

City of Hapeville

5 Year Information Technology Plan

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June 2016





Achievements & Progress To Date

Overview of 2016 IT Service Delivery

Partnership Overview

Baseline

- Systems repeatedly down for weeks
- Substantial E-mail history lost
- Inefficient IT support model



CITY OF HAPEVILLE
IT ROOM

BEFORE...

2016 Service Delivery Summary

	January	February	March	April	May
Closed/Completed	26	35	33	48	30
Canceled	1	1	0	3	1
In Progress	0	0	0	2	5
Hours	45	60	71	106	77
Median Resolution Time	60	9	7	6	8
Resolution within SLA	64%*	96%	94%	88%	91%

* On-boarding Tickets Affect Service Delivery Time

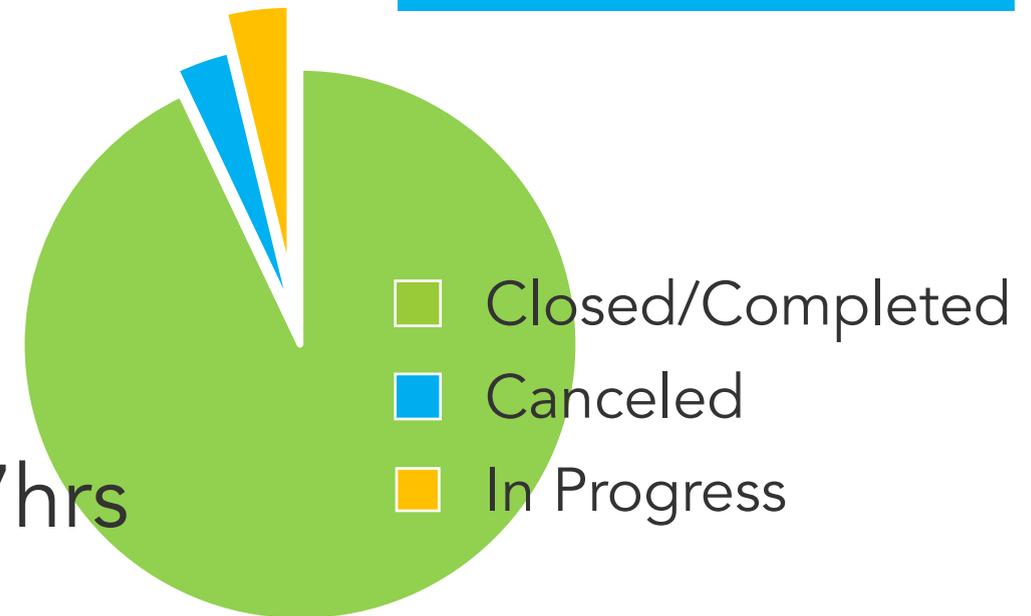
2016 Service Delivery Summary

TOTALS (as of May end)

- 89% resolved within SLA
- Closed/Completed – 172
- Cancelled – 6
- In Progress – 7
- Hours – 359
- Median Resolution Time – 7hrs

89%

Resolved
within SLA





5 Year Information Technology Plan

Plan Overview, Project Highlights, Goals and Targets, and In-Depth Coverage of Current vs. Proposed IT Solutions

5 Year IT Plan Overview

- Designed to be adaptable to technology changes
- Estimates based on current costs & may change over time due to:
 - innovations
 - life cycle of technology
- Aligns with the City's goal to strive for excellence in service by planning ahead of the curve for growth and community development

Simple Project Overview by Year

YEAR 1

CORE INFRASTRUCTURE IMPROVEMENTS

1

2

3

4

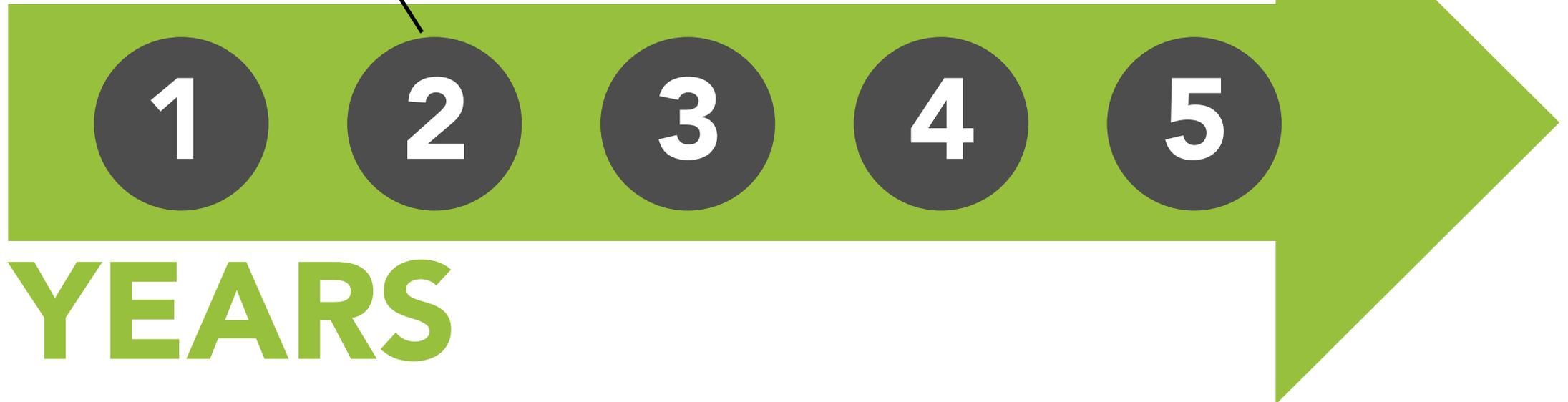
5

YEARS

Simple Project Overview by Year

YEAR 2

COMMUNICATIONS TRANSFORMATION
IMPROVEMENTS



Simple Project Overview by Year

YEAR 3

SECURITY SYSTEM MODERNIZATION

1

2

3

4

5

YEARS

Simple Project Overview by Year

YEAR 4

CELLULAR COMMUNICATIONS
IMPROVEMENTS

1

2

3

4

5

YEARS

Simple Project Overview by Year

YEAR 5

CABLE MANAGEMENT IMPROVEMENTS,
SYSTEMS REVIEW, EVALUATION &
REPLACEMENT PLANNING

1

2

3

4

5

YEARS

Accomplishments Prior to Plan Development

- Replaced all Windows XP computers (Qty 16)
- Updated 20 Sprint Aircards from 3G to 4G
→ faster speed and less cost

\$12

Amount Saved
PER CARD / Month

\$6,000

Approximate
Savings Per Month
with AT&T



CITY OF HAPEVILLE
IT ROOM

...AFTER

YEAR *One*



Year 1 Goals

- Replace all Windows 2003 & 2008 Servers
- Migrate email to Office 365
- Update network infrastructure
 - improve reliability
- Internet Service Provider service review
 - for transition to fiber connectivity

Year 1 Goals (cont.)

