

# Integrated Management of Survey Processes at Westat

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## Integrated Management

Large-scale survey operations involve numerous distinct processes that present challenges for coordination, data integrity, and flexibility.

- Many systems managing multiple data collection modes and tracking participants, cases, and contacts.
- Back-end processing including notifications, forms receipt, data processing, biological sample receipt, data editing, verification, quality control.
- Need for structured, integrated approach
  - Need for consolidated data and reporting
  - Need to leverage existing systems
  - Need for flexible architecture
  - Need for reusable platform

## Approach to a Platform

- Institutionalize production and processing concepts
  - Production Lines (CAPI, Web, CATI, GIS, CARI, Paper)
  - Routing of work
- Logical assignment and separation of responsibilities
  - Keep details at edges of architecture where possible
  - Put complexity in the right place
- Integrate existing systems
  - Provide choices of systems for survey modes
  - Leverage existing investments
- Develop standard model and study protocol control
  - Central database, reporting capabilities, and control
- Provide standardized services
  - Reusable, flexible, and low-cost to provide

M3 is a platform for establishing a robust integrated environment for conducting complex multi-mode surveys.

- Provides integration framework for survey management systems and other supporting applications.
- Enables interoperability for heterogeneous applications.
- Controls work through task management engine
- Isolates projects from changes to management systems
  - Single interface to M3
- Provides extreme configurability for ease of setup
  - Supporting quick changes and adaptive techniques
  - Supports custom code injection and content
- Eliminates duplicate development efforts

## Functional Features

- Routes cases to production lines, performs services, or moves data based on rules, conditions and timing.
- Controls routing of case data to downstream processing
  - Sample management, CARI coding, data editing
- Transforms management data between applications.
- Provides standard support services.
  - Participant Messaging (Email, Text, Mail)
  - Incentive Management (Cash, Debit, Check, Amazon)
- Provides authentication and integration to launch external web surveys.
- Collect tracing information updates from participants.
- Supports management and reporting functions across all survey processes and collection modes.

# Architectural Features

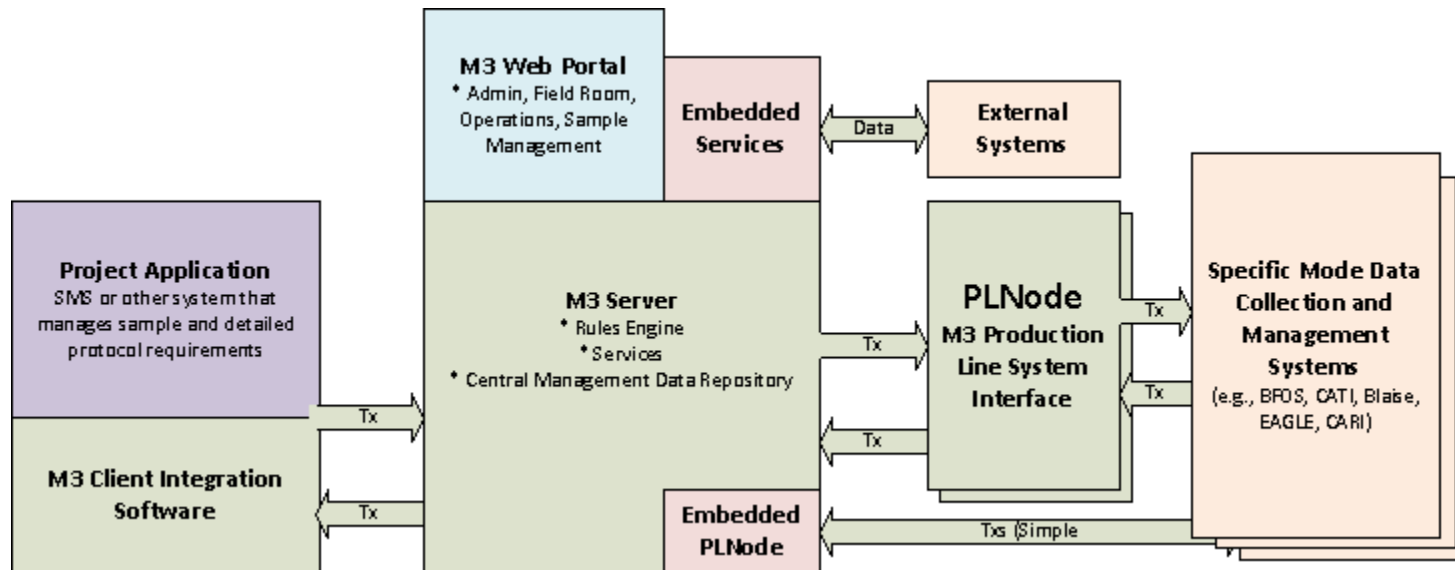
- “Master” data model with superset of management data
  - Handles complex study model across collection modes
  - Includes detailed task statuses and outcomes
  - Simplifies mapping data accurately for data exchange
  - Implemented in a central repository for a project
- Rules-Based Task Management Engine
  - Manages cases, tasks, artifacts
  - Supports explicit and relative timing of tasks
  - Can apply different rules to different waves and releases
- Flexible footprints to support large and small
  - Right sized solutions
  - Reusable integration components (e.g. Production Line Nodes)
- Is designed for adaptability
  - Adjust rules for response rate, cost, or other reasons
  - Handles multiple waves and release protocols

