

Integrated Program Review IT Update

June 18, 2014

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Agenda

- Our Approach Towards Resources
- IPR2012 and IPR2014 Comparison
- Risks to Project Funding Levels
- Accomplishments
 - Projects delivered in FY2012 thru June 2014
 - Deep drive into our Virtual Environments
 - Cyber Security Operations and Analysis Center (CSOAC)
- Questions

Approach Toward Resources

We classify IT services and capabilities as “core” and “non-core” to BPA’s mission, to aid in

- Prioritizing investments, work, and resources around what is fundamental to enable BPA to achieve its strategic business objectives and fulfill its mission.
- Focusing constrained resources on delivering core services

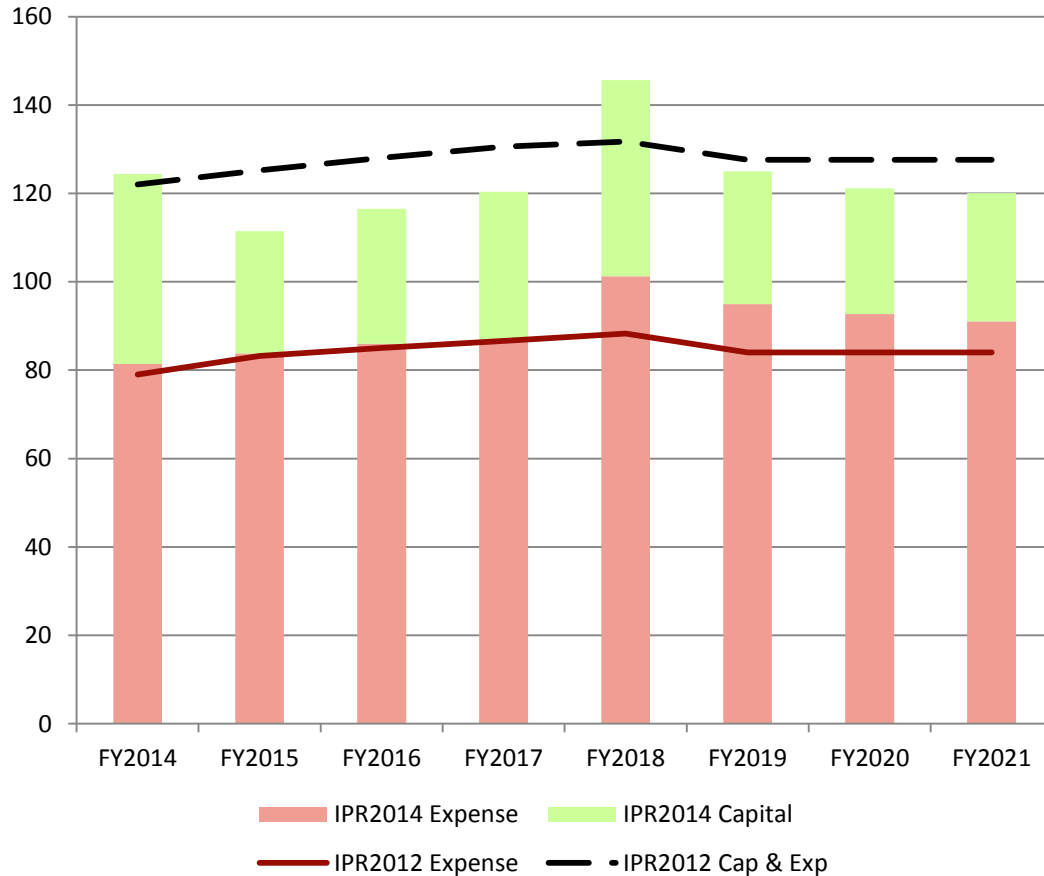
Emphasize Operational Excellence in order to

- Reduce infrastructure operational costs
- Fund application support/enhancement costs through infrastructure savings

A Core IT Asset delivers a service or capability that differentiates BPA in the market place by meeting one or more of the following conditions:

- **Enables the marketing of services and products at a lower rate;**
- **Manages the Federal Columbia River System, including power generation, power scheduling, power transmission, or transmission scheduling;**
- **Enables BPA to meet its responsibilities as a Balancing Authority;**
- **Manages fish/wildlife obligations;**
- **Is required by regulation, treaty, federal law, or federal directive.**

Comparison of IPR2012 and IPR2014 Funding Projections



IT is projecting to stay near total funding levels as proposed in IPR2012, although shifting towards less capital and more expense funding.

