Montana Legislative Branch
Enterprise Architecture

DRAFT

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 Enterprise 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 Enterprise Architecture is established upon a set of principles (ss2.1 – 2.15) 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.

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)

2.1 Primacy of Principles

Statement: These principles of information management apply to all organizations within the Legislative Branch.

Rationale: The only way we can provide a consistent and measurable level of quality information to decision-makers is if all organizations abide by the principles.

Implications:

Without this principle, exclusions, favoritism, and inconsistency would rapidly undermine the management of information.

Information management initiatives will not begin until they are examined for compliance with the principles.

A conflict with a principle will be resolved by changing the framework of the initiative.

2.2 Maximize Benefits to the Legislative Branch

Statement: Information management decisions are made to provide maximum benefit to the Legislative Branch as a whole.

Rationale: This principle embodies "service above self". Decisions made from a branch-wide perspective have greater long-term value than decisions made from any particular legislative division perspective. Maximum return on investment requires information management decisions to adhere to branch-wide drivers and priorities. No legislative division will detract from the benefit of the whole. However, this principle will not preclude any legislative division from getting its job done.

Implications:

Achieving maximum branch-wide benefit will require changes in the way we plan and manage information. Technology alone will not bring about this change.

Some organizations may have to concede their own preferences for the greater benefit of the entire branch.

Application development priorities must be established by the entire branch for the entire branch.

Applications components should be shared across division boundaries.

Information management initiatives should be conducted in accordance with the Legislative plan. Legislative divisions should pursue information management initiatives which conform to the priorities established by the Legislative divisions. We will change the plan as we need to.

As needs arise, priorities must be adjusted. A forum with comprehensive division representation should make these decisions.

2.3 Information Management is Everybody's Business

Statement: All divisions in the Legislative Branch participate in information management decisions needed to accomplish business objectives.

Rationale: Information users are the key stakeholders, or customers, in the application of technology to address a business need. In order to ensure information management is aligned with the business, all divisions in the Legislative Branch must be involved in all aspects of the information environment. The business experts from across the divisions and the technical staff responsible for developing and sustaining the information environment need to come together as a team to jointly define the goals and objectives of IT.

Implications:

To operate as a team, every stakeholder, or customer, will need to accept responsibility for developing the information environment.

Commitment of resources will be required to implement this principle.

2.4 Business Continuity and System Security

Statement: Legislative Branch operations are maintained in spite of system interruptions.

Rationale: As system operations become more pervasive, we become more dependent on them; therefore, we must consider the reliability of such systems throughout their design and use. Business premises throughout the legislative branch must be provided with the capability to continue their business functions regardless of external events. Hardware failure, natural disasters, and data corruption should not be allowed to disrupt or stop branch activities. The branch business functions must be capable of operating on alternative information delivery mechanisms.

Implications:

Dependency on shared system applications mandates that the risks of business interruption must be established in advance and managed. Management includes but is not limited to periodic reviews, testing for vulnerability and exposure, or designing mission-critical services to assure business function continuity through redundant or alternative capabilities.

Recoverability, redundancy, and maintainability should be addressed at the time of design.

Applications must be assessed for criticality and impact on the Legislative mission, in order to determine what level of continuity is required and what corresponding recovery plan in necessary.

2.5 Common Use Applications

Statement: Development of applications used across the Legislative branch is preferred over the development of similar or duplicative applications which are only provided to a particular legislative division.

Rationale: Duplicative capability is expensive and proliferates conflicting data.

Implications:

Divisions which depend on a capability which does not serve the entire branch must change over to the replacement Legislative Branch-wide capability. This will require establishment of and adherence to a policy requiring this.

Divisions will not be allowed to develop capabilities for their own use which are similar/duplicative of branch-wide capabilities. In this way, expenditures of scarce resources to develop essentially the same capability in marginally different ways will be reduced.

