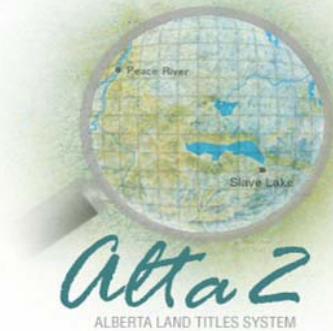


*Service Alberta
Land Titles
Business Vision*



... a view of the future

- * Customer Choice
- * Electronic Submission
- * Smartmap
- * Global Data Access
- * Imaging



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1. Executive Summary

Service Alberta (SA) is responsible for the Alberta Land Titles Registry, which is the official registry of privately owned land in Alberta. The registry is based upon the Torrens System and operates under the legislative authority of the Land Titles Act. Registrations are processed in two locations in Alberta. The Calgary Land Titles Office processes registrations concerning lands in the south half of the province and the Edmonton Land Titles Office processes registrations for the northern half. Title, document and plan searches of the land registry are delivered through the new web based SPIN 2 System and the Registry Agent network of the province.

Registration services are delivered through the ALTA system, which is designed to provide a full function provincial land registration, and information system in accordance with the Land Titles Act. It is a mainframe system consisting of one large database for all titled properties in the Province of Alberta. It is accessible to the Edmonton and Calgary Land Titles Offices via the SGOC network and to external data access Stakeholders through the Internet.

The ALTA system operates in a complex environment with a high level of activity. The bulk of processing, on average 4200 registrations per day, is completed online in an interactive processing mode. Batch processing is utilised for management and financial reporting, updating accounting ledgers, data base backup and external interface exchanges. This system has been in operation since 1988 and is now rapidly running out of capacity. It was developed using state of the art development technology of the day, which provides the basis of high volume service delivery.

Now some changes need to occur. Advances in technology, system architecture and ease of access to external entities via the Internet technology have opened the door for approaching government and customer business needs in a different manner. Customers are demanding self-serve options to obtain services. Customer expectations are increasing and a new Land Titles business model must be flexible enough to meet those needs as well as the political directions of government. Customer demand for a new model plus significant capacity issues are driving this initiative. Without developing a new business model and a strategy to implement, the government will be faced with the reality of being unable to meet current and future business expectations.

The new business model (Section 5) is described in this report in terms of the following attributes: E-Government/E-Business/E-Commerce; Financial; Customer Choice; Working Partnerships; The Paperless Office and a Conceptual Business Framework. Details are provided in further sections 6, 7, 8, 9, 10 and 11. It concludes with a high level view of the possible future direction for land data in Alberta (section 12) and a summary of the 3rd party consultation planned and completed to date.

This updated version of the report is again being circulated to stakeholders and interested 3rd parties that can contribute to the vision and assist in making it become the business

reality of Land Titles in the next several years. This will be supported by specific stakeholder meetings beginning in 2006.

Once the business vision is confirmed through a Business Architecture process, the next stages will involve reengineering the systems and practices of Land Titles Operations to implement over a three to four year period. Changes will depend upon access to funds for rebuilding of system functionality as well as Land Titles' customer business priorities and the need for change within the Land Titles Offices.

2. Background

The land registration system used in Alberta is based on the Torrens System of land registration and operates under the legislative authority of the Land Titles Act. Under this system, the Government of Alberta (GoA) has custody of all original titles and documents and has the legal responsibility for the validity and security of all registered land title information. The Government guarantees the accuracy of the title through the application and enforcement of laws derived from a multitude of statutes and court decisions. As a result, anyone who suffers a loss due to an error on the title or even as a result of a fraudulent transaction is entitled to compensation from the government through the operation of the Assurance Fund.

Qualified staff in offices in Calgary and Edmonton handle over 150 different types of document registrations. As a core business, Land Titles provide an environment that ensures excellence in delivery of registration and information services to Albertans.

Land Titles processes approximately 1,000,000 document registration requests, 3.6 million title and document search requests and 11,000 survey plan registrations annually. In general all requests must be processed in a manner that preserves priority based on when they were received at the Land Titles Office. For the majority of requests received the staff maintains a turnaround time of 24 - 48 hours.

Current revenues generated are in the order of \$27-30 million/year with an annual growth rate of 10%. Continued growth is expected and will put an increased demand on the systems supporting these business functions. Additional pressures come from Albertans' expectations for Land Titles to maintain or exceed the current high quality and convenient service.

There are a number of systems that support the business functions within Land Titles:

ALTA - The ALTA system was implemented in 1988 to support the title, document and plan registration processes and search requests. The system is currently housed on an IBM System mainframe computer using IDMS database technology. ALTA is a very complex system that analyses and applies extensive business rules to each registration and maintains a historic view for all titles. ALTA databases currently accommodate 28 million current/historic titles and instrument records and 40 million cancelled titles and instrument records.

The ALTA legacy system has serviced Land Titles well in that the system is very stable and still supports the core business processes. However, systems design and development methodologies have advanced over time and the old design of the legacy system is reaching its life expectancy. Current issues include:

- Enhancements to the ALTA system are complex, time-consuming and costly.

- The underlying IDMS technologies are no longer mainstream and the business has stopped further investment in this technology except in exceptional circumstances such as a legislative change.
- Educational institutions no longer teach the currently used technologies; therefore finding trained resources to support this system is increasingly difficult and costly.
- The emergence of new business practices enabled by emerging technologies presents many attractive opportunities for improved service delivery and efficiency for Land Titles services. Linking these emerging technologies with ALTA has, as experienced with the new Internet based SPIN 2 data distribution system, and will be a challenge.
- Although a significant document imaging effort has made documents from the mid-seventies to current available, ALTA does not have direct electronic access to the documents upon which the registrations are based. The older documents are currently stored in paper, microfiche and microfilm format. Paper documents dating back to the late 1800's have become fragile and are deteriorating as well the filmed documents.
- Complex transactions tie up the system resources and force the use of overtime to process these registrations.
- There is an increasing demand from external agencies for access to the land data that cannot be met in an efficient and cost effective way.
- **Spatial Information System – SPIN 2** – As noted, the Internet based Spatial Information System (SPIN 2) now acts as ALTA's primary data distribution channel replacing four older systems. SPIN 2 is the second generation of the original SPIN System developed in the late 90's, which provided online search and delivery of various land related data products including 280,000 registered survey/subdivision plans, + Township Plans, Survey Field Notes and ASCM cards for Sustainable Resource Development, and soils data for Alberta Agriculture. The innovative text and map based search interface, developed under a "build once – use many" approach for the GoA, is one of the key reasons SPIN became the most awarded computer GOA system on a national and International basis.

In addition to the original SPIN's services, the new SPIN 2 system provides web based access to the 1.8 million current land titles, 2.9 historical land titles, 18 million registered documents (e.g. mortgages, rights-of-way, liens, easements), volume (bulk) data on a current technology, highly scaleable, .Net system.

