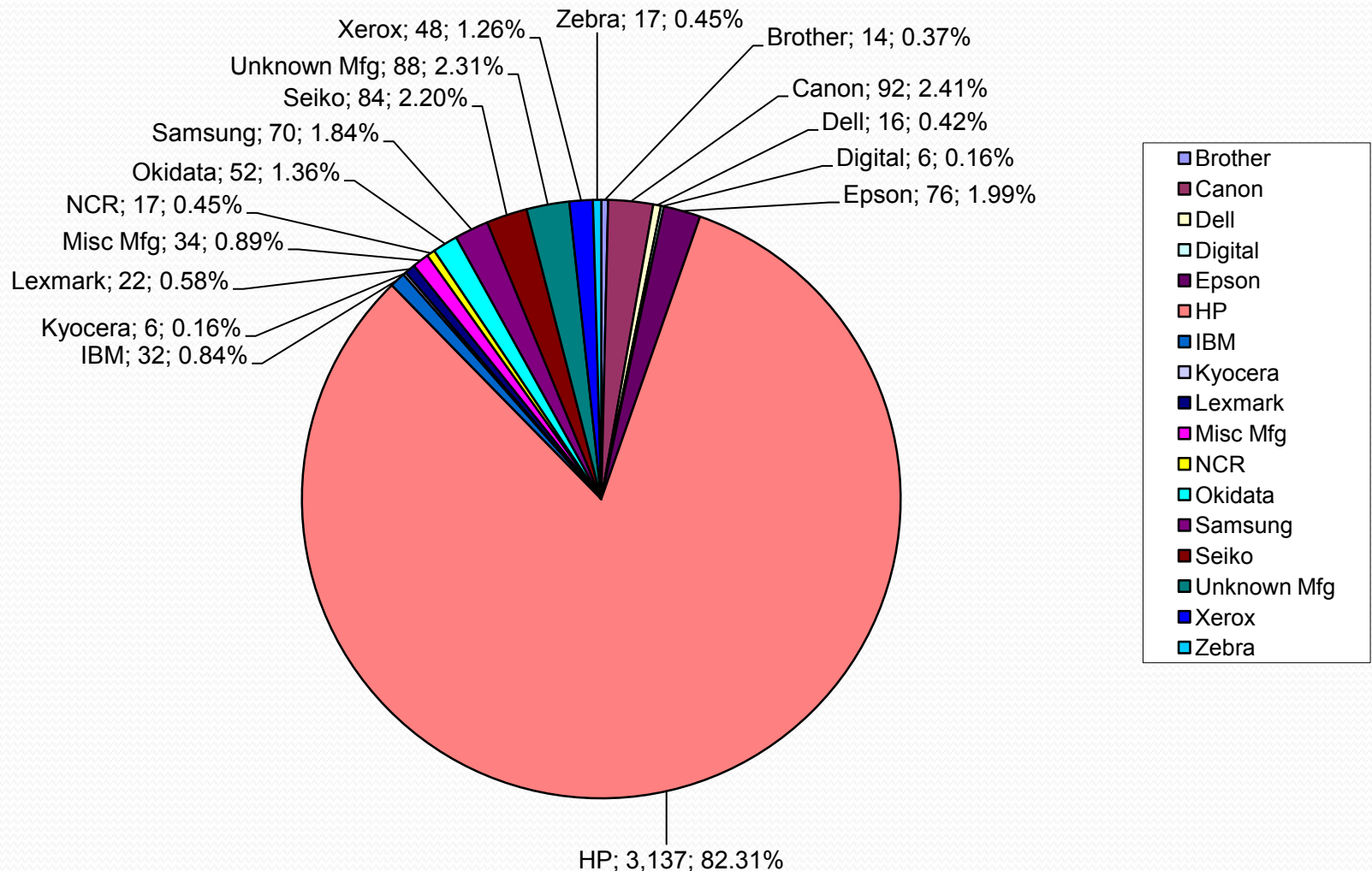
Observations - Infrastructure

- 6,367 PC's overall



Observations - Infrastructure

- 3,811 printers in the county offices (1 for every 2 people)



Observations - Summary

- No defined IT strategy to support the county's overall mission
- IT decision making and governance generally decentralized
 - Agency desires often trump county optimization
- Central IT organization provides basic infrastructure services with limited authority to enforce standards as agencies can deviate
- IT organizational structure sub-optimizes resources
- Application architecture & direction does not exist, creating a myriad of non-integrated solutions addressing the same processes differently in multiple agencies
 - These are application solutions in which we keep investing
- Existing approval board (ADP) has no governing architecture under which to make decisions – virtually all requests for funding are approved.
- Some significant risks, most notably the lack of disaster recovery
- The network and the web development team are assets that can be leveraged county-wide

Observations - Implications

- Higher cost of IT ownership
- Inability to take advantage of economies of scale
- Inefficiency in county operations due to the multiple non-integrated applications
- Reduced services to county constituents
- Potentially, unacceptable risk levels

Recommendations – Strategic Intent

The IT transition committee has generated three broad strategic intents for Cuyahoga County IT that helped form our recommendations:

1. Reduce overall IT costs by building a strong governance model and aggressively driving standardization and rationalization.
2. Utilize IT to improve services to the community and reduce the county's operating costs.
3. Build a single county-wide IT organization that is recognized as a leader in providing both internal and external services.