Data and information used to support Legislative Branch decision-making will be standardized to a much greater extent than previously. This is because the separate divisions, organizational capabilities which produced different data(which was not shared among other divisions) will be replaced by branch-wide capabilities. The impetus for adding to the set of branch-wide capabilities may well come from a division making a convincing case for the value of the data/information previously produced by its division capability, but the resulting capability will become part of the branch-wide system, and the data is produces will be shared across the branch.

2.6 Control Technical Diversity

Statement: Technological diversity is controlled to minimize the non-trivial cost of maintaining expertise in and connectivity between multiple processing environments.

Rationale: There is a real, non-trivial cost of infrastructure required to support alternative technologies for processing environments. There are further infrastructure costs incurred to keep multiple processor constructs interconnected and maintained.

Implications:

Policies, standards, and procedures that govern acquisition of technology must be tied directly to this principle.

Technology choices will be constrained by the choices available within the technology blueprint. Procedures for augmenting the acceptable technology set to meet evolving requirements will have to be developed and put in place.

We are not freezing our technology baseline. We welcome technology advances and will change the technology blueprint when compatibility with the current infrastructure, improvement in operational efficiency, or a required capability has been demonstrated.

2.7 IT Responsibility

Statement: The OLIT organization is responsible for owning and implementing IT processes and infrastructure that enable solutions to meet user-defined requirements for functionality, service levels, cost and delivery time.

Rationale: Effectively align expectations with capabilities and cost so that all projects are cost-effective. Efficient and effective solutions have reasonable costs and clear benefits.

Implications:

A process must be created to prioritize projects.

The OLIT function must define processes to manage business unit expectations.

Data, application, and technology models must be created to enable integrated quality solutions and to maximize results.

2.8 Data is an Asset

Statement: Data is an asset that has value to the Legislative Branch and is managed accordingly.

Rationale: Data is a valuable branch resource; it has real, measureable value. In simple terms, the purpose of data is to aid decision-making. Accurate, timely data is critical to accurate, timely decisions. Most branch assets are carefully managed, and data is no exception. Data is the foundation of our decision-making, so we must also carefully manage data to ensure that we know where it is, can rely upon its accuracy, and can obtain it when and where we need it.

Implications:

This is one of three closely-related principles regarding data: data is an asset; data is shared; data is easily accessible. The implication is that there is an education task to ensure that all divisions within the branch understand the relationship between value of data, sharing of data, and accessibility to data.

Stewards must have the authority and means to manage the data for which they are accountable.

We must make the cultural transition form "data ownership" thinking to "data stewardship" thinking.

The role of data steward is critical because obsolete, incorrect, or inconsistent data could be passed to branch personnel and adversely affect decisions across the branch.

A forum with comprehensive branch-wide representation should decide on process changes suggested by the steward.

Since data is an asset of value to the entire branch, data stewards accountable for properly managing the data must be assigned at the branch level.

2.9 Data is Shared

Statement: Users have access to the data necessary to perform their duties, therefore, data is shared across branch-wide divisions.

Rationale: Timely access to accurate data is essential to improving the quality and efficiency of branch decision-making. It is less costly to maintain timely, accurate data in a single application, and to share it, than it is to maintain data, but it is stored in hundreds of incompatible stovepipe databases. The speed of data collection, creation, transfer, and assimilation is driven by the ability of the branch to efficiently share these islands of data across the Legislative Branch.

Implications:

This is one of three closely-related principles regarding data: data is an asset; data is shared; data is easily accessible. The implication is that there is an education task to ensure that all divisions within the branch understand the relationship between value of data, sharing of data, and accessibility to data.

To enable data sharing we must develop and abide by a common set of policies, procedures, and standards governing data management and access for both the short and the long term.

For the short term, to preserve our significant investment in legacy systems, we must invest in software capable of migrating legacy system data into a shared data environment.

We will also need to develop standard data models, data elements, and other metadata that defines this shared environment and develop a repository system for storing this metadata to make it accessible.

For the long term, as legacy systems are replaced, we must adopt and enforce common data access policies and guidelines for new application developers to ensure that data in new applications remains available to the shared environment and that data in the shared environment can continue to be used by the new applications.

