Presentation to the Palm Beach County League of Cities





Overview of Palm Beach County's Programs for Shared IT Services and Cyber Security

Information Systems Services Department Palm Beach County, Florida

June 27, 2018



I. IT Collaboration in Palm Beach County

The Palm Beach County Network



- >550 miles of fiber-optic cable
- >5,000 AT&T Leased Circuits (and shrinking)
- 470 connected facilities
- 16,000 connected devices
- 10,000 VoIP phones, 2,000 cellular devices
- Enterprise Class Unified Communications System
- 5,000,000+ public WiFi sessions per month
- Broad customer base entire County government and 46 external agency agreements



Florida LambdaRail Network



Shared Services Offered by ISS



- Internet Service Provider from FLR via PBC WAN
- Network Services network transport between facilities; turnkey support, including fiber optic cable, data closets, data jacks
- **Disaster Recovery** new regional data center; co-location; connectivity to remote backup sites
- Business Applications Human Resources; Planning, Zoning & Building; Lobbyist Registration; Fixed Assets, IG/Audit Case Management
- GIS Hosting and Support GIS Service Bureau, myGeoNav
- Document Scanning pickup, scanning and destruction
- Unified Communications Platform VoIP phones, video conferencing, messaging, mobility features, contact center

Unified Communications System



- ✓ Easy to use GUI and voice interface
- √ Rich, intuitive user experience
- ✓ Operates on multiple devices, on the PBC network or the Internet

OpenScape Phone



Desktop Client



Mobile Clients





Video Clients



Microsoft Outlook Plug-ins



Web Client



Web Collaboration Client



Benefits of Shared Services



- 1. Faster adoption of newer technologies
- 2. Greater network bandwidth and interconnection to Florida LambdaRail
- 3. Improved services to constituents
- 4. More efficient work force
- 5. Reduced costs
- 6. Intergovernmental cooperation

Customer Base for Shared IT Services



- Palm Beach County Government
- Other Governments (local/state/federal)
- Educational Institutions
- Health Care Organizations
- Non-Profit Organizations

Above organizations are defined as "Community Anchor Institutions" in guidelines for federal grant applications.

Public Sector Partners



Municipalities (16)

- Atlantis
- Boynton Beach
- Delray Beach
- Greenacres
- Juno Beach
- Jupiter
- Lake Clark Shores
- Lake Worth
- Lantana
- Palm Beach
- Palm Beach Gardens
- Palm Springs
- Riviera Beach
- Royal Palm Beach
- West Palm Beach
- City of Jacksonville

Educational Institutions (7)

- Early Learning Coalition
- Florida Atlantic University
- Lake Worth Christian School
- Learning Excellence School
- Oxbridge Academy
- Palm Beach State College
- School Board of Palm Beach County

Non-Profit Organizations (14)

- ARC of Palm Beach County
- Boca Raton Regional Hospital
- Career Source (Workforce Alliance)
- Center for Family Services
- Community of Hope
- Families First of PBC
- Jewish Federation of PBC
- Kravis Center
- Lupus Foundation of America
- Lutheran Services Florida
- Max Plank Institute

- Nonprofits First
- Prime Time
- South Florida Fair

Other Taxing Authorities (9)

- Children's Services Council
- East Coast Regional Water Treatment Plant
- Health Care District
- Lake Worth Drainage District
- Loxahatchee River Environmental Control District
- Orange County, Florida
- Seacoast Utility Authority
- South Florida Water Management District
- U.S. Virgin Islands

Palm Beach County Departments and Agencies

- Board Departments (34)
- Constitutional Officers (7)

New Collaboration Opportunities



<u>Network Services – New Agreements</u>

- Town of Lake Park
- Town of Palm Beach Shores
- Village of Wellington
- Community of Hope

<u>Network Services – Expansion of Existing Agreements</u>

- City of Greenacres
- Urban League of Palm Beach County
- Palm Beach State College
- Kravis Center

Marketing PBC IT Services





Paim Beach County has multiple partners and providers, includir the Florida LambdaRa that enable cost-

effective solutions.

There are multiple options for disaster recovery, and PBCnet can provide both the necessary transport as well as DR services.

Cost-Effective Network Services

PBCnet slaves you to cost-effectively connect to multiple locations and the internet via a mature, County-owned and operated, fiber-optic and WMxx network.



Some 20 years ago Palm Beach County be-

gan installing fiber-optic cable in conjunction with the numerous construction projects

scrops the County. New extending more than

650 miles, this private fiber-optic and William

network, along with leased connections from

the major telecommunications providers, con-

is 2000, responding to requests from munici-

palities and other organizations, Palm Beach

County began providing direct fiber-attached

broadband connections as a service to eligible

redundancy. We have multiple fiber routes

o facilities. Our primary internet is supplied

dsRall (FLR) on which we have multiple 10Gb

ploring a third optical path to Tampa.

nects more than 400 county facilities.