Major drivers for this capital-to-expense shift include:

- New systems delivered into production
- Completion of capital infrastructure projects that will need expense to refresh beginning in FY2018
- Increased adoption of cloud-based services
- Rules for capital funding

Beginning in FY2017, IT will need to compete, Agency-wide, for all discretionary capital funding. The above chart shows our expected funding, but actual funding may vary.

Risks to Projected Expense Levels

- New/Increasing NERC-CIP regulations, that may require
 - Changes in how we secure and manage systems
 - New systems to support reporting
- Energy Imbalance Market
- Rising bar for security, evolving security threats, incident response capabilities
- New Federal regulations & directives (ICAM/HSPD-12, IPv6, Trusted Internet Connections (TIC), etc..)
- Increasing demand for new systems/automation to support the business
- Disaster Recovery requirements
- Workforce challenges – attracting and retaining talent in a diverse and aging workforce

Accomplishments

New Systems Placed Under Support

2012

Data Center Modernization (DCM)
 Prowatch Phase 2 (PW2)
 Transmission Asset System - Inside the Fence (TAS)
 Revenue Forecasting (RF)
 Rates Analysis Model (RAM)
 Trade Management System (Gateway)
 Customer Contracts (CBC-Contracts)
 Business Continuity Portal (BCP)
 Wireless Pilot (WP)
 CBS Independent Switchover (CBSIS)
 Customer Data Management (CDM)
 Customer Portal (CP)
 Customer Billing Phase 2 (CBC-Billing2)
 Dynamic Modeling (DM)
 Electronic Official Personnel Folder (e-OPF)
 Regional Dialogue Scheduling System (RDSS)