3. Stakeholder Profiles

Land Titles has a diverse stakeholder profile that includes customers, partners and service delivery agents. The following table outlines the key stakeholders for Land Titles products. All stakeholders have access to a variety of products including:

- Document Registrations
- Survey Plan Registrations
- Document Searches
- Survey Plan Searches
- Title Searches
- Name Searches (restricted by regulation to qualified parties)
- Land Title Volume (Bulk) Data Searches
- Other GoA Related Data

TABLE 1.0 – STAKEHOLDER PROFILE

Stakeholder Group	Number (represents current account holders/group)
Financial Institutions (Chartered Banks, Credit Union, Mortgage/Broker, Treasury Branch, Trust Company)	1100
Land Data Industry (Assessors/Appraisers, Developer/ment Company, Property Management)	1000
Legal Community, Insurance Companies	2200
General Public	
Registry Agent Network/Search Agents	300
Survey/Engineering Firm	280
Federal Government Departments	50
Municipalities (City of Edmonton, City of Calgary and municipal districts)	354
Resource Sector/Utility Sector (Utility/Pipeline/Oil Companies)	650
Law Enforcement (Edmonton Police Service, Royal Canadian Mounted Police)	
Credit Agencies	
SPIN 2	Public
Provincial Government Departments:	250
Alberta Advanced Education and Technology	
Service Alberta	
Alberta Finance and Enterprise	
Alberta Education	
Alberta Infrastructure	
Alberta Transportation	
Alberta Justice and Attorney General	
Alberta Employment and Immigration	
Alberta Agriculture and Rural Development	
Agriculture Financial Services Corporation	
Alberta Environment	
Alberta Sustainable Resource Development	
Alberta Energy	

Stakeholder Group	Number (represents current account holders/group)
Alberta Children and Youth Services	
Alberta Health and Wellness	
Alberta International and Intergovernmental Relations	
Alberta Legislative Assembly Offices	
Alberta Municipal Affairs (AMA) (Assessment, Grants in Place of Taxes, Local Government Development)	
Alberta Treasury Board	
Alberta Housing and Urban Affairs	

- The above stakeholder profile numbers represents only those stakeholders that currently have an account with the Land Titles Office. In some cases this account is used simply to charge services delivered through SPIN 2.

4. Business Operating Principles

Land Titles management and the working committee have defined the following business operational principles to be used as the basic guidelines for the visioning exercise:

- Land Titles will continue to provide both individuals and private sector companies with timely, high-quality information and registration services at the lowest possible cost.
- Remain with the Alberta Torrens system for the foreseeable future. Alberta's strict application of the Torrens Land Titles system principals will be maintained. This is the preferred system and Land Titles have defined and adopted their preferable implementation of this system.
- Maintain or exceed the same level of performance, functionality and customer service in the future.
- The electronic document will become the official record subsequent to registration.
- Government of Alberta will remain the owner, insurer and custodian of title and owner interest data.
- Service Alberta will act in accordance with the good information handling practices in data distribution and information release activities.
- Land Titles will continue to operate and offer service to Albertans under a cost recovery model.
- Land Titles will continue to use the Registry Agent Network to assist in providing Albertans with over the counter access to Land Title data.
- In keeping with the GoA / Service Alberta direction, Land Titles will strive to promote a level playing field among all external customers and offer a choice of delivery channels.
- Land Titles will recognize its role in providing primary information to the land information industry in Alberta.

5. Land Titles High Level Vision – ALTA 2

Advances in technology, system architecture and ease of access to external entities via the Internet technology have opened the door for approaching government and customer business needs in a different manner. Customers are demanding self-serve options to obtain services. Customer expectations are increasing and a new Land Titles business model must be flexible enough to meet those needs as well as the political directions of government.

The new business model is described in terms of the following attributes:

- E-Government/E-Business/E-Commerce
- Financial
- Customer Choice
- Working Partnerships
- The Paperless Office
- Conceptual Business Architecture

5.1. E-Government, E-Business and E-Commerce

This section of the paper identifies the business drivers, political direction and where Alberta Land Titles fits from a vision perspective into E-Government. The vision for Alberta's direction on E-Government has a foundation of success stories and the political will to support this strategy as an integral part of strengthening the Alberta Advantage. Historically, the Alberta government has enabled stakeholder access to information through electronic systems for many years. This includes Land Titles. In recent years, the government has supported electronic service delivery through the web in all ministries. Most Alberta ministries are publishing data on their sites for customer and internal access. Some are enabling E-Commerce.

With these projects proving to be a success, Alberta is continuing to pursue E-Government strategies. The Lieutenant Governor of Alberta said in her throne speech on February 17, 2000:

“In the area of innovation and science, the government recognizes that Alberta can and must be a leader in the areas of information and communications technology and leading edge research. To that end, this year the government will work with its partners to connect communities across Alberta with high-speed, high-bandwidth Internet access (now SuperNet). This will create enormous opportunities for all Albertans, regardless of where they live, to benefit from distance learning, electronic commerce, and better access to government services.”

With this type of direction, the vision of Alberta E-Government emerges as a number of projects and strategic directions. Those that relate to the business of Land Titles are discussed herein.

Customer One-Window - The Lieutenant Governor provided further direction to this initiative by also proclaiming:

“To improve the way government provides services to Albertans and communities, a wide range of services, products and information will be made available through a one-window approach. This will enable Albertans to get what they need without having to know from which department to get it. It will also allow them to decide how they want to get it, whether over the counter, over the phone, or over the Internet.”

The One-Window / Service Alberta Project in the Alberta government is the first step toward enterprise-wide E-Government. Removing the boundaries of government ministries from a customer perspective will enhance customer services. As part of this vision, it is expected that Service Alberta will provide the necessary leadership to make this initiative a success and Land Titles services are expected to become part of that delivery initiative for land related products, services and information.

Global Marketplace - The Get Ready Alberta initiative, sponsored by Alberta Economic Development, has recommended a number of ideas for action that will assist to enable Alberta achieving international recognition as a good place to invest and do business. Some of those are identified in bold italics text below. How they relate to the vision of Land Titles is described using plain text.

Maintain and enhance Alberta’s infrastructure - Land information is a core component of the Alberta infrastructure. Information on Alberta land is an integral component of the information necessary for businesses outside of Alberta to make decisions regarding establishing an operation in Alberta. It not only includes land ownership information (Land Titles), but also land types (Agriculture), environmental issues (Environmental Protection), land zoning (municipalities), etc. Enabling an access point for businesses to retrieve Alberta land information from a variety of databases will be a key component of E-Government over the next decade.

Expand our telecommunications infrastructure to provide individuals and businesses across Alberta with an opportunity to access high-speed electronic linkages - Enabling high-bandwidth (i.e. SuperNet) telecommunications services across Alberta will allow access to large volumes of data that may result in processing of searches for land information from various sources. Broader access to high-speed connections will enable government organizations like Land Titles to work in partnership with their account holders to introduce online document submission processing for immediate entry of documents and plans to be examined and registered.

Encourage the application and adoption of new knowledge-based technologies as keys to best practices and competitiveness - Enabling new technologies will support the re-

engineering of components of the Land Titles systems, using best practices and new knowledge-based technologies. Intelligent documents may become a reality for processing in Land Titles. Open standards for geographic data are about to emerge.

Promote E-Commerce as a way to access new markets - Land Titles is already seeing the benefits of a wider variety of access channels through increased sales of copies of survey plans, which have risen over 50% since SPIN was implemented. Customers now worldwide can have access to survey plans, titles, documents and other GoA land related data products.

With the implementation of Alberta E-Government, more communication and exchange of documentation will be conducted electronically. Connecting through the Internet makes a variety of services, such as, document submission, examination, and retrieval, data query and automatic notification available directly to the customer, should that be their preferred way of doing business.

As the E-Government transition continues, the Land Titles vision includes the streamlining and integrating processes and data across functional and organization lines to provide transparent, seamless services to customers. While this may not fully occur within the next few years, it will become important to achieve as government continues to change to address public and corporate expectations.