For both short term and the long term, we must adopt common methods and tools for creating, maintaining, and accessing the data shared across the branch.

Data sharing will require a significant cultural change.

This principle of data sharing will continually "bump up against" the principle of data security. Under no circumstance will the data sharing principle cause confidential data to be compromised.

2.10 Data is Accessible

Statement: Data is accessible for users to perform their functions

Rationale: Wide access to data leads to efficiency and effectiveness in decision-making, and affords timely response to information requests and service delivery. The use of information must be considered from a Legislative Branch perspective to allows

access by a wide variety of users. Staff time is saved and consistency of data is improved.

Implications:

This is one of three closely-related principles regarding data: data is an asset; data is shared; data is easily accessible. The implication is that there is an education task to ensure that all divisions within the branch understand the relationship between value of data, sharing of data, and accessibility to data.

Accessibility involves the ease with which users obtain information.

The way information is accessed and displayed must be sufficiently adaptable to meet a wide range of branch users and their corresponding methods of access.

Access to data does not necessarily grant the user access rights to modify or disclose the data. This will require and education process and a change in organizational culture, which currently supports a belief in "ownership" of data by functional divisions.

2.11 Data Security

Statement: Data is protected from unauthorized use and disclosure.

Rationale: Open sharing of information and the release of information must be balanced against the need to restrict the availability of classified, proprietary, and sensitive information.

Implications:

Aggregation of data, both classified and not, will create a large target requiring review and de-classification procedures to maintain appropriate control. Data owners and/or functional users must determine weather the aggregation results in an increased classification level. We will need appropriate policy and procedures to handle this review and de-classification. Access to information based on a need-to-know policy will force regular reviews of the body of information.

In order to adequately provide access to open information while maintaining secure information, security needs must be identified and developed at the data level, not the application level.

Data security safeguards can be put in to place to restrict access. Sensitivity labeling for access to classified, or sensitive information must be determined.

Security must be designed into data elements from the beginning; it cannot be added later. Systems, data, and technologies must be protected from unauthorized access and manipulation.

2.12 Technology Independence

Statement: Applications are independent of specific technology choices and therefore can operate on a variety of technology platforms.

Rationale: Independence of applications from the underlying technology allows applications to be developed, upgraded, and operated in the most cost-effective and timely way. Otherwise technology, which is subject to continual obsolescence and vendor dependence, becomes the driver rather than the user requirements themselves.

Implications:

This principle will require standards which support portability.

For Commercial Off-The-Shelf(COTS) and Government Off-The-Shelf(GOTS) applications, there may be limited current choices, as many of these applications are technology and platform-dependent.

Application Program Interfaces (APIs) will need to be developed to enable legacy applications to interoperate with applications and operating environments developed under the enterprise architecture.

Middleware should be used to decouple applications from specific software solutions.

As an example, this principle could lead to the use of Java, and future Java-like protocols, which give a high degree of priority to platform-independence.

2.13 Requirements-Based Change

Statement: Only in response to business needs are changes to applications and technology made.

Rationale: This principle will foster an atmosphere where the information environment changes in response to the needs of the business, rather than having the business change in response to IT changes. This is to ensure that the purpose of the information support – the transaction of business – is the basis for any proposed change. Unintended effects on business due to IT changes will be minimized. A change in technology may provide opportunity to improve the business process and, hence, change the business needs.

Implications:

Changes in implementation will follow full examination of the proposed changes using the Legislative Enterprise Architecture.

We don't fund a technical improvement or system development unless a documented business need exists.

Change management processes conforming to this principle will be developed and implemented.

This principle may bump up against the responsive change principle. We must ensure the requirements documentation process does not hinder responsive change to meet legitimate business needs. The purpose of this principle is to keep us focused on business, not technology needs – responsive change is also a business need.

2.14 Responsive Change Management

Statement: Changes to the Legislative information environment are implemented in a timely manner.

Rationale: If people are to be expected to work within the Legislative information environment, that information environment must be responsive to their needs.