Recommendations – Organization & Governance

Item#	Area	Action	Timing	Investment Required	Potential Savings (estimated expense)
1	Organization	Build IT leadership structure and senior leadership team	Jan-Mar '11	\$250K for new leaders	
2	Organization	Consolidation of all 200 people into the central organization.	Mar-Jun '11		\$1.5M duplicative roles
3	Organization	Evaluate procurement, asset management, and clerical team after consolidation	Jun-July '11		\$100K
4	Governance	Freeze application investments	Immediate-TBD		\$3M reduction
5	Governance	Build IT strategy Identify direction on back office architecture, inclusive of sourcing options (insourced vs. hosted)	Jan-Mar '11 Jan-Jun '11	\$10M-\$15M in capital funded by existing apps.	
6	Governance	Replace ADP Board with strong CIO control.	Immediate		
7	Governance	Begin Project Review Board (PRB). Consider a community Strategy Advisory Board (SAB)	Immediate		
8	Governance	Confirm infrastructure policies and enforce across the county	Immediate		
9	IT Operation	Identify core processes and create BSC (balance scorecard)	Jan-Mar '11		
10	IT Operation	Review chargeback model and approach	Jan-Jun '11		
11	IT Operation	Formal review of outsourced/insource contracts and support personnel	Mar-Jun '11		\$1M if handled properly
12	IT Operation	Improve disaster recovery and security profile	Mar-Dec '11	\$500K for DR	
13	Change	External change management assistance	Immediate	TBD	
		TOTALS		\$750K with \$10-15M in potential capital	\$5.6M

Recommendations – Standardization

Item#	Area	Action	Timing*	Investment Required	Potential Savings (estimated expense)
1	Hardware & Software	Review licenses to improve volume purchase agreements (hardware & software)	Jan-Mar '11		Workstations - \$1.5M Software – TBD
2	Hardware	Develop hardware purchasing & replacement plan	Jan-Mar '11		
3	Hardware	Develop hardware server consolidation plan	Apr-Jun '11		
4	Facilities	Data Center power upgrade for server consolidation	Jul '11	\$200K	
5	Hardware	Implement hardware consolidation plan – consolidate 200 servers to 25 blade/virtual servers	Jul '11- Jun '13	Blade Servers & Storage - \$400K	Individual servers – \$1.2M
6	Hardware	Implement printer, copier, FAX consolidation plan	Jan-Mar '11		\$1.3M
7	Software	Develop application standards	Apr-Jun '11		
8	Software	Stop current application investment	Immediate		See Governance
9	Software	Develop application review plan	Jan-Jun '11		
10	Software	Identify application systems to be replaced	Jul-Dec '11		
11	Software	Write and release RFP for county ERP application system	Jan-Jun '12		
12	Software	Develop non-ERP application consolidation plan	Jan-Jun '12		
13	Software	Consolidate non-ERP applications	Jul '12 - Jun '13		See Governance
14	Software	Review development tools and establish standard tool set	Jul-Dec '11		
		TOTALS		\$600K	\$4M

Recommendations – Community Services

Item#	Area	Action	Timing	Investment Required	Potential Savings (estimated expense)
1	Regionalism	Partner with One Community to extend network services to enable VOIP, video, and network connectivity to municipalities and other government agencies	Mar-Dec '11		TBD, but opportunity to reduce 20% of municipality costs
2	Regionalism	Cuyahoga ISC to provide web applications and development services to municipalities and other government agencies	Mar-Dec '11		Ability to reduce dev. costs and enable additional county services
3	Regionalism	Leverage a county provided or third party ERP system across additional municipalities.	Jan-Dec '12		TBD
4	Regionalism	Extend the county's GIS system to enable new services at municipalities and other agencies	Jul-Dec '11		Additional services
5	Regionalism	Consider a county-wide cloud computing and disaster recovery capability, or combine resources at a third party (such as the State of Ohio)	Jul-Dec '11		TBD



Questions?

This document is the work product of a transition volunteer work group. All recommendations remain preliminary until fully reviewed and approved with or without amendment and/or commentary by the Transition Executive Committee.

DRAFT

Information Technology Work Group Recommendations
Co-Chairs: Bill Blausey, John Hunter

<u>Recommendation</u>	<u>Page</u>
1. Consolidate and reconfigure IT personnel into a single organizational structure under a new IT governance model in order to drive efficiencies and more effective delivery of services.	2
2. Establish, publish, and enforce county-wide IT infrastructure and architecture standards.	12
3. Pursue a regional approach to providing IT infrastructure and applications as a Utility	17

Charter Transition Work Group Recommendation

Work Group:	Information Technology
Recommendation Number:	#1
Area of Focus/Subject:	IT organizational structure and governance
Recommendation:	Consolidate and reconfigure IT personnel into a single organizational structure under a new IT governance model in order to drive efficiencies and more effective delivery of services.
Department(s) affected by recommendation:	All agencies.
Total cost reduction or required investment for recommendation:	Quantify estimates of anticipated savings or investment in dollars that will result from the recommendation.

The IT transition committee has generated three broad strategic intents for Cuyahoga County IT that helped form our recommendations:

1. Reduce overall IT costs by building a strong governance model and aggressively driving standardization and rationalization.
2. Utilize IT to improve services to the community and reduce the county's operating costs.
3. Build a single county-wide IT organization that is recognized as a leader in providing both internal and external services.

IT recommendation #1 primarily supports the first and third strategic intents.

Issue Synopsis

The current Cuyahoga County IT organizational structure, strategy, and governance model inherently creates inefficiencies in IT operations. This model, at times, causes wasteful and incongruent IT investment decisions. The model has created enormous variability in: staff roles and responsibilities, the agency applications, infrastructure (PC's, servers, etc.) deployments, and development methodologies (see *issue #2, "standardization" for detail on applications and infrastructure rationalization*).

This work is a product of the Cuyahoga County Charter Transition Process and represents a recommendation for consideration developed by a team of volunteer citizens in support of the new charter government.

Excluding the courts and prosecutor's office, the IT organization is comprised of roughly 200 people. 105 of these individuals are spread across the 12 general government agencies, while 95 are centrally located in the central IT organization (commonly called "Information Services Center" or "ISC"). The entire county IT budget is estimated at roughly \$32M, with \$16M centrally managed within the ISC. The other 50% is spread within the county agencies.

