

# **ASTI Helps the Department of Energy Reduce Costs through the Use of “Internet-enabled” Application Systems**

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The Internet has, and continues to have, a significant impact on the way commercial and government agencies conduct business. ASTI, a software tool and application development company, recognizing the opportunities, made possible for businesses because of the ‘Net, modified their software application development tools to allow businesses reap the advantages of conducting business via the Internet.

The Energy Information Administration (EIA) of the Department of Energy (DOE) is responsible for gathering and publishing statistics for private and public utilities. In the fall of 1999, the EIA Application Solutions & Technologies, Inc. (ASTI) designed and developed a “true Internet-enabled” form submission system, named the EIA Monthly Form Submission system, or MFSS, to process and collect the monthly form data from the utilities required by the EIA.

The EIA MFSS was initiated by the EIA as an effort to effectively use their resources, improve the accuracy of the data received, and ultimately, reduce the cost associated with collecting and processing the data. Prior to the development of the EIA MFSS, the entire process was performed manually. The following is a typical scenario: The EIA prepared preprinted form data and mailed the preprinted form to the respondent. The respondent, upon receipt of the preprinted form, manually entered data onto the form via a handwritten or typewritten process. The respondent then mailed the completed form back to the EIA where EIA employees manually keyed in data from the completed paper form. The entire, original Monthly form data collection and submission process was clearly a very tedious, time consuming, and prone to human error.

ASTI worked closely with the EIA to determine how to automate the manual procedures. On the surface, this appears to be a very obvious process, but in reality, it is not. The actual data collection/ submission process must be well understood before the automated form submission features can be determined. For example, the EIA had to decide what data is preprinted on the form, how often this preprinted data changes, and who is responsible for making changes to the preprinted data. And, does the EIA permit the respondent to submit data more than once? These and many other questions must be answered.

There are many benefits to be realized as a result of automating a process. Automating the EIA Monthly Form Submission Process lets the EIA standardize many calculations and perform many edit checks *before the data is submitted to the EIA*. It is a time saver because submitted data is already in an electronic format—the EIA can immediately use the data upon receipt. The EIA MFSS can verify input, standardize and check calculations, while incorporating any EIA regulations or restrictions into the automated form.

*How, then, does “Internet enabling” an automated system provide any additional benefit to the respondent? To the EIA?*

One of the benefits the Internet offers is that information may be modified whenever necessary to provide the most up-to-date information to those accessing it at any time. In this case, the EIA MFSS initially performs an “authentication check” on the respondent using the system. The EIA can change the preprinted information at any time without having to notify the respondent. The next time the respondent uses the EIA MFSS and logs into the EIA server, the EIA MFSS prompts him/her to download the newest information. No additional effort is required by the EIA.

*What are some of the areas that require special attention as a result of using the Internet?*

The EIA has a security requirement that prohibits any respondent from viewing one another's data and. The EIA is also cautious about protecting data from outside intervention while it is being sent across the Internet. To comply with these requirements, the EIA encrypts the pre-load data before making it available on the EIA server to the respondent.

*What other benefits are realized through the development of the EIA MFSS system?*

ASTI designed the EIA MFSS to minimize the time required to remain connected to the EIA server via the Internet. This means that the respondent only remains connected to the EIA server to undergo the user authentication process, receive their pre-load data, perform the software version check, and to submit data to the EIA. The entire EIA form data entry and processing is performed offline on the user's local PC. Respondent data is stored on the local PC prior to being encrypted for submission to the EIA. The EIA MFSS even permits the respondent to search data (previously submitted to the EIA) and reuse data if little or no change is required.

Summarizing the benefits of the EIA MFSS:

- Automatic version checking
- Option of working on or offline
- Validation of user input
- Automated calculations & edit checks
- Secure data during transmission to/from the EIA server via encryption
- Respondent validation to protected unauthorized file access
- Respondent's ability to reuse data

The EIA MFSS was well received by the EIA. Other groups within the EIA are interested in automating their forms as they realize that the EIA MFSS offers benefits not only to the EIA, but also to the respondent. Overall, the burden to the EIA and the respondent is reduced, maintenance is simplified, and most important, greater data accuracy is achieved.

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