



U.S. Department of Commerce
Bureau of Economic Analysis

Survey Data Collection Over the Internet

ASTAR - Automated Survey Transmission And Retrieval

ASTAR BACKGROUND

- Bureau of Economic Analysis (BEA) conducts financial surveys used in compiling the international accounts of the United States.
- Work to develop an electronic data collection system began in 1998. The major technical problem to be resolved involved the data transfer mechanism.
- In 1999, BEA completed several pilot projects to develop the ASTAR electronic data collection system.
- BEA has made substantial progress in collecting data via the Internet and now offers respondents an electronic option for reporting on almost all of its surveys.

ASTAR TECHNOLOGY

- The ASTAR system's respondent interface is a JAVA based application that survey respondents run by clicking a link on the BEA web site.
- Respondents may choose to execute the ASTAR interface on-line, but they can also elect to download and install an off-line version of the application.
- Respondents can enter data manually or import it into ASTAR from a spreadsheet.
- Both data downloaded by survey respondents from BEA and the completed survey form transmitted to BEA are encrypted before their transmission over the Internet.
- Respondents transmit completed survey data directly over the Internet. Encrypted data are immediately "posted" by ASTAR into a SQL Server "collector" database from which they are processed and loaded into the final destination databases.
- After the respondent successfully submits the data, ASTAR takes the respondent to a *Thank You Page*. If ASTAR detects a transmission error, it generates an e-mail to BEA's ASTAR support staff for investigation.
- Features built into the ASTAR system include the ability to run edit checks before the data are submitted and to print completed survey forms in .pdf format.

ASTAR PROCESS FLOW

- Each reporting period, respondents are mailed a letter with an invitation to file electronically. Respondents are directed to the ASTAR home page www.bea.gov/astar.
- Respondents select a survey from the ASTAR home page which provides a link to “Welcome to ASTAR.” Welcome to ASTAR provides information, by survey, on getting started using ASTAR. Detailed technical information and requirements are provided through a link in Welcome to ASTAR.
- Welcome to ASTAR directs the respondent to obtain an ID and Password from BEA.
- Once the respondent has obtained an ID and Password and either run the on-line version, or downloaded, installed, and run the off-line version of ASTAR, the *Start Page* appears.

START PAGE

- On the *Start Page* the respondent enters the ID obtained from BEA and selects the period of the data to be retrieved.

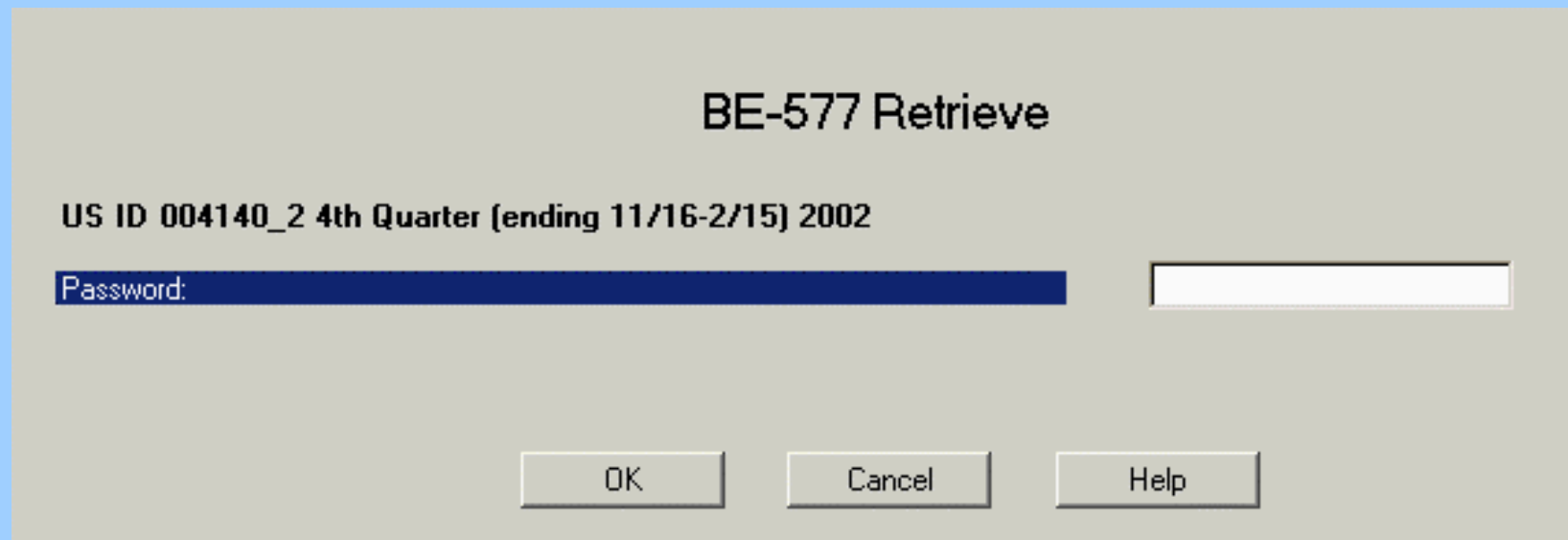
The screenshot shows a web interface titled "BE-577 Start". It features a light gray background with a dark blue header bar. Below the header, there are several input fields and buttons. The fields are labeled "US_ID:", "Quarter:", and "Year:". The "US_ID:" field contains the text "004140_2". The "Quarter:" field is a dropdown menu showing "4th Quarter (ending 11/16-2/15)". The "Year:" field is a dropdown menu showing "2002". Below these fields are four buttons: "Retrieve", "Open", "Exit", and "Help".

