The ASPPA Benefits Council (ABC) of North Florida
Quarterly Meeting – March 21, 2017

--- Technology ---
The Knowledge to Shape Your Operations

--- Speaker ---
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Technology – Not just for geeks

- We're all in the data business
  - TPAs
    - Client data, plan data, participant data, asset data
  - Financial professionals
    - Client data, investment data
  - Attorneys
    - Client data, case data

- And our businesses depend on us maintaining this data and being able to access it efficiently

Technology – Not just for geeks

- We use some sort of technology to store data
  - Stone tablets
  - Paper/quill
  - Index cards
  - Computer files
- We organize/store data in places so we can find it when we need it
  - File cabinet
  - Computer
  - Cloud
- We have choices – shouldn't we understand the implications of our choices and not leave it up to IT?

Technology – Not just for geeks

- Cloud
- Hosting
- Storage
- Application
- Interface
- Architecture

We all freely toss around these terms but do we know what they mean?

Cloud

Unplugged View

IT View

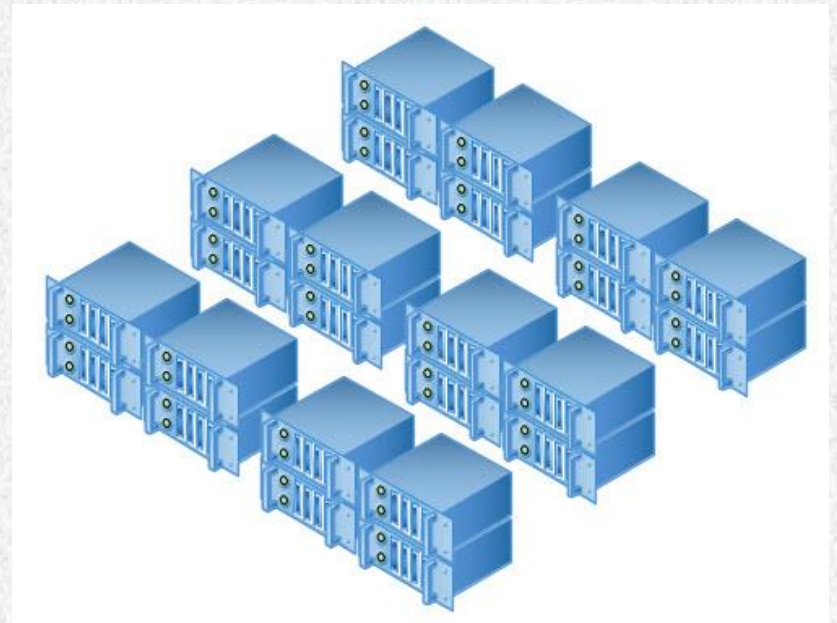The ASPPA Benefits Council of North Florida – March 21, 2017

Hosting

Unplugged View

IT View

Storage

Unplugged View

IT View

Application

Unplugged View

IT View

Uniform Residential Loan Application

ed by the applicant(s) with the Lender's assistance. Applicants should complete this form as "Borrower" or "Cc
appropriate box checked) when □ the income or assets of a person other than the Borrower (including the Borrower
the Borrower's spouse or other person who has community property rights pursuant to state law will not be used as a
spouse or other person has community property rights pursuant to applicable law and Borrower resides in a commun
the Borrower is relying on other property located in a community property state as a basis for repayment of the loan.

ower and Co-Borrower each agree that we intend to apply for joint credit (sign below):

Co-Borrower				
I. TYPE OF MORTGAGE AND TERMS OF LOAN				
□ Conventional □ USDA/Rural Housing Service	□ Other (explain):		Agency Case Number	
est Rate %	No. of Months	Amortization Type:	□ Fixed Rate □ GPM	□ Other (explain): □ ARM (type):
II. PROPERTY INFORMATION AND PURPOSE OF LOAN				

e & ZIP)

ch description if necessary)

onstruction Construction-Permanent	□ Other (explain):	Property will be: □ Primary Residence	□ Secondary R

