expressor tm

redefining data integration

Today's data integration tools are too complex, expensive, inefficient and labor-intensive. They are based on obsolete, CPU-based pricing models and they are difficult to scale. It's time to discover a smarter, faster and lower-cost alternative to the conventional approach to data integration. expressor software tackles the complexity and cost of enterprise IT projects with innovative data integration software that delivers breakthrough development productivity and data processing performance at a significant price/performance advantage.

Current technologies force users to hardcode their business rules into the data transformation code, making data integration efforts with these systems very brittle and costly to build and maintain. expressor software is redefining data integration[tm] through a fundamentally new design concept around smart semantics[tm] that addresses crucial pain points in current solutions by simplifying design and reuse via a metadata-driven, repository-enabled system.

the expressor solution

expressor software's innovative approach allows organizations to rationalize physical metadata constructs around common business terms and write target-specific data transformation and business rules that are 100% reusable across the enterprise, thereby significantly shortening development time and effort. The expressor semantic data integration system[tm] introduces a new collaborative team development and project management environment built around expressor's semantic metadata repository that offers graphical tools specific to the role and responsibilities of each individual on a project. The environment enables parallel development, facilitates project staging and delivers unparalleled data and process security.

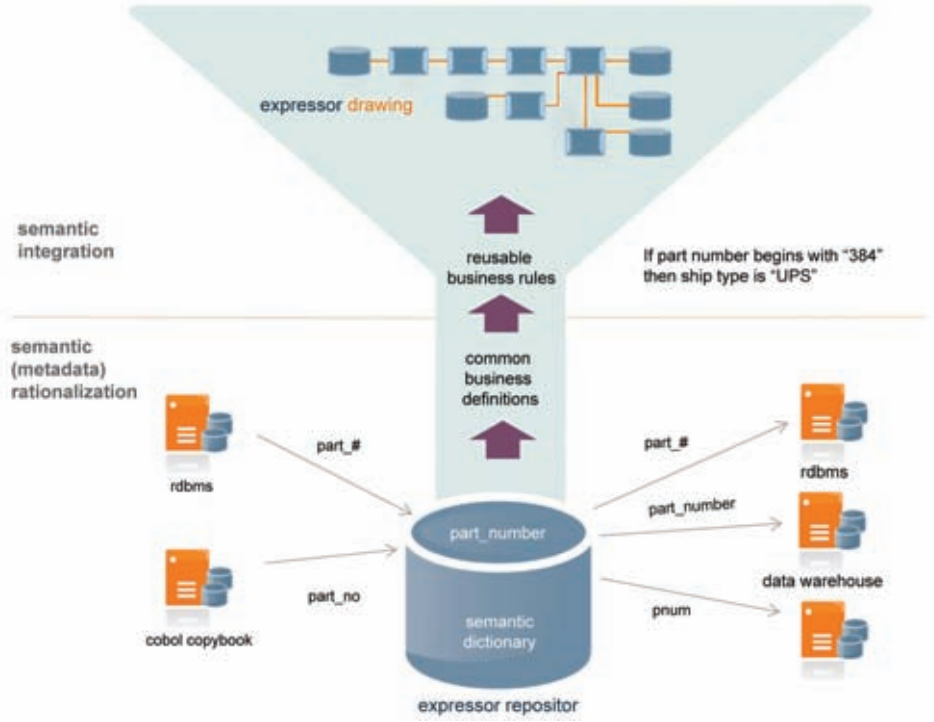
Underlying the expressor system is a high-performance parallel data processing engine that operates in batch or real-time and processes terabytes of data per hour, making it the fastest and most scalable engine on the market today. Along with an affordable, usage-based software pricing model, expressor helps companies to greatly reduce their total cost of ownership for data integration. Our ultrafast data processing engine supports parallel execution across heterogeneous platforms without compromise or resource inefficiency. By relying on expressor, organizations benefit from:

- **smart semantics:** build flexible applications with rationalized business terms and reusable rules
- **breakthrough scalability:** achieve ultimate data integration performance in batch or real-time
- **total lifecycle management:** manage your projects with cohesive, role-based integration tools
- **reduced total cost of ownership:** deliver superior data integration applications for less cost—all the time

expressor is an innovative data integration system for moving data and administering the entire data integration project lifecycle.

smart semantics

The expressor semantic data integration system addresses crucial pain points in current solutions by simplifying design and reuse via a metadata-driven, repository-enabled system. At the core of expressor is smart semantics, which provides a semantic foundation that enables efficient reuse of business rules and true, collaborative team development so organizations can significantly shorten development time and effort. This allows customers to build flexible projects with rationalized business terms and reusable rules.