We also have a separate internet pipe via ATAT which is brought directly into

our Emergency Operations Center for an additional level of redundancy. Our entire internet routing and peering in border gatavasy protocol (BGP) based and we have multiple load balanced



Ethernet simplicity via a direct Sher-

Paim Beach County has multiple partners Designed to effectively carry all of your converged services, such as voice, data and video over IP and providers, includin the Florida LambdaRai that enable cost-

> There are multiple options for disaste recovery, and PBCnet can provide both the



RGANIZATIONS

PBC Connect

Cost-Effective VoIP Telephony Services PBC Connect allows you to cost-effectively connect to the County-owned and opersted communications care for advanced telephony services.



PSC Connect with our partner, Alon (formerly

Unity, Inc.), is the latest generalize of tele

communications technology for Voice over Internet Protocol (VoIP). Our new OpenScape

Urified Communications (UC) System will

also pay for itself in less than 5 years through

cost savings from discontinued leased circuits

This UC OpenScape platform enhances

communications and applications, improves

phones, and connects co-workers, customers

and vendors through collaboration tools. The

offered by the UC system such as video con

ferencing, instant message, single number

and lower evalum maintenance costs.

Provides Vol P Telephones, Web and Video Conferencing

Integration with Outlook email sys-tem with preferred device option Mobility Features for smart phones and tablets with single-number reach Presence Awareness, Call Control and Chat (Instant Messaging)

Collaboration Tools for dealdop inte-gration and sharing

ISS currently maintains some 10,000 fore used by all departments and constitutional offices comprising Palm Beach County government. The UC OpenScape system is consolidating the mixed environment into one modern by reliable and less costly to maintak



Application Services



Benefits of Application Hosting

vices to their citizens at a greatly reduced

cost. Since we are not in the market to own

erate a profit, we can leverage our resources



 Data storage fully secured Help Desk support 247

Paim Beach County's Information Systems Services (ISS) Department has long been a any critical infrastructure today provider of exceptional application development services for Palm Beach County reversof professionals who provides the ment. By making these applications available to others, we give public sector organizations

to offset our application development costs and provide an excellent quality product at a reasonable cost to other public sector organi-Palm Beach County ISS offers flexible options tions to government and non-profit organiza-Sons. A cost breakdown based on your speoffic requirements will be provided based on

Education, Nonprofits

here are a number

of flexible options for our data services.

provided based on urther discussion and

NTERNET ACCESS

has multiple partners

the Florida LambdaRai

Disaster Recovery Services



options for disaster PBCnet, the County's

advanced broadband for local connectivity and internet access, provides both the necessary transport as well as disaster

Palm Beach County ha multiple partners and

Palm Beach County can provide an array Having support 2477 is a requisite for any ortical infrastructure today. PSCnet has a dedicated local team organization's needs. The offerings range Regional Data Center via the Palm Beach networks and provide responsive County fiber-optic and William network, and



lwww.fimet.org) to a fully customized disaste

GIS Hosting Services

ELIGIBLE

effective solutions.

well as DR services.



Geographic Information System Technology



- + State & Federal Gove
- Educational & Honprofit

The Countywide Geographic Information System (CWGIS) in Palm Beach County includes constitute the Enterprise GIS (EGIS) used by agencies that access the County's wide area network (WAN). The infrastructure is in place for local government to utilize geographic and land data to support informed decision making, cost efficiency and responsible man-

CWGIS also promotes enhanced taxpayer benefits through efficient information access. By facilitating citizen access to government data and providing timely answers and feed back, government can be strategically directed to respond to the needs of the taxpayers.

pertnerships by being more market and enterprise oriented. Examples of this include data sharing partnerships with municipalitie South Florida GIS Euro, which countries as a

Paim Seach County has built its EGIS on the foundation of a strong organizational model and technical innovation. The use of GIS as an emedded, transparent part of business processes



Www.pbcgov.org/

Data Services



Document Management

Building has 24/7 security overd an

Facility is operational 24/7/365 and is Extensive network and data security

Viewable in electronic format: online or DVD

Electronic storage services and

network secure access smallable Offste media storage for disaste

necovery High level security, including re-

Emphasis on quality and expediency

SERVICES AVAILABLE

Laser printing high speed, high volume continuous duplex and simplex printing (11" up to 19")

Impact printing: multi-part, pre-printed forms and labels

form and labels
Form design
Cut sheet color printing
Post printing processes: bursting, birsming, fulling, envelopes, inserts, sealing
Post office preparations: sip + 4, bar code,

High Quality: standard 300dpi (957 minute for monochromo infestingal sizes) Small to Large (up to 42" x 42")

CD/DVD Authoring Custom CD/DVD Labels

daction Web-mubiled hasting services





II. Cyber Security

Cyber Threats



- Ransomware encrypts user's files and demands payment in order to have decryption key.
- **Distributed Denial-of-Service** (DDoS) employs the use of multiple computers consuming the bandwidth of a resource to render it useless.
- Advanced persistent threat (APT) uses multiple threat processes in order to maintain a presence on a system and exploit a vulnerability.
- Hacktivism is the use of computers and/or networks to promote social change or a political agenda.
- Legacy infrastructure and applications pose a threat as they are unsupported and do not receive security updates.