- Ensure business continuity and disaster recovery through **installation of backup solutions** based on agreed recovery point objectives (RPOs) & recovery time objectives (RTOs)
- Incode to OpenGov connectivity
- Initiate 5 year program to replace PC's & laptops

Replace all Windows 2003 & 2008 Servers

CURRENT ENVIRONMENT

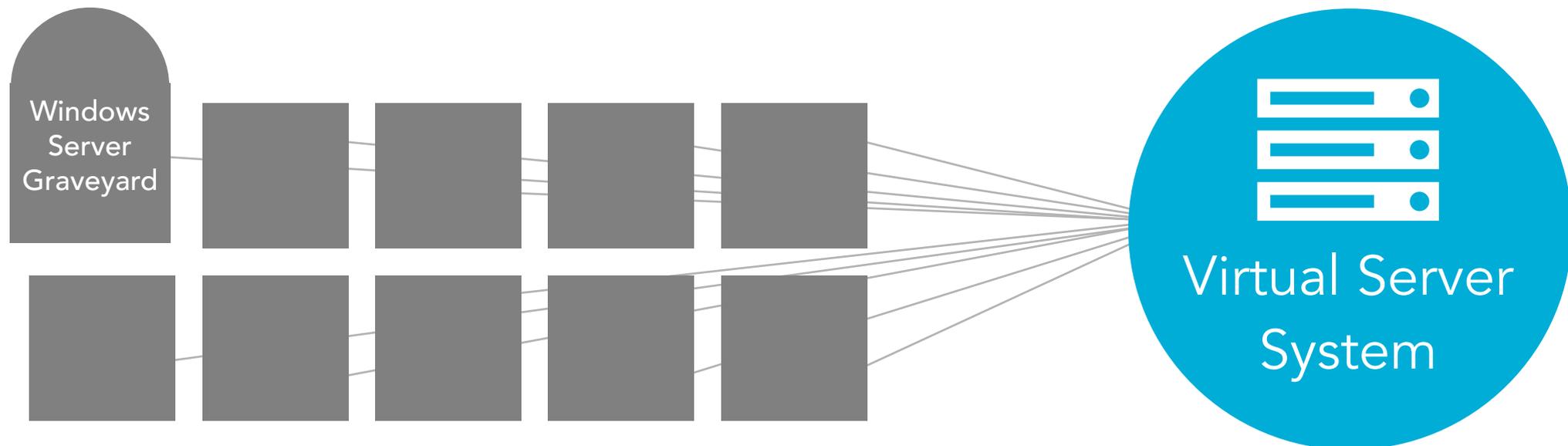
- Existing servers are a mix of brands and all 5+ years old
- 10 servers running either Windows Server 2003 or 2008
- Server 2003 support ended July 14, 2015
- Server 2008 is already in extended support

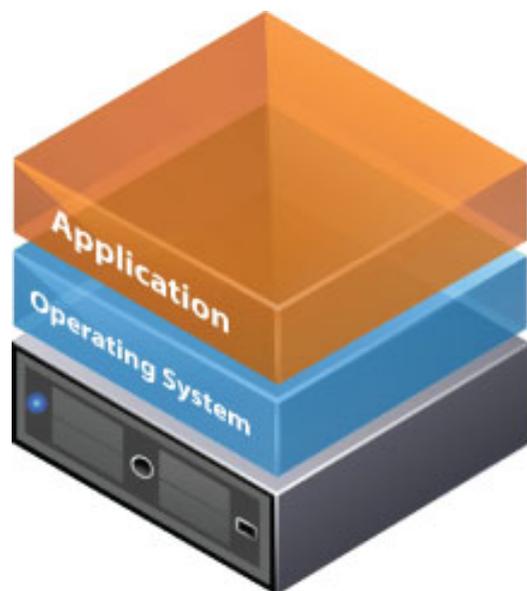


Replace all Windows 2003 & 2008 Servers

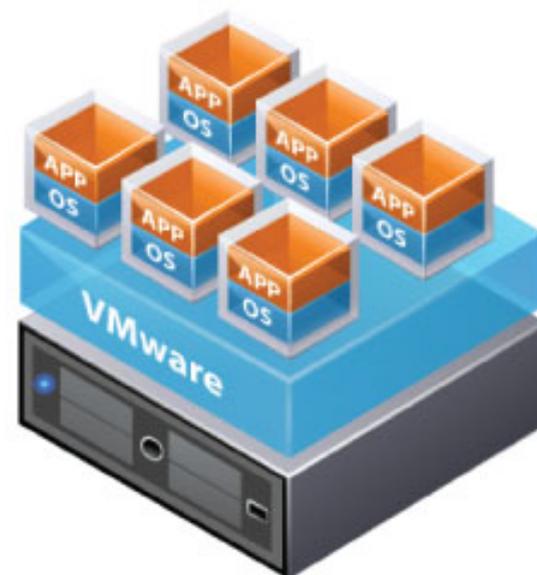
PROPOSED OBJECTIVE

- Consolidate physical servers into a virtual server system

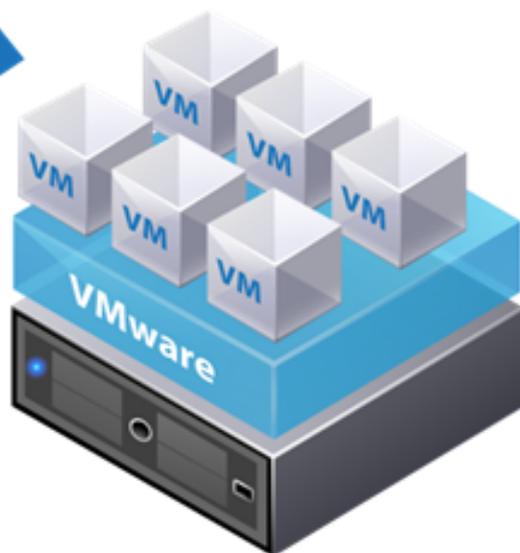




Traditional Architecture



Virtual Architecture



Replace all Windows 2003 & 2008 Servers

KEY BENEFITS

- Greater flexibility
- Improved allocation of resources
- Minimizes need to purchase additional hardware



Email Migration

CURRENT ENVIRONMENT

- Email housed internally
 - Single point of failure
- If the email server dies or goes down, no one will have email - Data loss



Email Migration

PROPOSED OBJECTIVE

- Migrate to Microsoft Office 365 in the cloud



Email Migration

KEY BENEFITS

- Web based platform allows improved accessibility for users
- Eliminates single point failure
- Uninterrupted access even in the event of a localized geographic Internet outage

Update Network Infrastructure

CURRENT ENVIRONMENT

- Last network update estimated to have taken place 7 years ago
- Suggested replacement window is 5 years
- As IT ages, likelihood of failure increases