The 95 people in ISC generally have responsibility for:

- Voice, video, and data communications
- Data Center Operations (primarily mainframe)
- Contracting, procurement, and budgeting administration
- Server engineering and support for hardware located in the data centers and selected agencies
- All web development, support, and delivery (65 of 68 websites supported centrally)
- Video and photography services for many agencies
- Data base support for web environments and selected agency applications
- Security and governance (although the scope limited today)

ISC has made some progress in centralizing some critical IT infrastructure operations as roughly 40% of all equipment is centrally located in the data center. The county operates on a robust wide area network for all agencies. This network could be leveraged to reduce additional costs by extending services to municipalities and non-county government agencies (*see recommendation #3 - community collaboration and regionalism - for details.*) Also, there are some documented infrastructure standards; however, individual agencies have the right to deviate from standard configurations and equipment models as purchasing decisions are decentralized.

In addition, several years ago, all web development was centralized into ISC as well. Thus, 95% of all web application development for county agencies is done in the central IT organization (ISC) using a standard development methodology. This has resulted in a relatively robust suite of county services on the internet. Unfortunately, the opposite approach was taken with back-office applications. The vast majority of back-office applications (payroll, time and attendance, billing, etc.) are supported by employees or contractors hired by each individual agency.

The 105 people disbursed across the 12 remaining agencies generally have responsibility for:

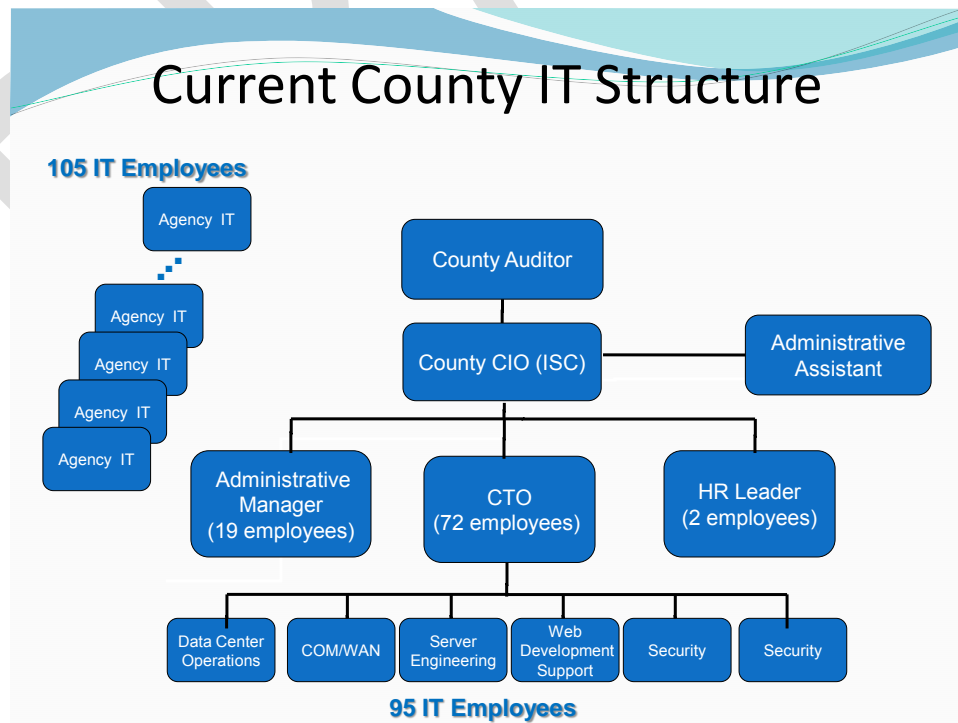
- Data entry and support services
- All back-office application development, support, and project delivery
- Local area network operations and local server support
- Agency help desk services

Reviews of all 200 IT people and the organizational structure revealed the following observations and opportunities:

- There are 97 different job titles for 200 positions, obviously making it very unclear as to the IT functions actually performed. The team collected "position questionnaires" to help clarify job responsibilities for IT personnel. We had a 65% response rate, but still discovered about a 35% disconnect between "title" and actual duties performed.

- There are numerous reporting relationships where an IT manager has only 1, 2, or 3 direct reports. One glaring example – the head IT position or CIO. This creates an opportunity to eliminate management roles and combine staff from ISC and the agencies to reach a more normal manager-to-employee ratio of 5-8.
- The manager for the business administration area (contracts, procurement, and budgeting) has one direct report, but an organization of 18 people. This management structure is very odd, and the team is proportionally quite large. Again, this creates an opportunity to reorganize.
- Even though ISC has centralized services, it appears that at least 40% of the work done in the agencies can be characterized as basic “infrastructure” work in the areas of network, hardware, or data base. Thus, it is duplicative to services provided by ISC, and it creates a synergy opportunity.
- Roughly 20-25 of the IT positions have roles defined as “secretaries, data processing, clerks, and couriers.” Having 10-12% of the entire organization in data entry or clerical roles seems extremely high, and it creates an opportunity to centralize and eliminate.
- Some critical application roles (SAP development for instance) are totally outsourced at relatively high consulting rates. Once the longer term application direction is determined, the county should consider more in-sourcing of critical applications knowledge. This will actually save cost over time.
- Back-office applications support, project delivery, and help desk services are spread within each agency and the ISC, yet there is limited coordination of approach or support models. This has resulted in different development methodologies, a myriad of applications to support (see *recommendation #2 again*), and “islands or pockets” of small help desk support teams. These teams can be combined into a single support structure to create scale and improved responsiveness.

Exhibit #1 – Current County IT structure



This work is a product of the Cuyahoga County Charter Transition Process and represents a recommendation for consideration developed by a team of volunteer citizens in support of the new charter government.