ISS Security Programs

REACH COUNTY

- Network Firewall
- Anti-Virus Programs
- Vulnerability Scans
- Encryption
- Identity Management
- Intrusion Detection
- Transaction Logging
- Personnel Background Checks
- Facility Access Restrictions (Badges)
- Segregation of Duties, Training, Policies

National Institute of Standards and Technology (NIST) Security Framework



- Identify- Maintain an inventory of assets and processes that may be vulnerable to cyber attack
- Protect- Ensure protection procedures are in place for all assets and processes
- Detect- Implement monitoring processes to alert staff of anomalous activities
- Respond- Ensure procedures in place to quickly isolate and mitigate anomalous activities
- Recover- Be prepared to restore services and improve protections against source of anomalous activity

Security Technologies



- Next generation firewalls include deep packet inspection and antivirus scanning to prevent malicious packets from reaching their destination.
- Endpoint protection utilizes artificial intelligence and machine learning in order to protect the endpoint device from vulnerabilities, zero-day attacks, and non-compliance.
- **User behavior analytics** allows for the learning of normal operations and detecting when actions may be potential threats to the network or out of compliance.
- Continuous vulnerability scanning allows for proactively identifying assets, discovering vulnerabilities, and verifying compliance.
- Security awareness training promotes the education and tools for end users to recognize and mitigate cyber threats.

Security Awareness Training



- A formal policy was drafted to give ISS the ability to perform simulated phishing campaigns and set a standard for administering security awareness training.
- The policy requires all new employees and repeat "clickers" to complete mandatory training.
- Training consists of a series of videos ranging from cyber threats to demonstrations on how certain attacks work.
- Supplemental material includes games and posters to reenforce the training.
- Training material is also job function specific and provides additional resources to areas like Human Resources and Finance.

Phishing Tests for Employees



- Simulated phishing tests are crafted from templates of real-world emails sent to various companies and government agencies.
- Phishing tests allow for employees to be exposed to current threats without becoming compromised.
- If an employee fails a test, supplemental material is immediately presented to highlight red flags.
- Reports help to focus on threats for which additional training is needed and where training is working.





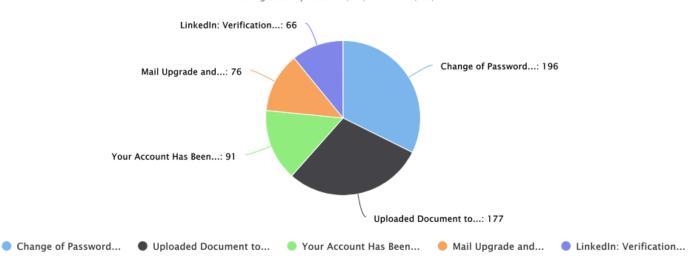
- ISS performed a simulated phishing test on over 6000 employees who have access to email.
- The phishing test was conducted over a 3 week period to prevent compromising the test.
- A total of 5 different emails were used to test a range of skills in spotting a phishing email.
- The test concluded with a 10% failure rate amongst employees.

Phishing Test Results



Failures by Email Template

Phishing Security Tests 12/26/2017 - 06/26/2018



Email Template	Phish-Prone %	Delivered	Failures	Clicks	Replies	Attachments	Macros	Data	Exploits	Reported
Change of Password Required Immediately (Link) (Spoofs Domain)	16.0%	1224	196	196	0	0	0	0	0	0
Uploaded Document to Google Docs (Link)	14.2%	1245	177	177	0	0	0	0	0	1
Your Account Has Been Disabled Due to Failed Login Attempts (Link)	7.4%	1229	91	91	0	0	0	0	0	0
Mail Upgrade and Migration (Link) (Spoofs Domain)	6.1%	1241	76	76	0	0	0	0	0	1
LinkedIn: Verification Required! (Link)	5.3%	1257	66	66	0	0	0	0	0	0

Example Test Email



From: alerts@linkedin-notreal.com

Reply-to: alerts@linkedin-notreal.com

Subject: Verification Required!

Send me a test email
► Toggle red flags



Dear ttravieso@pbcgov.org,

Due to the recent upgrade in our SSL server to serve you better, please note that all users are mandated to update their login details in other to enjoy the new upgrade. You would be blocked from sending and receiving emails if not confirmed within 24hrs of receiving this automated mail. You are required to update through the link below.

UPDATE

Thanks for using LinkedIn! LinkedIn Team

Thank You!

Questions or Comments?

