

# Economic Programs Directorate: Internet and Electronic Data Collection

William G. Bostic, Jr.

Associate Director for Economic Programs

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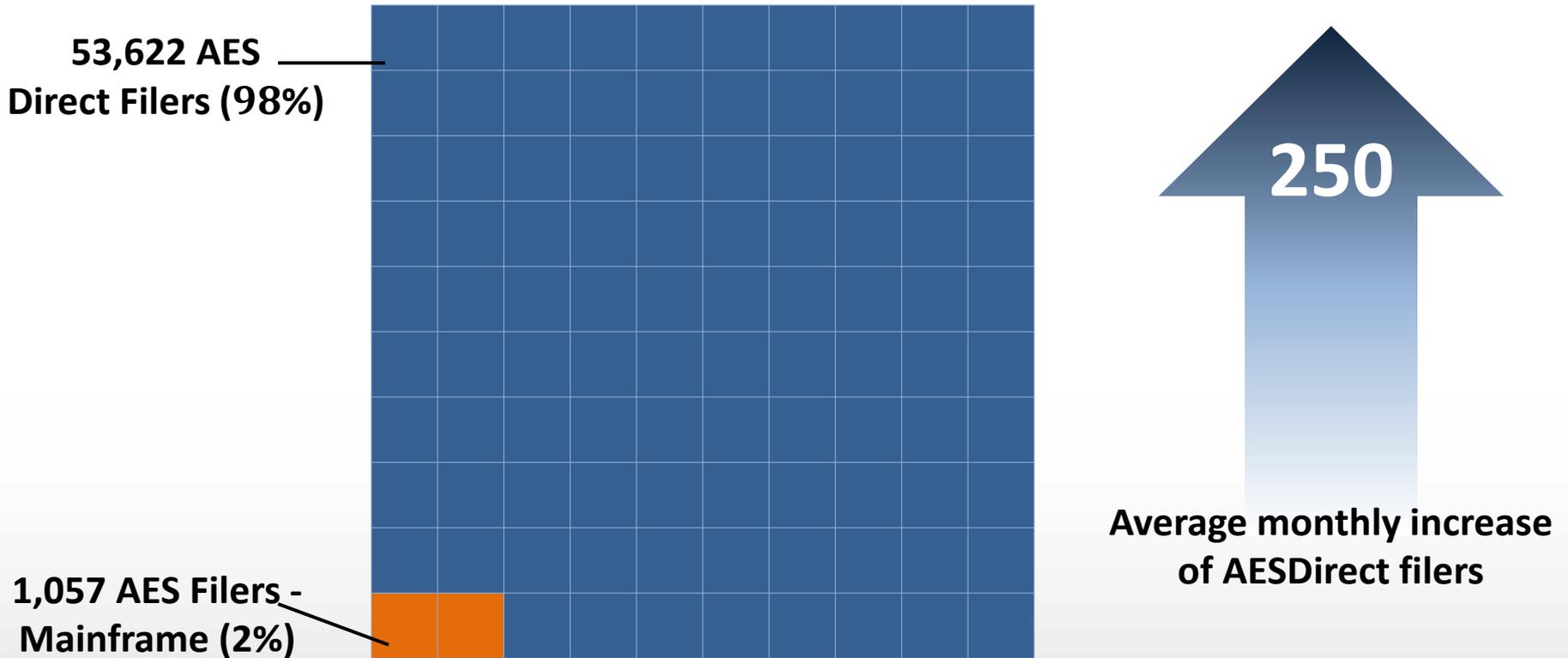
# Electronic Reporting for Economic Programs

- Trade Statistics
- Current Economic Surveys
- Economic Census
- Survey of Business Owners

# International Trade Statistics

- Automated Export System (AES) is the only system that collects U.S. export data electronically; filing is mandatory
- Joint venture between the Census Bureau, Customs and Border Protection, other government agencies, and trade community
- System captures transportation, commodity, and party details
- System receives, edits, and validates info and sends responses back to the filer
- AESDirect is a no-fee solution, available 24/7
  - Provides a faster method of reporting export information; data is received in real time
  - Allows users to submit information at no charge
  - Provides upfront edits, which allow for cleaner data and expedited processing

# e-Reporting in AES



Number of participants transmitting info to AES in December 2013: **54,679**

# Current Economic Surveys

- Conduct about two dozen economic surveys, covering most sectors
- Provide key measures of national economic activity
- A handful surveys offered e-reporting 5 years ago; now it's the norm