5.2. Financial

The Finance and Administration team of Service Alberta have been instrumental in formulating the following vision of account processing with LTO. A number of strategic directions have been defined that will impact the financial processing of Land Titles services. These include:

Financial Systems - It is expected that IMAGIS will become the standard system for billing and accounts receivable for most government ministries. Management of transaction processing in IMAGIS will become part of a shared service initiative in government. Applications like ALTA, which have full billing and accounts receivable components within it will be transitioned to IMAGIS. Land Titles will generate financial transactions that will be then automatically passed on to IMAGIS for subsequent revenue recognition, billing and collection. This vision is based upon the expectation that the level of service and support a customer receives from Land Titles does not deteriorate due to a change in accounting processes.

Financial Transactions - Ownership and management of these transactions will become the responsibility of IMAGIS. These will continue to remain available to the business operations group for ongoing reporting.

One Account per Customer - The government of Alberta is moving towards having only one account per customer (corporate or private citizen) across government. This will

simplify the accounting processing of the government such that the customers will have all government accounts itemized on one statement.

Customer Access to Accounts - In future, the government of Alberta will web enable access to customer accounts to provide view and payment access to accounts.

Standard Billing - Standard forms of invoices and statements will be generated. Customers will be able to select preferences as to how they wish to receive statements and billing, what level of detail they require and method of payment.

5.3. Customer Choice

The Land Titles program will evolve to extend the numbers of choices available to customers.

Location Independence - Provide access to data and services regardless of location. Customers may be a member of the public, legal, banking or survey community, or another government ministry. They may be located anywhere in the world.

- **Access Methods** - Provide customers with the additional service channels giving them a choice of delivery mechanism e.g. registry agents, Land Titles offices, Internet, etc. Public communication will enhance customer awareness of these new access methods, as they become available in the future.
- **Customer Profiles for Regular Customers** - As with the new account service in the SPIN 2 system, regular ALTA account holders will be able to establish customer profiles that will enable them to select how they do business with Land Titles. This could also be extensible to other program areas as well for their purposes. For less frequent customers, customers will be given choices at the time of requesting a service. Examples of potential customer choice items include:

Distribution Methods - Provide customers with the opportunity to specify how they want to receive the information or service results e.g. via mail, courier, download, secure FTP, etc.

Physical Media Options - Provide customers with media options where appropriate (e.g. diskette, CD-ROM, paper).

5.4. Working Partnerships

Land Titles is envisioning more partnerships with both private and public organizations in the sharing and exchange of information from the various land data repositories. Partners in provincial government, municipal government and private sector will be enabled through data exchange linkages to reduce cost of operations, improve decision-

making and provide new value added services to the public. All parties may realize opportunities for cost and revenue sharing.

Growth of Electronic Partnerships - Land Titles foresees a growth, and is actively working in group partnerships, for electronic data sharing. Shared information, information across ministries, local government partnerships and non-government sources will increasingly be integrated to provide seamless access and business redesign. Seamless access to information, for example, on public and private lands, in Alberta, could prove beneficial to many types of current and new customers.

Introduction of New Technologies - Land Titles expects that many stakeholders will work on a collaborative basis to introduce customer driven electronic document submission and distribution processes due to the potential for an even further reduced turnaround time in document registration as well as cost savings.

5.5. The Land Titles Office

Government Based Examination and Registration - Land Titles continues to see the requirement to maintain a government-based examination and registration process. This is important in order to maintain the quality of the product and guarantee registration under the Torrens based Land Titles Act.

Enhanced Customer Choice - Land Titles envisions a completely paperless internal operation in future. Given the efficiency incentives, it is expected that many customers will also want to submit documents electronically for registration. Some customers will also want to continue to use paper document submission processing for registering land titles interests. Additional research is required on how best to introduce electronic documents into the processing cycle since this will definitely change the way requests move through the examination and registration processes.

Submission will continue to be a mixed environment, with some customers submitting documents electronically and others manually.

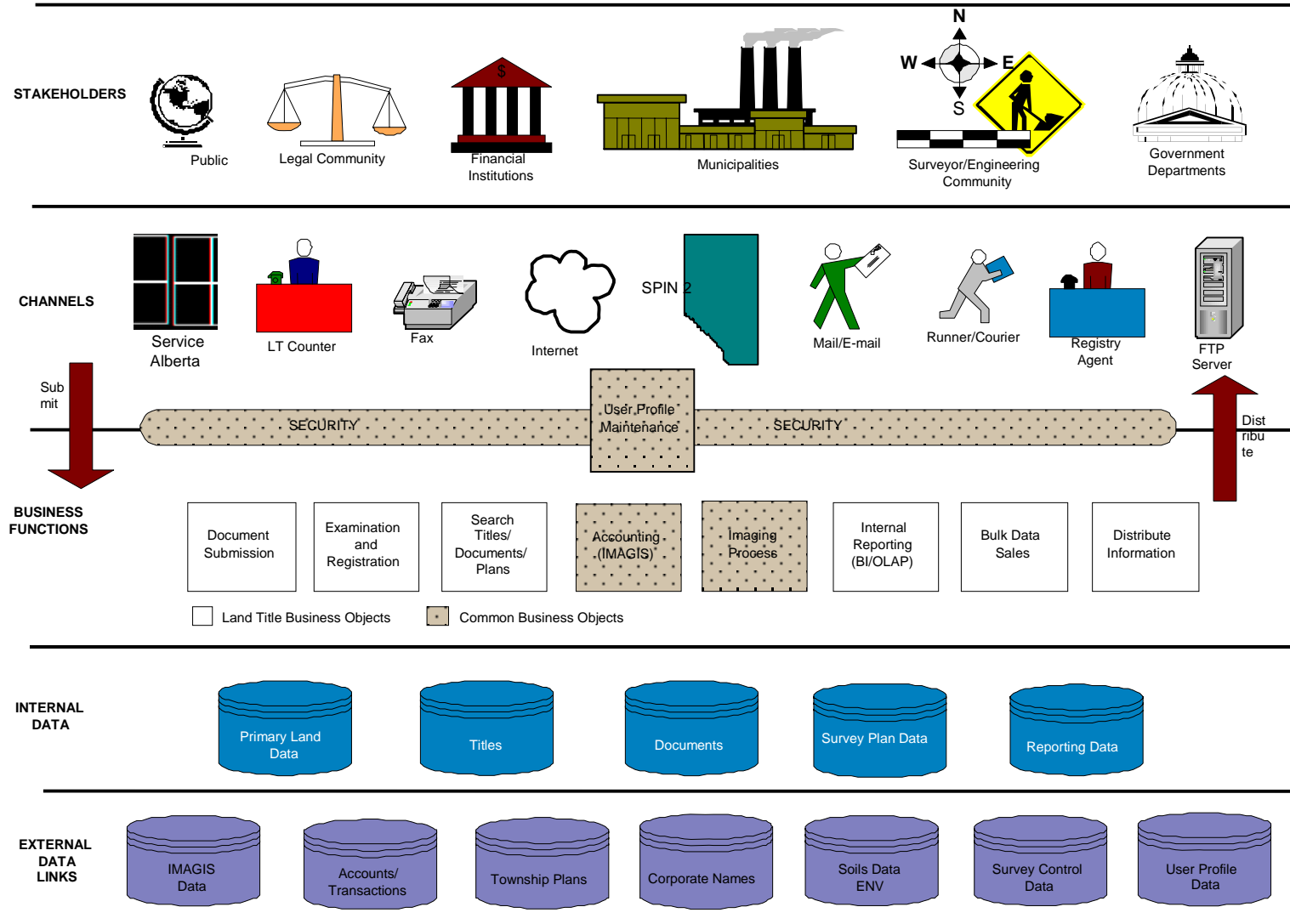
The electronic environment will allow customers anywhere in the Province to:

- File documents electronically by submitting documents and plans over a secure connection via the Internet
- Obtain via the Internet based SPIN 2 system land title data, document and plans, to support decision making and local operations for Alberta businesses
- Pay electronically “on account” or secure credit card or electronic funds transfers

- Electronically access archival material as well as to current land records and plans is immediate. This reduces significantly the effort and cost to maintain large inventories of documents, plans and survey
- Affix electronic signatures to documents that are transmitted electronically. These signatures will meet the requirements for security and nonrefutability that are an inherent part of the Land Title Registry

Staff Tools - Internally, staff will have better tools and greater flexibility to organize and carry out work by being able to review, process, and handle all documents and plans in this electronic environment.