# M3 Components

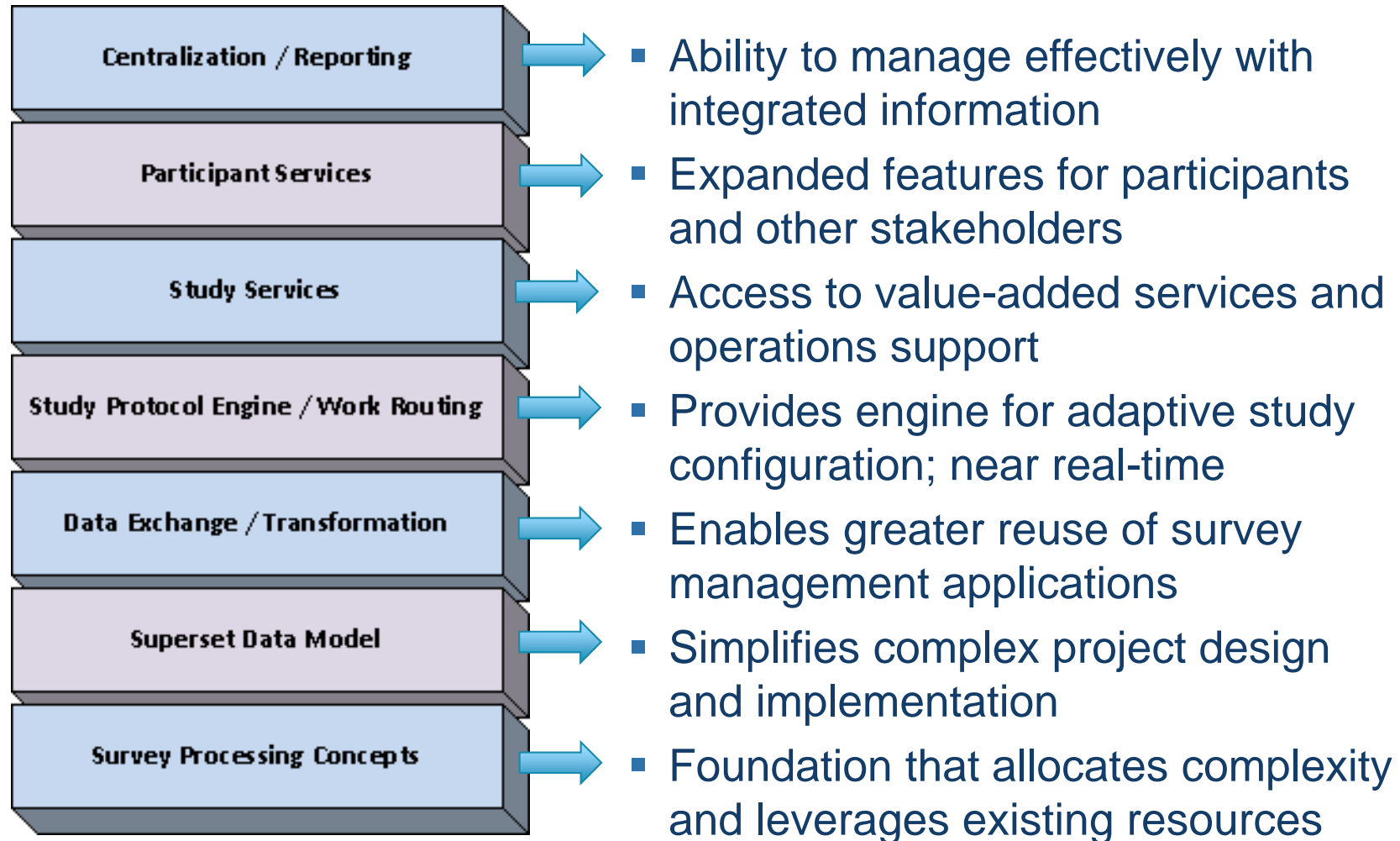


M3 components work to integrate project applications, data collection systems, and other external systems with a flexible footprint.

