ED*Facts*
Shared State Solution

Highlights

- **Fully Functional EDFacts System**
  - *Unit & aggregate staging data stores*
  - *ETL to EDFacts submission specifications*
  - *Submission file creation Edit reports*
  - *Longitudinal archives & analytics*

- **Developed with Partner SEAs**

- **Fully Maintainable by the SEAs**

- **No License Fee for the SEAs**

- **Optional SEA Partner Association for Annual Updates and Shared Enhancements**

- **Support Services Available from ESP**

Inside this issue:

ES3 Goes into Production for 2012-2013 Cycle
All ED*Facts* Submission Files Generated

The December-to-February rush was the typical busy time for Shared State Solution (ES3) states. The big difference was they saw submissions going to ED*Facts* using the ES3 submission software. "This is real now," says Steve King, ESP's Chief Architect and creator of ES3. Until this cycle, everyone was still in a design and development mode.

As of January, all submission files for ED*Facts* are built and tested. The staging databases are finished. New SEA partners will find that once the ETL from their local sources is accomplished, the creation of compliant submission files meeting the ED*Facts* business rules in the required formats is all automated.

"Now is an excellent time to join the ES3 states," says Glynn Ligon, ESP President. "There are several key submission files that SEAs need to prepare now, and the mapping of authoritative sources to the ES3 staging databases can be done during these less hectic months."

A fresh user interface has been added to allow ED*Facts* Coordinators to manage submissions. This controls processes from a single application.

Probably the greatest finding from this current cycle of reporting is that ES3 works, really does create efficiencies within an SEA, and proves that processes can be automated across states.

One of the most significant proofs of concept is that ES3 can work in any data warehouse or database environment—Oracle, Microsoft, Excel, etc. ESP's experts now have worked with SEAs to build ETL processes from a wide variety of sources into the ES3 data stores.

See a Demonstration:
MIS Conference
Exhibit Room
February 13-15, 2013
Mayflower Hotel, DC.

ES3 Works in Pressure Cooker of ED*Facts* Crunch Period

ES3 has worked hand-in-hand now through the crunch time in Missouri, South Dakota, Tennessee, and Idaho. With a mixture of relying upon ES3 to be the only submission process, to being a parallel process, and to being a double check, these

SEAs have proven ES3 is efficient, viable, and production-ready.

In addition to the first four SEAs participating in ES3, ESP has directly assisted five others over the years in submitting their ED*Facts* data. The best practices from those experiences have been incorporated into the ES3 design and processes.

The participation of multiple SEAs is essential to ensuring that ES3 is portable to any other SEA environment, compliant with all of USED's requirements, and responsive to SEA needs. This ensures that ES3 is a practitioner's tool.

Knowing what to have ready before the crunch begins is as important as managing the crunch time itself. For SEAs newly adopting ES3, the processes established by these early adopters will be golden.