# Current Economic Surveys: Electronic Reporting Rates

Percentage of Forms Received Electronically to Total Forms Received for Select Surveys\*

Survey	Frequency	2007	2008	2009	2010	2011	2012
Annual Capital Expenditures Survey	Annual	37.4	45.0	40.6	53.6	59.8	64.9
Annual Wholesale Trade Survey	Annual	26.0	32.0	46.0	59.3	61.6	67.6
Business R&D and Innovation Survey	Annual	13.1	43.6	51.0	56.9	59.4	66.4
Manufacturers' Unfilled Orders Survey	Annual			36.9	40.5	47.3	51.1
Medical Expenditure Panel Survey	Annual			8.9	11.0	14.0	15.4
Services Annual Survey	Annual		34.7	45.9	45.7	55.1	58.3
Quarterly Financial Report	Quarterly	54.0	53.4	59.5	64.7	66.1	68.3
Quarterly Survey of Plant Capacity Utilization	Quarterly		42.7	54.7	60.3	65.7	71.5
Quarterly Services Survey	Quarterly	43.6	50.6	53.4	58.7	67.1	68.5
Business and Professional Classification	Quarterly				40.4	50.5	49.9
Manufacturers' Shipments, Inventories, and Orders	Monthly	24.0	26.3	45.8	61.2	68.4	72.9
Monthly Wholesale Trade Survey	Monthly				36.8	48.3	55.4

Note: Monthly programs are averaged to represent the year; shaded areas indicate when rates were not available.

\*Source: Check-in Reports from Current Program Areas, Economic Programs Directorate, U.S. Census Bureau, internal documents.

# Economic Census

- Conducted every five years, provides comprehensive, detailed, and authoritative information on the structure and functions of the U.S. economy
- Accounts for approximately 85 percent of GDP estimates
- More than 1,600 releases, 40 billion data cells
- Highly detailed industry, geographic, and product statistics
- Electronic Reporting:
  - Surveyor
    - Supports hundreds of questionnaire types for the Economic Census
    - Downloadable software with workbook and spreadsheet capability to import and export response
    - Reporting option for both multi- and single-unit companies for 2002 and 2007
    - Single-units had a strong preference for web-based reporting
      - Faster and easier
      - Avoid downloading and installing software
  - 2012 Economic Census
    - Developed a direct-Internet reporting capability for single-units using Centurion
    - Multi-units report electronically using Surveyor

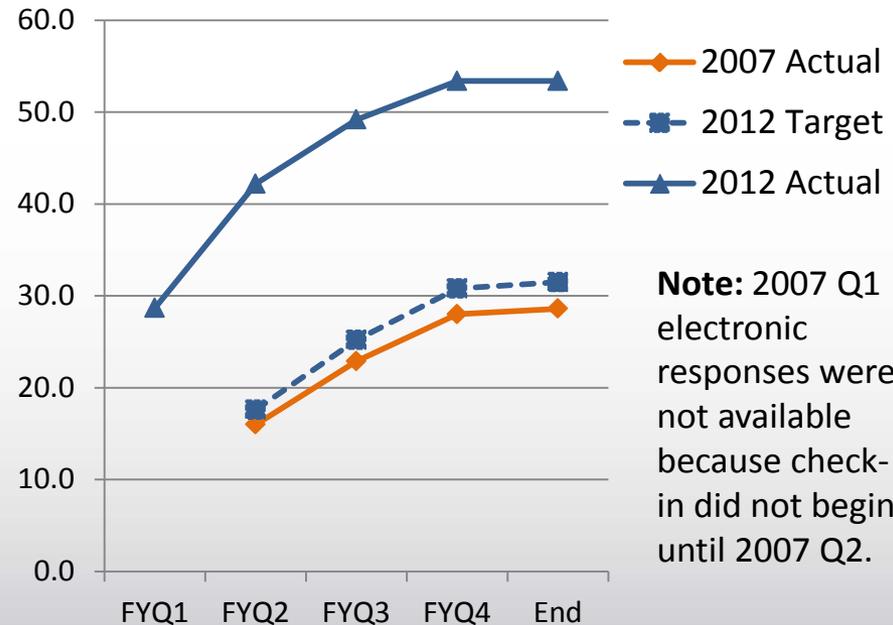
# 2012 Economic Census Electronic Reporting

## Results:

- 2012 overall e-reporting return rate was 53.4 percent compared with 28.6 percent in 2007
- Greater than expected increase in e-response has contributed to a considerable cost savings