Implications:

We have to develop processes for managing and implementing change that do not create delays

A user who feels a need for change will need to connect with the "system analyst" to facilitate explanation and implementation of that need.

If we are going to make changes, we must keep the architecture updated.

2.15 Interoperability

Statement: Software and hardware should conform to defined standards that promote interoperability for data, applications, and technology.

Rationale: Standards help ensure consistency, thus improving the ability to manage systems and improve user satisfaction, and protect existing IT investments, thus maximizing return on investment and reducing costs. Standards for interoperability additionally help ensure support from multiple vendors for their products, and facilitate supply chain integration.

Implications:

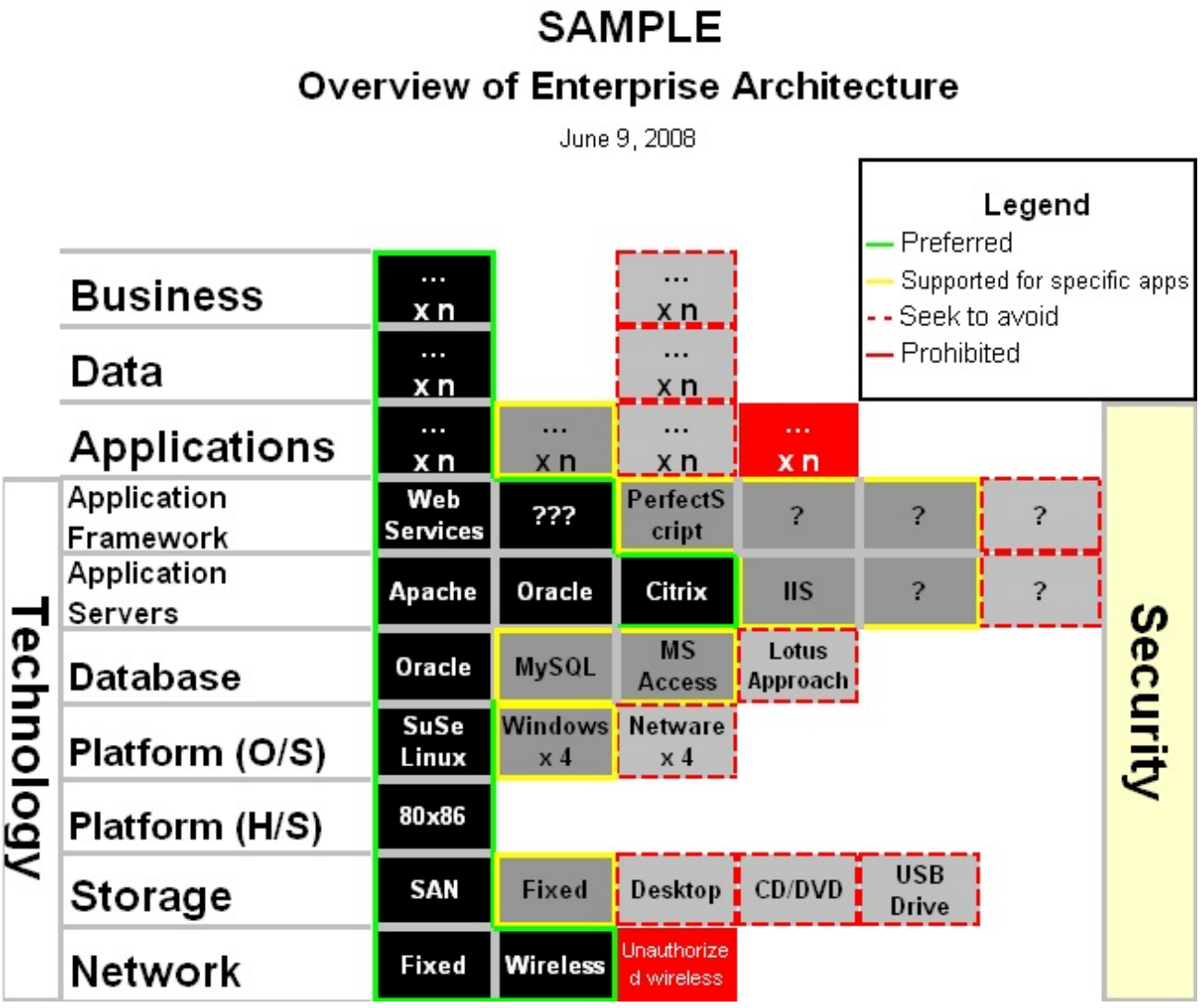
Interoperability standards and industry standards will be followed unless there is compelling business reason to implement a non-standard solution.