ES3 Solution Flows from SEA Data Sources to Uploads
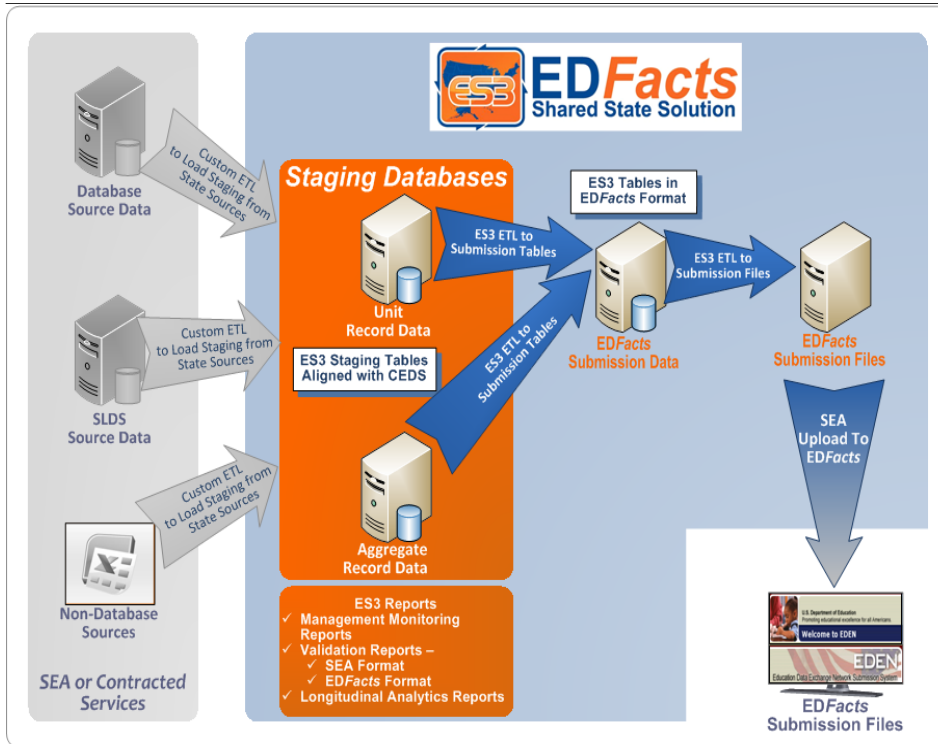
For the EDFacts Coordinator, a solution is just a partial fix unless it encompasses everything from the rawest source file to the very final acceptance of a submission file by the EDEN/EDFacts system itself.

This high-level picture shows just that. The darker blue area outlines the common ES3 components across SEAs. Those in gray are unique to an SEA (performed by them or contracted).

Years of *EDFacts* experience have gone into refining a solution that can be shared across SEAs but still accommodate individual SEA needs.

How ES3 Evolved

The U.S. Department of Education automated state-to-federal reporting with the EDEN/EDFacts system. The task of compiling a state's data into compliant files for uploading was left to be solved by each one. Most of the core processes are duplicated within every SEA.

> **BIG ED COULD NOT DEVELOP AND MANDATE A SINGLE SOFTWARE PRODUCT FOR EVERY SEA. ES3 EVOLVED AS AN OPTIONAL STANDARD SOLUTION.**

Many SEAs have looked across their borders over the years and wondered how many of their processes and software applications they could share—and by doing so save time, effort, and money. However, their time and resources were concentrated on meeting the immediate EDFacts requirements and deadlines and not on software product development.

The SEAs working with ESP consolidated best practices with development resources across their projects to change the dynamic.

- Microsoft tools are common, standardized, affordable, and easy to use.

- SEAs know enough about the ED-Facts processes to pinpoint where the commonalities are and where the uniqueness of each SEA remains.

- ESP has enough clients to allow it to devote sufficient resources to building the common data model, databases, documentation, and ETL processes.

- The ES3 SEA Partnership Association model with an annual fee to support updates and on-going enhancements will be viable as enough states adopt a common architecture.

What are the common ES3 components?

- A user interface to manage the processes

- Two Staging Databases (allowing the SEA to ETL and process either unit or aggregate records and to transform unit records to aggregate) in SQL Server

- Three Types of Reporting (providing feedback to the EDFacts Coordinator, data providers, and analysts/decision makers) using SSRS

- EDFacts Submission Data Store (creating a longitudinal data system for verification and analytics)

- EDFacts Submission File Engine (creating EDFacts-compliant files for uploading)

Unique to every SEA is the ETL into the staging databases from the data sources.

ED*Facts*/ES3 Integration into SLDS Solutions

ES3 should be an essential component of an SEA's SLDS solution. ES3 doesn't need to wait for the SLDS data warehouse to be complete and loaded with all ED*Facts* data sources. The ETL into ES3 will adapt annually as sources evolve.

