

Why Is Architecture Important?

Business Intelligence (BI) is a journey not a destination and a successful BI solution means constant change. BI success is measured by your end user's request for additional reports and data to meet new business needs. A BI architecture is the enabler for continued success in that environment and it is the BI architecture and the BI tools that allow constant change and growth to the data repository. A complete BI architecture provides an end to end management of the information flow to the end user, a secured platform in which to store the single source of business information reported to the user and is constructed upon a logical data model designed to meet the business need. Some of the key functions a BI architecture enables are recoverability, data quality, auditing, staging, communications, warehouse loading, operational support and administration.

The most common frustration we have heard from users of struggling BI projects is that the solution could not easily grow and evolve to meet the ever changing needs of the business. But, even successful BI implementations have failed over time because the BI solution had the following BI architectural limitations.

- > Could not successfully load data if source & BI system could not communicate
- > No ability to audit data transmission to ensure that all data loaded successfully
- > Users not automatically notified if BI data did not load properly
- > IT department not alerted if error occurred in daily BI processing
- > Data inaccuracies caused by inability to schedule sequence of data loads
- > Inability to source data from multiple source systems into one repository
- > No ability to monitor jobs to manage performance of daily loads
- > Production BI server used for development and test system
- > Inability to operate BI solution in an unattended lights out mode
- > Rigid design that could not evolve to meet new business need

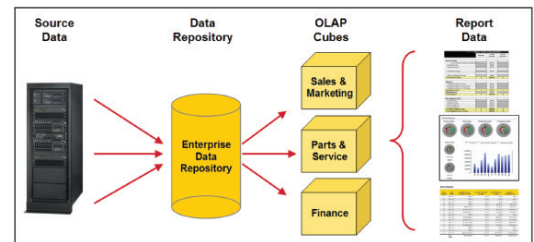
ASD has successfully implemented many enterprise class BI solutions for our clients and we came to realize that the number one reason for our success was the implementation of an Enterprise Architecture for business intelligence. As an outgrowth of our focus on BI architecture and a desire to make the deployment and management of BI solutions easier, ASD developed BI Express.

BI Express is a BI operating system that manages the programs required to build and maintain a business intelligence solution. The time required to build business intelligence applications is significantly reduced. In addition, BI Express implements a robust BI Architecture that allows users to easily implement a state of the art, business intelligence enterprise architecture. The architecture supports industry standard BI methodologies using Bill Inman's or Ralph Kimball's design approach.

Microsoft SQL Server and ASD's BI Express provide the foundation for building BI applications fast and an architecture that can grow as your BI business needs expand.

ASD BI Architecture

ASD's BI Express solution is built using an enterprise business intelligence architecture as shown below.



Enterprise Architecture

Detail transaction source data is collected from the business systems using Microsoft's SSIS programs for extracting, transforming and loading data into the enterprise data repository (EDR). The EDR is a centralized relational data repository for corporate reporting data. Data can be pulled from the EDR and summarized into multi-dimensional Cubes using SSAS or provided to employees using a wide variety of Microsoft reporting and presentation tools.

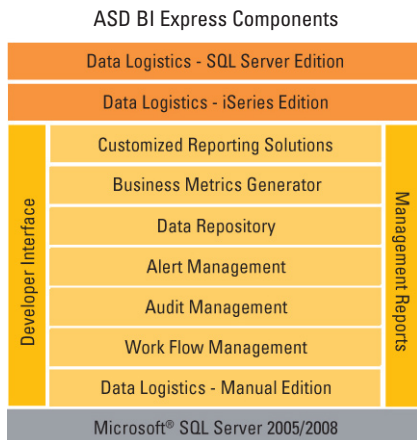
BI Express builds upon this architecture to provide advanced BI functions to allow users to create complex BI systems in an easy to manage "lights out" environment. The architecture design eliminates data transmission issues and dependencies between the source servers or applications and the BI server and it provides enhanced auditing. BI Express allows multiple source systems to feed one or more BI repositories and automatically replicate the data for production, development or test servers. Advanced workflows, auditing, communications staging, alert management, warehouse loading and operational support are also provided for a comprehensive BI architecture. Altogether, the Microsoft BI tools and ASD BI Express architecture allows companies to focus on implementing a new business solutions versus building and managing the BI technology.

To Learn more about BI Express and to obtain a free trial of the solution visit www.asd.net.

BI Express Product Suite

ASD's BI Express solution consists of a suite of tools that allows developers to build and deploy business intelligence solutions using Microsoft's SQL Server database. SQL Server is a comprehensive, integrated data management and analysis software system that provides integrated business intelligence tools for extracting, transforming and loading data, building multi-dimensional cubes, reports, graphs and dashboards. BI Express exploits Microsoft's integrated tools to deliver a complete business intelligence architecture and framework to allow the smallest to largest company to deploy native Microsoft business intelligence solutions easier and faster than ever before!

BI Express consists of a Base Program Module and Data Logistics Modules. The Base Program Module provides a comprehensive business intelligence enterprise architecture that serves as the foundation for building Microsoft BI solutions. BI development tools are provided for managing the data repositories, scheduling operational alerts, validating proper data loads via audit statistics, and scheduling job sequences with workflow management. The complete list of tools is shown in the following diagram.



ASD's newest addition to the BI Express suite of tools is the Business Metrics Generator. Every business has metrics defined to measure its success. Now metrics can easily be created from data in the BI repository and be managed through simple business rules. Developing reports or dashboards is as easy as displaying the stored business metric.

Data Logistics modules can be added to the BI Express system to provide advanced integration and data movement between specific databases and the SQL 2005 BI data repository without having to do

any development on either platform. The architecture also allows developers to integrate to any source database using standard BI tools and the BI Express Base Program suite of tools.

BI Express Base Program Operating System

ASD's BI Express solution acts as an independent operating system designed to automate and manage SQL Server 2005 or 2008 BI applications. The underlying architecture is responsible for the physical construction of table objects on the SQL Server environment and generation of the various Integration Services packages on the file system. It also manages the execution flow of the necessary ETL processes, while managing both the upstream and downstream source and destination environments.

Like all operating systems, BI Express provides advanced controls for work flow, monitoring, reporting, alerting and operations support. Alert management process is the service component which provides the architecture with the ability to handle exception reporting for error or process completion notifications and allows errors to be automatically corrected using workflow management. Workflow management process is a service component that provides the architecture with the ability to control the sequence of Microsoft SSIS package execution. Data loading dependencies can be managed to ensure that valid data is loaded or to generate alert actions in the event of an execution error.

BI Express Data Logistics Modules

Data Logistics modules can be added to the BI Express Base Program to provide advanced integration and data movement between specific databases and the SQL Server BI repository. The logistics modules automate the capture and movement of the data from the source server to the SQL BI repository without the user having to do any development on either platform. All necessary coding on both servers and any file construction is handled automatically. An IBM iSeries Edition and a SQL Server Edition is available and additional modules will be released in the future. A simple one command Data Logistics interface for the database server defines what data to pull from the source system into the BI repository and all native Microsoft SSIS packages and tables are automatically created; thereby eliminating a substantial amount of program development time and effort.

BI Express has been designed to allow developers to enroll any previously developed SSIS into the architecture which allows the BI Express tools to be used with the enrolled packages. Tables from any database system, Excel, or Access can also be enrolled into the template management system to allow developers to access data from other systems without using the Data Logistics modules.

Technology People. Business Results. We create business intelligence solutions that enhance your success today and in the future. First we study your business, then we design the solution, implement the architecture, and select the software and hardware required to get the job done.

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