A process for setting standards, reviewing and revising them periodically, and granting exceptions must be established.

The existing IT platforms must be identified and documented.

3. Enterprise Architecture Overview

The Enterprise Architecture ranges from overarching *business and data architectures* through *applications* and *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.



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 Legislative Services Division (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. Data Architecture

A. Data models, data dictionary and data management (under development)

6. Application Architecture

There is one basic tenant that the branch needs to keep in mind as it develops, upgrades or purchases applications. That is that the basic functions (legislation, fiscal analysis, audit, research, oversight, administration, etc) of the branch rarely change. Because the functions of the branch rarely change does not imply that the business process needed to accomplish those functions will never change. New functionality brought on by new

technology will require business process changes. However, this tenant (branch functions rarely change) applies in several ways to applications. One way it applies is that the branch should put in place applications that have as long a life cycle as possible. Since functions rarely change, this means that applications will not necessarily be obsoleted by a change in functionality but rather by a change in technology. Therefore it is of benefit to the branch to select technology that will have a long life span. Two ways to do this are to select platform independent technology and technology that follows international standards.

A. Presentation Architecture (under development)

B. Database Architecture (under development)

Element	**Database**	
Description	**Software that provides database services.**	
Class	**Product**	**Notes**
Preferred - Enterprise Level Databases	Oracle	Need to do BCA to determine future direction
Preferred - Non Enterprise Level Databases	MS Access	Need to do BCA to determine future direction
Supported	MySQL	Need to do BCA to determine future direction
Maintenance	Lotus Approach	Used by LFD only and is being phased out

C. Application Development

Element	**Web Development**	
Description	**Software that provides development tools for the web environment.**	
Class	**Product**	**Notes**
Maintenance	ZenD Studio	Needs BCA to determine future direction

Element	Web Site Development	
Description	**Software that provides web site development capabilities.**	
Class	**Product**	**Notes**
Preferred	Dreamweaver 4 Fireworks 4 Homesite 5	Needs BCA to determine future direction

D. Application Support Services and Standards (under development)

E. Desktop Applications

Element	3270 Emulation	
Description	**Software that provides IBM 3270 terminal interface to the mainframe.**	
Class	**Product**	**Notes**
Preferred	Attachmate Extra	Provided under ITSD Enterprise License Agreement

Element	Chart/Graph/Flowchart/Image	
Description	**Software that provides charting, graphics, flowcharting and imaging..**	
Class	**Product**	**Notes**
Supported	MS Visio 2002/2003	Flowcharting - Needs BCA to determine future direction

Acceptable	Flowcharting 4 Corel Draw Paint Shop Pro 7	Needs BCA to determine future direction. Corel Draw approved for usage for Lee Heiman, LSD only.

Element	**File Compression**	
Description	**Software that compresses file sizes to reduce storage requirements or provide for easier electronic transfer.**	
Class	**Product**	**Notes**
Preferred	Windows Native	
Supported	WinZip 81	

Element	**Data Analyzer**	
Description	**Software that provides analysis of data.**	
Class	**Product**	**Notes**
Acceptable	ACL	Audit Control Language - used by LAD

Element	**Database Connector**	
Description	**Software that is used to connect to any relational database.**	
Class	**Product**	**Notes**
Preferred	Oracle Client Windows ODBC	ITSD Standard