Figure 1.0 – ALTA 2 - Conceptual Business



Framework

6. ALTA 2 - Conceptual Business Framework

The ALTA 2 conceptual business framework as depicted in Figure 1.0 on the previous page is designed to communicate the strategic vision, goals, objectives and requirements through the use of data, function and interface layers. Figure 1.0 does not propose a physical technical architecture, but rather identifies a logical view of Land Titles internal and external business layers.

Each of the layered sections is further described below with the exception of the stakeholders level, which has been covered in section 3.0 of this report.

6.1. Channels

This layer (fourth from bottom Figure 1.0) provides a view of the current and future methods of delivery and distribution channels available to the stakeholder community. Land Titles currently offers a wide variety of channels and is looking to maintain this environment while expanding the electronic/online options provided to the stakeholders. This expansion of service delivery channels and self-serve components will provide Albertans with access to data and services regardless of location.

6.2. Business Functions

This layer (third from bottom Figure 1.0.) represents, at a high level, the modular approach Land Titles would like to take in the redevelopment of their business systems. This layer represents the application components that will contain the logic and functions to be processed against the data layer. A modular design will provide for a flexible system that will accommodate an incremental development approach. Enhancements to system functions and services to meet with changing requirements and evolving technologies will be accommodated in an efficient, cost-effective manner.

The model is split into two categories: proposed common business functional objects and Land Titles business function objects.

Land Titles Business Function Modules

These modules are closely aligned with the current business functional decomposition diagram (Figure 2.0 – Section 6.6) with the exception of document submission, which has been extracted from the examination and registration function and the split of bulk data and internal reporting. SPIN 2 functionality has been integrated into the Search Titles/Documents/Plans component while registration of plan documents is included in the Examination and Registration functional module.

Common Business Function Modules

The modules shaded in beige represent those modules that could be established as, or are currently in the process of becoming, common functions across Government. There are currently a number of Service Alberta legacy redevelopment projects going on in parallel, with portions of some common services already built. These project teams are meeting to share strategies and discuss the possibilities for shared common functions between these major systems. At this stage, they include:

1. Security

All Service Alberta systems require some level of access control to ensure data integrity. This is one area of certain commonality. The Alberta Shared Security solution and Service Alberta will effect the direction for SA in the area of security. Alberta may have to implement multiple forms of security e.g. PIN and password or PKI. Significant work would be required to define the layers of security features required by SA's new applications e.g. data, functional and entry level to modules.

2. User Profile Maintenance

All four businesses (Corporate Registries, Land Titles, Vital Statistics, and Motor Vehicles) within SA have a number of common users (registry agents, ROL users, etc.) and most likely collect some common data about a user. Some of this data is required for user access control; some is required to define user preferences for submitting or obtaining information. A common object to maintain one profile for each user would reduce significantly the duplication and enhance the integrity of the data. As depicted in Figure 1.0 this module would be accessible both internally and externally. That is, users could be responsible for maintaining some of the information that resides in their profile (e.g. name, address, e-mail address, etc.).

3. Accounting (IMAGIS)

A common accounting function is already underway within the government. The government of Alberta is rapidly migrating all accounts receivable and billing transactions to the IMAGIS system, which is the Alberta project name for the implementation of the PeopleSoft financial and human resources product suite. The goal is for each customer of the government to have one account with the government for service charges from all ministries. Finance Operations began looking at accommodating needs for Land Titles accounting functionality in September 2000. Land Titles needs online access to account information and online transmission of data between the operational application and the accounting module. A middleware product may be necessary to accommodate all of the diverse accounting needs of the Land Titles business operations.

4. Imaging

Many of the redevelopment efforts are looking at integrating an imaging component as a way to store data and deliver documents and graphics that would otherwise require paper printout. Common standards for imaging equipment, format and storage technology would ensure compatibility of data and eliminate potential access problems in the future. Land titles has taken a leadership role in imaging within SA, not only in sheer volume and supporting infrastructure, but creating its own custom imaging software that potentially can be reused by other development areas.

5. Other Possible Common Functions

As each project progresses, a more in-depth look at potential common objects could be examined further. Some possibilities include:

- Distribution Process
- Archiving
- Auditing
- Inventory
- Fees
- Training

6.3. Internal Data

Data Vision - This is the 2nd from the bottom layer on Figure 1.0. This layer defines the logical data objects that are specific to the Land Titles environment.

Primary Land Data - Land Titles envisions a parcel based registration system. The data on the title will become attributes of the parcel. Title data includes ownership data, parcel id's (i.e. legal descriptions), LINC numbers and interests registered against titles.

Imaged Document Data - Contains the complete image of the interest documents registered in the title processing module.

Survey Plans Data - Contains images of all survey plan drawings registered at Land Titles.

Reporting Data - Compilation of data to satisfy internal reporting and bulk data requests. Land Titles is addressing this immediate requirement to better address customer requirements for bulk data and support external reporting requirements with access controlled through user profiles with the SPIN 2 system. This would include the data access capability to enable users to extract predefined data sets or subsets of data. Customers will then download the extracted data to their own desktops where they could process it further to integrate with their own applications, to graph, to report on or query it in other formats.

6.4. External Data Links

This is the bottom layer of Figure 1.0. Land Titles envision an open environment with enhanced access to data in other SA systems and shared common data within Government. Benefits of direct access would include:

- Replacement of overnight interface processes that bring in data from other sources (e.g. Corporate Registries) with direct access to the parent database.
- Elimination of duplicate data in systems across government by integrating common data objects such as user profile data and corporate accounting data.

The data examples shown on this diagram are not intended to be an inclusive list. There are many opportunities to share data with other government departments and external businesses, however sharing of data and access to systems within Service Alberta is the most practical goal to set for the short term.

6.5. Principles in the Development of a Solution

ALTA - The current ALTA system is a part of the vision of Land Titles for some time to allow the new registration system to complete its development. It is not expected that there will be multiple releases of various parts of ALTA 2 core registration system over its three to four year development due to the nature of the application and implementation logistics. Instead components of ALTA will be re-developed to provide an enhanced level of features and functionality for stakeholders and customer use. (e.g., Spin 2, imaging, accounting)

SPIN 2 - The functionality of SPIN 2 will continue to evolve by providing a greater level of capability. Eventually the data and functionality tiers of SPIN 2 will likely be integrated with core registration components of ALTA to form the new application using new technology but different ‘front end’ interfaces optimized for their specific business purposes.

Industry Standard Tools - It is expected that development of new Land Titles software would require use of a standard non proprietary suite of interconnected tools and components that can be constructed in a modular fashion and reused as part of the redevelopment strategy for ALTA 2.

Overall Architecture → Migration Planning → Incremental Development - The overall system architecture needs to be developed. Then, a migration path needs to be developed that can lead to the migration from where the system is today to where they need to target over the long term.

Modular Approach (Ever greening) - New application system components must be able to accommodate changes in an extensible cost efficient manner. Achieve a design for

the ALTA 2 environment that will enable independent upgrades and enhancements to the modules over time. This will allow for each independent module to be brought to current industry standards.