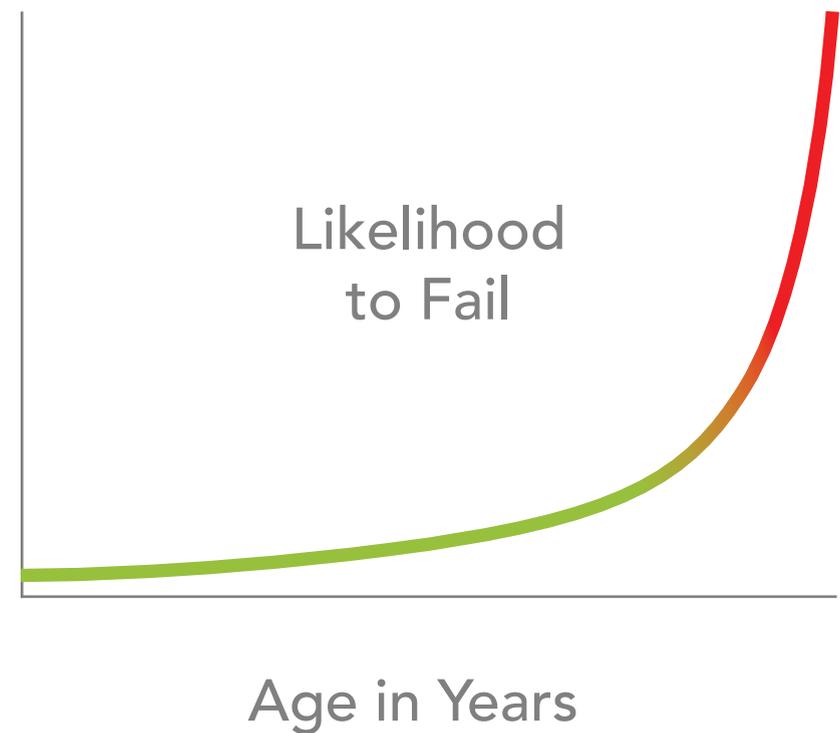
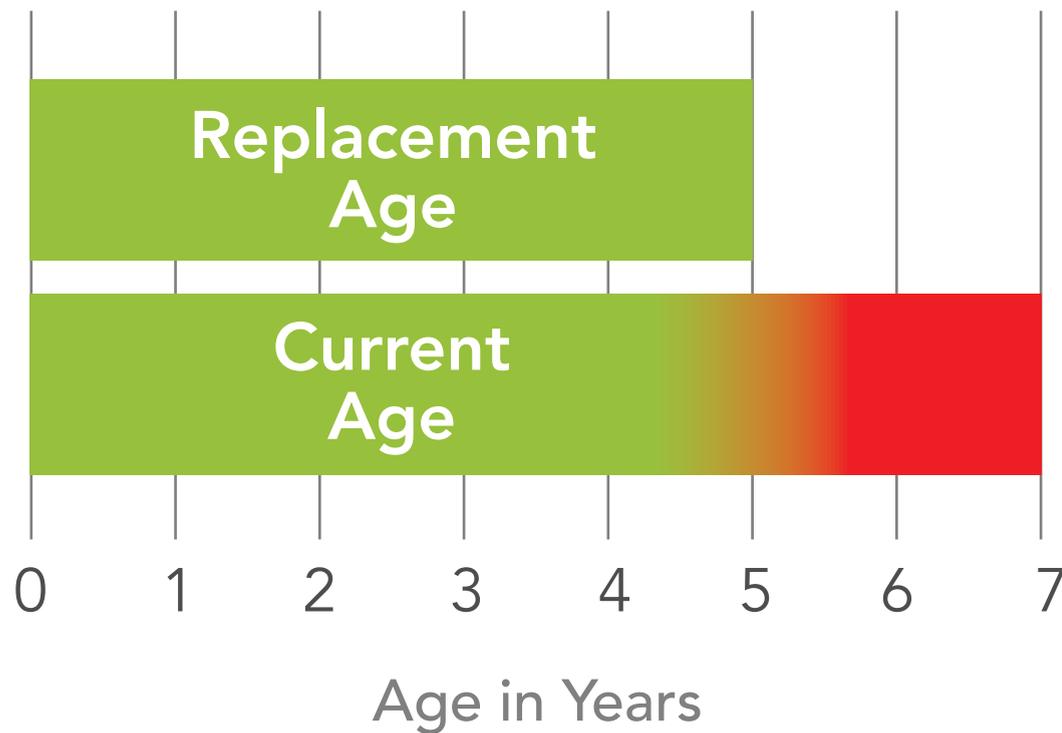
Did you know?

Network switches provide connectivity between servers, workstations, printers, etc.