Companies can rely on smart semantics and rationalize physical metadata constructs to common business terms and write target-specific data transformation and business rules that are 100% reusable.

Integration design is decoupled from the physical environment, and multiple target-centric business rules can be defined for each business definition. This unique approach to data definition is to semantically correlate data fields only once—from multiple, diverse external information sources—to a set of common names. With smart semantics, organizations can virtualize the external data, providing a consistent, streamlined data integration interface. For example:

- the software automatically recognizes that both the field name "part_no" in the cobol copybook source file and the field name "part_#" in the rdbms target system refer to the same business element.
- expressor maintains affiliations between "part_no" and "part_#" by assigning them a common definition (e.g., "part number").
- it automatically accommodates additional field-names references (e.g., "pnum") as they are encountered in other sources or targets used within the project.
- smart semantics uniquely enables syntactic independence that carries over to subsequent integration projects.

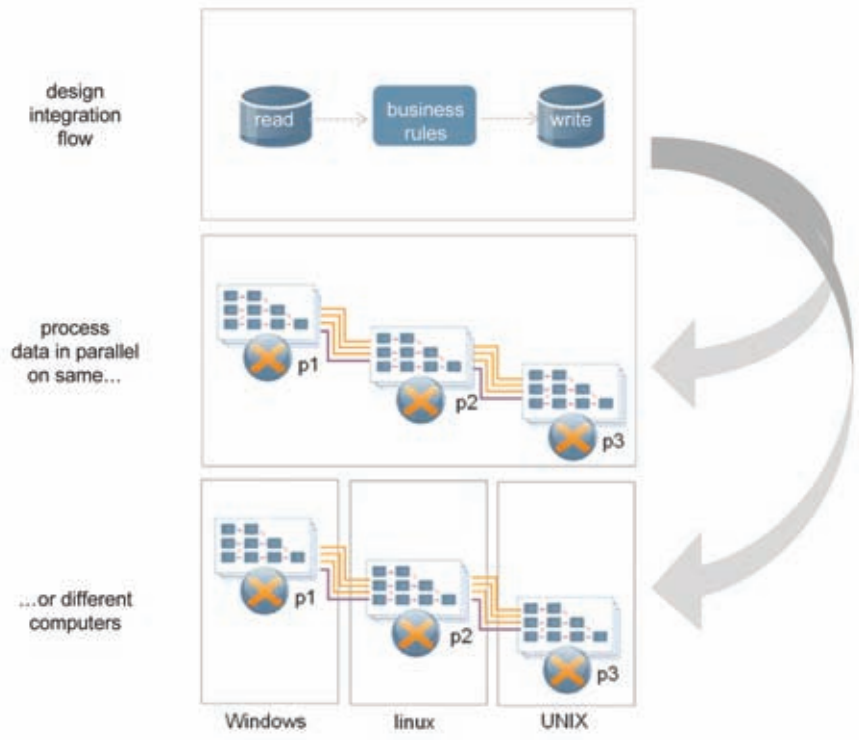
Rules are reusable across projects and expressor ships with hundreds of thousands of built-in business definitions for a wide range of data domains across key industries. These out-of-the-box definitions provide an unprecedented level of automation. The smart semantics approach also includes intelligent business definition learning functionality to facilitate the syntactic discovery process for business terms not yet known to the system.

These common definitions are exclusively used within expressor projects, thereby enabling companies to apply consistent business terminology and practices—not only within a single project but also across the organization's entire data integration landscape. As the foundation for reuse of business rules and many other project artifacts, smart semantics allows customers to improve project efficiency and quality while dramatically accelerating ROI.

breakthrough scalability

The expressor semantic data integration system provides breakthrough scalability so customers can achieve ultimate data integration performance in batch or real-time. It enables parallelization across heterogeneous platforms without compromise and delivers resource efficiency to provide breakthrough scalability.

