

CAPI Management at Westat

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Introduction



- Westat uses a suite of applications to manage and support CAPI surveys
- In use for 10+ years on a wide variety of CAPI surveys, e.g., large, small, household, institutional
- Recently completed redevelopment of these applications to improve architecture, update technology, and extend functionality

Design Goals of Redevelopment



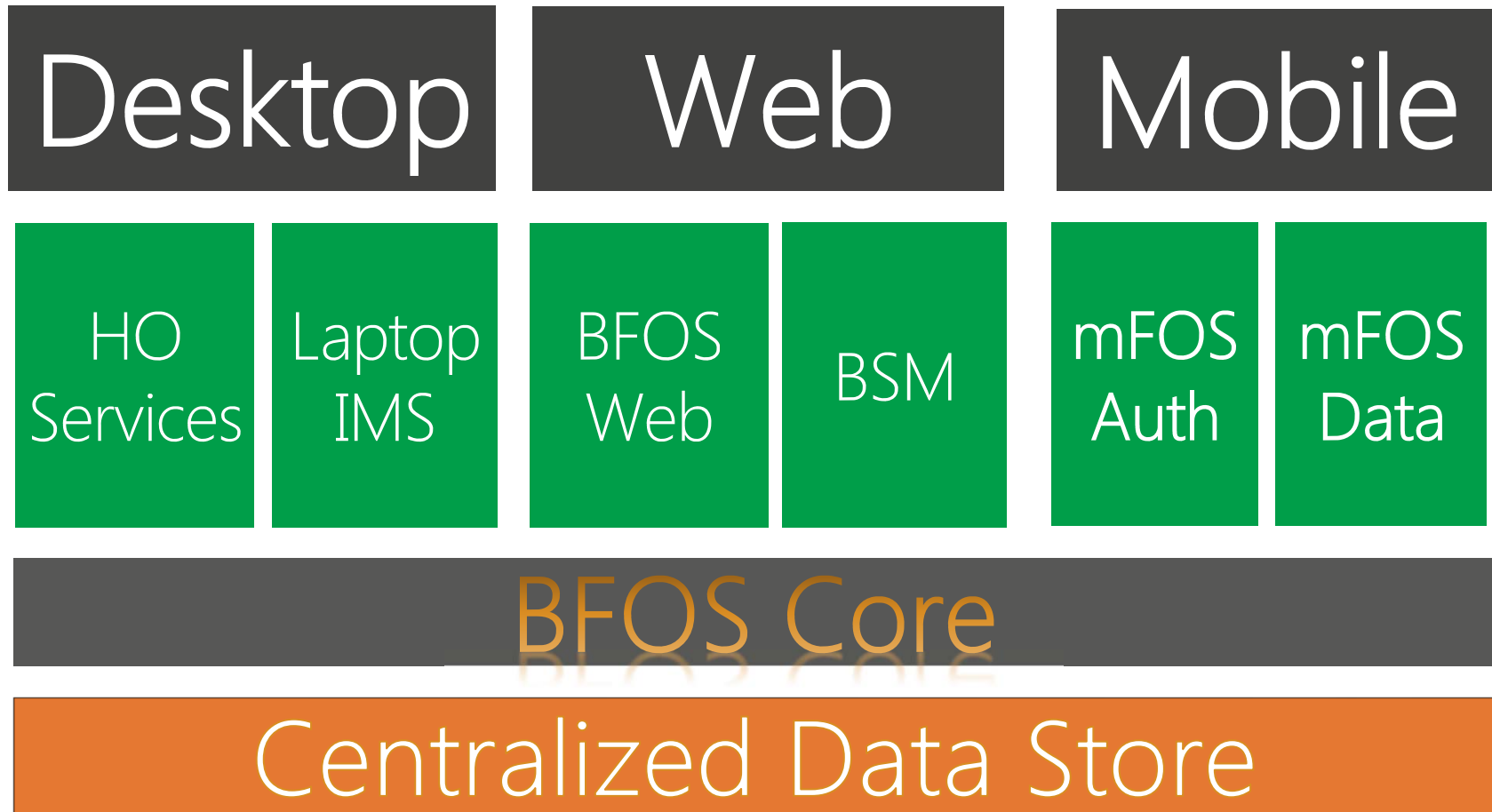
- Support core CAPI management functions
- Component based architecture that provides flexibility to adapt to evolving business needs.
- Configurable & extensible to meet specific project needs.
- Provide friction free transition path for projects.
- Integrates with various CAI applications
- Out of the box integration with M3
- Provides a secure and reliable platform for CAPI surveys

Key Components



- Web-based interfaces for supervisors and interviewers
- Laptop management system for interviewers
- Mobile interface (mFOS) for quick entry of EROCs and field activity tracking
- BFOS Secure Messaging (BSM)
- Data synchronization mechanisms
- Management and ParaData reports

BFOS Architecture



BFOS Architecture



BFOS Home Office Hub

- Central SQL Server database
- .NET based Business Manager to provide unified implementation of core CAPI management functions
- Service interfaces to Business Manager used by various end-user applications
- Secure and reliable data synchronization services
- Integration with M3

BFOS Core

Centralized Data Store

BFOS Desktop



Desktop

HO
Services

Laptop
IMS

BFOS Desktop

- Primary platform used by interviewers
- Supports disconnected operation
- VB .Net Windows forms application
- Integrates with multiple CAI platforms
- Built-in m3 integration hooks.
- Data synchronization client
- Secure configuration

BFOS Web



BFOS Web

- Browser-based interfaces used by supervisors, connected interviewers and home office staff
- ASP.Net MVC based web application
- Use of responsive web design to accommodate various form factors
- Security features include HTTPS over SSL-VPN, strong user authentication model, role-based authorization

Web

BFOS
Web

BSM

BSM



BFOS Secure Messaging (BSM)

- Web-based application that provides a secure mechanism for exchanging messages contain PII information
- BSM is a closed system
- Adopts an email UI paradigm
- Built using Single Page Application (SPA) architecture
- API to integrate with other systems – like M3



mFOS



MFOS

- Native iOS application developed for use on iPhones
- Developed using the Xamarin framework, allows for re-use of BFOS core components.
- Supports entry of EROCs and tracking of interviewer activities and location
- **mFOS mobile services;**
 - REST based API provides authentication and authorization for mobile client.
 - Mobile data services API - provides access to HO Hub

Mobile

mFOS
Auth

mFOS
Data

CAPI Management - Security



- Supports data confidentiality, data integrity, and system availability
- Meets various regulatory requirements – FISMA, USGCB
- Employ various overlapping controls:
 - Secure management policies and procedures
 - Secure platform configurations
 - Specific security features, e.g., data encryption, 2-factor authentication

Questions?

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