Reform Support Network

Education Enterprise Architecture

Aligning Education Reform with Services and Systems

Introduction

This introduction to the discipline of education enterprise architecture, or EEA, explains briefly the needs that EEA addresses, its benefits, components and the essential elements of its governance and management. At its core, education enterprise architecture is the bridge connecting the business/program side of the organization and information technology (IT). Developing and implementing an EEA blueprint—to integrate where an education agency is today, where it wants to be in the future and how it is going to achieve that future state—maximizes resources and expertise, sustains reforms and supports schools and classrooms.

Need

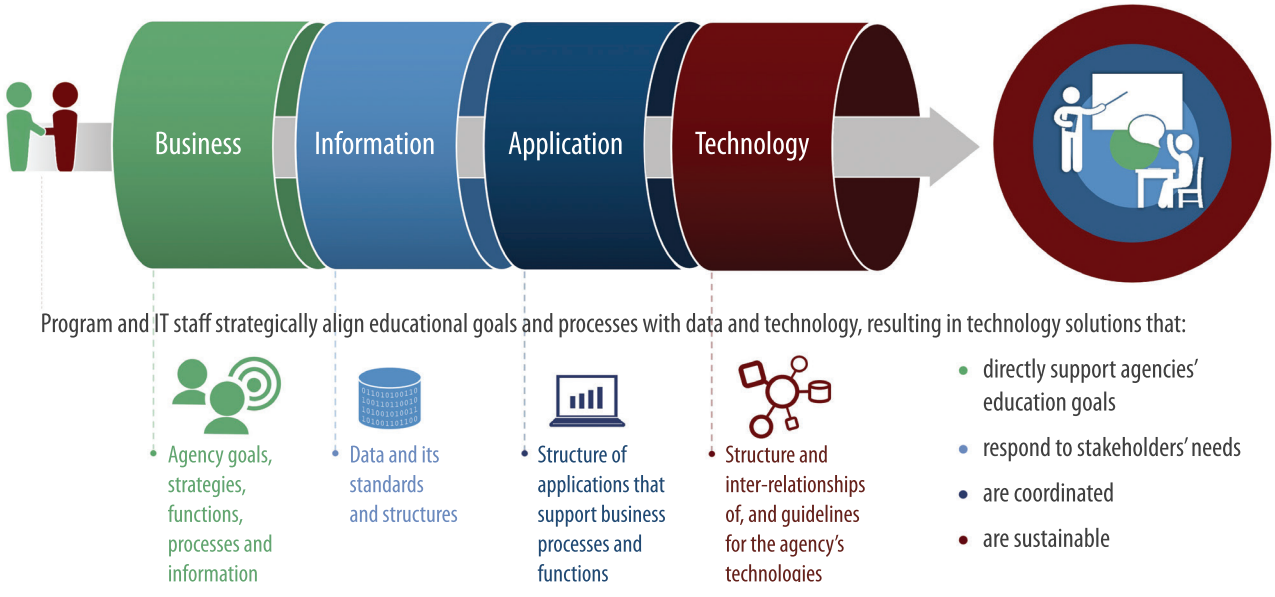
State education agencies (SEAs) are facing broader and more frequent policy and program reforms than ever, even as they rely upon data and technology to successfully implement these changes. Across the nation, SEAs need to ensure they are investing in technology that supports their educational goals, meets stakeholders' needs, and is coordinated and sustainable. Disciplines such as performance management and balanced scorecards help agencies establish and measure progress towards goals. Education enterprise architecture complements these efforts by strategically aligning education, data and technology, using a common blueprint.

Benefits

Education Enterprise Architecture helps align IT strategy with the organization's goals and education processes, and helps maximize the educational value of IT expenditures. Using a system design enables an SEA to refocus on supporting instruction and learning.

This approach has many well-documented benefits:[1]

- **Managing change efficiently** by planning and implementing reforms in an integrated manner that safeguards current program operations and provides a long-term framework that can span leadership transitions
- **Strengthening organizational efficiency** by streamlining and eliminating redundant processes; identifying inter-agency collaboration; strategically allocating staff resources; clarifying roles and responsibilities; lowering operation costs; and sharing organizational capabilities agency wide



The Reform Support Network, sponsored by the U.S. Department of Education, supports the Race to the Top grantees as they implement reforms in education policy and practice, learn from each other, and build their capacity to sustain these reforms, while sharing these promising practices and lessons learned with other States attempting to implement similarly bold education reform initiatives.

- **Increasing efficiency of IT operations** by lowering software development, support and maintenance costs; increasing the portability of applications; improving ability to address agency-wide issues such as security; and making upgrades and exchanges of systems components easier
- **Getting a better return on existing investments and reduced risk for future investment** by creating a consistent way to define and document business requirements; reducing the complexity of programs and IT; increasing flexibility to build, buy or outsource IT solutions; and reducing overall risk in new investments and their ownership cost
- **Making procurement faster, simpler and cheaper** by offering ready access to coherent procurement rules and providing consistent and common language for requests for proposals (RFPs)

Education Enterprise Architecture Components

Education enterprise architecture consists of four main components:

1. **Business architecture** is a high-level representation of the agency's goals, strategies, functions, processes, information and assets critical to providing its core services. This component provides the basis for the remaining three architectures.
2. **Information architecture** is a depiction of the data assets and requirements of the agency, including standards and structures, and how information systems will support the business architecture.
3. **Application architecture** deals with the structure and behavior of applications, focusing on how they interact with each other and with users, and map to business functions and processes.
4. **Technology architecture** is the structure and interrelationships of the agency's technologies, including guidelines for security, information privacy, communication protocols, infrastructure build-out, platform and operating system integration, and user interfaces.

Governance and Management

EEA governance and management structures are critical for long-term sustainability. These structures will vary, depending on such factors as the agency's size and complexity, resources and maturity in terms of processes like performance management.

Architecture governance identifies the key roles, manages the architecture processes (such as creating current and future states of the enterprise, reviewing upcoming procurements and so on) and architecture content (such as requirements, standards, visuals of current and future states, and so on).

Data governance defines how the agency makes decisions about its information assets by establishing policies, standards, processes and ownership.

Process management establishes, documents and assigns ownership for the agency's key processes, which is a core component of developing the business architecture. Process management also has a continuous improvement focus, which helps create a future state.

Project management creates an agency-wide project management office and a process for approving and tracking the progress of high-priority projects. This part of governance ensures the agency consistently plans and implements the projects necessary to achieve the future state.

A Blueprint for the Agency's Future State

Given governance and principles for the education enterprise architecture, SEAs can define the desired scope of the effort to make it manageable and focused on key areas that would benefit the most. Then the SEA can gradually increase its architecture scope. New reforms, especially those that require significant revisions or expansions of data systems, are excellent starting points.

Developing and implementing a blueprint that integrates where the SEA is today, where it wants to be in the future, and how it is going to achieve that future state will maximize resources and expertise, help sustain reforms, and support schools and classrooms well.

[1] http://pubs.opengroup.org/architecture/togaf8-doc/arch/toc.html