By abstracting the physical metadata from developers/implementers, it provides a simple, common interface for dealing with complex data structures. The expressor system connects to a wide range of external data sources including all major rdbms platforms, SAS applications, messaging queues, ftp servers, flat files, time-series data, Swift messaging, WSDL, SAP IDoc and xml files through motors that are configured during the project creation process.



The expressor system includes an ultrafast parallel processing engine that supports batch and real-time operations and is capable of processing terabytes of data per hour.

With expressor, a channel is an individual stream of data between tool objects or between an external data source and the application. Channels are used to specify where data is located to establish parallelism and identify on which computers the processing should be run; when processing in parallel, there are multiple channels connecting instances of tool processes.

expressor processes all types and classes of data including complex and hierarchical data, supports structured and semi-structured data, and provides guaranteed message delivery. It is optimized for parallel processing on a single host computer as well as across a heterogeneous environment including Windows, linux, UNIX and IBM mainframe computers. Applications can be moved between environments without modifications, and throughput can be further enhanced by increasing the number of channels executing each operation of the process or by distributing the processing across multiple host computers.

total lifecycle management

The expressor semantic data integration system enables total project lifecycle management and lets the enterprise manage its projects with cohesive, role-based integration tools. At the core of expressor is an enterprise-wide, centralized repository that offers a single point of reference from which to review, analyze and manage project development and deployment.

The expressor solution poses no restrictions on how development tasks should be performed, whether sequentially or simultaneously. In fact, expressor extends parallelism to the development environment as well as the execution environment. Application developers can begin the design of the integration flow prior to the completion of the data analysis or vice versa. All artifacts from a project—including business rules—are reusable in subsequent projects and stored in the repository, which supports team collaboration and provides version management.

The expressor tools are role-based and targeted for specific tasks typically performed by data architects, data stewards, business analysts, implementers and project managers during the integration process. Roles determine privileges, thereby enabling a high degree of data and process security. User activities are carefully tracked, providing a secure and auditable environment.

reduced total cost of ownership

With expressor, organizations reduce the total cost of ownership by delivering superior data integration applications for less cost—all the time. Graphical tools and pre-written operators provide for rapid application development and deployment, and centrally storing data descriptions and application artifacts in a common metadata repository enables efficient reuse in applications across the enterprise. Semantic integration assures that business rules can be easily located and reused—overcoming one of the primary hurdles to reusability. Customers can therefore store business rules to reduce implementation efforts and ensure consistency.

Your company will also reduce the total cost of ownership by driving down hardware infrastructure costs. expressor is more efficient and less CPU-intensive than alternate solutions, and since it can be deployed across an existing network, organizations can avoid capital investments in new hardware.