## 2012 Economic Census Overall Electronic Reporting Return Rate

Percent of Total Receipts



**Note:** 2007 Q1 electronic responses were not available because check-in did not begin until 2007 Q2.

# Increased Data Quantity

- Checked-in electronic forms has increased over the last three Economic Census cycles
- Number of Forms Received Electronically: Comparisons between 2012, 2007, and 2002:\*

Description	2012	2007	2002
Total Cumulative Electronic Forms by Count	1,710,390	877,676	476,196
Total Cumulative Electronic Forms As a Percent of Total Cumulative Forms Checked-in (Excluding Single Unit (SU) Classification Forms)	57.2%	28.6%	16.0%
Multi-Unit (MU) Cumulative Electronic Forms Checked-in by Count	1,172,910	826,690	472,377
MU Cumulative Electronic Forms As a Percent of Total Cumulative MU Forms Checked-in	72.7%	54.4%	35.1%
SU Cumulative Electronic Forms by Count	537,480	50,986	3,819
SU Cumulative Electronic Forms As a Percent of Total Cumulative SU Forms Checked-in (Excluding SU Classification Forms)	39.0%	3.3%	0.2%

\*Source: Surveyor Improvements Team, "2007 Economic Census Electronic Receipts Quantity Analysis," January 2009, internal report. Updated with information for 2012.

# e-Tools to Assist Our Data Providers

- Business Help Site: Improve customer service to providers
- Company Portal: Ease burden on data providers
- Secure Messaging Center: Provide secure communication and transfer of data

The screenshot shows the U.S. Census Bureau Business Help Site (BHS) homepage. The page features a blue header with the U.S. Department of Commerce logo and navigation links for People, Business, Geography, Data, Research, and Newsroom. Below the header, there is a search bar and a navigation menu with links for BHS Main, Glossary, Form Archive, FAQs, Site Map, and Contact BHS. The main content area is titled "Business Help Site" and includes a welcome message: "Welcome to the U.S. Census Bureau Business Help Site (BHS). This site is designed to assist all businesses and government agencies with their survey needs. Some of the services on the Business Help Site include:" followed by a list of services: "Aid in the completion of surveys", "Request online services", "Assist with general and technical questions", "Provide a way to communicate with the Census Bureau securely", "Print/Review sample forms in PDF format", and "Print official copies of forms sent to your company instantly". Below this, there is a section titled "SELECT A SURVEY" with three columns: MONTHLY, QUARTERLY, and ANNUAL. The MONTHLY column lists surveys like Advance Monthly Sales for Retail and Food Services (MARTS), Building Permits Survey (BPS), Construction Progress Reporting Survey (CPRS), Manufacturers' Shipments, Inventories, and Orders Survey (M3), Monthly Retail Trade Survey (MRTS), and Monthly Wholesale Trade Survey (MVRTS). The QUARTERLY column lists Business and Professional Classification Survey (SQ-CLASS), Quarterly Financial Report (QFR), Quarterly Survey of Plant Capacity Utilization (QPCU), and Quarterly Services Survey (QSS). The ANNUAL column lists Annual Capital Expenditures Survey (ACES), Annual Retail Trade Survey (ARTS), Annual Services Report (Service Annual Survey), Annual Survey of Manufactures (ASM), Annual Wholesale Trade Survey (AWTS), Building Permits Survey (BPS), Business R&D Survey (BRD-1S), Business R&D and Innovation Survey (BRD-IS), Information & Communication Technology Survey (ICTS), Management & Organizational Practices (MOPS), Manufacturers' Unfilled Orders Survey (MUOE), Medical Expenditure Panel Survey (MEPS), and Report of Organization (COS). Below these columns is a section for "FOUR OR FIVE YEAR FREQUENCY" which lists the 2012 Economic Census, 2012 Economic Census (HC-99023 and HC-99028 forms), Commodity Flow Survey (CFS), and Manufacturing Energy Consumption Survey (MECS).