The current IT governance structure also contributes to the variability and sub-optimal IT investments. Major IT investments are reviewed by the ADP (Automatic Data Processing) Board. The board is comprised of the CIO as well as IT and agency representatives from most of the key agencies. The original intent of the board was to rationalize and approve (or deny) IT investments in accordance with an overall strategic direction; however, typically the Office Budget Management (OBM) has already approved an IT funding request prior to the submittal to the ADP Board; thus, the Board's influence is minimal. The ADP Board meets twice every month. Reviews of the ADP meetings have created the following observations and opportunities:

- First, it is important to note that the county does have some basic infrastructure standards (PC's, servers, etc.), but the agencies can ignore them based upon their particular deployment. Also, the county does not have an overall IT strategy or applications architecture that governs overall direction on investments. So, the ADP Board (or IT leadership for that matter) can't rationalize investments against a predefined application model. An analogy may help describe the situation. The county has not created a blueprint for their applications as one would with a house. Therefore application decisions are made independent of one another without regard to the overall blueprint and without regard to the application decisions in a sister agency. This is akin to independently building 10 rooms of a 10 room house. The result may be 10 bedrooms with doors that don't connect to the hallway. The county's application investments are analogous to the house; we are duplicating investments in the similar applications in multiple agencies, while, at the same time, creating a maze of solutions that may not talk to each other (*Again, please see IT recommendation #2 for details*).
- Most investments in applications or projects are defined, justified, and funded at the agency level. As a result, the county often misses opportunities to leverage these applications across the county. The CIO and ISC organization generally have little influence over these application investment decisions. Here are some examples where the county missed leverage opportunities:
 - SAP is currently used for gross payroll, benefits and employee administration. It was originally installed in 1999 for only these HRMS functions. (Please note: SAP does have a much broader suite of government back office applications.) SAP could have been leveraged for gross-to-net payroll as well; however, another agency preferred to retain a separate payroll system. In fact, SAP could be used for all financial and back-office applications, replacing many of the agency applications that exist today. Over the last 10 years, SAP has been extended and customized to add functionality that was missing or not originally purchased (the county spends roughly \$650K per year on these development efforts). Many of the capabilities that were added are now available in the standard SAP suite. If the county agrees an integrated back-office suite makes sense, the current instantiation of SAP may not be the best starting point.
 - As another example, the common pleas court spent several million dollars on a case management system, yet juvenile court is now reviewing another system as an alternative. In fact, we've identified over 50 document, content, and case management systems in the county.
 - Finally, our analysis showed there were 8 different time and attendance systems, 9 different budgeting/forecasting systems, and 10 different billing/payment systems across the county's agencies.
 - Obviously, this model does not take advantage of economies of scale or support streamlined county operations.

- Theoretically, the ADP Board should recognize this sub-optimized and silo-investment model and work to prevent it; instead, the ADP Board has essentially become a rubber stamp to individual agency investment desires.
- As previously noted, roughly 50% of the \$32M spent on IT is held with the individual agencies. (Incidentally, identifying details of where this money is spent is very difficult). The CIO has limited control over how this money is spent (except via the limited influence via the ADP Board). In short this funding model also limits the effectiveness of the current governance model since agencies view this as “their money for IT,” and they have limited incentive to operate or make IT applications decisions for the benefit of the broader county.
- The current county IT leadership does not have broad architectural experience, and there is no leader with this strategic responsibility. Also, as previously noted, the CIO has only an HR leader, an administrative assistant, the procurement/budget manager, and the CTO reporting to him. Most IT operations in ISC actually report to the “CTO” (see chart). This structure was the recommendation of a consulting firm (Gartner) to make the CIO “more strategic,” while putting day-to-day operations in the hands of the CTO. In fact, this has distanced the CIO from county IT operations so that the role is less insightful and strategic. With some changes in the IT leadership roles and responsibilities, we have a much greater opportunity to improve the overall IT governance model as well as to drive more accountability to the CIO.

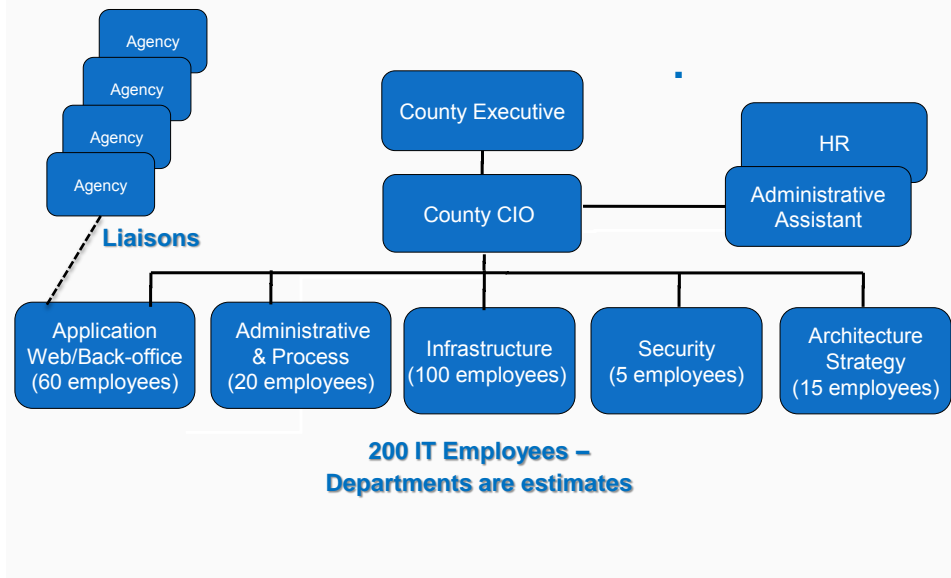
It is important to understand additional aspects of the county-wide IT organization to understand the dynamics and potential areas for improvement.

- First, there is no common measurement system by which the county IT organization measures effectiveness or performance. In addition, the IT organization does not have common processes for typical IT operational processes such as: incident, problem, change, release, project and management.
- There is no common request or issues management system (such as Remedy) to gauge the responsiveness and reliability of IT operations. For instance, you can’t easily answer questions such as, “how many failures have we had in our application or technical environments over the last year, and how quickly were they resolved?”
- There is no overall forum in which IT investments from individual agencies are prioritized across agencies (typically called portfolio management). As previously noted, investment decisions are funded by agencies and driven with individual agencies without regard to sister agency IT investments.
- Although the ADP Board was charged with this function, benefits from IT investments are rarely validated or even required as investment decisions are made, especially in the applications space.
- It is very difficult to gather IT spending for the county. For instance, the \$16M imbedded in the agencies is not easily definable through a common chart of accounts and system.

