



# Research Program and Enterprise Architecture for Adaptive Survey Design At Census

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# Adaptive Design Elements

- A tailored and dynamic approach to case management in data collection
- Uses auxiliary frame data, paradata and response data to guide contact approaches and resource allocation
- Employs a centralized system for controlling multiple data collection modes

# Data Resources for Adaptive Design

- Frame data: e.g. type of structure, block group demographic statistics, alternative modes, (previous response data)
- Paradata: contact history (effort and response propensity), interviewer observations, time and travel, progress, Web survey metrics
- Response data: Current estimates for key variables
- **Quality metrics** -> sample balance, response rate, stability/quality of estimates

# Tailored and Dynamic Case Management

- Prioritize cases (e.g. NSCG, 2013 Census Test)
- Prioritize modes (e.g. NSCG)
- Shift priorities with experience (e.g. NSCG, 2013 Census Test)
- Subsample open cases (e.g. Econ Census)
- Stop data collection (e.g. NHIS)
- Faster provision of data (e.g. NSCG)

# What Does it Take to be Adaptive?

- An organizational mandate to “prove in” adaptive approaches to data collection
- An understanding of the elemental capabilities required
- An architectural approach

# Organizational Mandate

## Census Bureau Example

1. Established a Center with the primary responsibility for researching and implementing Adaptive Design for the enterprise
2. Staffed the new Center for Adaptive Design (CAD) with motivated representatives from each Directorate (Decennial, Demographic, Economic, Information Technology)
3. Inserted Adaptive Design goals in key strategic documents
4. Insisted that the CAD be a combined effort of Statistical Methodology and IT Enterprise Architecture
5. Robert Groves and John Thompson