Channel Neutral Applications - New software must support diverse multiple access and delivery channels without a major investment in system changes. This is key as the government plans to open more channels to address customer demands.

System Expansion - System solutions must be expandable to address increasing information needs as required and expanding connections within the ministry and to government, industry and public sector partners minimizing throw away costs of earlier investments.

Technology - The Land Titles business vision for technology is that open standards, adopted by the government of Alberta, should form the basis for new systems design and development for Land Titles. Research is required to identify the open technology standards that could apply to various components of the Land Titles business vision. It is expected that Advanced Education and Technology and the CIO's Office will work in partnership with Land Titles and other legacy redevelopment projects to arrive at a set of standards for technology redevelopment at SA.

Geographic Data Referencing - The Land Titles business vision expects that a common geographic referencing method can be developed to enable common data sharing among the ministries, municipalities and private sector stakeholders.

Registration Transaction Format and Content - It may be practical to adopt industry standards for Land Titles business transactions, should they meet the requirements of the stakeholders and the registration process. This will require further investigation upon moving into the redevelopment of the registration process or the submission process.

Digital Images - Standards for digital images for documents and survey plans have been adopted and implemented. Currently Land Titles uses TIFF Group-4, which is the emerging, if not defacto, imaging standard.

Data Standards - Data in the new vision for Land Titles will require the establishment of standards to enable sharing of information across ministries within government and with private sector stakeholders. An example of this is a geographic coding standard to enable sharing of information related to land data.

Guidelines

- Redevelopment will proceed in a competitive, FOIP/Personal Privacy compliant, level playing field manner, reflecting current government policy and direction.

- Focus on the core set of required components to maintain development continuity but remain extensible enough to accommodate common services efficiencies where practical.
- Develop a project scope and structure that has true meaning to avoid “cost creep”.
- Leverage existing or easily developed system components, such as SPIN 2 and data warehousing access, to attract a range of potential business partners.
- Partnerships will be pursued where a logical business fit is clearly apparent. In choosing a business partner, or partners, particular attention will be paid to their background and success in previous initiatives of a similar nature. Note: SA must be prepared to forgo partnerships that conflict with the defined business rules and principals.
- Ownership and control of Land Titles data by Registries will be maintained in any partnership arrangement. Land Titles will not support any major external Land Titles data repositories.
- Apply “off the shelf” software solutions that meet, or may be modified to meet, requirements where practical and does not limit Land Titles ability to enhance the overall system over a particular timeframe.
- The system must support a digital environment from initial receipt of documents through distribution.
- Performance of the new system must equal and/or exceed current registration processing benchmarks.
- Entrench in the development philosophy that the data residing in the ALTA system represents the land title and that a parcel of land is identified and administered by a unique legal description or id. This emphasis will help move the public identity of a land parcel away from the owner who, in reality, is just another attribute attached through a legal mechanism to the property. This redirection will help in resolving FOIP / Personal Privacy issues that so greatly encumber the distribution of Land Titles information today.
- The redevelopment process may involve a number of individual RFP’s for individual development portions of this project if determined to be advantageous to Registries.
- Follow a modular system development over a 3 to 4 year application development timeframe.
- Before Registries commits to any redevelopment strategy there must be agreement on costs for its mid-range IT infrastructure and support. These costs must be developed

from industry costing benchmarks as part of a general review of legacy system IT infrastructure requirements in the initial stages of redevelopment.

- Move forward with the technology and integrate that into the business. Provide for a fund to upgrade and enhance on a regular basis. Do not apply the general life cycle rule to this new system. Establish a fund and plan to consistently upgrade.
- Optimize the use of developing government standards in technology. Use open industry standards for development tools and user tools.
- Maintain the same level of performance and customer service for the new environment and during the development and conversion to that environment.

Strategies

- Promote a level playing field among all external customers.
- Land Titles will control who has access to title and survey data. ALTA 2 will be built to make everything (i.e. all data), accessible and then control access through security profiles.
- Build tools that are usable via multiple channels.

6.6. Functional Decomposition Model

The following chart summarizes the services rendered by Land Titles to their customers. While these functions must all be accommodated in the new business model, it must be adaptable to the introduction of new services and the ability to change the business rules associated with existing services.

FIGURE 2.0 – CURRENT BUSINESS FUNCTIONAL DECOMPOSITION

LAND TITLES					
Register Plans	Register Documents	Distribute Information	Imaging/Archiving	Internal/External Reporting	Accounting
<ul style="list-style-type: none"> • Submit Plan (WIP) • Examine Plan • Accept/Reject Plan • Register Plan • Index Plan (multiple methods provides links to other systems) • Amend Plans • Track history of plans, titles, events (providence) • Archive plans • Cancel plans • Create parcels • Apply registration number • Change parcel • Cancel parcel 	<ul style="list-style-type: none"> • Submit documents (WIP) • Examine documents • Accept/Reject documents • Index documents • Track documents (event history) • Index documents not related to titles • Register documents not related to titles • Register ownership • Amend ownership • Transfer ownership • Register interests • Amend interests • Discharge interests • Create titles • Cancel titles • Create titles to new parcels of land (no plans) 	<ul style="list-style-type: none"> • Search documents • Sell documents • Distribute documents • Search plans • Sell plans • Distribute plans (external) • Name search • Distribute registration information 	<ul style="list-style-type: none"> • Add to image database • Search image database • Change/replace images • Delete from image database • Microfilm 	<ul style="list-style-type: none"> • Statistical reporting • Financial reporting • Summary reporting • Ad Hoc reporting • Exception reporting • Bulk data requests 	<ul style="list-style-type: none"> • Fee calculation • Accept cash payments • Pre-payment (apply to cash accounts) • Charge to accounts • Process shortages/overages • Issue monthly statements • Accept payment to account • Suspend accounts • Process adjustments/corrections to accounts • Process payment type (cash, debit, credit card) • Account balance management • Pre-payment archive

The next 5 sections of this report provide the vision for the above functions.

7. Register Plans/Register Documents

This section combines the information related to the first two columns in the functional diagram in (Figure 2 in section 6.7) above. Register plans and register documents have a great deal of similarity in how they are processed today and the vision for the future.

7.1. Business Goals

Register Plans

The Land Titles Act provides for the registration of survey plans. The Land Titles Office is responsible for registering and storing plans. The current business volume for plan registrations is approximately 11,000 annually.

Register Documents

The Land Titles Act provides for the registration of titles and interests on land titles. The Land Titles Office will continue to offer this registration and storage service for Albertans. The current business volume for document registrations is approximately 1,000,000 annually.

7.2. Current Process

Submit/Register Survey Plans

- Plans are submitted by a number of parties including: Surveyors, lawyers, municipalities, land owners, utility and pipeline companies.
- The submission of plan plots and drawings has been automated since December 1st, 1999. Plans are submitted on diskette or through secure FTP server to the customers account folder.
- Once the drawings have been received a TIFF image is created and, after examination and acceptance, placed in the SPIN database.
- Submitted plans go through two phases of examination: layer examination and a legal examination.

Submit/Register Plan/Land Title Documents

- Document Registration Requests (DRR) are received daily by Land Titles offices in Calgary and Edmonton. Customers typically include lawyers, municipalities, other government departments, financial institutions, oil companies, other businesses and the Alberta public.

- Document registration requests can be submitted via mail, courier or brought in directly to the Land Titles office.
- All requests received are processed on a priority based on when they were received. The documents are examined by qualified Land Titles staff to ensure that they comply with all applicable legislation, case law, and policies and procedures.
- Once registered the customer receives a Customer Registration Notice (CRN) which confirms details of the registration.
- If the request is rejected the DRR form and all original accompanying documents are returned to the customer for correction and resubmission.