Given this landscape, we fundamentally believe that a realignment of the IT organization will improve efficiencies and driver better IT service delivery. A fundamental shift in how IT investments are governed will reduce duplicative and non-beneficial spending.

Exhibit #2 – Proposed County IT structure

Proposed County IT Structure



Alternatives Considered

We've provided a plan that outlines potential timing for introducing the new organizational and governance model (see recommendations section). The timing generally indicates the priority, with the most important and foundational items outlined first in the plan. This approach does allow the new county executive to select particular actions and create a customized plan.

We did consider a change to the ADP Board structure, without realignment of the organization. We don't believe that will fundamentally drive the benefits given the amount of change required.

The only other alternative is basically to "do nothing." This alternative was eliminated since it defeats the purpose of actually driving improvements in IT operations.

Recommendation

We recommend restructuring the IT organization and creating new governance model. The actions include:

1. Organization: Create a senior leadership team under the CIO comprised of:
 - A leader for infrastructure areas such as: data center operations, server operations/engineering, voice, video, and data communications as well as a centralized help desk.
 - A leader for strategic planning, architecture, and advanced applications.
 - A leader covering all application elements such as: back-office and web applications support, development, and project delivery. The agency liaisons (see below) should work for this leader.
 - A leader for security, security response, and disaster recovery. Note: the county puts little emphasis on this area today, and it does pose a significant risk.

- A leader of administration and IT processes covering: budgeting, forecasting, procurement, asset management, clerical services, and IT internal processes (commonly known as ITIL)
 - A leader for HR (either within IT or from the HR department)
 - This leadership structure creates a team under which the entire organization can be consolidated.
2. Organization: Eliminate redundancy, drive synergies, drive standardization, and improve support levels by aligning the 95 ISC and 105 agency IT employees under this IT leadership model. Most employees will fit into either infrastructure (data base, networks, or help desk) or applications (support, development, or project delivery). Physical relocation would not be required, but may be beneficial in areas such as infrastructure. During this consolidation, we should also:
 - a. Create new positions under the Applications Leader that are liaisons to the agencies to ensure alignment; we recommend a functional reporting relationship to the agency head for the liaisons. In addition, create a liaison role to the municipalities in the county to drive adoption/leverage of common IT infrastructure and applications (*see recommendation #3 again*)
 - b. Eliminate redundant management positions and improve the manager-to-employee ratio. Also, look for redundant positions such as administrative assistants.
 - c. Either initially, or within the first six months, have each manager further assess the competencies of the employees. Do they have the skills to work in a technical environment?
 - d. A new help desk and desk side support organization will be formed during this reorganization. This appears to be roughly 25 people. This consolidation can be used as an opportunity to drive synergies in those areas.
 - e. Ensure there is more consistency and standardization in job titles and salary banding.
 3. Organization: After the consolidation of the broad IT team, the team currently under Mary Lou Dowling needs a thorough review of size and scope. This could include a broader review of all clerical, data entry, and courier positions. Can these positions be combined or eliminated?
 4. Governance: Immediately “freeze” new or discretionary investments in existing back-office applications unless it is a regulatory requirement or has immediate payback. This will stop the duplicative spending and hopefully prevent investments in systems that don’t have a long life.
 5. Governance: Build a basic IT strategy based on agency needs and IT influencing factors; inclusive of the overall applications architecture for the county with particular focus on back-office applications. In fact, the county needs to conduct a broad review to determine their comprehensive back-office (ERP) solution. This will replace the mishmash of duplicative systems in use today. The existing application spending could be used to fund this investment. The back-office and applications review should be competitive and based on four dimensions: the company, the cost, the required functionality, and the IT architecture. It could include:
 - a. A new installation of the SAP suite for all back office functions
 - b. A new installation of the Oracle suite for all back office functions
 - c. New investments and upgrades to the current SAP HRMS system
 - d. A new installation of a suite from other broad government application providers
 - e. The county should strive for common processes in the basic back office areas, and they may want to consider a hosted version of SAP, Oracle, (or another provider) to drive this standardization.
 6. Governance: Eliminate the ADP Board and immediately institute a very strong governance model where the CIO and new county executive have signature authority on all IT investments including: personnel, applications, infrastructure, contracts, policies, etc. In addition, charter the CIO with the responsibility for a county-wide budget (inclusive of agency IT spending) and a five year capital plan.

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7. Governance: Replace the ADP Board with a project review and prioritization board (PRB) inclusive of the senior IT leadership, the county executive, and agency leaders (it should not include agency staff members). A key point – this is a review, status, and prioritization board, and the CIO and county executive retain final decision on IT investment decisions. This board should also review the benefits of all major IT investments. The county may also want to consider a strategic advisory board (SAB) comprised of regional IT leaders with expertise in strategy development.
8. Governance: Confirm all policies around infrastructure device procurement, configuration, and standards; and only deploy these devices through the central infrastructure organization. Do not allow any deviation from infrastructure standards (device or configuration) unless an exception is granted by the architecture team. Please note, although not covered by the charter, we do believe there are leverage points and cost savings if the courts and prosecutor also follow this governance model.
9. IT Operations: Based on the IT strategy, the senior IT leadership team should identify the 3 or 4 critical IT processes to standardize, improve, and measure. This will help determine IT's core measurement system as well.
10. IT Operations: At some point, the IT organizations chargeback methodology should be reviewed to ensure it incents the agencies to use the standard or preferred applications and infrastructure. This includes a more robust mechanism for identifying all IT spending.
11. IT Operations: A more formal model of what should be insourced vs. outsourced should be developed.
12. IT Operations: Finally, the organization has put little emphasize on the ability to recover from a disaster or drive security improvements. In fact, there is no disaster recovery plan if an event such as a fire, storm, etc. hit the data center. This would certainly impact county operations. At a minimum, a deeper review of both security exposures and risks associated with no disaster recovery (DR) plan should be completed within the first year.
13. Change Management: These changes are significant, and the IT organization may want to consider outside assistance to support the organizational and transformational change.