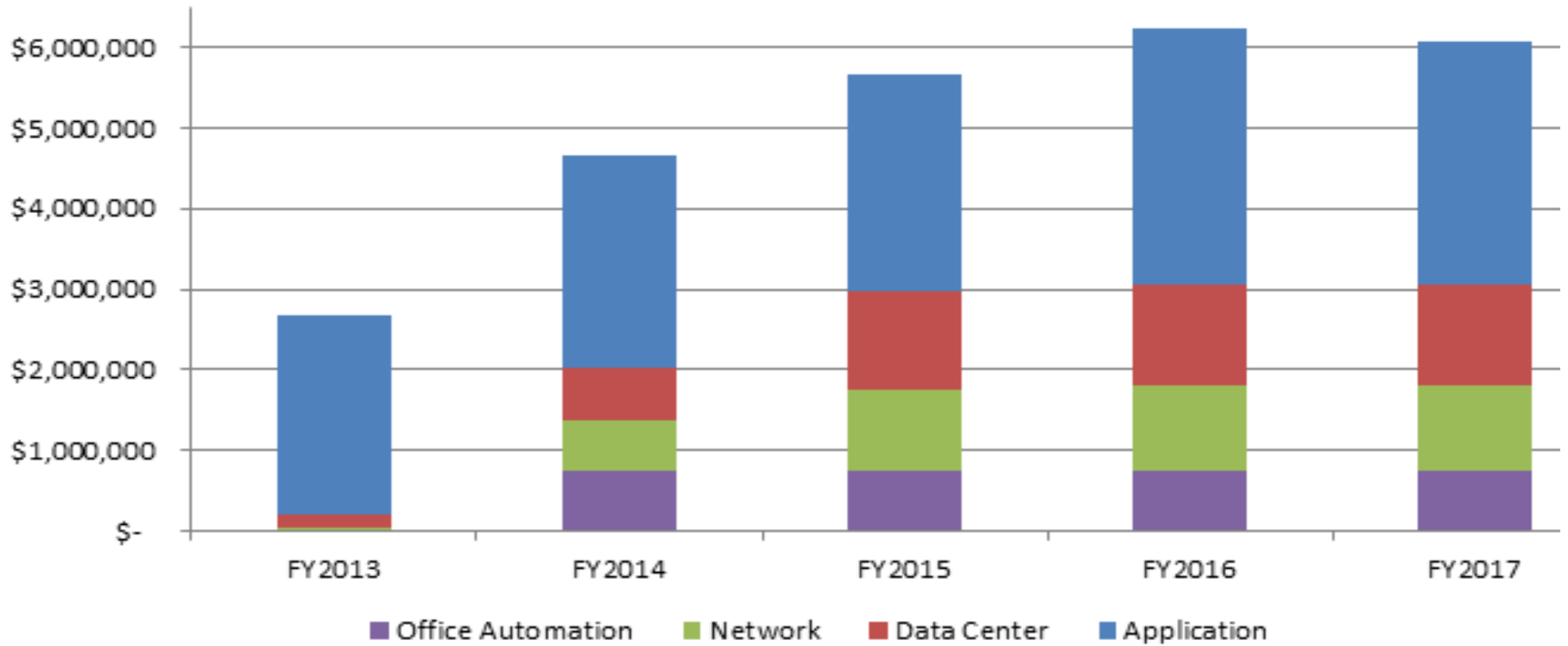
2013

Customer Contracts Management Phase 2 (CCM2)
 Active Directory Modernization (ADM)
 Wireless Workplace (WW)
 e-Discovery _ Exchange Email (e-Discovery)
 Health and Safety (HS)
 IT PATCH Management (PATCH)
 Talent Acquisition (TA)
 RODS Retirement (RODS)
 Customer Portal Phase 2 (CP2)
 Equivalent ATC for AFC Paths (EqATC)
 Energy Accounting Stabilization (EA)
 Competition Implementation for Tariff Compliance (CITC)
 Long Term ATC Management Tool (LTAMT)
 Telecommunications Circuit Management System (TCMS)
 Slice Computing Application (SLICE)
 Loads Obligations & Resource Analyzer (LORA)
 Renewable Inventory Application (RIA) Revision
 EE Interim Solution 2 (IS2)
 Land Acquisition

As of 5 June 2014

CBC Phase 3 (CBC3)
 Wireless Workplace (WW)
 Budget Planning, Forecasting, Analysis System (BPFAS)
 Service Point Profile (SPP)
 Slice Computing Application (SLICE)
 Energy Accounting Stabilization (EA)
 EE Tracker (Tracker)
 Telecommunications Circuit Management System (TCMS)
 TAS Cascade Enhancement (TCE)
 Real Property Services Work Management and Reporting (RPS)
 Oracle Rehosting (ORA)
 Desktop Modernization Project (DMP)
 Electric Quarterly Reporting (EQR)

Expense Categories for O&M



New Contracts and Operation & Maintenance Costs from FY2012 Projects

Virtual Desktop Infrastructure (myPC)

In Q2 of FY2014, we completed deployment of virtual desktop environment and migration to Windows 7 & Office 2010

- Thin client penetration/adoption
 - Achieved 30% thin client penetration with initial rollout
 - Expect to increase thin client adoption by 10% per year by virtualizing additional desktop titles (another 100 titles planned by June 2015)
 - Enabling infrastructure to promote:
 - Use of Windows-based tablets
 - Guest wireless access from personally-owned devices (BYOD)
- Total Cost of Ownership comparison between thin and thick clients
 - Significant energy savings (thin clients use less than 3% of the energy consumed by a standard desktop device)
 - Hardware savings
 - Realized savings of \$1.26M during the completed FY2014 refresh cycle
 - Thin client lifecycle provides \$2.3M hardware & \$500K labor cost avoidance during the FY2018 refresh
 - With the net reduction in thick client deployments, we expect to realize an additional \$1.3M in savings in the FY2016-FY2021 Microsoft Enterprise Agreement

Virtual Desktop Infrastructure (*cont*)

- Thin Client Benefits
 - Application Streaming
 - 60% reduction in wait time for new application delivery
 - Goal to further reduce application delivery wait time to 1-2 business days, through process improvement
 - 75% less time to deploy a fixed thin client than a thick client
 - 65% less time to deploy a mobile thin client than a thick client
 - Centralized data storage ensures backup vs. total loss when a PC hard drive fails
 - User Satisfaction
 - Extremely positive for enabling telework
 - Significantly faster logon times
 - Mixed results on replacement of thick clients – some clients enthusiastic supporters, while others are reluctant users
 - Enabling Teleworking
 - Monthly Average: 1,326 users for 22,464 hours (double the number of hours prior to myPC)
 - Peak/Simultaneous Use: 1,210 users for 10,049 hours during winter weather building closure
 - Access to a BPA desktop from anywhere supports Business Continuity