Routers provide external access to the Internet

Update Network Infrastructure

CURRENT ENVIRONMENT



Update Network Infrastructure

PROPOSED OBJECTIVE

- Replace aging Cisco hardware with modern **Cisco Meraki** hardware

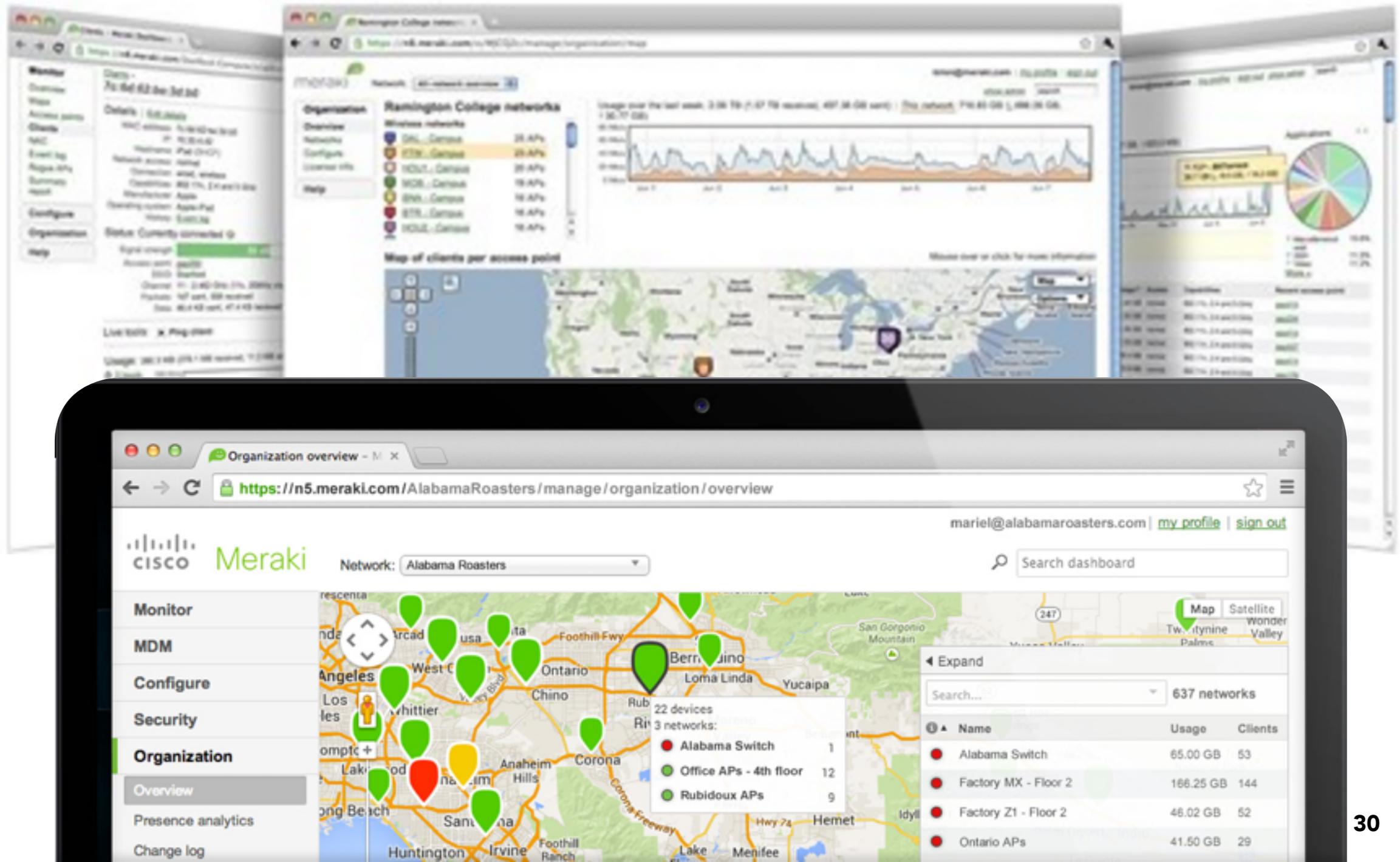


Update Network Infrastructure

KEY BENEFITS

- Improves reliability throughout system
- Reduces likelihood to fail
 - Prevents downtime, loss of productivity, and inability to provide services
- Provides complete control over network, with real-time insight into usage & security threats
- User friendly management tools

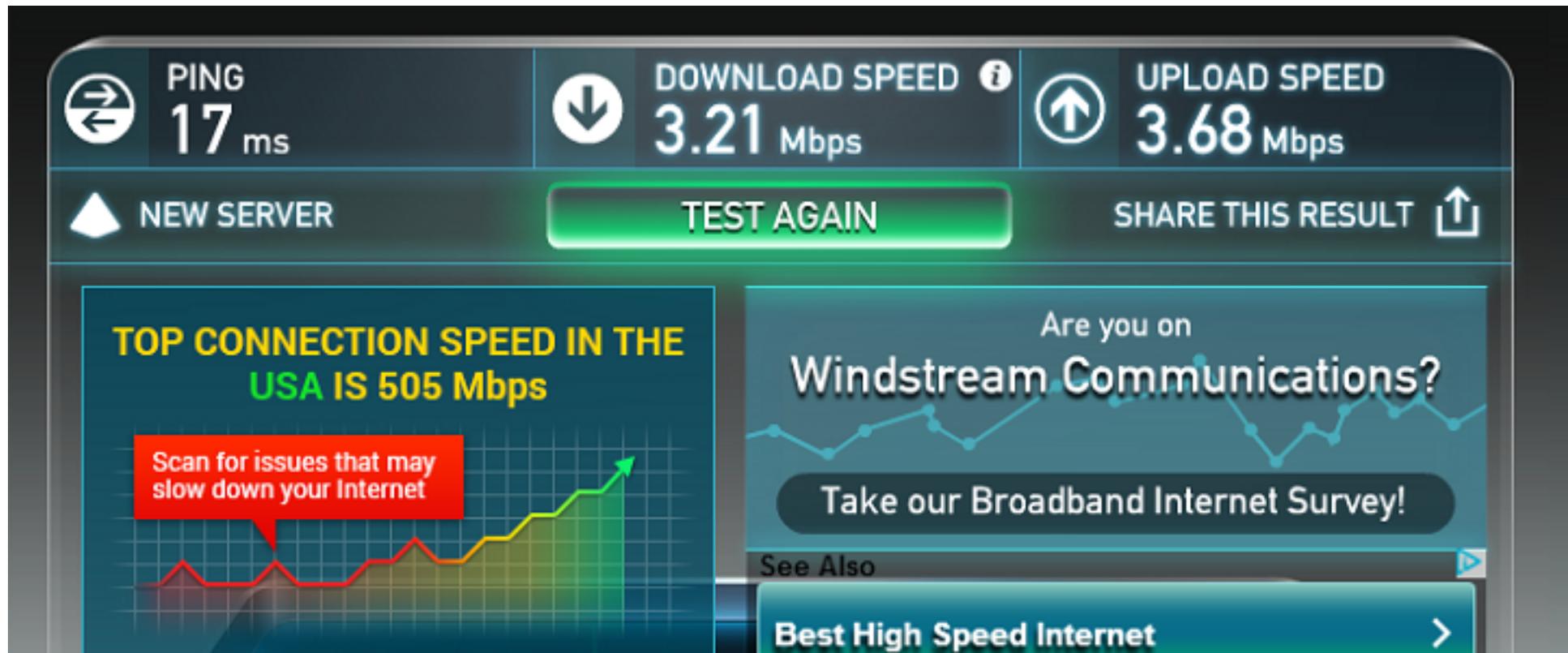
User Friendly Data Management & Analytic Tools



ISP Service Review & Fiber Connectivity

CURRENT ENVIRONMENT

- T-1 and wireless point-to-point solution



ISP Service Review & Fiber Connectivity

PROPOSED OBJECTIVE

- Review existing Internet Service Provider offerings to find faster, more economical service
- Recommendation for 20 MB service (versus existing 3 MB) which can be achieved at the same or slightly less cost





PING
15 ms



DOWNLOAD SPEED ⓘ
21.34 Mbps



UPLOAD SPEED
11.20 Mbps

▲ NEW SERVER

TEST AGAIN

SHARE THIS RESULT ↗

TOP CONNECTION SPEED IN THE USA IS 505 Mbps

Scan for issues that may slow down your Internet



START A SCAN

Are you on
Comcast Business
Communications?

Take our Broadband Internet Survey!