INSERT PROPOSED ORGANIZATIONAL CHART

Organization and Governance recommendation Summary

Item#	Area	Action	Timing	Investment Required	Potential Savings (estimated expense)
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Implications

Budgetary	<ul style="list-style-type: none"> See table – potential benefits of \$5.6M; however, \$2.5M of incremental expense per year will offset savings if a new back-office (ERP) system is deployed. Potential DR Costs of \$500K, and may need to insert some new leadership talent at \$250K.
Structural	<ul style="list-style-type: none"> Changes to ADP Board and IT Organizational Structure noted in the recommendations.
Day One Issues	<ul style="list-style-type: none"> #4 Freeze spending on existing applications #6 and #7 Replace ADP Board with strong CIO and PRB #8 Confirm infrastructure standards and forbid deviations
Long Term Issues	<ul style="list-style-type: none"> Outlined above
Stakeholder Issues	<ul style="list-style-type: none"> The change management and impact on employee morale must be clearly managed during any transition. Agency heads must have a clear communication line (through liaisons) into the IT organization.

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Additional Background Information

See attachments for details on IT positions from the people inventor sub-committee:



2010606 Employee Listing and Job Titles
20100603 Volunteer People Team Report (

Details on applications and infrastructure can be found in recommendation #2.

DRAFT

Charter Transition Work Group Recommendation

Work Group:	Information Technology (IT)
Recommendation Number:	# 2
Area of Focus/Subject:	IT standardization
Recommendation:	Establish, publish, and enforce county-wide IT infrastructure and architecture standards.
Department(s) affected by recommendation:	All agencies.
Total cost reduction or required investment for recommendation:	Cost savings through standardization, simplification, and consolidation. Investment in new county-wide multifunction application system and infrastructure hardware.

This work is a product of the Cuyahoga County Charter Transition Process and represents a recommendation for consideration developed by a team of volunteer citizens in support of the new charter government.

The IT transition committee has generated three broad strategic intents for Cuyahoga County IT that helped form our recommendations:

1. Reduce overall IT costs by building a strong governance model and aggressively driving standardization and rationalization.
2. Utilize IT to improve services to the community and reduce the county's operating costs.
3. Build a single county-wide IT organization that is recognized as a leader in providing both internal and external services.

IT recommendation #2 primarily supports the first strategic intents.

Issue Synopsis

The decentralized and uncoordinated IT decision making in the county has resulted in a myriad of hardware, application, and development standards.

Currently there are architectural standards in place for network infrastructure (switches, routers, firewalls). There are no county-wide standards in place for the purchase of servers (491), printers (3,811), workstations (6,367), and other peripheral devices and as a result, there are currently more than 13 brands of servers, 17 brands of printers, and 10 brands of PCs, not to mention the varied technical specifications of these devices (slides 5, 6, & 7 of Hardware Work Group Presentation). The county's Information Services Center (ISC) has standardized on HP and Sun servers, however agencies can avoid these standards if approved by the Automated Data Processing (ADP) Board .

The ISC has adopted some development standards, but there are virtually no county-wide application development or architecture standards. Agencies or elected officials currently have the ability to make their own decisions if approved by the ADP Board. This allows agencies to select a variety of applications, hardware, and operating systems, resulting in multiple applications on different operating systems performing similar functions. Some examples of multiple "back office" functions include Time & Attendance (10 systems), Accounting (17 systems), Application Development (12 systems) and there are approximately 18 other back office functions using 314 different application systems (slide 9 Application Work Group Presentation). Numerous complex and overlapping technologies have been implemented and many are outdated. Examples include more than 5 operating system platforms, 7 database management systems, and 5 application types (slide 8 Application Work Group Presentation). This divergence from a common model limits county IT efficiency, causes duplicity of effort, and wastes IT dollars.

Printer, FAX, and copier purchases have been agency driven, resulting in 3,811 printers valued between \$2.6 and \$3M serving approximately 8,000 employees. There are no county-wide printer standards and the variety of printers has limited the quantity discounts available for printer purchases or supplies. Only in some situations are printer-scanner-copiers fully utilized. The printer assortment combined with underutilized multifunction potential has resulted in excessive hardware components, maintenance costs, and supply costs.

Alternatives Considered

Currently standards can only be recommended by the ISC and may or may not be supported by the ADP Board. The ADP Board will no longer exist in its current form as some elected officials will no longer exist and some elected offices will be combined (Auditor, Treasurer, Recorder). The current approach is ineffective and must be changed.

The only alternative considered was one in which the IT organization is given the responsibility to build a foundation of countywide standards that support the needs of the Executive, Council, and agencies and that also let the IT organization operate efficiently and cost-effectively.

Recommendation

The IT organization must be provided the authority to establish, publish, and enforce IT infrastructure and architecture standards county-wide. This ensures hardware consistency throughout the county, and consistency in software architecture and development tools. All IT expenditures must be approved by the IT organization to ensure the enforcement of the standards. Once trained in the county-wide technologies, IT staff will be better equipped to work on hardware or software supporting all county employees, instead of only one agency.

Infrastructure standardization allows larger hardware purchase discounts and consistency for maintenance and support. A scheduled hardware replacement plan must be developed and purchases should be made utilizing State of Ohio large volume discounts. Use of blade servers and virtualized servers should continue as purchase, maintenance, and environmental savings are achieved through these technologies. 60% of the server hardware resides outside of the ISC. Server consolidation to the ISC utilizing this technology will reduce hardware cost and improve staff utilization. Desktop virtualization should be evaluated and piloted to determine if cost savings can be achieved. A project to consolidate printers, copiers, and FAX machines in the county should be started. Better utilization of the technology will reduce costs and improve efficiency.