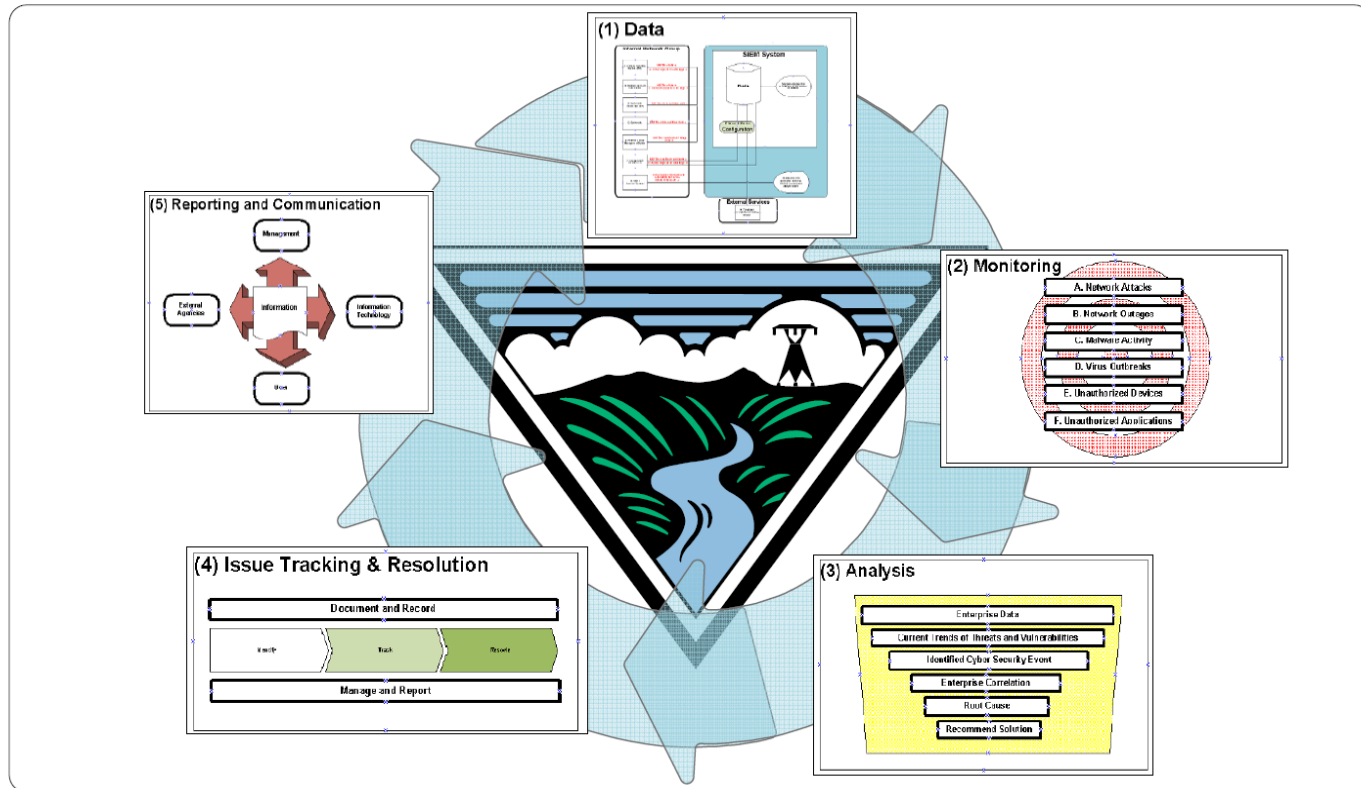
Consolidated and Virtualized Datacenter

- Critical Business Systems (systems that require 24x7 and high availability), have been operated in a consolidated and virtualized environment for several years
- General business systems are now in the process of consolidation and virtualization
- Benefits seen to date include:
 - Improved security and reliability from network segmentation between critical and non-critical business systems
 - Reduced operating costs between –
 - The annual maintenance cost for a windows operating system in BPA's consolidated and virtualized environment is 49% the cost of a windows operating system in our legacy server environment
 - Expectations are that as non-critical systems are migrated into the consolidated and virtualized environment, similar cost efficiencies will be achieved

Cyber Security Operations and Analysis Center (CSOAC)

Providing: Cyber Threat and Intelligence Monitoring, Cyber Incident Response, and Capability Improvement Metrics.

B O N N E V I L L E P O W E R A D M I N I S T R A T I O N
 Cyber Security Operations and Analysis Center (CSOAC)
 Operational Vision

Elements:

- Security Information Event Management tool
- Feeds from three BPA network operations centers
- Case Tracking system
- 24x7 staffing

Questions?

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Financial Disclosure

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This information has been made publicly available by BPA on June 13, 2014 and contains information not reported in agency financial statements.