See Also

Best High Speed Internet >

Satellite Internet Price Comparison >

75.150.12.161
Comcast Business Communications
★★★★☆ Rate Your ISP

Atlanta, GA
Hosted by
Whitesky Communications LLC

ISP Service Review & Fiber Connectivity

KEY BENEFITS

- Possibility to move to state-of-the-art fiber connectivity
- Improved speed
- Increased savings
- Dedicated Internet connectivity for city locations

Backup Solution

CURRENT ENVIRONMENT

- Under-sized NetApp NAS
- Not enough storage to backup all the servers
- Previous backup software was not properly setup
- No real RPO/RTO
- Current environment is not optimal

Backup Solution

PROPOSED OBJECTIVE

- Install new 20 Terabyte (TB) ioSafe Network Attached Storage (NAS) unit
- Veeam Backup & Replication



Backup Solution

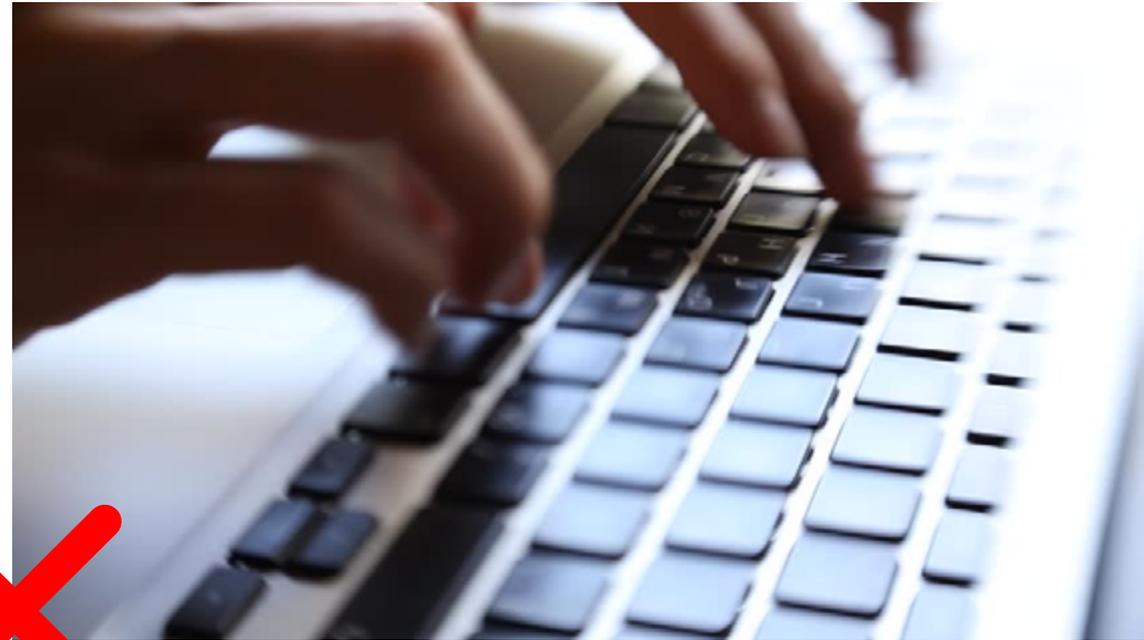
KEY BENEFITS

- Safely and securely provide data storage
- Data safety net in the event of a server crash
- Will be able to properly define RPO & RTO

Incode to OpenGov Connectivity

CURRENT ENVIRONMENT

- Staff members manually enter data into OpenGov system
 - Time consuming
 - Delaying fully functional launch
- Greater risk of data being entered incorrectly due to human error



Incode to OpenGov Connectivity

PROPOSED OBJECTIVE

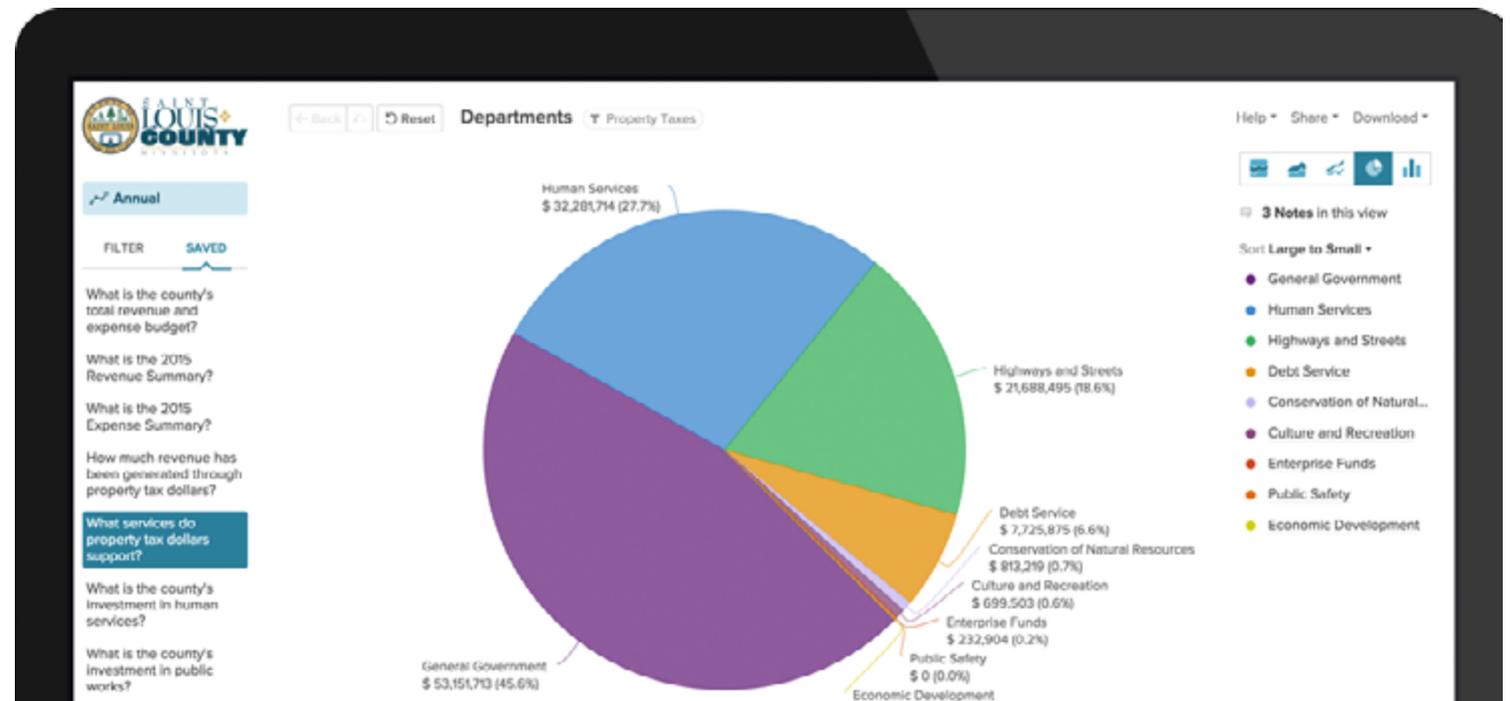
- Create code to automatically input data – eliminating need for manual entry of data into OpenGov system



Incode to OpenGov Connectivity

KEY BENEFITS

- Reduce risk of errors in presentation of budgeting information
- Save staff time
- Expedite release of new budget information



Replace PC's & Laptops

CURRENT ENVIRONMENT

- Varied collection of mostly refurbished Dell computers purchased between 2009 and 2012
- Manufacturer does not offer extended warranty after 5 years due to increased likelihood of component failure and inability to find replacement parts

2009
Out of
Warranty
Repair



Extend your existing warranty.