truction-permanent loan

Recordkeeping Forms Workflow

Data Handling Timekeeping Automation
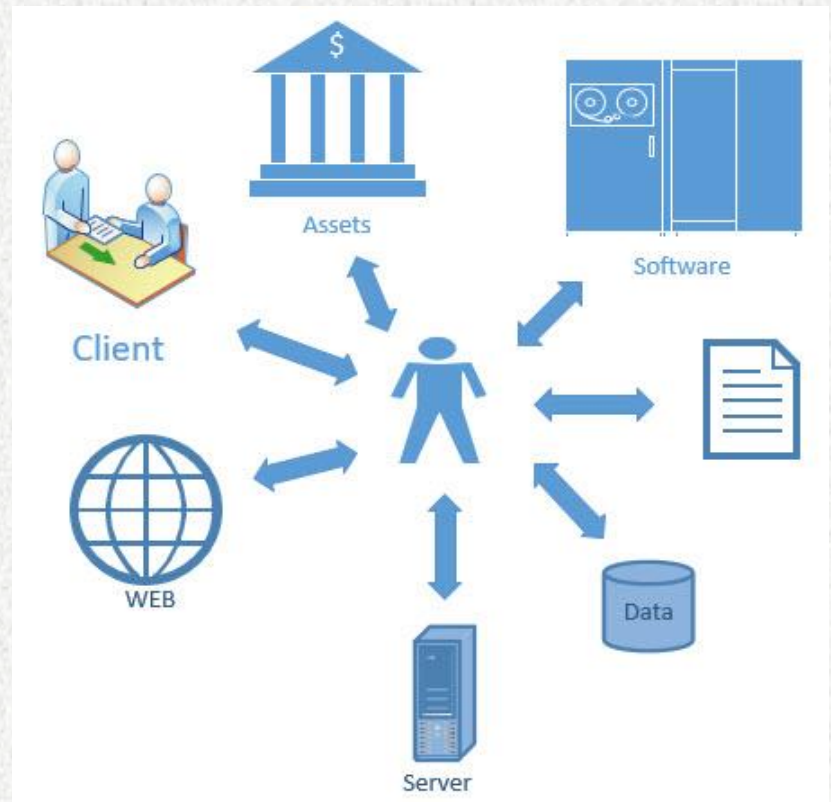
SQL Server Access

Word Excel

Interface

Unplugged View

IT View

Architecture

Unplugged View

IT View

Business & IT: Shared Interests

- Business and IT must speak the same language for mutual success

- Neither group's interests can dominate…they must be shared

- Common Conflicts:
  - Data: Access/Usability vs. Security/Maintenance/Reliability
  - Workflow: Seamless/Integrated vs. Security/Access-Control
  - Culture: Social/Personal/Creative vs. Security/Access-Control/Risk-Abatement

Environment: Overview

- Where is my software and data?
- Who has access?
- What is my responsibility?

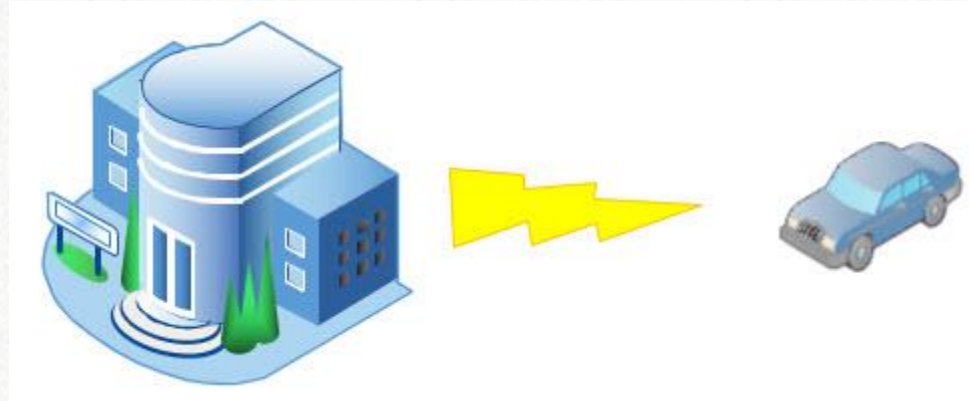- What choices do I have?
- How do I choose?