Software architectural standards must be developed. Their use will reduce costs by utilizing software volume purchase discounts and improve efficiency by reducing the number of applications performing the same function in different agencies. All spending and major upgrades of these disparate systems should be stopped immediately and the focus turned to identifying a county-wide replacement for them. One such example is the SAP-HR system which handles benefits for all county employees, but payroll for only a portion of the county employees. The cost for consultants to provide application maintenance and development services for this system from 01/01/09 through 06/30/10 was \$1,272,000. An integrated Enterprise Resource Planning (ERP) System that can perform multiple functions county-wide should be the preferred solution, as it will eliminate interface issues and minimize upgrade complexity and costs. All functions and related applications must be evaluated as to whether they can be included in the ERP solution or if they must remain separate. Functions that cannot be included in the ERP solution should be consolidated from current stand-alone systems in individual agencies to one centralized countywide application. Development tools should be reviewed and a standard tool set be established.

Standardization, simplification, and consolidation of the IT environment (hardware and software infrastructure) provide the following benefits county-wide:

- Reduce complexity of IT environment (hardware, software & applications)
- Consolidated or eliminated duplicate applications
- Improved county-wide applications that serve common agency needs
- Reduced total number of applications
- Reduced application and hardware support needs
- Reduced application and hardware support costs
- Increased operational efficiencies through simplification
- Improved IT staff utilization

IT Standardization recommendation Summary

Item#	Area	Action	Timing*	Investment Required	Potential Savings (estimated expense)
1	Hardware & Software	Review licenses to improve volume purchase agreements (hardware & software)	Jan-Mar '11		Workstations - \$1.5M Software – TBD
2	Hardware	Develop hardware purchasing & replacement plan	Jan-Mar '11		
3	Hardware	Develop hardware server consolidation plan	Apr-Jun '11		
4	Facilities	Data Center power upgrade for server consolidation	Jul '11	\$200K	
5	Hardware	Implement hardware consolidation plan – consolidate 200 servers to 25 blade/virtual servers	Jul '11- Jun '13	Blade Servers & Storage - \$400K	Individual servers – \$1.2M
6	Hardware	Implement printer, copier, FAX consolidation plan	Jan-Mar '11		\$1.3M
7	Software	Develop application standards	Apr-Jun '11		
8	Software	Stop current application investment	Immediate		See Governance
9	Software	Develop application review plan	Jan-Jun '11		
10	Software	Identify application systems to be replaced	Jul-Dec '11		
11	Software	Write and release RFP for county ERP application system	Jan-Jun '12		
12	Software	Develop non-ERP application consolidation plan	Jan-Jun '12		
13	Software	Consolidate non-ERP applications	Jul '12 - Jun '13		See Governance
14	Software	Review development tools and establish standard tool set	Jul-Dec '11		
		TOTALS		\$600K	\$4M

*Time estimates based on staff assigned full time to projects

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Implications

Budgetary	<ul style="list-style-type: none"> • See Table – potential benefits of \$4M • Cost to purchase servers for consolidation - \$400K; potential cost to upgrade Data Center for server consolidation - \$200K
Structural	Data Center facility upgrades will be required for server consolidation.
Day One Issues	Inform all county office directors of standards and procedures to be followed.
Long Term Issues	Outlined above
Stakeholder Issues	Short term spending for multipurpose systems (i.e. ERP) may be required to achieve long term savings. Ensure that all county staff follows IT standards and procedures.

Additional Background Information

Hardware overview and presentation from hardware inventory sub-committee



HW Inventory.pdf

Hardware printer, PC, and server analysis



PowerPointPrinterCharts.XLS



PowerPointProcessorCharts.XLS



PowerPointServerCharts.XLS

Application Work Group Presentation and Details



Application Inventory.PDF

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Charter Transition Work Group Recommendation

Work Group:	Information Technology
Recommendation Number:	#3
Area of Focus/Subject:	IT Community Collaboration and Regionalism
Recommendation:	Pursue a regional approach to providing IT infrastructure and applications as a Utility
Department(s) affected by recommendation:	All government agencies in Cuyahoga County.
Total cost reduction or required investment for recommendation:	A minimal of 20 to 30 % of IT spend in Local Government

The IT transition committee has generated three broad strategic intents for Cuyahoga County IT that helped form our recommendations:

4. Reduce overall IT costs by building a strong governance model and aggressively driving standardization and rationalization.
5. Utilize IT to improve services to the community and reduce the county's operating costs.
6. Build a single county-wide IT organization that is recognized as a leader in providing both internal and external services.

IT recommendation #3 primarily supports the second strategic intents.

Issue Synopsis

The government entities in Cuyahoga County have an opportunity to increase the level of cooperation, leverage, and collaboration around information technology. We believe this will save tax payer dollars while simultaneously enhancing county services and information availability to county constituents. Technology investments should be viewed in a utilitarian tool to provide the canvas to support the needs of government. Taking this view will allow for greater economies of scale and provide a ubiquitous platform to provide a smart and connected community while allowing savings to be invested in a more beneficial way for the region.

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Alternatives Considered

This section is not applicable if the county decides to end these collaborative efforts or does not want pursue this avenue the environment will remain the same.

Recommendation

The recommendation is to work towards a regional IT infrastructure that would most efficiently utilize tax dollars. The concept is to build standard platforms that are ubiquitous to the government agency. Examples would be: regional HR benefits, financial ERP system, government cloud computing, and unified communications. Currently there are over 75 government entities operating in Cuyahoga County operating independently but in essence performing similar functionality. This current model means duplication of efforts to provide taxpayers information or services across multiple jurisdictions with dollars being spent inefficiently and ineffectively. Collaborative efforts are minimal and as dollars become scarce the desire for collaboration has increased. Cuyahoga County has developed strategic partnerships with One Community and Cisco to further develop the ability to provide high bandwidth connectivity within local government at a lower economic cost increasing the ability to better share services and function driving efficiencies where practical.

