



D3M Information Systems Architecture™

THE DATA CORE OF YOUR EDUCATION AGENCY

The **D3M Information Systems Architecture (ISA)™** from ESP Solutions Group encompasses the metadata, hardware, software, and network standards, policies, governance, and requirements by which all information technology systems are developed, deployed, and managed. The entire ESP D3M Framework™ is guided by this architecture. Whenever a decision is needed about the information ecosystem, the Information Systems Architecture document provides the standards and practices by which the decision is made. ESP works with state and local education agency clients to design this architecture so that these standards can be analyzed and built upon for years to come.

The D3M ISA is a hybrid technical and policy guide. The D3M ISA does not need to contain all the details of an agency's hardware, software, and network architecture, but it should establish the standards to which those detailed requirements, specifications, and documentation must be held.

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REQUIREMENTS FOR A FUNCTIONAL D3M ISA

A functional D3M ISA requires documentation of existing standards, policies, procedures, and systems. The outline below provides a high-level view of the contents of a comprehensive, enterprise-level Information Systems Architecture document. As is evident from these components, this document requires the participation and buy-in of the full range of people in an education agency—and its "clients."

Agency Organizational Structure <ul style="list-style-type: none"> > Oversight > Management <ul style="list-style-type: none"> o Staff Resources o Budget > Practices, Mandates, Policies, Law 	Metadata Standards <ul style="list-style-type: none"> > Data Dictionary > Data Model > Validation Rules > Transformation Rules > Access Rules
Project Management <ul style="list-style-type: none"> > Methodology > Risk Management > Change Management 	Infrastructure Requirements and Standards <ul style="list-style-type: none"> > Hardware > Network > Software > Personnel
Disaster Prevention and Recovery <ul style="list-style-type: none"> > Key System Documentation > System Availability and Capacity > Key System Backup > Key System Recovery > Business Continuation Plan 	Portal Services <ul style="list-style-type: none"> > Confidentiality and Security Management > Access and Directory Services > Presentation Services > Collaboration Support > Identity Management (Individual Identifiers) > Data Exchange and Access
Data Quality <ul style="list-style-type: none"> > Data Flow Diagram > Data Validation Documentation > Data Transformation Documentation > Interoperability Standards > Platforms, Tool Sets > Application Review and Adoption 	Data Stores <ul style="list-style-type: none"> > Transactional > Staging > Operational > Longitudinal > Reporting > Back-Up
Data-Driven Decision Support <ul style="list-style-type: none"> > Decision Resources > Accountability Reports (Profiles/Scorecard/Report Card) > Statistical Reports > Compliance Reports > Analysis and <i>Ad Hoc</i> Reports > Audit Reports 	User Engagement and Support <ul style="list-style-type: none"> > Buy-In, Engagement > Training and User Documentation > Three Tier Help and Support > Proper Use and Interpretation of Data



ESP has worked with education agencies on complete and partial Information Systems Architecture projects. Agencies often have a priority need for a portion of the architecture to be formalized, but knowing the full scope is always useful context.

HOW IT WORKS

ESP has standardized, detailed "Oversight Questions" and "Benchmarks" for each architecture entry in the outline above. Our process for development of a D3M ISA is to interview key personnel within the agency to document current practices and policies. A draft architecture document is created with gaps identified. ESP's engagement extends as far as the agency desires, then the document is provided in the preferred electronic format so the agency can continue to enhance it and keep it current over time.

PRICING

D3M ISA projects are typically combined with other services such as a metadata inventory using DataSpecs™. Pricing for a D3M ISA is highly dependent on the needs of the education agency. ESP will meet with agency stakeholders at no charge to determine the scope of each individual project.

WHY ESP?

ESP Solutions Group specializes in improving the quality of education data. Our personnel have advised many local school systems, all 52 state-level education agencies, and the U.S. Department of Education on the practice of PK-12 school data management. We have developed ISA's for nearly every client engagement we have worked on since 1993. We are regarded as leading experts in understanding the data and technology implications of state reporting, ED*Facts*, and the Schools Interoperability Framework (SIF).