Environment: In-House Hosting

Applications and data are stored on a company computer resource and accessible as:

- Local PC
- Peer-2-Peer
- Remote Desktop
- Local Server (WiFi, WAN, LAN)

- **WHERE:** Computers in my office; desktop (thick client) or client-server (thin client) operation

- **WHO:** My Staff *

- **WHAT:** Everything:

  Hardware, Software, Backup, Recovery, Maintenance

Environment: In-House Hosting Access

Wifi connections are vulnerable!

So make them secure and limit online devices where possible

Environment: In-House Hosting

So What Could Possibly Go Wrong?

You have complete control but…

Environment: In-House Hosting

So What Could Possibly Go Wrong?

You have complete control but...

There's a problem with the server

Environment: In-House Hosting

So What Could Possibly Go Wrong?

You have complete control but...

There's a problem with the server
It's YOUR PROBLEM

Environment: External Hosting

Applications and data are stored on external computer resource and accessible via:
- External Server (WAN, Internet)
- Virtual Machine
- Remote Desktop
- Remote Apps

- **WHERE:** My IT vendor; desktop, client-server, or Web

- **WHO:** My Staff *

- **WHAT:** Cost to shift responsibility to IT vendor

Environment: Cloud

New Name, Same Concept…*Almost*:
- External Server
- Remote desktop/Virtual Machine
  - Emulate In-house hosted desktop or client-server interface
- URL Access
  - **Limited interface defined by application**

- WHERE: Who Knows/Cares?

- WHO: My Staff *

- WHAT: Cost to shift responsibility to Cloud vendor

Environment: What This Means to You

- Vendor support limitations
  - Some vendors limit support (or free support) to licensee owned installations
  - If something doesn't work, who/what's at fault?
- Access limitations
  - Availability and performance
  - Functionality, Usability
- Backup and recovery
  - Who ya gonna call?
  - Will it work? The 2-tape situation
- Failure Critical path: internet, servers
  - More Technology Jumps = More Failure Points

Architecture: Overview

Topics to be discussed:
- Difference between direct vs. Web user interface
- Tiers, access, and implications
- Open vs. Closed or Black Box paradigms

Architecture: User Interface

Direct

Web

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Architecture: User Interface

- Direct Interface
    - Full-featured interface styles
    - Fast response time
    - Available without Internet

- Web Interface
    - Driven by scalability/compatibility, not features
    - Response time tied to Internet performance
    - Not available if Internet down
    - Exposes security/vulnerability risks

Security/vulnerability is ALWAYS at risk when any Internet Access exists

Architecture: Processing

- Open
  - Direct access to processing features via screens, command-line, and web services
  - Integration/automation limited only by application

- Closed (Black Box)
  - Access only through delivered user interface
  - Integration/automation limited by user interface

Architecture: Data

- Open
  - Direct access to databases, files
    - Database, report writer tools
    - Office products
    - Text Editors
  - Schemas, data dictionary, file layouts available
- Closed
  - Access only through delivered user interface
    - Limited to content, format, and import/export features provided by the user interface
  - Proprietary schemas, data dictionary, file layouts not available

Architecture: What This Means to You

- Conversion and Implementation
  - Options to extract, manipulate, and import can have direct impact on effort/cost

- Integration with other applications
  - External access to application data and features provides options to interface with other applications and processes

- Control of your back office procedures and workflows
  - Access and integration allow for application use to be tuned to your back office rather than the other way around

Architecture: Conversion

- Software conversion/installation requires configuration
    - At the core is Data, both for participants and plans, but also for plan business rules
    - Applications with the same functionality will have similar but not identical data storage: hence a conversion is needed
    - Though you had complete control of the data when provided by the client, that can change when imported into an application

Architecture: Conversion

- Closed architecture limits your ability to extract data
  - These can be incomplete, not in reusable formats (e.g., PDF, proprietary), and segmented (e.g., by plan)
  - Any of these limitations negatively impact the use of the data for conversion to a new system

- Open architecture adds the ability to access the data directly.
  - This removes limitations of the Closed architecture but requires effort to develop an extract process

Conversion Example

Convert 500 Plans From Current To New Admin System: **Challenges**

- Current System
  - Data extracted as encrypted, compressed, one file per plan
  - Data Dictionary not provided. This is the key to interpreting data elements.