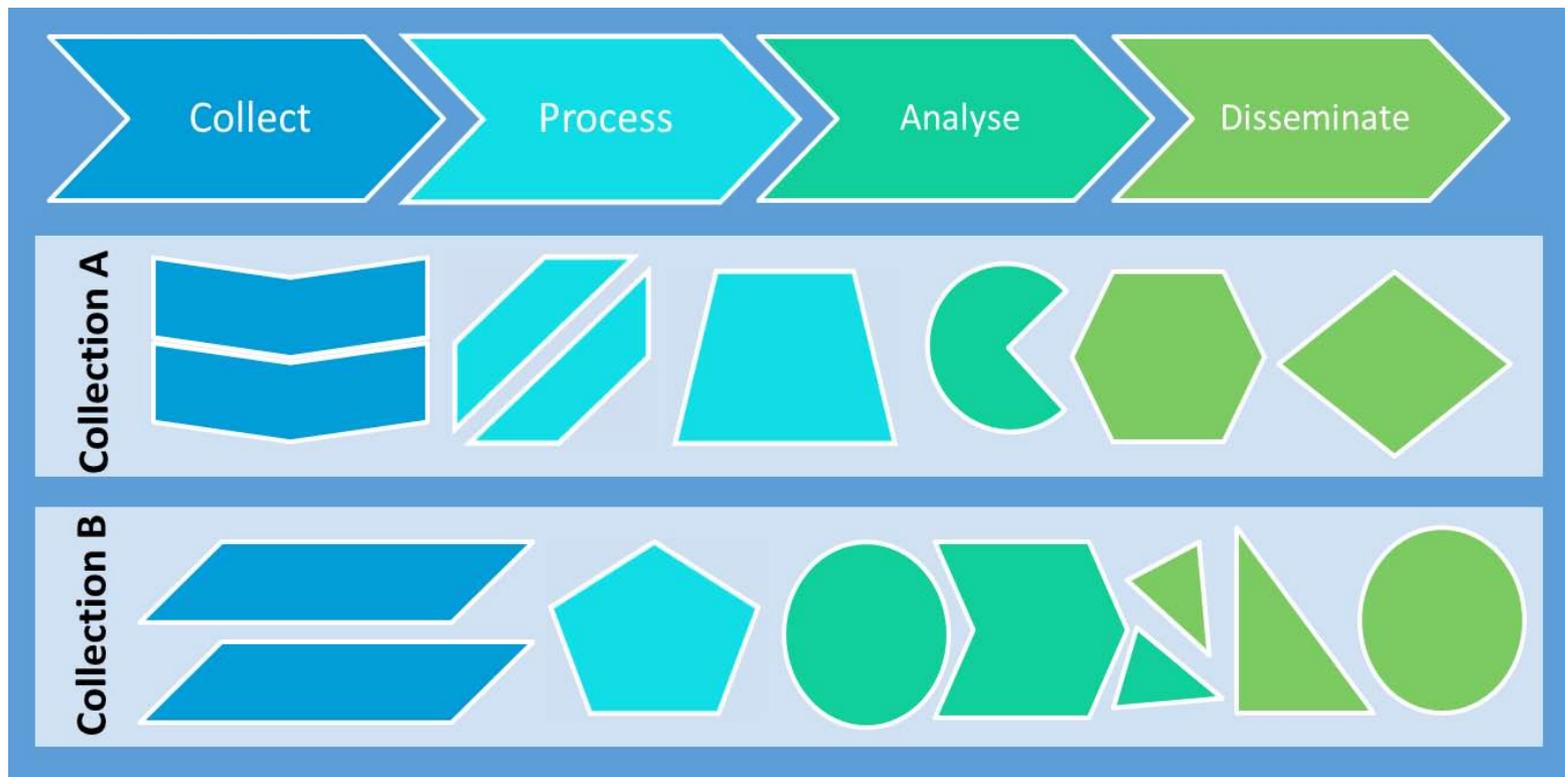


# Architectural Approach

- Work with Standards (common conceptual frameworks)
- Create a solution architecture
- Create a Program Roadmap