Field/Label	Value/Action
US_ID:	004140_2
Quarter:	4th Quarter (ending 11/16-2/15)
Year:	2002
Retrieve reporter data from BEA, Decrypt and Open File:	Retrieve
Open previously retrieved period selected above:	Open
Exit:	Exit
	Help

- Retrieve takes the respondent to the *Retrieve Page* to retrieve the respondent's data for the first time.

RETRIEVE PAGE

- The respondent enters the password received from BEA and ASTAR fetches the initial data from BEA, decrypts it for processing, and saves it locally onto the respondent's workstation.
- Clicking OK on the *Retrieve Page* takes the respondent to the *Reporter Info Page*.



The screenshot shows a dialog box titled "BE-577 Retrieve". Below the title, it displays the text "US ID 004140_2 4th Quarter (ending 11/16-2/15) 2002". There is a "Password:" label followed by a dark blue rectangular field. To the right of this field is an empty white rectangular input box. At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Help".

REPORTER INFO PAGE

- The respondent edits the company's contact and address information on the *Reporter Info Page*.
- Next takes the respondent to the *Home Page*.

Reporter Info

Next >> Help

US_ID:004140_2 U.S. REPORTER NAME for quarter ending between 11/16/2002 - 2/15/2003

U.S. Reporter Info	
Name of Reporter:	U.S. REPORTER NAME
In care of:	
Attention:	
Title:	
Street 1:	
Street 2:	
City:	
State:	
Zip:	
Contact Salutation:	
Reporter Point of Contact:	
Reporter E-mail Address:	
Reporter Phone Number:	
Reporter Fax Number:	

US_ID:004140_2 U.S. REPORTER NAME for quarter ending between 11/16/2002 - 2/15/2003

Next >> Help

HOME PAGE

- The *Home Page* launches all the form processing, printing, and submission preparation functions. It displays the current list of forms available for processing and their status.
- As data are keyed, ASTAR saves the data onto the respondent's workstation. The respondent may re-enter ASTAR as often as needed to complete the survey.

BE577 Home

To process affiliates, select a affiliate and click a button below:

To submit edited forms to BEA, click "Send", select one or more affiliates, then click "Confirm" (the same button):

Edit New Delete Print Send

US_ID:004140_2 U.S. REPORTER NAME for quarter ending between 11/16/2002 - 2/15/2003

Sort by: Affiliate ID

Affiliate ID	Affiliate Name	Country	Edited	Sent
0001	Affiliate 1	Brazil		
0004	Affiliate 2	Argentina		
0009	My New Test Affiliate	Nicaragua		

Sort by dropdown menu options: Affiliate ID, Affiliate Name, Country, Filing Status

Edit Reporter Info Tools Exit Help

DATA EDITING

- ASTAR incorporates a few basic data edits.
- Entry is blocked of alpha and other non-numeric characters from data items that are numeric and of negative values from items that cannot be negative.
- ASTAR sums detail items and enters the total in the appropriate item.
- Transmission of data to BEA is halted, and an error message appears, if required country and/or industry codes are not provided.
- Edits that test the validity of inter-item relationships, verify that the value reported for an item lies within a specified range of values, and compares current-period values to prior-period values are being incorporated into ASTAR.

Response to ASTAR for Filing the BE-577 Quarterly Survey of U.S. Direct Investment Abroad

- The number filing electronically at the time of the revised quarterly estimate has increased slightly, from 19.7 percent to as high as 25.1 percent. The most significant improvement to the timeliness of the data provided by ASTAR is for the preliminary estimate, when 35 to 50 percent of those companies responding are filing on ASTAR.
- Companies filing a large number of BE-577 reports tend not to file on ASTAR; instead, they prefer to provide their data on computer-generated paper replicas of Form BE-577.
- The table below shows the number of respondents filing on ASTAR for the six most recent quarters.

Year and quarter	4Q2001		1Q2002		2Q2002		3Q2002		4Q2002		1Q2003
	Prelim	Revised	Prelim	Revised	Prelim	Revised	Prelim	Revised	Prelim	Revised	Prelim
Mailout count	13872	13872	14001	14001	14062	14062	14100	14100	14320	14320	14285
Total documents filed (includes ASTAR)	4039	9525	6129	9917	6310	10876	6914	11604	4548	9932	6993
ASTAR-filed documents	1927	2746	2239	2767	2376	3281	2674	3548	2278	3272	2592
ASTAR filed documents as a % of documents filed	47.7	28.8	36.5	27.9	38.0	30.1	39.0	31.0	50.0	33.0	37.0
ASTAR filed documents as a % of mailout	13.8	19.7	15.9	19.7	17.0	23.3	19.0	25.1	16.0	23.0	18.0