- New System
  - Cryptic facility to import Company and Plan data
  - Concept relies heavily on manual entry

Conversion Example

Convert 500 Plans From Current To New Admin System: **Solution**

- Create Automation Tool
  - Convert current system Data to open database
    - By-product is data archive in accessible database
  - Extract Company/Plan data, combine with new system plan specs, and build text file for import to new system
    - With new system vendor support, reverse engineered cryptic company/plan file format for automated operation
  - Extract Employee data and create load files for new system import
    - Single load operation for all Plans

Architecture: Integration

- Typically the back office employs multiple software applications plus office work products (e.g., Word, Excel, Access) to establish a start-to-finish workflow

- Often processes are established to get around limitations of applications and satisfy interface requirements

- The down side of this can include:
  - Highly manual actions, often not well documented
  - Multiple actions on the same data for multiple destination applications
    - *Same source data + different manipulation steps does not guarantee same destination data!!!!!!*

Architecture: Integration

- Closed architecture limits the ability to automate and unify processes
  - Must rely on available interfaces and conform to their formats/layouts
  - Programmatic control of data interfaces not available
- Open architecture offers direct access to data and functionality
  - External tools can work directly with data without manual invocation of application import/export functions
  - External tools can run application functions directly removing manual workflow steps
  - Data manipulation can be built into the tools removing need for additional handling/steps and interim data storage

Integration Example

Simplify Recordkeeper Updates to Admin System: **Current Process**

- Update files in variety of formats
  - Manual manipulation of input data to Admin system import format
  - Manual addition of employee information and Admin system references (company, plan, account types)

- Manual review/validation
  - Mapping of recordkeeper contract number to company/plan
  - Counts and totals across all money buckets

Integration Example

Simplify Recordkeeper Updates to Admin System: **New Process**

- Recordkeeper Conversion Tool
  - Automatic conversion of input data to Admin system import format
  - Read corporate client and admin system databases to add:
    - Employee information and Admin system references (company, plan, account types)
    - Translation of recordkeeper contract number to company/plan
  - Add Counts and totals across all money buckets to final import file

- Future: Automate import to Admin System

Architecture: Control

- Control includes ownership, access, and management of business data and operations
- Change is unavoidable and with that can come change to back office operations and processes. It comes in many forms:
    - System conversions
    - Book of business acquisitions/mergers
    - Vendor application version updates
    - New or modified business functions
- Architecture can be a factor in determining the scope and impact of change to the back office
    - Closed architecture offers limited, vendor controlled access that limits options for back office integration
    - Open architecture offers direct access to core data/functions which offers greater versatility and stability for back office integration

Control Example

Automate Census Workflow: **Current Process**

- Workflow System
  - Receives census update from client
  - Internal admin notified census available
  - Client notified when census processed (manual update)
  - Admin loads client reports (manual update)
  - Client notified when reports are available

- Admin System
  - Manual validation and load of census update
  - Manual generation of client reports

Control Example

Automate Census Workflow: **New Process**

- Workflow Integration Tool
  - Monitors client census update status
  - Downloads census update file when available
  - Automates validation and load on Admin System
  - Monitors availability of client reports
  - Uploads client reports when available
  - Updates workflow status for both client and admin
- System Architecture Impact
  - Workflow system provides web service interface
  - Admin system required "low tech" keystroke simulator

Security and Vulnerability

- Why is this important?

- What are the risks?

- What are the actions you can take?

Security and Vulnerability: Why Important

- Exposure, hack, and theft of company and client confidential data has legal and company credibility implications

- Disruption of services through IT infrastructure compromise and destruction has service delivery and company credibility implications

The victim is held accountable!

Security and Vulnerability: Risks

- Hacking: access to internal system components (data, IT system control)

- Impersonation: access to external services acting as you

- Virus/Ransomware/Destruction

Security and Vulnerability: Take Action

- Secure Wifi, Email, Company Web Site
- Restrict Web site access (Social sites, shopping sites)
- Spam filter and quarantines on Email
- Internet Security and Firewall software on all IT components

Build a fortress…

but recognize the human is the weakest link!

Thank you!

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