

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

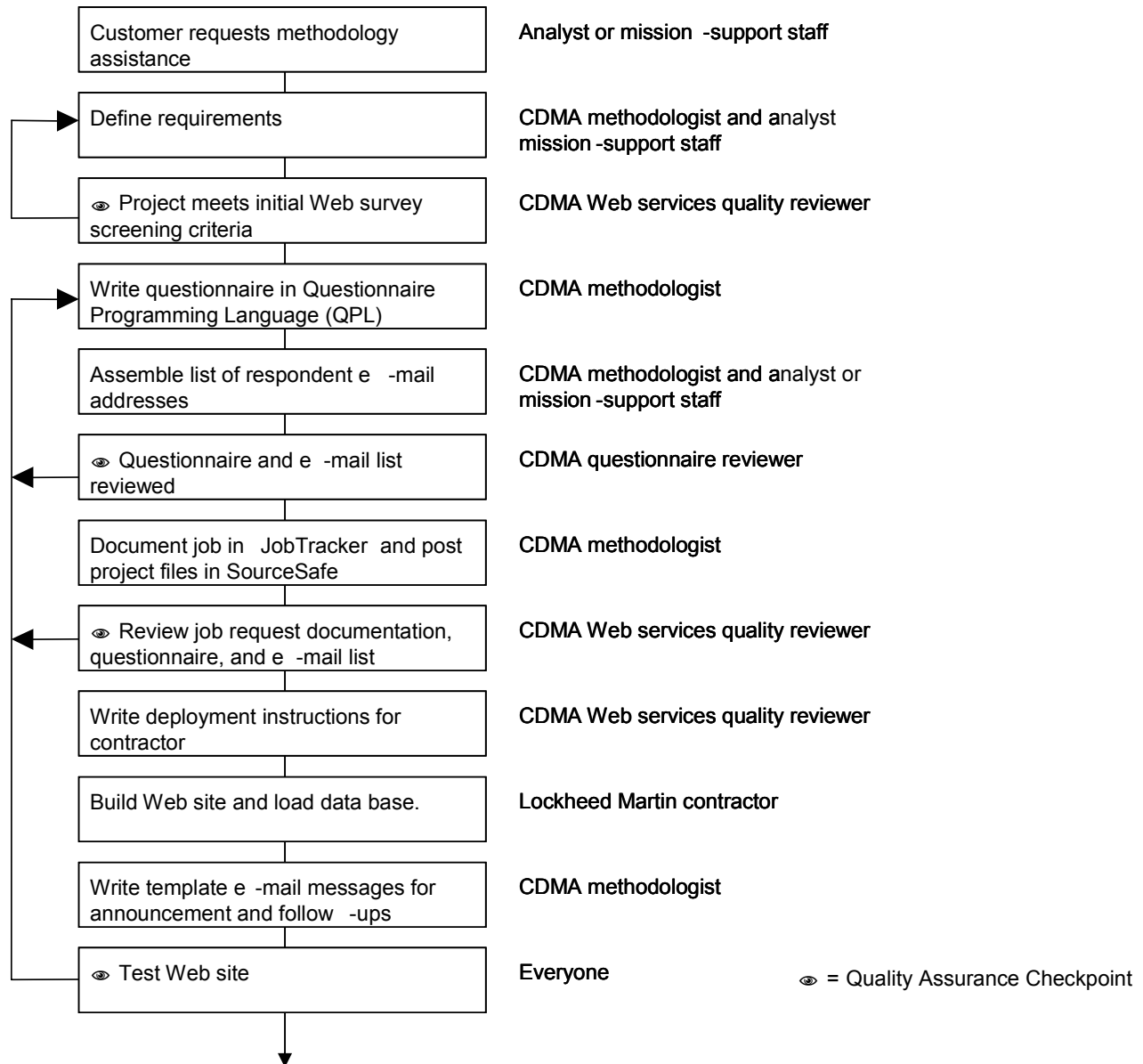
- Product number issuance system
- New Staff Services Assurance System
- ARM, NRE, and PI staff assignment systems

Benefits Are Reflected in the Growing Use of Web Surveys

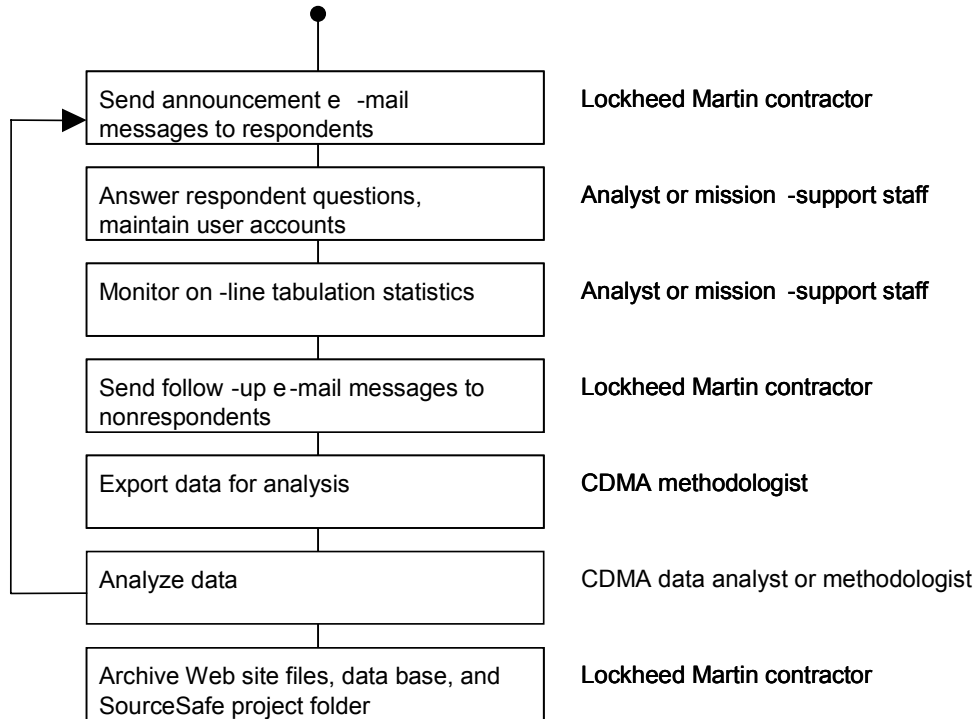
Fiscal Year	# of projects	# respondents	Est. Contract Value (\$ millions)
2001	16	2,500	1.0
2002	35	17,500	2.1
2003	81	46,500	4.9
2004	84	37,100	5.0
2005	124	30,600	7.4
2006	113	34,400	6.8
2007*	62	31,100	3.7
Total	515	199,700	30.9

***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