# Challenges

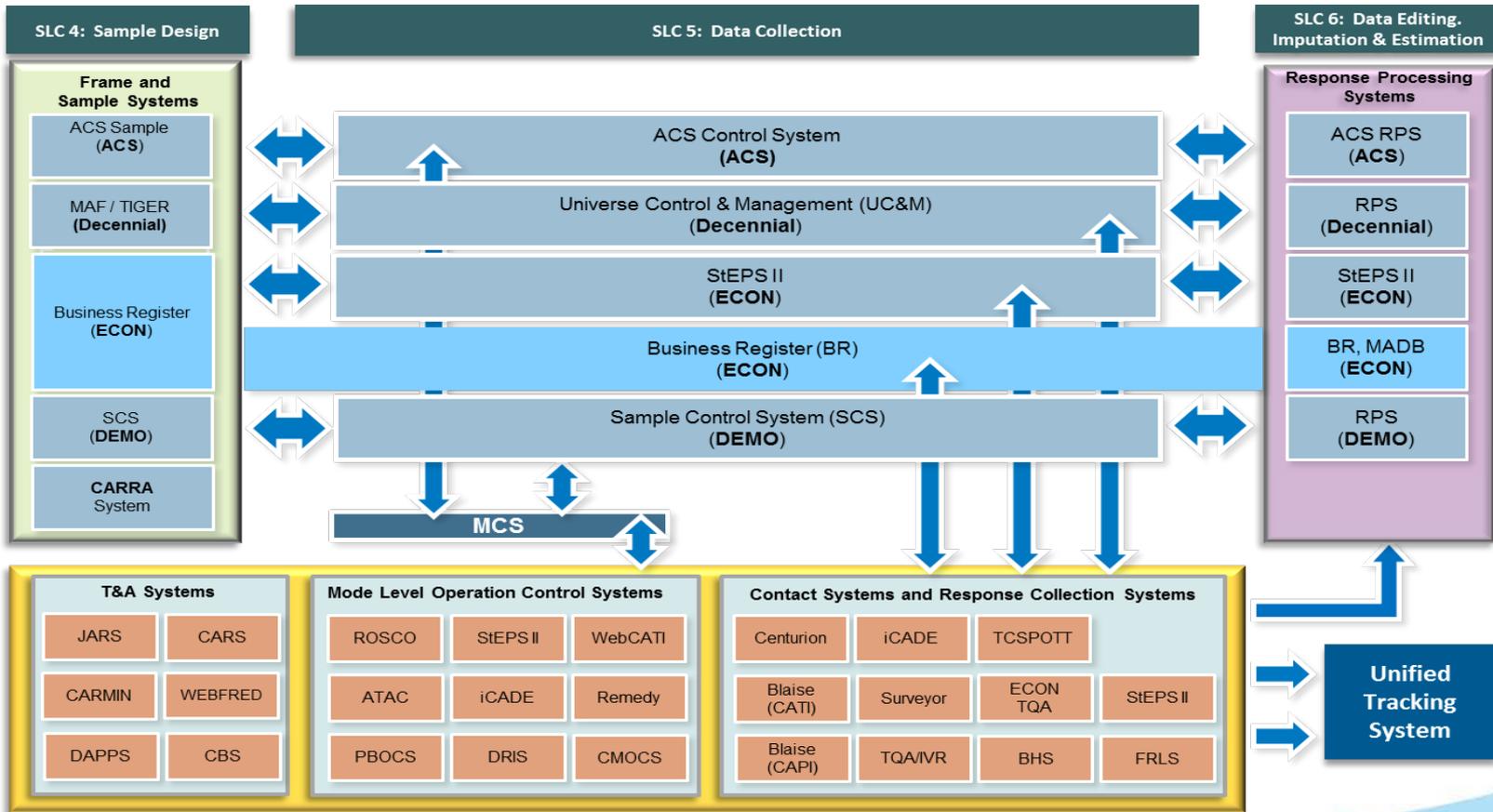
- Accidental Architecture<sup>1</sup>



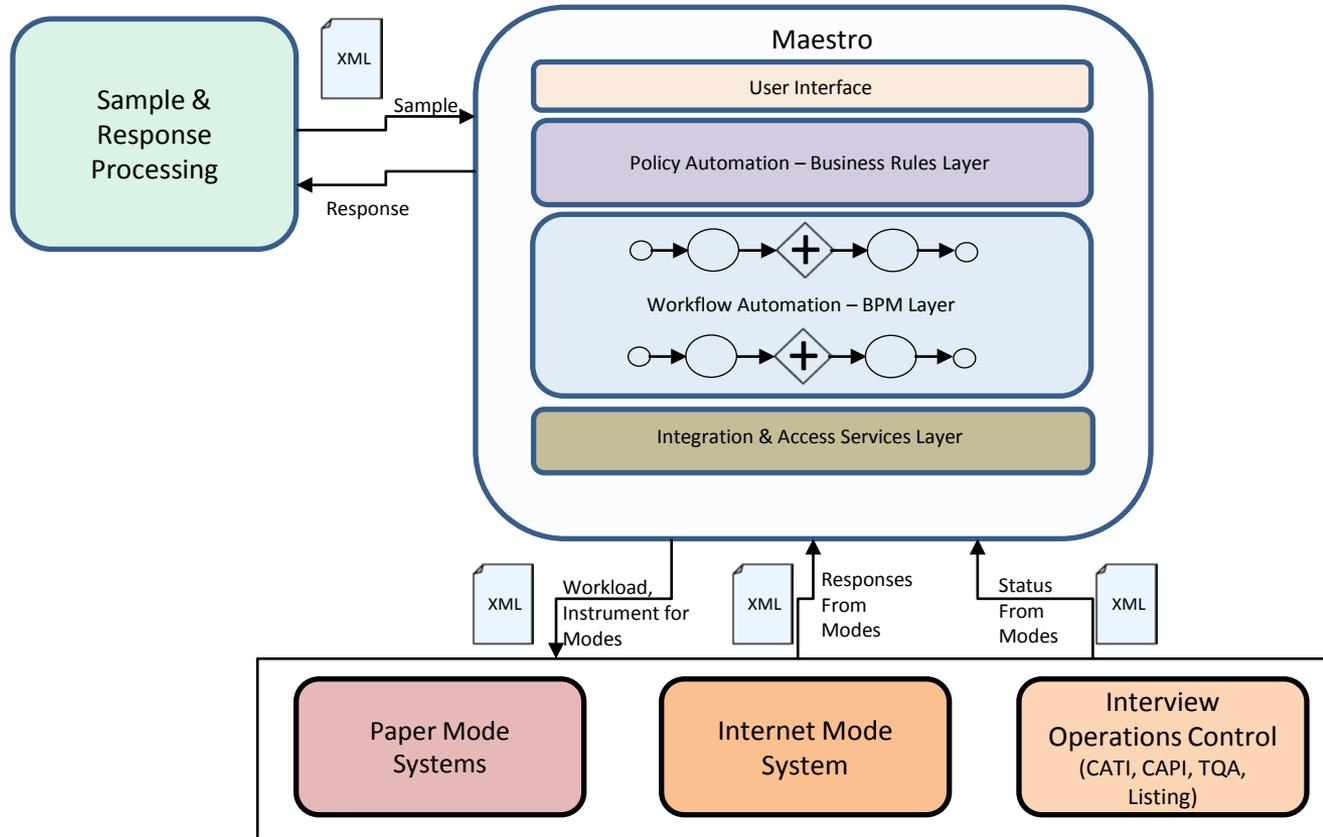
1 Source: Fostering Interoperability in Official Statistics: Common Statistical Production Architecture (UNECE, 2013)