ES3 was built based upon best practices for meeting the demands of ED*Facts* reporting. These include:

Keeping up with the updates; finding new and changed source data across the SEA; making changes to the local ETL processes; keeping the SEA data providers up-to-date (conducting an annual meeting, publishing an annual calendar, communicating requirements changes, communicating changes in processes); updating the submission file formats; creating/maintaining the data dictionary; creating error, edit reports for data stewards and providers; maintaining business rules.

Tasks that seldom or never get done:

Creating a longitudinal data store of ED*Facts* submissions; creating enough edit reports; providing longitudinal analytics and reports; and creating a comprehensive training program for ED*Facts* data stewards and providers.

Tough job! These last three tasks have become the roadmap for ES3.

Integrating these into an SLDS solution is one of ESP's strengths. From establishing metadata standards to adopting data governance policies and procedures, ED*Facts* reporting must be considered every step of the way.

User Interface Manages Processes for ES3

Originally, ES3 used Visual Studio and/or SQL Server Management studio to trigger the Integration Services packages. To alleviate the need for ED*Facts* coordinators to learn these power applications, or the state IT staff to be nervous about security issues around them, ESP designed a web front end. Built using standard .NET and ASPX tools, the web application gives an authenticated ED*Facts* coordinator access to manage the solution. Web pages exist for:

- editing the various configuration tables
- reviewing and editing staged data
- running staging data and submission data validation reports
- editing parameters for the SSIS packages and then firing them off

Individual stage loading or submission file creation processes can easily be triggered by non-technical program staff. This potentially frees the ED*Facts* Coordinator to focus on managing the ED*Facts* process.

By default, the application comes with the basic .NET security model, but with easy hooks to integrate into an existing Active Directory or other security environment. It is assumed this application would be installed behind a state firewall.

EDFacts
Shared State Solution

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Extraordinary Insight for Support
of ED*Facts* Shared State Solution
SEA Partners

WWW.ESPSG.COM

ESP Offers ETL and Implementation Services

ESP Solutions Group is the developer of the ED*Facts* Shared State Solution (ES3) as an enhancement of its contracts with several SEAs. For newly adopting SEAs, the tasks of installing and configuring the solution, creating the ETL for the local sources to the staging data stores, and managing the process for the first year are available from ESP as contracted services. In future years, the maintenance of the ETL from local sources to the ES3 data stores can also be a service provided by ESP.

The design of the ED*Facts* Shared State Solution is entirely based upon Microsoft tools. These were purposely adopted by the early SEAs to ensure that they and future partners could maintain the solution themselves without an obligation to any vendor. However, the availability of ESP as a service option provides both the risk mitigation and the support alternative when local staffing or other factors demand.

Contact ESP at 512-879-5311 or info@espsg.com.

ESP is the Managing Partner for ES3

States have shared software applications in the past with varying success. Challenges have ranged from:

- Who writes the documentation?
- Who maintains the code?
- Who coordinates communications among all the users?
- Who ensures everything is updated with changing standards and requirements?

For the ED*Facts* Shared State Solution, ESP became the natural managing partner for the SEA Partner Association. ESP has a deep understanding of EDEN/ED*Facts* from working with USED/NCES on the data standards and reporting processes for the Common Core of Data (CCD), the Integrated Performance Benchmarking System (IPBS), the Performance Based Data Management Initiative (PBDMI), and others that contributed to the foundation for ED*Facts*.

ESP has directly assisted multiple SEAs in the design and delivery of recognized ED*Facts* solutions. Those insights, combined with the expertise of participating SEAs supplied ESP with the architecture for ES3.

SEA Partner Association membership enrolls an SEA in ESP's managing partner services. ESP will provide project management, annual updates to requirements, current table and field structures for the data stores (unit staging, aggregate staging, and submission files), support, and documentation.

Steve King, ESP's Chief Architect, is only one of ESP's experts who will be ready to provide that value-added service for which ESP is known.

Darrell Prather, Data Analyst, is also well known for working directly with multiple SEAs to move their ED*Facts* reporting status right to the top. His in-depth knowledge of file specifications, business rules, and ETL from SEA sources make him an invaluable resource to partner SEAs.