# Economic Census Re-engineering

## Background:

- Re-engineer the Economic Census to accelerate data collection, analysis, and product delivery; cut costs; eliminate redundancy; and produce consistent processes

## Drivers:

- Create economy-wide comparable data products
- Flatten the 5½-year budget cycle
- Enhance respondents' reporting experience
- Facilitate consistent processes across the survey lifecycle
- Optimize data collection infrastructure for e-reporting

# Economic Census Re-engineering: Electronic Reporting

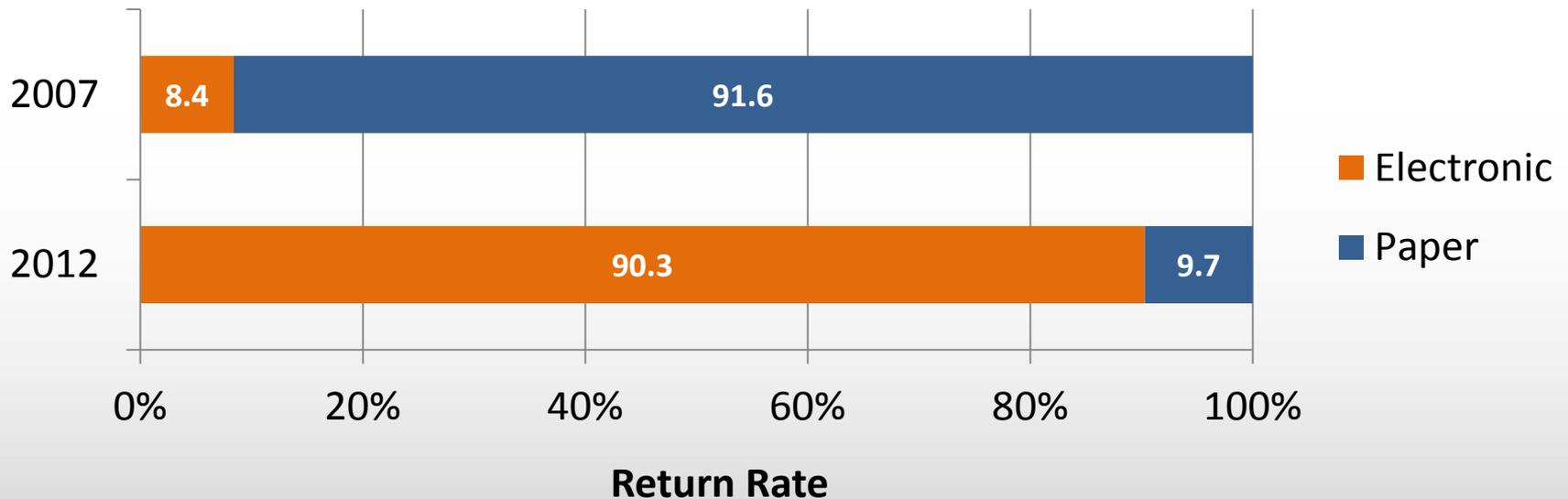
## Objectives:

- Support all single-unit and multi-unit electronic reporting in a web-based, response-driven electronic instrument
- Use adaptive design techniques to improve operational efficiency and decision making
- Build and maintain collaborative relationships with external stakeholders and respondents to enhance electronic respondent capabilities
- Develop infrastructure (e.g., telephone, help desk, help site) and robust marketing strategy to support 100 percent electronic reporting
- Test paperless distribution and collection with the 2012 Survey of Business Owners

# Survey of Business Owners: 2007 to 2012

## Transition to e-Reporting

### SBO Phase 1



*As of March 19, 2014*

# Challenges

- Assuring respondents of survey authenticity
- Assuring respondents that their data are transmitted safely and securely
- Accommodating companies that cannot download software for security reasons (e.g., banking industry)
- Overcoming hardware/software compatibility issues
- Maintaining data quality (e.g., nonresponse bias)

# Opportunities and Future Strategies

- Move to an all web-based approach for electronic reporting by expanding Centurion to meet requirements for multi-establishment businesses
- Design electronic instruments and develop e-reporting tools that better guide respondents
- Build in editing capability to allow for cleaner data and expedited processing
- Utilize electronic paradata
  - Improve survey instruments
  - Answer questions about the respondent process to influence current and future data collection activities (e.g., adaptive or tailored designs)

# Questions

- 1) Do you have suggestions for how to overcome perceived trust issues that business respondents have with providing their data electronically?
- 2) Without paper, or even .pdf's that look like forms, what mechanisms need to be available to maintain consistency in how data requests are communicated to respondents, so as to reduce respondent burden and measurement error?

# Questions

- 3) We acknowledge the need for a strong infrastructure (e.g., telephone, help desk, help site) and a robust marketing strategy to support 100 percent electronic reporting. Do you have suggestions for how we approach this?
  
- 4) What types of paradata should we look at to aid decisions about design of electronic data collection instruments and contact strategies that will help us achieve all-electronic data collection? What quality indicators might we calculate in a real-time environment that will help us make informed decisions during data collection?