7.3. Current Issues

Register Plans

- The process for digital plan submission requires further integration into the registration process.
- There are currently four technologists performing the layer examination: two each in Edmonton and Calgary. If this function is going to continue to be supported then this task must be shared amongst a larger number of staff or automated when software is robust enough to handle all the tasks involved in a layer examination.

In future the system should be issuing a summary verification screen prior to committing the registration.

There are concerns that the bandwidth in some parts of the province may not be currently able to handle the size of the digital plan files electronically once registration of the data becomes more frequent. Alberta SuperNet may address many of these situations.

Register Documents

- Difficulty physically tracking the documents due to the sheer volume and multiple entry points, and ensuring priority of document registration.
- The current 90-day retention period for work in process needs to be extended.
- Increasingly, Land Titles is experiencing more and more complex or large transactions that require extended hours. These complex or large registrations must be processed after hours due to the system resource and design limitations.

- The volume of titles and associated instruments stored on ALTA is increasing at a rate of 10% annually. The design of the database, the application architecture and the sequential registration issues are all contributing to performance issues.
- Unused and non-sequential registration numbers are not allowed with the current system. When a registration is being done all other registrations are frozen while a very complex function to generate the new titles and the historic trail is done. This may cause a very slow response time within the ALTA system and delay other users trying to use the system.
- Non-title documents are entered into the system (e.g. Power of Attorney), but there is no method of indexing them. Separate physical index cards are kept for this purpose.
- Titles and documents that exist only on microfilm or paper are difficult and time consuming to retrieve and review.

Business rule changes and additions are difficult and costly to apply to the current system. For this reason a number of business rules, which might otherwise be automated, are processed manually. This results in a greater risk for error and is less efficient.

The addition of new document types is costly and time consuming to build.

7.4. Future Vision – ALTA 2

- Customer Document Submission** - Land Titles intends to maintain and support the current options for submission (i.e. mail, courier and Land Titles counter) of plan and land title document registrations, however they would like to extend the options to include various forms of electronic submission as well. Selected Land Titles account holders would have the opportunity to participate in electronic submission either through attachment of imaged forms or online entry through electronic form.
- Customer Plan Submission** - Currently digital plan files and documents associated with the plan registration package are sent separately to the Land Titles office. In future, both types of documents should be sent as one complete package. A front-end interface to the current method of FTP could enhance and offer some control to the process. All plans will be sent to Land Titles in digital format for the foreseeable future, however in the long term Land Titles may require submission in a GIS compliant format.
- Document Registration Request Form (DRR)** - All requests received at Land Titles must be accompanied by a Document Registration Request Form or DRR. The DRR is similar to a work order form and contains a limited amount of information about the request (i.e. customer name, account number, customer file number and a list of the documents attached). This form could be easily offered in electronic format

allowing for attachments of the paper documents in imaged format or as the front end to an electronic document form. Some front-end validation on account number and status could also be applied to the electronic DRR form.

- d) **Submission of Paper Documents** - For those customers not wishing to participate in the electronic request submission process, paper documents can be accepted by mail, at the Land Titles counter, or by courier. Once the request is received all documents would be imaged prior to the examination process.
- e) **Submission through Electronic Form** - The transfer of land document and discharge related documents make up a significant portion of the requests received at Land Titles. An electronic version of these forms could be offered to a select group of stakeholders to submit requests to Land Titles on behalf of the public. For example this facility could be offered to the legal community, surveyors and the financial institutions. There is not one standard format for these documents currently; however there is a core set of data that could be identified and along with a free format area for the various clauses and conditions this document could then be entered electronically. A number of rudimentary edits could be performed at the entry point such as missing information, valid land id and valid owner. This may require interaction with ALTA 2. Complexities may also arise if all documents covered by a DRR, are not all in the same format i.e. paper versus electronic.
- f) **Security** - Submission of plan or document registration requests will require each package to be digitally signed / encrypted. This could serve to satisfy two requirements: verify and validate the identity of the sender of the request, and certify that the appropriate execution has been performed on the documents. The use of digital signatures to authenticate that a witness or customer's signature was collected will require a change in legislation. The electronic document must become the official record subsequent to registration. PKI (public key infrastructure) is being investigated as a government wide standard for digital certificates and will most likely be the initial scheme used by Land Titles.
- g) **Future Security** - It is expected that the PKI technology will be a "first step" solution for digital signatures. A preferred method would provide for multiple unique individual signatures to be attached to a single request. This method would closely parallel the practice of obtaining written signatures on paper documents.
- h) **Priority Processing** - The practice of processing requests on an "as received" basis will be maintained within Land Titles. Electronic requests would enter a province wide centralized work-in-process queue automatically while requests received via mail, walk-in or courier would be entered once received at Land Titles. A variety of queues would help sort and organize the requests (e.g. plan queue, document queue, rejection queue). Those DRR's requiring FOLA intervention (determined by municipality code and preliminary examination) could go directly to a FOLA queue. Once approved by FOLA the DRR would be transferred back to the regular Work In Progress (WIP) queue. If rejected by FOLA, that area would complete the distribution

and notification back to the customer. Processing by Land Titles technologists and examiners would occur in order of receipt of the DRR. The system would be expanded to track requests based upon account number, DRR number, customer file reference number, and land id or municipality code as identified on the DRR.

i) Examination

Plans

The current examination process requires the technologists to manually key in data from the plan into the registration system. A process to extract the data automatically from the plan would help reduce the keying time and virtually eliminate errors.

Documents

An imaged document repository of supporting material would greatly improve the efficiency of the examination process and eliminate the time spent searching through paper and microfilm. There is a need to have direct access to supporting systems such as Corporate Registries and Vital Statistics for verification of data submitted. A process to extract the data automatically from electronically submitted imaged documents would help reduce the keying time and virtually eliminate errors.

Plans/Documents

The current system for registration involves a text based user interface. In the short term a standard Windows based graphical interface that would still maintain the registration structure (i.e. forced flow), but allow some flexibility through the use of multiple windows and drop-down lists would streamline the data entry process. Paper documents would no longer need to be passed on to the examiners. The imaged documents could be retrieved online for further examination, however this presents a challenge. Screens for online examination would have to be designed carefully to promote quick and efficient examination of the imaged documents.

- j) Register/Reject** - Imaged plans and documents should be automatically updated with the registration number, date, document type, examiner and LINC number(s) after registration. Once the examination of the plans and documents are completed and registered a Customer Registration Notification (CRN) is returned to the customer. Accompanying the CRN may be some title searches from the now updated original document. If the documents are submitted digitally and documents were in imaged format, customer notification could be returned electronically as well, for example, through secure FTP or e-mail. Registration requests that do not pass the examination need to be returned to the customer for correction and resubmission. Electronic notification of a rejected DRR, that was submitted electronically, would avoid the coordination of paper documents to return to the customer and improve greatly the turnaround time for these situations.
- k) Product Format** - Have all documents in imaged format to enable rapid retrieval and streamline the examination process.

- l) **Service Payment** - Expand payment options to include credit card and third party E-Commerce service provider.
- m) **Service Pricing** - Consider applying image conversion charges for those registrations submitted in paper format.
- n) **Search DRR/SR** - Enhance the search capability to include customer file number.
- o) **General** - Land Titles requires a flexible system that can accommodate changes and additions quickly and inexpensively. The new system should support an automated or more efficient method of defining and applying new transaction registration types and the business rules associated with them.