Get peace of mind knowing your system will be safer, for longer.



Replace PC's & Laptops

CURRENT ENVIRONMENT (cont.)

- Age of hardware is affecting employee productivity:
 - slow
 - failing components
 - outdated software
- Replacement parts getting harder to find
- Slows down our ability to respond quickly

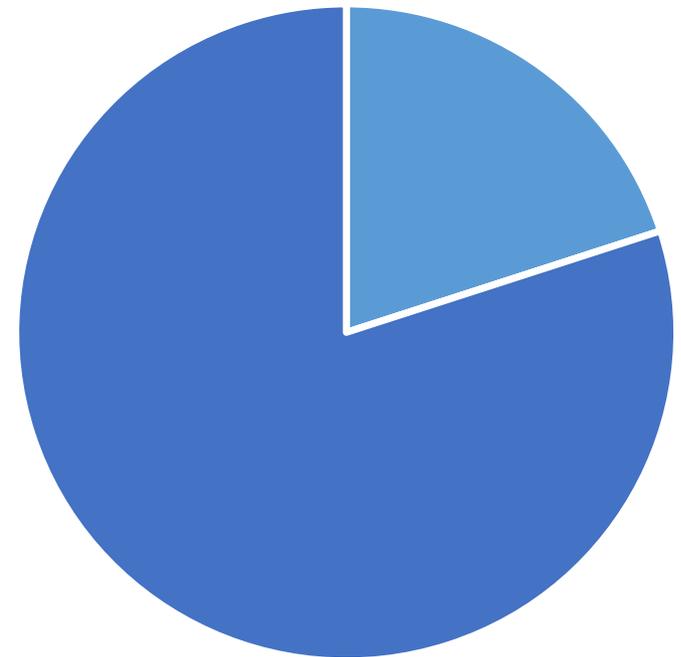
Replace PC's & Laptops

PROPOSED OBJECTIVE

- Replace 20% to 33% of desktops and laptops **each** year



- Year
- Replaced
- Outdated



Replace PC's & Laptops

KEY BENEFITS

- New hardware includes 3 year manufacturer's warranty
- New hardware more reliable
- Minimize likelihood of unexpected failures
- Faster processors, additional RAM, and current software improve employee productivity

YEAR *Two*

2

Year 2 Goals

- Replace & refresh municipal wireless
- Replace phone system
- Intranet for improving internal communication
- Ongoing program to replace PC's & laptops

Replace & Refresh Municipal Wireless

CURRENT ENVIRONMENT

- Installed in 2009
- City receives a small commission from Brightlan (the service provider)
- City pays more than the annual commission on a monthly basis to VC3 to monitor wireless network

Replace & Refresh Municipal Wireless

PROPOSED OBJECTIVE

- Replace existing wireless mesh network with modern **Cisco Meraki** wireless technology
- Create revenue stream by allowing city to self bill for Internet service to residents, businesses, and visitors

Replace & Refresh Municipal Wireless

KEY BENEFITS

- Much better income stream for City
- Build management of wireless into existing IT support contract to reduce cost to City
- Faster Internet speed for users
- Greater coverage area
- More manageability and control of service

\$700

Approximate
Savings Per Month
by Eliminating VC3

Replace Phone System

CURRENT ENVIRONMENT

- Current phone system hardware installed around 2006
- Servers running Cisco Call Manager software running on **Windows 2000** software
- System slow and cumbersome to make changes
- Has already reached end of line from manufacturer

Replace Phone System

PROPOSED OBJECTIVE

- Install new Cisco Business Edition 6000 phone system



Replace Phone System

KEY BENEFITS

- Access to new methods of utilizing phone system (Jabber, Spark, Webex) to connect with employees, residents, and vendors
- Access to technical support from vendor
- Greater system reliability
- Can leverage existing hardware (ie: handsets) to phase in update - as old handsets die newer phones with additional features can be installed

Intranet

CURRENT ENVIRONMENT

- No cohesive document management, business planning, or information dissemination system



Intranet

PROPOSED OBJECTIVE

- Improve staff collaboration
- Compliance management
- Centralized event management
- Surveys, feedback, and employee polls

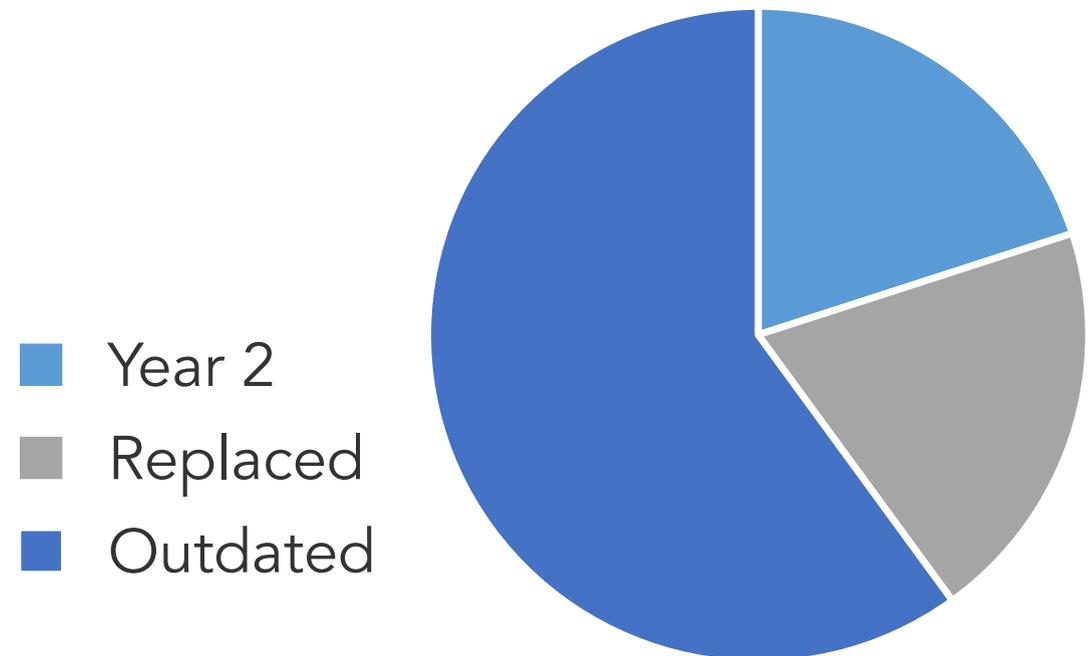
Intranet

KEY BENEFITS

- Improve productivity via intranet home for clearly showing latest events, meetings, & outstanding tasks
- Quick access to programs & documents
- Streamline business process

