

Yes, it can be done!

- E-Government
- E-Grants Innovation
- Web Enablement
- Systems Integration
- Knowledge Management
- Project and Program Management
- IV&V

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The Challenge

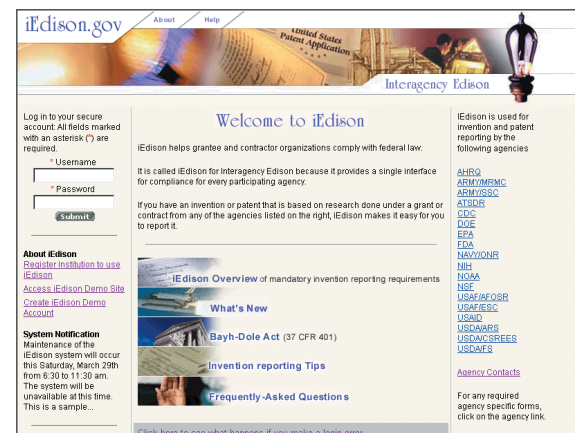
1994 Challenge: Provide a means for grantees to report on their inventions and patents, allow agencies to audit the outcomes of grants, and inspire economic growth through more efficient knowledge transfer to industry.

2002 Challenge: Eight years after Edison was developed, the technology and the user interfaces had become dated and were less efficient than was now possible. Although the system still worked, and new agencies were still coming aboard, it had become harder and harder to manage it.

NIH's Electronic Research Administration (eRA) management decided that iEdison was to be one of the first eRA projects to be migrated to J2EE - a prototype for all eRA projects over the next few years. The completely rebuilt system has to work with historical data that goes back 25 years (even before the original Edison system). And the new system has to work with software at grantee institutions that was built to automatically deliver required reports from institution databases to iEdison.

System Background

Conceived for NIH in response to a 1994 Congressional inquiry, Edison was created by Dan Turner of TCG, and Dr. George Stone from the NIH, who together visited grantees in California, Massachusetts, Arizona, and various places in between to pitch the Edison concepts. They learned that users liked the idea, but really wanted to do all their Federally mandated invention reporting in one place, rather than have a nifty electronic system for the NIH and separate paper systems for other federal grant-making agencies. The two Edison creators contacted other government grant-making agencies to make the Edison pitch internally as well as externally. That led to the change from the NIH-centric Edison to iEdison, which enables 16 Federal agencies to use the same system, and hundreds of grantees to report to those agencies through one interface. To our knowledge, iEdison remains the only truly inter-agency system that allows the public to submit business information securely to the government through one interface.



System Description

To comply with the Bayh-Dole Act, grantees and contractors who have inventions resulting from their Federally financed work must patent those inventions. Moreover, they must report specific information to the Federal government within a limited time. iEdison not only provides the forms for data delivery in a secure Web-based environment, it validates that data, and reminds users what information is needed and when through a unique double-pronged tickler system that backs up e-mail reminders with on-screen to-do lists. It also allows organizations with in-house databases to upload their information automatically, and to download their data from the iEdison database at any time.



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The TCG Solution

1994 Solution: Using The TCG Process, requirements were gathered through interviews and discussions with users, validated against NIH business processes (many of which were re-engineered in light of Edison's benefits), and ratified by the user community. Edison's data model is such that additional agencies can be added to the system by inserting one line in the database, and by making a few other rudimentary changes to the interface. A PowerBuilder client is deployed with the agency. From this point on, the agency and its grantees can use Edison for all its inventions reporting needs. Some grantees continue to report to agencies directly, on paper. Using Edison's PowerBuilder interface, agencies enter information from such paper reports into the system, therefore consolidating their inventions reporting data into one location.

2002 Solution: The NIH needed an organization that understood not only J2EE but the special requirements of cross-agency responsiveness. TCG was the natural choice because of our domain knowledge and development skills. We worked with the NIH to help define existing and new requirements, and build a new version of the system to work with a new database structure.

In the process, we converted the business rules to a three-tiered structure that isolated and organized those rules, while maintaining enough of the original database structure to allow institutions with in-house software for iEdison reporting to continue to use their internal processes. New requirements were melded into the current ones, and new functionality, such as the graphical display of the relationship between patents and invention reports or the ability to assign certain inventions-and their attendant tickler messages-to individuals within the research organizations. In the process TCG worked with the eRA staff to integrate and incorporate the eRA J2EE Framework, thus guaranteeing that the same professionals who maintain NIH's basic research systems could maintain iEdison.

Technology Used

1994: Sybase relational database, custom C++ and Perl code, and PowerBuilder for administrative. Throughout, the primary concerns of ease of use, security, and privacy were paramount.

2002: Sybase relational database, J2EE, and PowerBuilder for administrative components.

Outcome

iEdison has been recognized as a pioneering example of e-government. Edison was a 1997 Hammer Award Winner and a 1996 National Information Infrastructure Awards finalist. As iEdison is used by 16 agencies for their inventions and patents reporting requirements, it is now a de jure (legal) standard. OMB recently proposed that all Federal granting agencies standardize on iEdison for this purpose.

From April 2003, iEdison will be a major part of the eRA portfolio. The J2EE architecture will allow other eRA projects to share iEdison components. iEdison will offer broader value to NIH and the 16 Federal agencies it has served in the same no-nonsense, quibble-free way it has for the last 9 years.