

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



- Education
- Research
- Economic Development



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



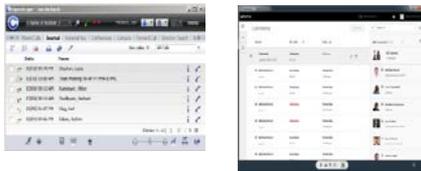
Unified Communications System

- ✓ 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



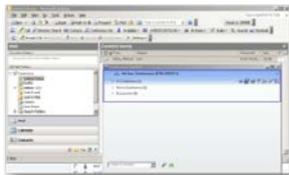
Mobile Clients



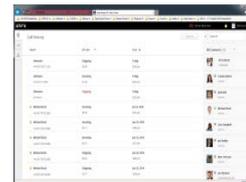
Video Clients



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

Network Services – New Agreements

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

Network Services – Expansion of Existing Agreements

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



Marketing PBC IT Services

PBCnet Services
Advanced broadband for local connectivity and Internet service

Cost-Effective Network Services
PBCnet allows you to cost-effectively connect to multiple locations and the Internet via a mature, County-owned and operated, fiber-optic and WDM network.

ELIGIBLE ORGANIZATIONS
Government, Education, Nonprofits and Healthcare

INTERNET ACCESS
Palm Beach County has multiple partners and providers, including the Florida LambdaRail, that enable cost-effective solutions.

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

Partnership Opportunities

PBC Connect
Unified Communications - multiple communication tools in a single, unified system

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

ELIGIBLE ORGANIZATIONS
Government, Education, Nonprofits and Healthcare

INTERNET ACCESS
Palm Beach County has multiple partners and providers, including the Florida LambdaRail, that enable cost-effective solutions.

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

Partnership Opportunities

Application Services

Benefits of Application Hosting

ELIGIBLE ORGANIZATIONS
Government and Nonprofits

SERVICE TYPE
There are a number of options for Application hosting.

Partnership Opportunities

Disaster Recovery Services

Cost-Effective Disaster Recovery Offerings
PBCnet

ELIGIBLE ORGANIZATIONS
Government, Education, Nonprofits and Healthcare

SERVICE TYPE
There are a number of options for disaster recovery.

Partnership Opportunities

GIS Hosting Services

Geographic Information System Technology

Countywide GIS Forum

ELIGIBLE ORGANIZATIONS
Government, Education and Nonprofits

SERVICE TYPE
There are a number of options for GIS hosting.

Partnership Opportunities

Visit:
www.pbcgov.org/iss/partnering/

Data Services

Document Management
Print, Scan, Store, and Manage Documents

ELIGIBLE ORGANIZATIONS
Government, Education, Nonprofits and Healthcare

SERVICE TYPE
There are a number of flexible options for our data services.

Partnership Opportunities



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

- 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 re-enforce 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.



Results of Simulated Phishing Test

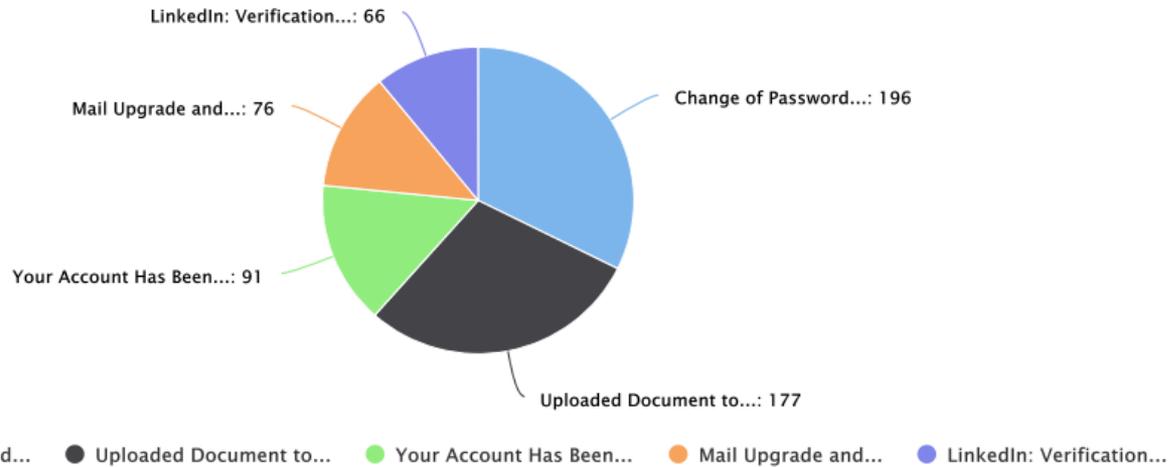
- ISS performed a simulated phishing test on over 6000 employees who have access to email.
- The phishing test was conducted over a 3 week period to prevent compromising the test.
- A total of 5 different emails were used to test a range of skills in spotting a phishing email.
- The test concluded with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

The LinkedIn logo, consisting of the word "LinkedIn" in a bold, sans-serif font, with the "in" part in a blue square.

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 order 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?