Replace PC's & Laptops

- Replace 20% to 33% of outdated desktops and laptops in Year 2



YEAR *Three*

3

Year 3 Goals

- Municipal camera system upgrade & expansion to enhance public safety
- Access control
- Ongoing program to replace PC's & laptops

Municipal Camera System Upgrade & Expansion To Enhance Public Safety

CURRENT ENVIRONMENT

- City has 8 cameras located around Hapeville
- Provides video evidence to Hapeville PD for crimes, vehicle accidents, and crowd monitoring

Municipal Camera System Upgrade & Expansion To Enhance Public Safety

PROPOSED OBJECTIVE

- Add additional cameras to provide increased coverage and functionality to the City



Municipal Camera System Upgrade & Expansion To Enhance Public Safety

KEY BENEFITS

- Higher resolution cameras
- Potential new revenue stream by offering security coverage to local businesses
- Allow fewer officers to keep on eye on larger areas of the city

Municipal Camera System Upgrade & Expansion To Enhance Public Safety

KEY BENEFITS (cont.)

- Faster response times to crimes and accidents
- Video analysis - (items removed / added to view, tracking objects as they pass through the field, crowd detection, license plate reading, etc)
- Metrics (System can count the number of persons that pass by into and out of a camera's view)

Access Control

CURRENT ENVIRONMENT

- City buildings are accessed using traditional keys
- No way to know who or when a person entered a building
- Requires someone physically lock all doors



Access Control

PROPOSED OBJECTIVE

- Card key access system utilizing maglock technology



Access Control

KEY BENEFITS

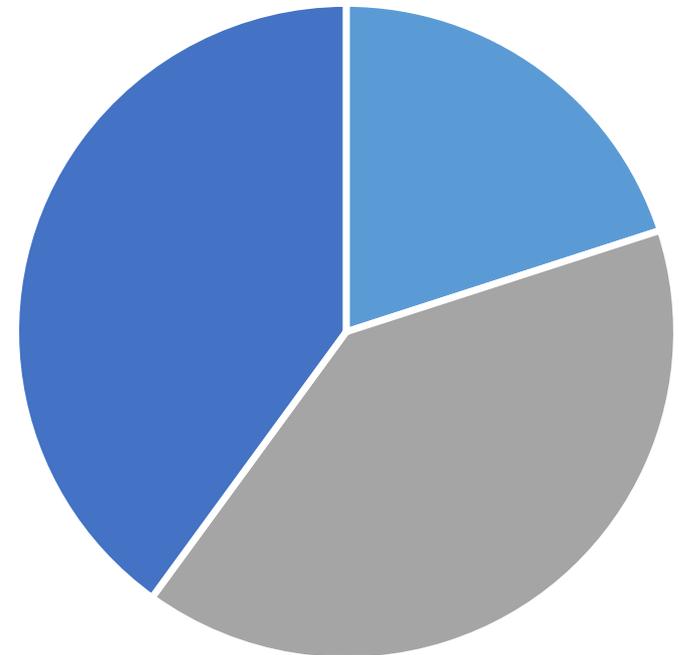
- System automatically locks and unlocks building access
- Card keys assigned to employees
- Track who and when employees enter and leave buildings during non-business hours
- Ability to lockdown physical access to individual or all city locations from a central security console in the event of an emergency situation

Replace PC's & Laptops

- Replace 20% to 33% of outdated desktops and laptops in Year 3



- Year 3
- Replaced
- Outdated



YEAR *Four*

4

Year 4 Goals

- Cellular service provider review
- Ongoing program to replace PC's & laptops

Cellular Service Provider Review

CURRENT ENVIRONMENT

- City has contracts with Sprint and Verizon
- Verizon is utilized for voice and text
- Sprint is utilized for data

Cellular Service Provider Review

PROPOSED OBJECTIVE

- Move all cellular traffic to single carrier

Cellular Service Provider Review

KEY BENEFITS

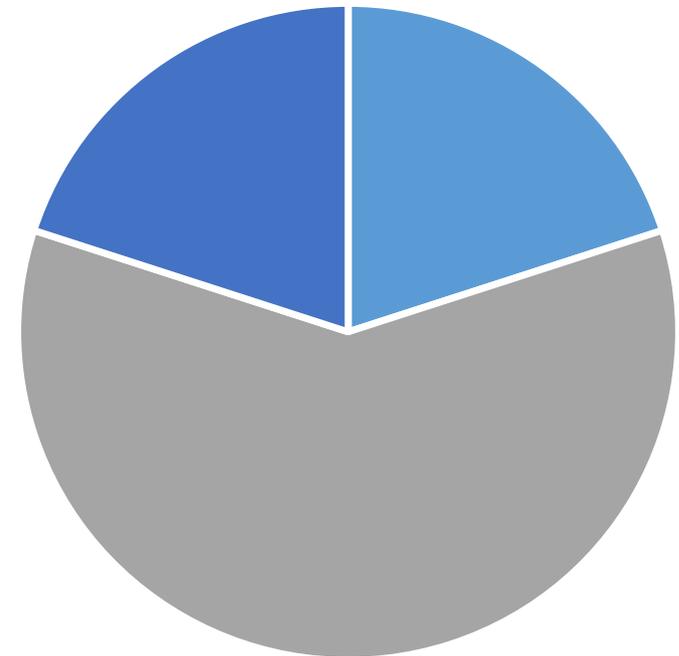
- Hapeville proximity to Hartsfield Jackson Airport offers the greatest opportunity to utilize all major carriers with zero loss of service
- Consolidation of services should provide an economy of scale to reduce overall cost
- Cellular providers often provide incentives to switch carriers for additional cost savings or added services