A survey was conducted with government agencies and county citizenship, and there were several areas identified for collaboration. The first of these is connectivity to a high speed network; tied to this is the ability for better unified communication. Those surveyed are particularly interested in VOIP (voice over Internet Protocol), email, video conferencing, and digital media (electronic signage, notification of events, emergency notification and routing).

There are several advantages to rolling out these services to other government agencies.

First, Cuyahoga County IT is able to provide these services at a lower cost than is currently available. The county, through their contracts, is able to provide high speed connections to facilitate voice, video and data traffic to cities at an average discount of 37% of current charges (for a connection that has the same speed). Because of the county's volume purchases we are also able to significantly reduce the cost of hardware and software on infrastructure equipment by 28%. An example of this benefit is the county, via a high speed connection, can provide phone service for \$20.00 per handset as an inclusive cost. The several cities we have contacted can repay the cost of capital equipment within 3 years through the savings generated from switching to the service. The added value for the county and the cities on an ongoing basis is: as more governments utilize the service and we reach a certain level in the contracts; the price is reduced. This cost reduction provides additional savings for the cities and the county resulting in a net win for the region.

One of the other benefits of providing broadband connectivity is the ability to utilize grants to continue to develop functionality driven by a connected community. We were able to leverage this activity into a pilot program to solve a problem germane to most governments in our region - divergent communication frequencies. There is a large push to eliminate inner and cross jurisdictional communication incompatibilities which a unified network structure would solve utilizing IPICS (better left defined in a more technical discussion). This pilot marks a significant investment by Cisco and One Community to provide a platform for a smart and connected community. Northeast Ohio is one of 5 areas designated in the country to receive a pilot program. The equipment and knowledge will stay accessible for Cuyahoga County and its

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regional government partners to overcome communication barriers to better serve the citizens. The total investment in the region will be close to a million dollars and provide a state-of-the-art platform for public safety to keep Cuyahoga County more informed and connected in times of emergency.

In addition, Cuyahoga County has agreements with Cisco and One Community and will be partial beneficiaries of the 44.83 Million dollar stimulus grant One Community received. This will help broaden our ability to provide high speed connections to other government agencies.

The next opportunity for collaboration is web and application development. The county has developed 65 websites today, and they have a solid group of developers. Also, the county has done outside work for other government agencies, and they provide a less costly alternative to third party options. This is also a great platform for webhosting/management, and it provides the same look and feel for county constituents on the internet. The surveys collected from the public spoke to the government better utilizing technology and providing websites to allow them to engage in more services. A strong desire for mobile applications was also expressed. Again unifying a framework and development platform will more effectively utilize resources.

Interest in a financial ERP system, which includes general accounting, purchasing, budgeting, payroll and human resources, is of a great interest. There is currently an initiative to provide regional benefits for outside county entities that is garnering strong support. Currently, several cities indicated they were spending a large amount to support their back office applications. By unifying under a consistent platform, the incremental costs burden would be lessened. Again reducing direct costs and leveraging the groups buying power. This might be an excellent candidate for Software-as-a-Service (SAAS) model either outsourced totally or run from one government entity.

Another opportunity is to leverage the county GIS system. GIS and the federated spatial database provide the ability to graphically display and manipulate spatial information.. The first GIS symposium had over 125 attendees interested in the data and collaborating on future initiatives. This is also a partnership with the North East Regional Sewer District and City of Cleveland to maintain the base data. The partnership extends to the flyover for the aerial photography, with each entity splitting the cost by a third. This reduces the duplication of costs and multiple versions of the same data. This data has been used to redraw the FEMA flood plain areas in Cuyahoga County, resulting in roughly 50,000 residents no longer being mandated to purchase flood insurance for their mortgage. The GIS system could easily be utilized to drive efficiencies and economic development in the region.

The final major opportunity area is to create a government computing cloud for DR/BC and storage of information. Currently, the county does not have a funded Disaster Recovery /Business Continuity (DR/BC) plan. Additionally, the cities with whom we have spoken in the region do not have a proper DR/BC plan. The collaboration on a regional DR system would allow for a more efficient and effective IT spends of regional dollars and allows proper protection of the information and systems governments utilize. This space could also be used for electronic records retention and archival purposes. This again promotes the ideas that you could leverage a shared investment to support the broader regional services.

In conclusion the county should look to effectively leverage their investment in infrastructure, purchasing power, and IT infrastructure skills to help reduce the IT costs associated with government in the region.

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IT Community Collaboration and Regionalization Summary

Item#	Area	Action	Timing	Investment Required	Potential Savings (estimated expense)
1	Regionalism	Partner with One Community to extend network services to enable VOIP, video, and network connectivity to municipalities and other government agencies	Mar-Dec '11		TBD, but opportunity to reduce 20% of municipality costs
2	Regionalism	Cuyahoga ISC to provide web applications and development services to municipalities and other government agencies	Mar-Dec '11		Ability to reduce dev. costs and enable additional services
3	Regionalism	Leverage a county provided or third party ERP system across additional municipalities.	Jan-Dec '12		TBD
4	Regionalism	Extend the county's GIS system to enable new services at municipalities and other agencies	Jul-Dec '11		Additional services
5	Regionalism	Consider a county-wide cloud computing and disaster recovery capability, or combine resources at a third party (such as the State of Ohio)	Jul-Dec '11		TBD

Implications

Budgetary	<ul style="list-style-type: none"> • No major cost implications • Most items require further analysis and municipality engagement to determine cost savings. • Benefits include extension or new services for county constituents.
Structural	Per the first recommendation, we recommend a liaison to the municipalities in the county to engage and identify opportunities.
Day One Issues	None...this is an opportunity play
Long Term Issues	None...there are significant opportunities across the county, and we believe they should be leveraged.
Stakeholder Issues	Stakeholders would be the elected officials in the government municipalities and entities. Would need to build solid business cases to compel adoption.

Additional Background Information

Samples of web services from Cuyahoga County IT:

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