As a result of business workshops held to review this document a number of detailed requirements were communicated. This list only represents some very preliminary requirements for the registration component. Detailed requirements gathering will occur following confirmation of the vision by the stakeholders; however, it is worthwhile to begin documenting these requirements to preserve them for these future phases in the ALTA 2 project.

TABLE 2.0 – REQUIREMENTS (REGISTER PLANS/DOCUMENTS)

Requirement:
Design the system to enable off-site work processing such as work-at-home programs.
Design the overall solution to integrate ergonomics such as eye breaks, exercise, dual screens etc.
Need the flexibility to cut and paste text throughout the application.
Require the flexibility to adapt to varying font sizes.
Capture or provide more information up front. For example: other DRR's or rejected DRR's for this land description). This would serve to identify competing registrations.
Need to enhance the data quality of information on the DRR, possibly through enhanced edits and validations edits during the registration process.
Eliminate the distinction between north and south and move towards one numbering system for the whole province.
Work In Process (WIP) queue should have an administrator(s) assigned to: <ul style="list-style-type: none"> ▪ Allot certain DRR's to a particular examiner ▪ Manage workload ▪ Re-assign work to cover holidays and sick days ▪ Add/Change assignments ▪ Having documents and DRRs stored electronically will provide the ability to track workflow and enable more flexibility in work assignments.
Priority will be an issue when receiving documents in various formats e.g. electronic versus paper. Submission priorities would need to be resolved through the WIP queue (e.g. competing interests – one being submitted electronically and the other in paper format)
Need to be able to process multiple DRRs together. System should be intelligent enough to know that 2 DRR packages affect the same parcel of land. These are the DRRs that need to be processed together. They could be originating from different customers and still need to be processed together. Enable DRR's to be associated through the WIP queue (e.g. DRR1, DRR2 and DRR5 must be processed concurrently and assigned to one individual).
Electronic submission would have to honour the current working hours. That is, there will be an unfair advantage for those customers submitting documents past the current 4:00 p.m. deadline (e.g. caveats). The submission of time sensitive documents such as Builder's Liens and Certificates of Approval after Land Titles business hours will also have to be dealt with in the electronic work queue.

Requirement:
Allow financial institutions to submit documents electronically (e.g. discharges)
Have customers provide the LINC number on electronic submissions.
Banks will still require paper copies of documents and certified titles. Investigate ways to improve or offload this process.
Provide the ability to identify/select specific titles as identified by the customer for registration output.
Provide additional attribute to image to indicate status of the document.
Allow “bring forward” capability for DRR’s.
Allow user to put status flag on titles (stop link) that would be visible to other examiners. A notes area to explain the flag could accompany this.
When the DRR is received in could be date/time stamped and have an “image not ready” status. Part of the imaging process would be to update that status.
Assist municipalities with tax arrears notices, i.e., automate the process of providing electronic, accurate data to register. The flow currently is as follows: Municipality->LT (apply name/address)->municipality->notices->public
Have those customers that are submitting electronically provide the CAN#. This should then be verified directly against the CORES database.
For distribution of large documents customers will have to be notified in advance. (Some restrictions on attachment size may apply to the customers ISP)
Provide access to DRR’s by customer file number.
Increase the current WIP retention period past 90 days. This would help with recreation of CRN’s.
Need the flexibility to manually and electronically forward a DRR package to another user, e.g., the FOLA team, Surveys or others while considering the nuances of the expedited queue.
Need the flexibility to place a hold on a pending registration as dictated by a lawyer.
Need to add the legal land description to some of the documents and ensure it is connected to a valid title.
Need the ability to flip the sequence of documents being processed within 1 DRR.
When two DRRs are being processed together and the first one contains an error, the second one must wait until the first DRR package has been corrected and successfully processed.
Need to be able to locate a document in WIP based on the document attributes.
Need to be able to cross reference a DRR with the documents contained in it.
Need to be able to auto-notify a customer, 3rd party or an LTO staff member that a DRR has been successfully processed, has been rejected or is being held for a particular reason.
Postponement Processing – need to record the registration number of the other document
Consider using cover sheets on top of the legal documents to collect all data from the legal document that needs to be processed by ALTA.
Need to have scheduled hours for some types of transactions, e.g., builder’s liens. All transactions processed or submitted after a specific time would have to be date-stamped as the following business day.
Need the ability to track DRR packages through the process, electronically or otherwise, so that turnaround times can be accurately measured and that supervisors can be notified electronically, when the turnaround time are starting to exceed their norm.
Need the ability to ensure a duplicate transaction is not being processed against a specific land id within a limited time frame.
Need to be able to manage the queue, process documents from either Edmonton or Calgary, delete a DRR and start again. Ability to move a DRR package within the work queue, and to go back into the DRR while processing a specific document.
Need to be able to track corrections and the addition of information to a DRR package.
Need to be able to handle DRRs that contain priority documents in the queue, e.g., builders liens
Requirement to have robust queue management capabilities.
Requirement to handle large documents, multi-page documents.
Need to enhance the DRR form for better data entry functionality. If DRR package is returned electronically, then it may need to be mailed or reprinted.

Requirement:
Requirement to be able to interact with the system more, to select a file, to show its status, to enable input of a description / comments, to add a message at the end and to override the system determined contents.
Capability to have both north and south lands processed within one DRR.
Capability to re-queue the work from one user to another, regardless of its status.
Capability to deal with multiple or single documents of one type within the same DRR.
Ability to determine which users have worked on a DRR package and to determine what each user has done.
Ability to limit documents processing to certain users depending upon their type or major category within their user profile.
Ability to queue by major document category e.g. survey documents versus registration documents.
Ability to return the file to the queue and track it by date or time processed, by user, by customer, etc.
Ability to register documents manually (in cases of last minute arrivals).
Ability to manipulate / change basic DRR information such as call box # and to resolve errors.
Ability for one person to manage DRR's that must be processed together.
Ability to register both survey plans and land registration documents under the same DRR.
Ability to implement WIP between lawyers, e.g., for two lawyers to complete one DRR package.
Requirement to process a DRR that had both a source paper document and a source electronic document.
Automate the "push" of the next DRR once one is completed in the queue.
Facility to manage the processing of time dependent documents, e.g., after 4:00 pm
Facility to manage priorities between paper and electronic file submissions.
Requirement to electronically process a self-expiring lien.
Facility to report on exceptional documents / circumstances.
Facility to have consistent lines numbers between surface and mineral titles
Facility to review the contents of a queue (supervisors) and have the ability to re-direct documents affecting certain types of land to other locations, e.g., irrigation district lands
Provide a user help facility
Use the Corporate Access Number for all references to Alberta companies on registrations

7.5. Critical Success Factors (Register Plans/Documents)

- Acceptance and adoption of the electronic submissions process by the stakeholders.
- Tangible benefits must be realized by the customer foremost and to Land Titles as well.
- The current turnaround time of 24 – 48 hours must be maintained or reduced.
- Imaged documents must be accessible by the examiners immediately after they are submitted for registration. The imaging process must not cause delays in the registration process.

There is a legal precedence set for examining and retaining the original materials, i.e., best evidence. This would need to be assessed to determine if electronic input would be treated as best evidence after original documents are destroyed.

Appropriate security mechanisms must be implemented to ensure documents remain secure and users have the appropriate authority to process registration requests.

An enhanced level of customer support will be in place to assist users in submitting registration requests online and retrieving the results of completed registrations.