# Challenges

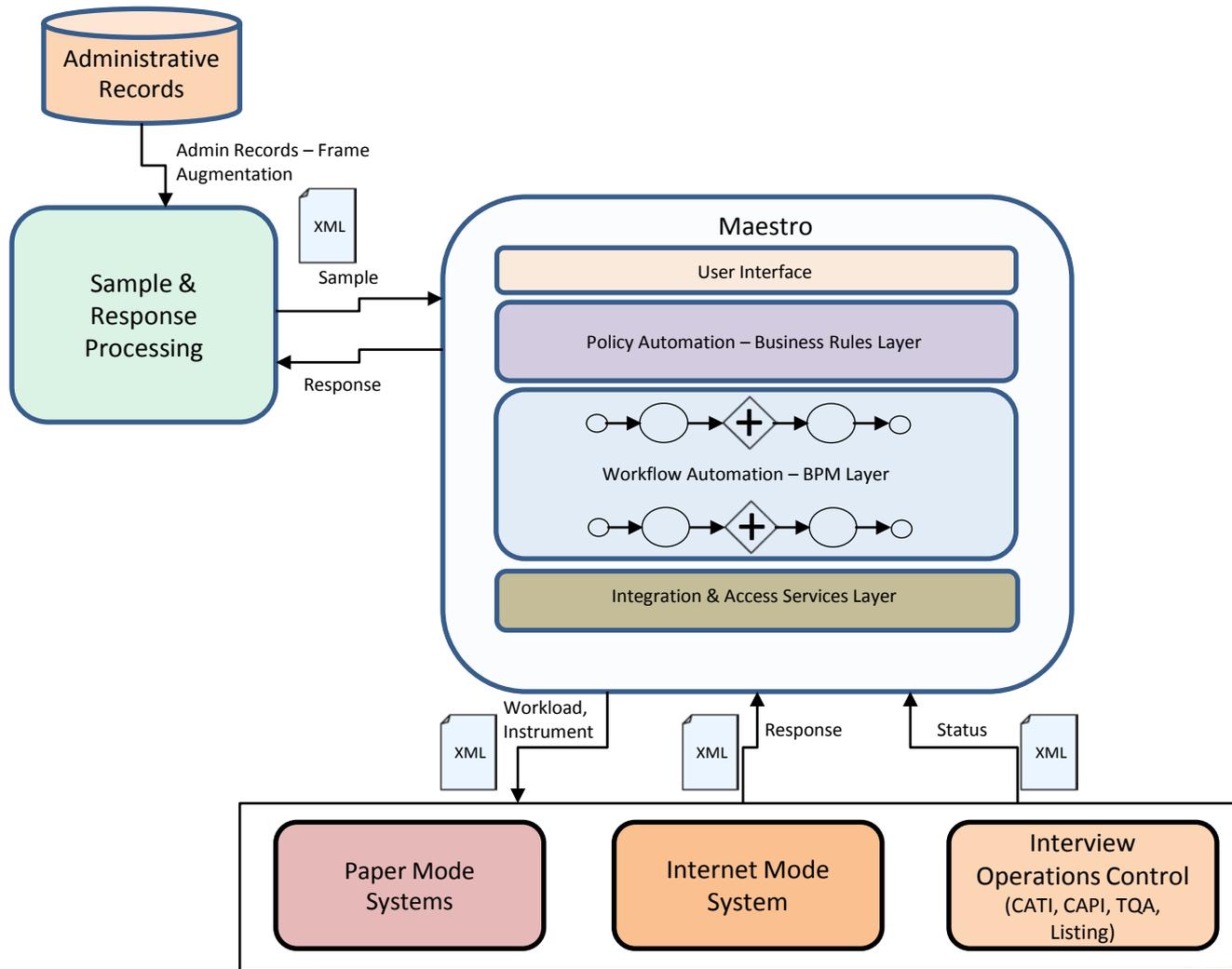
- This is what Accidental Architecture looks like at Census:



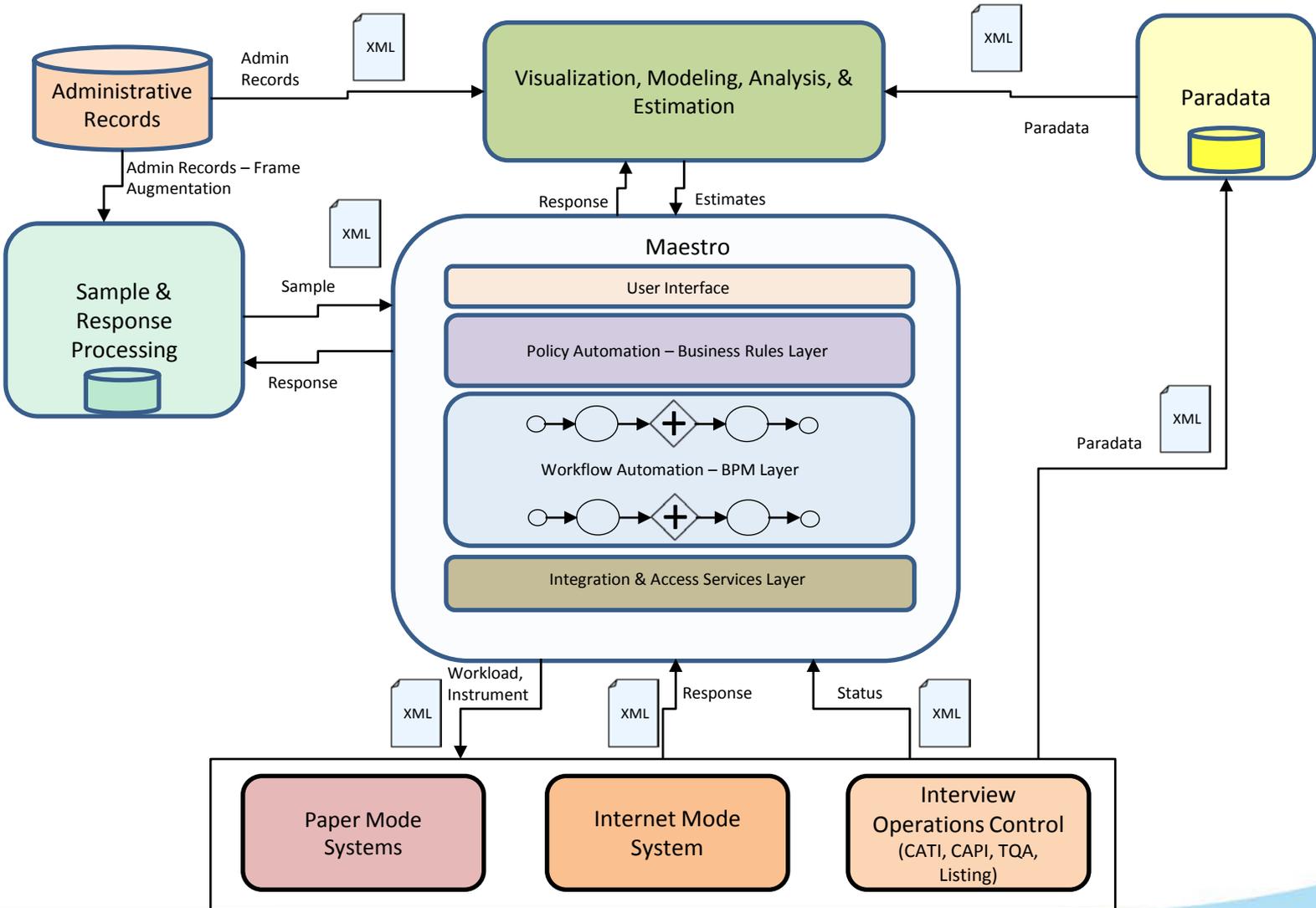
# Single Platform to Manage Multiple Data Collection Modes



# Augment Frame Data



# Adaptive Orchestration of Data Collection



# Plan for Rolling Out Adaptive Design