Each system needs a single interface to M3 and can be reused.



# M3 Benefit Layers





# Production Line and Service Examples



A sample of integrated systems and services..

- CAPI Field Surveys (BFOS, mFOS)
- CATI (Blaise, Cheshire)
- Paper (Teleform)
- Web (Blaise, Voxco, Verint, SurveyBuilder)
- CARI Coding
- Critical Data Element extraction
- Specimen Tracking (BEST)
- GIS Analysis (EAGLE)
- Supply Provisioning (Sharepoint)
- Dietary Recall (ASA24, AM/PM)
- Incentives (Payoneer, Checks, Cash, Amazon)

# Integrated Reporting / Dashboard



- Pulling it all together..

Site: All Mode: NORMAL

Home Account Review Profile Search TRC Calls Dashboard M3 App Setup

Profile: Profile-02

**M3 Summary Views**

-- Database -- Select --

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#	User Code	Login Code	Admin	Role Code	Auth Status	Last Access At	Lc
1	m3_admin	m3_admin	ADMIN	ADMIN	AUTHORIZED	03/02/2015 13:51:58	03/02/2
2	m3_admin	m3_admin	ADMIN	ADMIN	AUTHORIZED	03/02/2015 13:41:33	03/02/2
3	m3_admin	m3_admin	ADMIN	ADMIN	AUTHORIZED	03/02/2015 13:37:03	03/02/2
4	m3_admin	m3_admin	ADMIN	ADMIN	AUTHORIZED	03/02/2015 13:31:37	03/02/2
5	m3_admin	m3_admin	ADMIN	ADMIN	AUTHORIZED	03/02/2015 13:08:01	03/02/2
6	m3_admin	m3_admin	ADMIN	ADMIN	AUTHORIZED	03/02/2015 12:28:55	03/02/2
7	m3_admin	m3_admin	ADMIN	ADMIN	AUTHORIZED	02/27/2015 16:53:43	02/27/2
8	m3_admin	m3_admin	ADMIN	ADMIN	AUTHORIZED	02/27/2015 16:48:17	02/27/2
9	m3_admin	m3_admin	ADMIN	ADMIN	AUTHORIZED	02/27/2015 16:40:40	02/27/2
10	m3_admin	m3_admin	ADMIN	ADMIN	AUTHORIZED	02/27/2015 16:31:46	02/27/2

**M3 Production Line Metrics**

-- Select --

**Example Simple Metrics**

	Metric 1	Metric 2	Metric 3	Metric 4
Category	25% (101)	0% (101)	97% (101)	50% (101)
Category	25% (102)	0% (102)	96% (102)	50% (102)
Category	24% (103)	0% (103)	95% (103)	50% (103)
Category	24% (104)	0% (104)	94% (104)	49% (104)
Category	24% (105)	0% (105)	93% (105)	49% (105)

**M3 Production Line Metrics**

-- Select --

**Example Simple Metrics**

	Metric 1	Metric 2	Metric 3	Metric 4
Category	25% (101)	0% (101)	97% (101)	50% (101)
Category	25% (102)	0% (102)	96% (102)	50% (102)
Category	24% (103)	0% (103)	95% (103)	50% (103)
Category	24% (104)	0% (104)	94% (104)	49% (104)
Category	24% (105)	0% (105)	93% (105)	49% (105)

**M3 Summary Views**

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#	Task Type	Status	Case	Production Line Code	Location Code	Respondent Code	PLStatus Code	Last Activity At	Next Activity At	Finalized At	Comments	PLStatus

http://localhost:23435/Wizard/Person/PartInfoSummary.aspx?nodeKey=60

## Projects Deployed

Used on more than 15 projects so far at Westat

- Simple Projects: Paper, Web, notifications, incentives
- Common
  - Paper to Web to TRC, some CAPI
  - Multiple paths, notifications, incentives
- Larger
  - Multiple instruments, household and participants subjects
  - Multiple paths, notifications, incentives
  - Participant services
- Large Longitudinal Example:
  - Custom study management system
  - 6+ production lines, GIS integration
  - > 150K Participants, > 2.1m units of work

# Questions?



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