Element	**Database Reporting**

Description	**Software that provides report writing capability for databases.**	
Class	**Product**	**Notes**
Acceptable	Crystal Reports v8	Used by LFD only - Needs BCA to determine future direction

Element	**Desktop Operating System**	
Description	**Software that provides the Operating System for the desktop or laptop PC.**	
Class	**Product**	**Notes**
Preferred	Windows XP SP2	Needs BCA to determine future direction
Supported	Linux - SuSe Linux Enterprise Desktop	Needs BCA to determine future direction

Element	**Desktop Publishing Suite**	
Description	**Software that provides camera ready for bound book publications.**	
Class	**Product**	**Notes**
Preferred	Ventura Publisher	Produces Camera Ready for LSD publications
Supported	Adobe InDesign	Needs BCA to determine future direction

Element	**E-Mail/Scheduling/Calendaring**
Description	**Software that provides e-mail/scheduling/calendaring services.**

Class	Product	Notes
Preferred	MS Outlook/Exchange	Provided by ITSD

Element	File Transfer	
Description	**Software that provides file transfer capability.**	
Class	**Product**	**Notes**
Preferred	Core FTP	
Acceptable	WS_FTP Pro 782	

Element	GIS	
Description	**Software that provides spatial analysis and mapping capability.**	
Class	**Product**	**Notes**
Preferred	ArcView US Census	General GIS usage For Redistricting Project - BCA Approved 04/21/08

Element	Internet Browser	
Description	**Software that provides internet browsing capabilityes.**	
Class	**Product**	**Notes**
Preferred	Internet Explorer	Needs BCA to determine future direction
Candidate	Fire Fox	Needs BCA to determine future direction

Element	Media Player
Description	**Software that provides audio/Video playback capabilities.**

Class	Product	Notes
Preferred	Real Player Windows Media Player	Session proceedings playback Used for playing Windows Media Files
Supported	Macromedia Flash Player	

Element	MS Office Add-in	
Description	**Software that provides additional capabilities to the MS Office Suite.**	
Class	**Product**	**Notes**
Preferred	CrossEyes V22	
Acceptable	MS Outlook Add-in Attachment Save	BCA approved 10/01/07

Element	MS Office Development Tools	
Description	**Software that provides additional development capabilities to MS Office.**	
Class	**Product**	**Notes**
Preferred	FMS Tools TACRUN90	

Element	PC Image	
Description	**Software that can restore a PC to its original software state.**	
Class	**Product**	**Notes**
Supported	Ghost	For IT Staff Usage Only - Needs BCA to determine future direction

Candidate	ZEN Imaging	Needs BCA to determine future direction

Element	**PDF Creator**	
Description	**Software that created PDF documents.**	
Class	**Product**	**Notes**
Supported	Adobe Acrobat 70 Professional Suite	
Acceptable	WP PDF Creator PDF 995	Supported on Citrix only

Element	**PDF Reader**	
Description	**Software that reads PDF documents.**	
Class	**Product**	**Notes**
Preferred	Adobe Acrobat 7.0 Reader	
Candidate	Adobe Acrobat 8.0 Reader	

Element	**Presentation**	
Description	**Software that provides slide show presentations.**	
Class	**Product**	**Notes**
Preferred	MS Power Point	
Candidate	Open Office Impress	Needs BCA to determine future direction

Element	**Project Management**	
Description	**Software that provides project management capabilities.**	
Class	**Product**	**Notes**

Preferred	Milestones Milestones Viewer 2000 Project Kickstart	Needs BCA to determine future direction
Candidate	Open Project	Needs BCA to determine future direction

Element	**Query Tool**	
Description	**Software that provides database query capabilities.**	
Class	**Product**	**Notes**
Preferred	Oracle Discoverer	
Acceptable	PL/SQL Developer	

Element	**Reference**	
Description	**Software that provides reference capabilities.**	
Class	**Product**	**Notes**
Preferred	AICPA (prof standards, tech practice aids, audit & acct guidelines	

Element	**Reference - Library**	
Description	**Software that provides library reference (catalog) capabilities.**	
Class	**Product**	**Notes**
Supported	DB Search v4 DB Text v4	Needs BCA to determine future direction