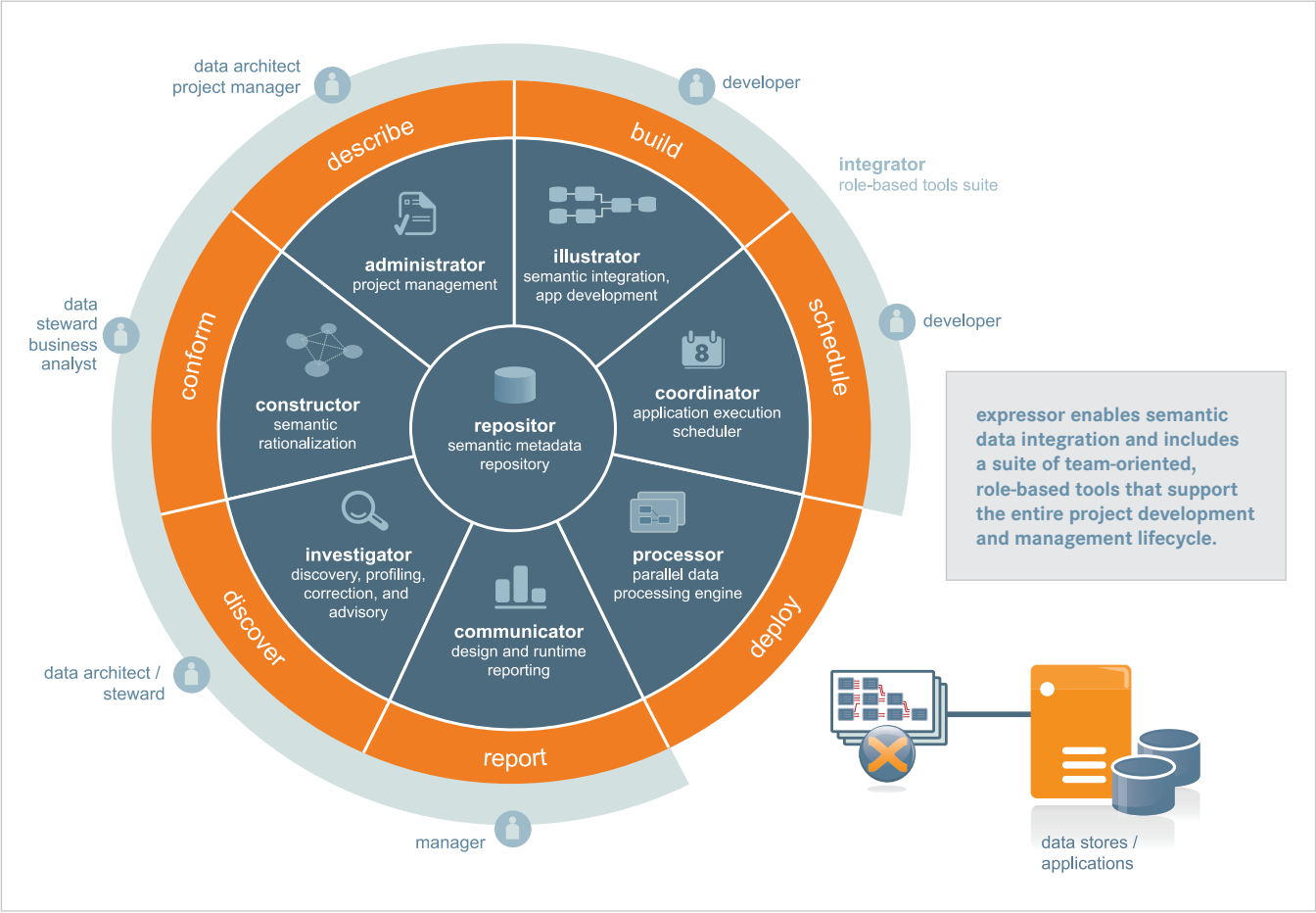
With expressor, you pay for a maximum level of parallelism for an application on a machine, expressed as a number of channels. For example, if the highest level of parallelism desired between any two objects in an application is four, then you only pay for four channels on that machine regardless of the number of processors. It's that simple. In fact, expressor software is the first company in the industry to promote a channel-based engine pricing model, further reducing the deployments costs compared to outdated, CPU-based licensing models.

Customers can reduce the cost of the development staff by relying on a role-based implementation philosophy. This reduces total training costs as well as improves the focus of individual roles, leveraging expertise and skills where they provide the greatest benefit to the business.

expressor semantic data integration system

The expressor semantic data integration system[tm] includes three components that can be installed on a single host or distributed across multiple computers for shared access and optimal performance:

- **expressor integrator:** a suite of team-oriented, role-based tools that support the entire project development and management lifecycle.
- **expressor repository:** an enterprise-class semantic metadata repository.
- **expressor processor:** a high-performance parallel data processing engine.



expressor integrator

With expressor integrator, organizations benefit from team-oriented, role-based tools that support the entire project development and management lifecycle. The tools include web interfaces for project administration and role-based reporting, and use Windows desktop applications for defining reusable rules and integration flows. The company is also developing additional tools that will be available later this year. Business rules, such as data formatting specifications or processing instructions, can be stored and reused in multiple projects. The expressor integrator provides built-in project and data security according to a user's role on a project, and it includes:

- expressor administrator
- expressor illustrator
- expressor constructor

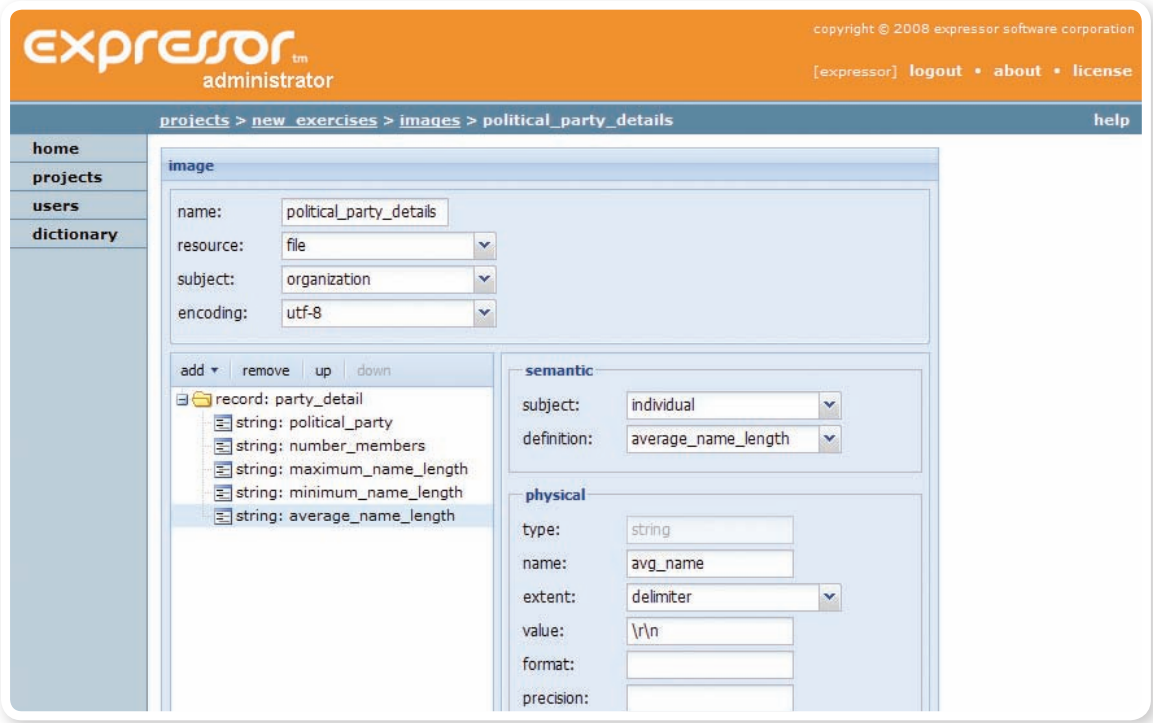
expressor administrator

expressor administrator is a comprehensive web-based project management application. Architects, data stewards and project managers use the expressor administrator to set up an expressor project, manage personnel assignments, perform semantic rationalization tasks and create the data and network descriptions used by developers. expressor administrator provides the primary interface for setting up a project and creating:

- **image files:** xml files that provide descriptions of external data record structures
- **network files:** xml files that identify where data or processing is located and the level of parallelism deployed
- **role assignments:** user access privileges within the expressor environment

Image and network files provide the foundation for projects, and role assignments determine user privileges. For example, the role of architect has all privileges within expressor, the role of developer is limited to use of expressor illustrator, and the role of manager only has privileges for assigning users to projects.

An architect would create a project in expressor administrator and build the required image and network files. Then the architect or manager would assign privileges to the users participating in the project. Role-based privileges allow organizations to streamline productivity and simplify integration. For example, the architect needs to understand where the required resources are located to build the image and network files, whereas a developer does not need to know this information and can instead focus on building the project. The use of roles allows users greater flexibility to work independently. For example, an architect who understands the data can begin writing networks and images without yet even knowing which projects will utilize them.



expressor administrator provides a friendly graphical user interface that allows users to easily create images of data structures.

