

**Using Web Tools to Improve  
GAO's Ability to  
Collect, Analyze, and Report  
Information to Congress**

**ARM Web Services Group**

## GAO-Developed Web Tools

### *Questionnaire Programming Language (QPL)*

Used to build web-based surveys that fit a wide variety of data-collection needs

### *E-Supplement Generator*

Used to build report-ready summary of web survey data for a technical appendix (~12) or as a separate web-only product (~50)

(Plus: Web-only products using agency data or data collected not through a web-based survey)

# QPL Has Been Used in a Wide Variety of Web Survey Designs

## **Large Surveys**

- Survey of 12,000 faculty and students at military academies

## **Small Surveys**

- Many 50-state surveys of state agency officials

## **Multiple Surveys on Single Engagements**

- Survey of states regarding funeral homes, crematories, and cemeteries
- Survey of federal, state, and city government officials on their perceptions of the effectiveness of the current information and intelligence sharing

## **Telephone Surveys**

- Survey of state officials on unemployment insurance and reemployment services

## **Expert Opinion Panels**

- Delphi survey process involving 43 nationally recognized experts in drinking water

## **Structured Interviews**

- Interviews with state and local first responders to determine their current status of emergency preparedness
- Recording of contacts on Katrina related work and site visit write-ups

# QPL Has Been Used for Many Non-Audit Purposes

## **GAO-wide staff surveys**

- Annual employee survey
- EAC nominations and elections

## **Team-specific staff surveys**

- Staff surveys for ARM, EWIS, IAT, ISTS, PI, and SI

## **Congressional feedback**

- Hill staff comments on testimonies and high-risk products

## **Human Capital Office staff information gathering**

- Student loan repayment requests
- Classroom training course evaluation
- Band IIA/B placement

## **Working prototypes of new management information systems**

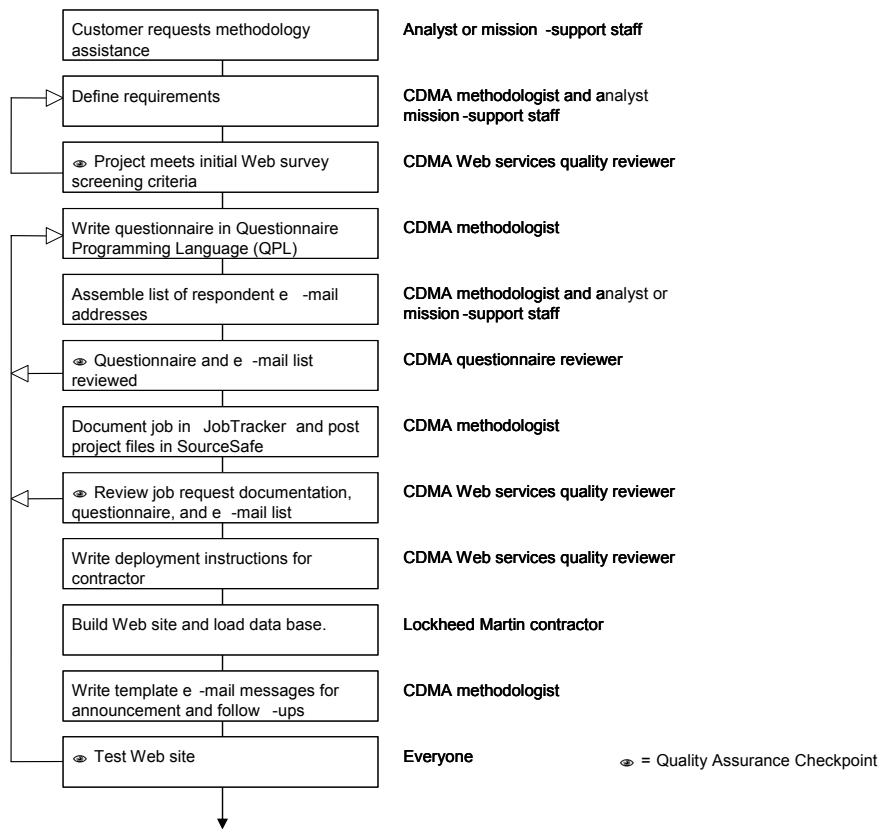
- Product number issuance system
- New Staff Services Assurance System
- ARM, NRE, and PI staff assignment systems

## Benefits Are Reflected in the Growing Use of Web Surveys

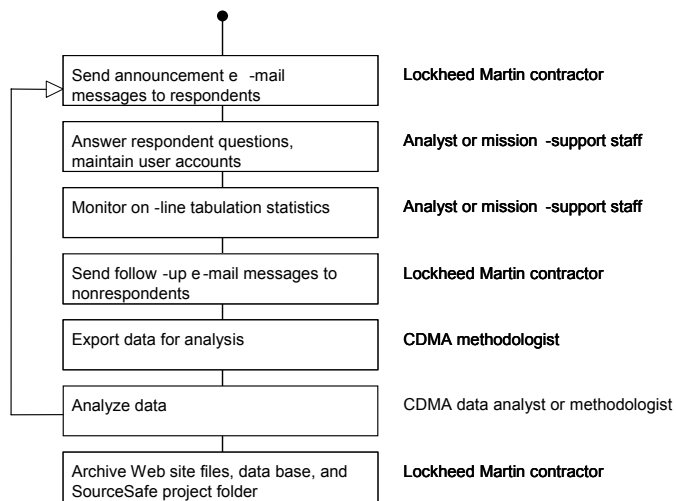
Fiscal Year	# of projects	# respondents	Est. Contract Value (\$ millions)
2001	16	2,500	1.0
2002	35	17,500	2.1
2003	81	46,500	4.9
2004	84	37,100	5.0
2005	124	30,600	7.4
2006	113	34,400	6.8
2007*	62	31,100	3.7
<b>Total</b>	<b>515</b>	<b>199,700</b>	<b>30.9</b>

\*Data are based on the scheduled project end date. Includes data through January 18, 2007.

# Development Process



# Administration and Analysis Process



# Benefits: Its not when you start, its when you finish!

## **Timeliness**

- Data available immediately: No keypunching and keypunch-verification steps
- Real-time analysis on the web site, including open ended
- Quick turnaround to assess the quality of the e-mail addresses
- Web survey data seamlessly integrates with the E-Supplement process

## **Customization**

- E-mail and the respondent's survey can be customized

## **Scalability**

- Very little cost to scale up

## **Data Protection**

- Data is protected through encryption, firewall hardware, and real-time backup hardware
- E-mail messages may be sent using registered e-mail services, which tell us when messages could not be delivered
- Archived projects may be quickly recovered and reused

## Status of technical appendices and e-supplements: Overview of the process and QCI matrix task force

The E-Supplement Generator uses the web survey files to quickly build the summary tables for a technical appendix or a separate web-only companion product.\*

### Technical Appendix in the Report

- ARM processes files and gives a single file to the PAG who incorporates it into the report technical appendix. Team does not type tables

### Web-only Companion Product

- Team obtains ERM approval
- ARM processes files with the E-Supplement Generator to create numerous linked files with summary data
- ARM works with KS to produce a PDF e-supplement for paper-based surveys

Task Force: To develop guidelines for consistency of technical appendices and e-supplements.

# Recent Web Survey Improvements and Next Steps

## **Content Analysis**

Analysts may use these functions that are built-in to the web site to systematically analyze responses made to open-ended responses.

## **Accessibility**

The web survey forms and the administrative support pages have been made fully accessible to visually-impaired users (Sec. 508).

## **Next Steps**

Outreach to individual projects, teams and units to expand the appropriate use of web-based tools