

OVERVIEW

Montana Legislative Branch Information Technology Architecture

1. Executive Summary

Enterprise architecture (EA) is the discipline of scientifically designing the technology elements of an enterprise, guided with principles, frameworks, methodologies, requirements, tools, reference models and standards.

The Montana Legislative Branch Information Technology Architecture represents the branches best practices in services, processes and technology. A branch wide approach allows for significant savings, as redundant or less efficient approaches are set aside in favor of approaches that have a proven track record.

This document aims to identify the best of existing tools, technologies and processes, as well as providing guidelines to apply to new technologies. An effective architecture reduces the time and cost in acquisition, implementation and maintenance of IT systems.

The Montana Legislative Branch Information Technology Architecture is composed of two major sections - The *principals* (which are guided by the branch strategies and priorities and themselves guide the architecture), and the *architecture* (which describes specific priorities and recommendations).

2. Principles

The Montana Legislative Branch IT Architecture is established upon a set of principles that are intended to guide branch-wide IT decision-making and the planning and implementation of information systems. The principles describe the characteristics of the branch's target IT architecture, and are ordered in terms of importance.

The principles (and the architecture) describe the best general case solution. Where conflicts occur two or more alternative solutions should be examined, and a cost/benefit analysis conducted. ([Link to Business Case Analysis Documents](#))

Principle Number 1. Legislative Branch business objectives guide IT decisions.

Principle Number 2. Systems are secure.

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Other Principles

3. IT Architecture Overview

The IT architecture ranges from overarching *information* and *business architectures* through *applications* and *applications infrastructure* (applications servers and frameworks) to *technical infrastructure* (network, storage and platforms). In the diagram below, the 'preferred' (first choice and most well supported) parts of the architecture are highlighted in green, the 'supported' (for specific areas of use) are highlighted in yellow and the seek to avoid are outlined with red dashes. This architecture is discussed in more detail in the following sections.

SAMPLE Overview of IT Architecture

April 17, 2008

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Legend																	
—	Preferred																
—	Supported for specific apps																
- - -	Seek to avoid																
- - -	Prohibited																
Business	... x n		... x n				Security										
Information	... x n		... x n														
Applications	... x n	... x n	... x n	... x n													
Application Framework	Web Services	???	PerfectS cript	?	?	?											
Application Servers	Apache	Oracle	Citrix	IIS	?	?											
Database	MySQL	Oracle	MS Access	Lotus Approach													
Platform (O/S)	SuSe Linux	Windows x 4	Netware x 4														
Platform (H/S)	80x86																
Storage	SAN	Fixed	Desktop	CD/DVD	USB Drive												
Network	Fixed	Wireless	Unauthorize d wireless														

4. Business Architecture

The Montana Legislature is one of three branches of state government created by the Montana Constitution. The people of Montana express their will directly through the Legislative Branch, which enacts laws, levies taxes, and appropriates revenue received from those taxes to various agencies of government for public purposes.

The structure and function of the Legislative Branch are prescribed by constitutional law, statutes, and legislative rules. The Branch consists of entities as provided in 5-2-503, MCA. The principal entities of the Branch are the Senate and House of Representatives (which together compose the Legislature), the LSD, the Legislative Fiscal Division (LFD), and the Legislative Audit Division (LAD).

Missions

The missions of the consolidated Legislative Branch entities are as follows:

- The mission of the Legislature is to exercise the legislative power of state government vested in the Legislature by the Montana Constitution.
- The mission of the Legislative Services Division is to provide research, reference, legal, technical, information technology, and administrative support services to the Senate, House, and other divisions of the Legislative Branch in support of effective and efficient operation of the Legislative Branch and to support the mission of the Legislative Council.
- The mission of the Legislative Fiscal Division is to provide the Legislature with objective fiscal information and analysis relevant to Montana public policy and budget determination.
- The mission of the Legislative Audit Division is to conduct independent audits under supervision of the Legislative Audit Committee, as provided by law, and to provide factual and objective information to the legislative and executive managers of the public trust.

5. Information Architecture

- Data models, data dictionary and data management

6. Application Architecture

- Presentation Architecture
- Database Architecture
- Application Development
- Application Support Services and Standards
- Desktop Applications
- Client Applications

Example of Standards for Web Server

Increasingly all applications are being deployed through web servers. Where possible, applications should support Apache.

Element	Web server	
Description	Software that provides HTTP services in sync with the current HTTP standards.	
Class	Product	Notes
Preferred	Apache	Industry Standard
Supported	Oracle OAS Microsoft IIS	Required for LAWS Lease of web services from OPI and ITSD

7. Infrastructure Architecture

- Client Platform Architecture
- Serve Platform Architecture
- Server Data Storage Architecture
- Network Architecture

Appendix A: Classification

Class	Description
Preferred	The product, or products, currently deemed to offer the best combination of value, features, security, etc for branch-wide use. Usually there is a single "preferred" product, but occasionally there may be two, in which case each is preferred for a specific domain of usage. Generally supply and support arrangements exist and branch-wide licensing may have been negotiated.
Supported	Adopting these technologies is likely to be more expensive than 'Preferred' solutions and these costs should be factored into the Business Case Analysis. The architecture is a balance of business benefit and cost, and there are a number of circumstances where a non-compliant product may provide compelling business benefits that warrant the increased expense. However, when these products are adopted, users should not regard these products as supported for use outside their proscribed domains, as support is quite limited and defined.
Acceptable	A product deemed to be less desirable in some sense than those in the "preferred" class, but may be used in cases when the preferred products are ruled out on the bases of business requirements. Support for 'Acceptable' solutions will be weaker (may be supported entirely by the user) and users are encouraged to consider 'Preferred' solutions.
Candidate	A product not yet classified, but deemed to have sufficient merit for consideration as a potential preferred product. Candidate products are typically new products or technologies, and may be used in trial or pilot projects. Support for these products will also be weaker than 'Preferred' solutions. These products will typically not be covered by supply or support contracts or by existing licenses.
Maintenance	Products that are in use at the Montana Legislative Branch, probably in "legacy applications, but are deemed to be less suitable than the best currently available. New projects should always use "preferred" class products (unless the Computer System Planning Council grants a dispensation). Where projects or services already use a "maintenance" product, its use may be continued until there is a major upgrade or redesign. At this point a switch to a preferred product should be considered. Supply, support and licensing, if they exist at all, may be subject so "sunset" clauses, so these aspects should be reviewed regularly.
Prohibited	Products that have serious defects or whose philosophy, structure, or resource requirements make them inappropriate to the Montana Legislative Branch enterprise architecture. These products should not be used in any sustained production situation.