Replace PC's & Laptops

- Replace 20% to 33% of outdated desktops and laptops in Year 4



- Year 4
- Replaced
- Outdated



YEAR *Five*

5

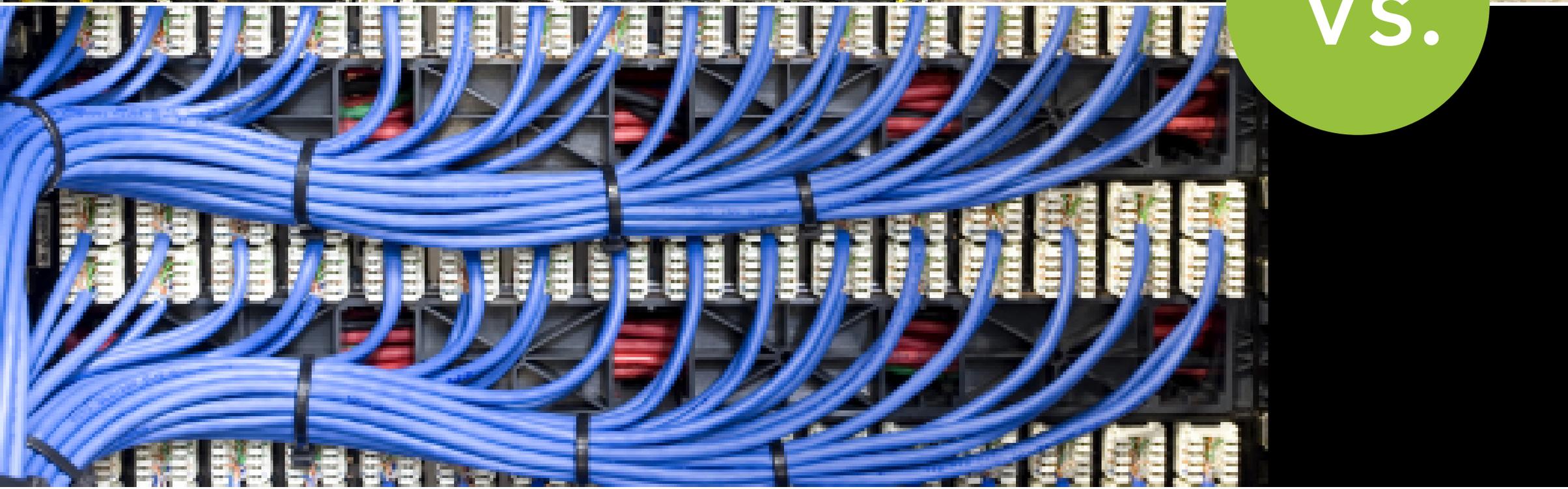
Year 5 Goals

- Cable management
- Ongoing program to replace PC's & laptops

Cable Management

CURRENT ENVIRONMENT

- Messy, unorganized, and complicated
- Hard to locate needed resources
- 5 minute password reset could turn into a 3 hour network outage due to poorly designed & documented closet



Vs.

Cable Management

PROPOSED OBJECTIVE

- Install new cable management components
- Reorganize servers and switches to be easily accessible

Cable Management

KEY BENEFITS

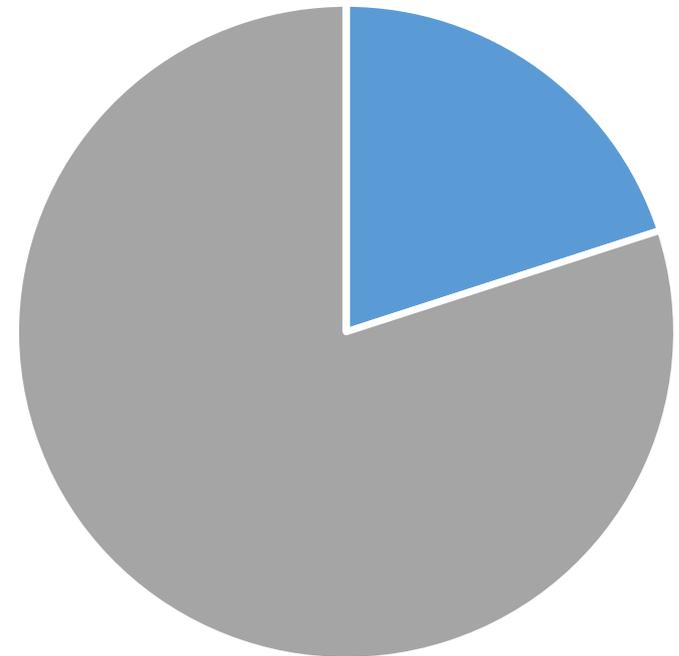
- Faster and easier to troubleshoot problems
- Minimize the accidental removal of the wrong component
- Minimize risk of causing potentially bigger problems

Replace PC's & Laptops

- Replace 20% to 33% of outdated desktops and laptops in Year 5



- Year 5
- Replaced
- Outdated





Pricing Overview

Pricing Quotation by Year

Year 1 Pricing Quotation

Item	One Time	Ongoing	Annual Pymnt
Servers	\$125,000		\$48,591 5 Year Lease Agreement Paid Annually
Email	\$11,000	\$1,600	
Network	\$60,000		
ISP		\$1,940	
Backup	\$5,500		
OpenGov Connectivity	\$1,500	\$375	
PC Replace	\$17,000		
SUBTOTAL	\$220,000	\$3,915	
		PURCHASE	LEASE
TOTAL	\$223,915	\$52,506	

Year 2 Pricing Quotation

Item	One Time	Ongoing	Annual Pymnt
Wifi	\$112,000		\$54,897 5 Year Lease Agreement Paid Annually
Phones	\$100,000		
Intranet	\$6,500	\$13,560	
PC Replace	\$17,000		
ISP		\$1,940	
Email		\$1,600	
OpenGov Connectivity		\$375	
SUBTOTAL	\$235,500	\$17,475	\$54,897
		PURCHASE	LEASE
TOTAL	\$252,975	\$72,372	

Year 3 Pricing Quotation

Item	One Time	Ongoing	Annual Pymnt
Cameras	\$35,000		\$22,997 5 Year Lease Agreement Paid Annually
Access Control	\$30,000		
Intranet		\$13,560	
PC Replace	\$17,000		
ISP		\$1,940	
Email		\$1,600	
OpenGov Connectivity		\$375	
SUBTOTAL	\$82,000	\$17,475	\$22,997
		PURCHASE	LEASE
TOTAL	\$99,475	\$40,472	

Year 4 Pricing Quotation

Item	One Time	Ongoing	Annual Pymnt
Cell Providers*	*	*	5 Year Lease Agreement Paid Annually
PC Replace	\$17,000		
ISP		\$1,940	
Email		\$1,600	
OpenGov Connectivity		\$375	
Intranet		\$13,560	
SUBTOTAL	\$17,000	\$17,475	\$3,875
			
TOTAL	\$34,475	\$21,350	

*Costs expected to remain unchanged from the City's current annual cost of \$37,200 for cellular services.

Year 5 Pricing Quotation

Item	One Time	Ongoing	Annual Pymnt
Closet management	\$8,000		5 Year Lease Agreement Paid Annually \$3,875
PC replace	\$17,000		
ISP		\$1,940	
Email		\$1,600	
OpenGov Connectivity		\$375	
Intranet		\$13,560	
SUBTOTAL	\$25,000	\$17,475	\$3,875
		PURCHASE	LEASE
TOTAL	\$42,475	\$21,350	



Q&A

Questions, Comments, and Answers



Liberty Technology

Freedom Through Technology