Element	**Remote Access Services**
Description	**Software that provides remote access to the branch network file servers and desktop.**

Class	Product	Notes
Preferred	CITRIX	

Element	Reports Distribution System	
Description	**Software that provides for electronic distribution of reports.**	
Class	**Product**	**Notes**
Preferred	DocuAnalyzer 60	
Maintenance	Document Direct	

Element	Screen Capture	
Description	**Software that provides for capturing an image of the display screen.**	
Class	**Product**	**Notes**
Preferred	Snagit	

Element	Search Engine	
Description	**Software that provides search capability of a database of documents.**	
Class	**Product**	**Notes**
Supported	Folio Views 4.2 Google	Used for MCA Used for branch web site

Element	Spreadsheet	
Description	**Software that provides spreadsheet capabilities.**	
Class	**Product**	**Notes**
Preferred	MS Excel 2003	

Acceptable	MS Excel 2007	Approved for specific uses for LAD and LFD via CITRIX farm - See specific BCAs
Maintenance	Lotus 123	

Element	**SpyWare**	
Description	**Software that detects inappropriate spyware software that has been maliciously loaded on branch computers.**	
Class	**Product**	**Notes**
Maintenance	Spybot Search and Destroy Counter Spy	

Element	**Statistical Analysis Reporting**	
Description	**Software that provides statistical analysis capabilities.**	
Class	**Product**	**Notes**
Preferred	PC SAS	Used by LFD only. Needs BCA to determine future direction

Element	**Survey**	
Description	**Software that provides the capability of preparing a survey and analyzing the survey results.**	
Class	**Product**	**Notes**
Maintenance	SurveyPro	Needs BCA to determine future direction. Most surveys are now done by a web form designed and maintained by the application development staff.

Element	Virus Protection	
Description	**Software that provides virus protection on branch comuters.**	
Class	**Product**	**Notes**
Preferred	NOD 32	provided by ITSD
Maintenance	McAfee	

Element	Voice Translation	
Description	**Software that provides voice translation into computer text form.**	
Class	**Product**	**Notes**
Acceptable	Dragon Naturally Speaking	Used by LAD only

Element	Word Processing	
Description	**Software that provides word processing capabilities for the branch.**	
Class	**Product**	**Notes**
Preferred	MS Word 2003 WordPerfect	Needs BCA to determine future direction
Candidate	Open Office Writer	Needs BCA to determine future direction

F. Client Applications (under development)

7. Technology Architecture

A. Client Platform Architecture (under development)

B. Serve Platform Architecture (under development)

Element	**Server OS**	
Description	**Software that provides operating system capabilities for branch servers.**	
Class	**Product**	**Notes**
Preferred	Linux OES 2 SLES 10 sp1 Windows 2003	Needs BCA to determine future direction
Maintenance	Novel Netware 6.5 sp7 Windows 2000	

Element	**Web Server**	
Description	**Software that provides web server capabilities for branch servers.**	
Class	**Product**	**Notes**
Supported	IIS	Needs BCA to determine future direction
Candidate	Apache	Needs BCA to determine future direction

C. Server Data Storage Architecture (under development)

D. Network Architecture (under development)

Element	**Computer PC and Servers**	
Description	**Computer hardware for PCs and Servers.**	
Class	**Product**	**Notes**
Preferred	State Term Contract x86 PCs and Servers	Needs BCA to determine future direction

Element	**Printers**	
Description	**Hardware printers**	
Class	**Product**	**Notes**
Preferred	High end color - Knoica Minolta Label - Dymo Laser - Lexmark Plotter - HP	
Supported	Label (twin) - Dymo twin label printer	

Element	**Wireless Hand Held Devices**	
Description	**Hardware that provides wireless phone e-mail and other services.**	
Class	**Product**	**Notes**
Supported	Blackberry HTC6800 Altel	Need BCA to determine future direction
Acceptable	HP PDA	Need BCA to determine future direction

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.

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