expressor illustrator

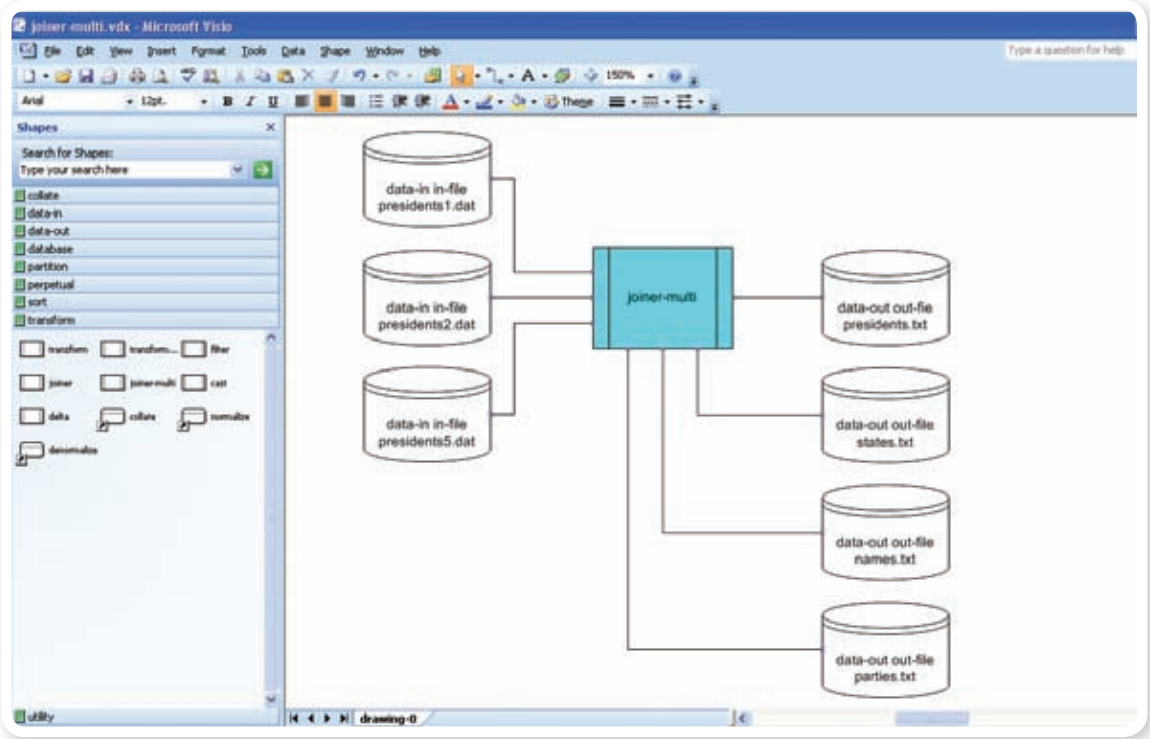
expressor illustrator is a Windows desktop-based visual integration flow design application targeted at developers who are responsible for designing and testing a data integration project. It relies on image and network files created by expressor administrator, and it includes a plug-in for Microsoft Visio that provides a drag-and-drop construction interface using pre-built shapes. The shapes are color-coded, which allows developers to easily determine how they have been configured.

A developer begins by checking out a project and downloading the relevant image and network files. Developers cannot make changes to the image and network files, but they can create visual drawings of projects using the pre-built shapes and by writing processing instructions using expressor datascript[tm]. This interface allows developers to graphically layout an integration flow as one-or-more expressor drawings using project artifacts that describe data sources, record structures and parallel processing methods.

Data integration projects, referred to as drawings, are assembled from a collection of prewritten components that perform tasks such as:

- partitioning, filtering, sorting and collating records
- reading from—and writing to—relational databases, flat files, xml files, ftp servers, SAS, or messaging queues
- transforming the format and content of data records

Developers monitor progress and prevent errors through the use of color-coded artifacts and a messages window. Once an artifact is properly configured, its color changes from yellow to white. Potentially destructive actions are color-coded red, and color coding is also used so developers can quickly determine whether a component writes to a database or utilizes system memory (turquoise).



expressor illustrator allows developers to leverage a flexible user interface to drag-and-drop pre-built components to build an integration flow.

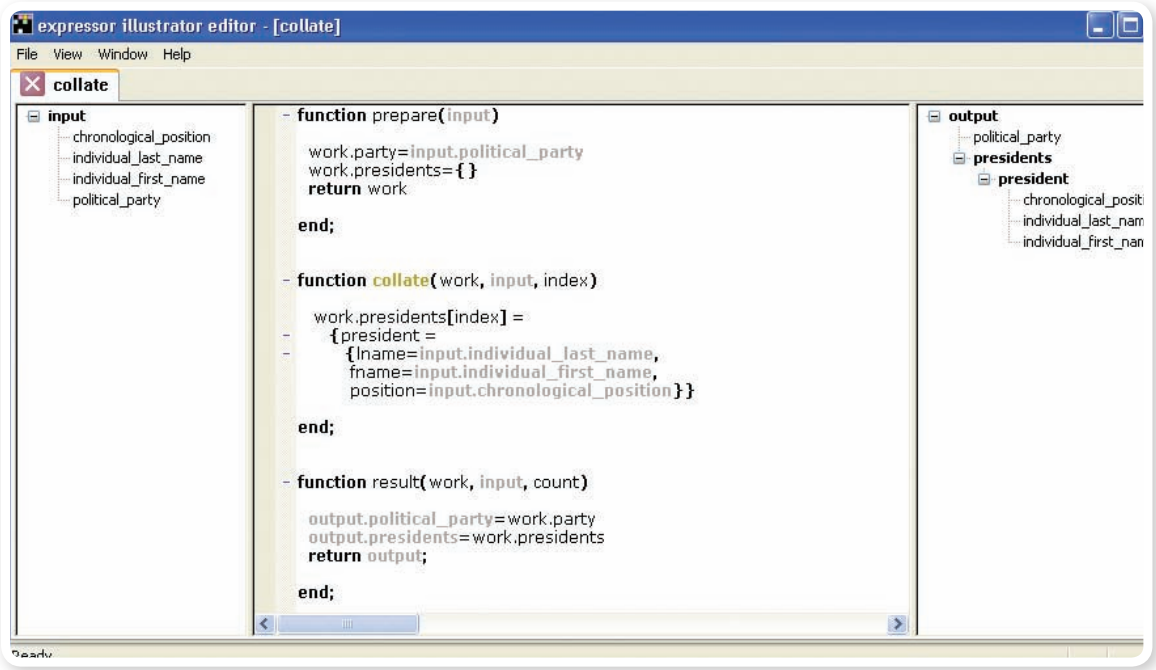
Traditional data integration solutions on the market are complex, bloated and service-intensive. Organizations can now tackle the complexity and cost of enterprise IT projects with semantic data integration software that delivers breakthrough development productivity and data processing performance at a significant price/performance advantage.

The expressor solution allows companies to reuse the most labor-intensive elements of data integration projects, deliver superior data processing performance and reap significant cost savings in development project lifecycle management and in hardware and software licensing. The following are just a few of the solutions enhanced by the expressor system:

- **data migration**
- **data synchronization**
- **enterprise data access**
- **data warehousing**
- **master data management**
- **service-oriented architecture (soa)**
- **complex data exchange**
- **data governance**
- **data quality**

Complex data transformations can be described through the expressor datascript[tm] scripting language, and scripts are embedded directly in the drawing shape. A developer can select from a pick-list of existing functions or create new ones.

Developers only code application and business logic using the rationalized names, and once the drawing is complete a developer can run and test it. The developer does not need to view the actual data, but the network file may still point to real data, which can then be used in testing the application. When the application runs, the developer cannot view the data unless the architect has provided that option through the network file, i.e., the network file reads or writes data from a source/target accessible to the developer. Roles-based segmentation provides organizations with maximum flexibility for controlling access and security to critical enterprise information.

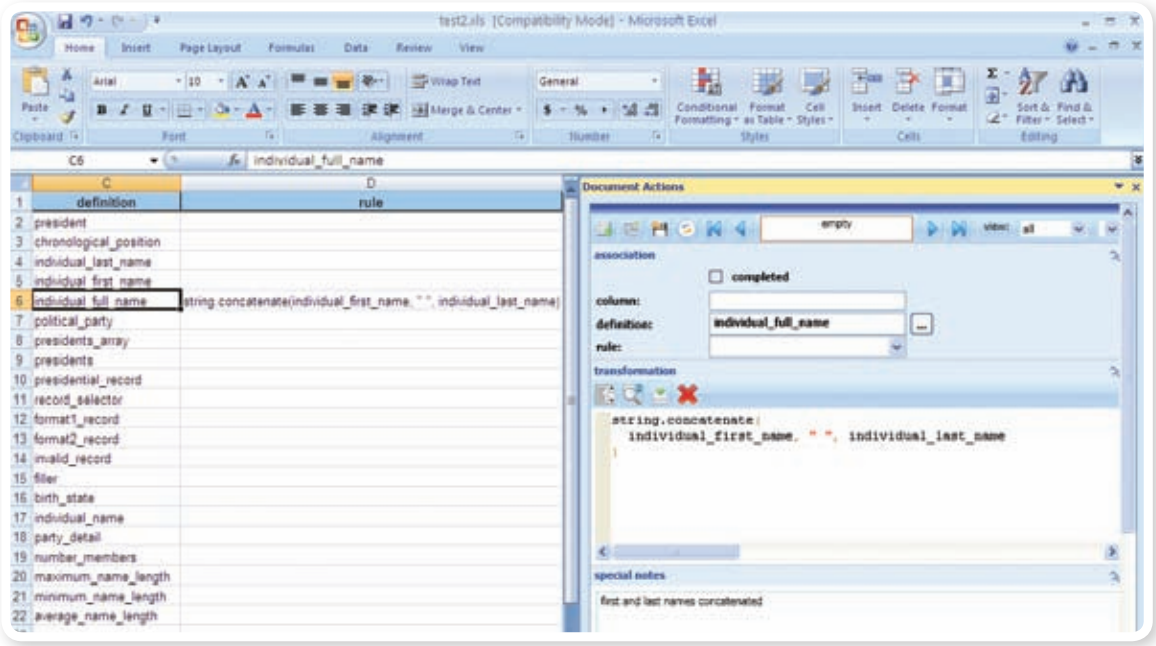


expressor illustrator includes an editor where developers can leverage the datascript language to define the business logic.

expressor constructor

expressor constructor is a Windows spreadsheet-based desktop application targeted at data stewards and business analysts tasked to define semantic definitions and describe business rules based on these definitions. It has an interface integrated with Microsoft Excel that allows users to easily add metadata and business rules. For convenience, expressor constructor has both a spreadsheet interface and a wizard interface.

For example, a user can add a field name or import field titles and the wizard will suggest rationalized names. Once the names are defined, the user can write business rules. This architecture provides a virtualization layer so business analysts can concentrate on creating and validating the business rules without being distracted by the complexities of the external data structures.



With expressor constructor, you can easily describe business rules that are portable between integration efforts.

expressor repositor

expressor repositor is an enterprise-class semantic metadata repository that collects, stores and manages project management information, reusable data descriptions, application file versioning, performance metrics and the implementation and enforcement of role-based security. It enables total lifecycle management and centrally maintains the details of a data integration project, including user roles, skills and assignments. It maintains descriptions of the incoming and outgoing data record structures, parallel processing paradigms and business rules, providing the information needed to manage project development and supporting smooth analysis and management of data processing tasks.

The stored information can be reused in multiple projects, reducing the development effort and ensuring adherence to corporate data standards and business rules. The expressor repositor offers a flexible configuration and parameterization architecture that supports:

- dynamic execution
- migration between environments
- construction of reusable components

The expressor repositor includes an application server, a relational database and a source control system. Everything in expressor repositor can be accessed by expressor administrator and all other expressor integrator tools tightly integrate with the metadata repository as well.

expressor processor

The expressor processor is a high-performance parallel data processing engine that runs a deployed data integration application. To increase throughput, the engine supports parallel processing on either a single multi-processor computer or across multiple computers on a network. The expressor processor can be deployed in a mixed environment composed of computers running:

- Windows
- linux
- UNIX
- IBM mainframe operating systems

The expressor processor can run in either intermittent or perpetual mode, supporting both batch and low-latency, real-time processing. It provides extensive connectivity to a wide range of data sources, including:

- ftp servers
- xml files
- SAS
- relational databases
- flat files
- messaging queues
- Swift
- EDI
- time-series data
- WSDL
- SAP IDoc

find out how expressor is redefining data integration

Founded in 2003 by expert practitioners and technologists in data warehousing and data integration, expressor software is redefining data integration through a fundamentally new design concept based on smart semantics. The company is led by a seasoned management team, and product team members average 20 years of hands-on experience and have a track record for success in launching and scaling industry-leading data warehousing, data management, enterprise middleware and data integration software businesses.

The executives and product team have developed, managed, marketed, sold and delivered software and services solutions to many Global 2000 companies in a wide range of industries. The expressor semantic data integration system has been designed from the ground up by industry visionaries based on common business terms for collaborative, role-based team development, business rule reuse and end-to-end project lifecycle management.

Discover how you can benefit from semantic data integration by visiting www.expressor-software.com or send an email to info@expressor-software.com and we will schedule a discussion of the advantages you can capitalize on by implementing semantic data integration.

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