7.6. Benefits (Register Plans/Documents)

TABLE 3.0 – BENEFITS (REGISTER PLANS/ DOCUMENTS)

Vision Item	Benefits
Customer Document Submission	<ul style="list-style-type: none"> Variety of delivery channels offered to the customer
Customer Plan Submission	<ul style="list-style-type: none"> Cost savings to surveyors not having to plot or print plans Complete electronic submission eliminates the need for coordination of electronically submitted plans and the paper documents
DRR Form	<ul style="list-style-type: none"> Edit checks for the DRR form would save time for both the customer and examiner
Submission of Paper documents	<ul style="list-style-type: none"> Allows those customer who are not ready to participate in the new electronic submission process to still receive the same service as before
Submission of Imaged documents	<ul style="list-style-type: none"> Avoids the time and cost for Land Titles to convert the documents to imaged format Cost savings for the customer with the elimination of courier or mail charges Potentially faster turnaround time for registration requests Reduce the amount of paper handled and stored and costs associated with the storage of original documents (i.e. original documents would remain with the submitter) Documents would be in a secure electronic format that is not susceptible to deterioration if kept in paper format or delays as with microfilming.
Submission through Electronic Form	<ul style="list-style-type: none"> Cost savings for the customer with the elimination of courier or mail charges Potentially faster turnaround time for registration requests by eliminating paper handling/transportation processes Edit checks on the form would save time for both the customer and examiner by reducing rejection rates for incomplete or inappropriate entries. Documents would be in a secure electronic format that is not susceptible to deterioration if kept in paper format or delays as with microfilming.
Security	<ul style="list-style-type: none"> Guarantee the authenticity of requests
Priority Processing	<ul style="list-style-type: none"> Balance workload between Edmonton and Calgary Organizes the requests province wide and allows for true priority processing

Vision Item	Benefits
Examination	<ul style="list-style-type: none"> Streamlining this process and examining imaged documents could result in increased throughput of daily registration requests. Automatic updates to the imaged documents with registration details would enable immediate retrieval of the registered documents. Reduces hardware requirements Reduces time and cost in labelling Avoid wrong label on wrong document Help eliminate the submission of multiple copies of documents by enabling quick access to documents already registered Documents requiring FOLA review could immediately be diverted to the FOLA queue.
Register/Reject	<ul style="list-style-type: none"> Rejected registrations can be handled in a more efficient manner as customers could be contacted electronically of errors and omissions. This would eliminate the need to compile the request and return it to the customer for correction Documents submitted electronically will improve the efficiency of the process and enable registration results to reach the customer faster.
Service Payment	<ul style="list-style-type: none"> Reduce the number of cash transactions and the overhead that accompanies this type of payment
Service Pricing	<ul style="list-style-type: none"> Encourages the electronic submission process.

7.7. Delivery Channels/Constraints (Register Plans/Documents)

The following table outlines the proposed input points. Proposed methods are tagged with a “(new)”.

TABLE 4.0 – DELIVERY CHANNELS (REGISTER PLANS/DOCUMENTS)

Delivery Channel	Request Submission
Mail	√
Courier	√
Fax	√
In person at LTO	√
Electronic	√ (new)

Constraints

- While an automated form of submission for plans and documents will be available to customers, not all will wish to or have the necessary facilities to do so. All methods of submission must be maintained (i.e., mail, courier, walk-ins).
- Documents sent digitally will require some form of authentication or digital signature.

8. Distribute Information

8.1. Distribute Registration Information

8.1.1. Business Goals

- Continue providing prompt notification to account holders that documents and/or survey plans have been registered at Land Titles, upon completion of the registration process.
- Enable efficient delivery of registration outputs to customers using their preferred delivery channels.
- Assist in reducing the turnaround time for documents and survey plans being registered.
- Reduce the paper handling process at Land Titles. Reduce the potential for registration outputs to be misplaced before they are sent to the customers
- Ensure data requested is delivered accurately through all of the “return” delivery channels

8.1.2. Current Process

Once the registration of documents has been processed or the request is rejected, information is distributed back to the customer.

Completed Document Registrations - include the Customer Registration Notice (CRN), and optionally, certified copies of the title, or copies of plans (certified or not).

Rejected Requests - includes the Rejection Notice, the DRR submitted and the original documents for correction and resubmission.

Third Party Notifications - includes the partial copies of the documents that were registered

8.1.3. Current Issues

This process is predominantly manual, paper based and labour intensive and requires some streamlining through automation

Delivery Channels - Many are in use, autofax, couriers, call-boxes, and mail. With the manual paper return process, there is opportunity for misplaced packages and delays for customers with the return process.

8.1.4. Future Vision - ALTA 2

Customers would state their choice of distribution method on the DRR they submit with the documents / plans to be registered or by default have a preferred distribution method stated in their customer profile.

- a) **Delivery Channels** - Customers could utilize whatever delivery channel they preferred, e.g., autofax, email, mail, courier, call box, etc. by specifying it in their customer profile or overriding it by specifying an alternate channel on a specific DRR.
- b) **Registration Confirmations** - Customers could specify on the DRR, additional fax numbers or email addresses of other parties that they would like to send copies of the registration outputs.
- c) **Certification** - A request for the return of any certified copies of titles or survey plans resulting from the registration process would be automatically certified by the system.
- d) **Output Specific Distribution** - Enable customer options regarding what would be electronically distributed, e.g., Titles, CRNs, plans, documents, and error notifications.
- e) **Channel Pricing** - Consider implementing distribution fees that reflect the cost of the distribution channels.

As a result of business workshops held to review this document a number of detailed requirements were communicated. This list only represents some very preliminary requirements for the distribution component. Detailed requirements gathering will occur following confirmation of the vision by the stakeholders; however, it is worthwhile to begin documenting these requirements to preserve them for these future phases in the ALTA 2 project.

TABLE 5.0 – REQUIREMENTS (DISTRIBUTE INFORMATION)

Requirements:
Issue notifications to various interested parties, e.g., builder’s lien, caveat
Require an electronic certified copy of a title as soon as it is registered.
Require the ability to search for documents using a variety of methods.
Need to be able to print off the registered or unregistered documents once a CRN or Rejection Notice has been issued.
Need to be able to have customers print off copies of certified copies of titles online.
Requirement to offload the distribution of caveat notices to interested parties electronically
Requirement to add the electronic address to the backside of forms

8.1.5. Critical Success Factors

Any outputs must be distributed to customers immediately using the customer requested distribution method. It is critical that no outputs are delayed or take the wrong methods of distribution to the customer’s office. Registration outputs must not be misplaced for any period of time. Accurate and timely distribution is the business expectation.

8.1.6. Benefits

TABLE 6.0 – BENEFITS (DISTRIBUTE REGISTRATION INFORMATION)

Vision Item	Benefits
Delivery Channels	<ul style="list-style-type: none"> • Potential for faster turnaround time for customers using autofax or electronic methods • Enhanced level of customer satisfaction with customer options
Registration Confirmation	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options • Enhanced level of registered interests’ satisfaction with other party notification options
Certification	<ul style="list-style-type: none"> • Elimination of the manual certification effort. • Enhanced level of customer satisfaction with customer options
Output Specific Distribution	<ul style="list-style-type: none"> • Enhanced customer satisfaction with product.
Channel Pricing	<ul style="list-style-type: none"> • Enhanced level of customer choice for delivery mechanism that meet their expectations

8.1.7. Delivery Channels and Constraints

The following table outlines the proposed distribution points. Proposed methods are tagged with “(new)”.

TABLE 7.0 – DELIVERY CHANNELS (DISTRIBUTE INFORMATION)

Delivery Channel	Registration Output Distribution
Mail	√
E-mail	√ (new)
Courier	√
AutoFax	√
Secure FTP	√ (new)
Counter Service	√
Call Box	√
Download	√ (new)

Email – Have registration outputs emailed to customers in a secure manner.

Download – Potentially, have customers notified electronically via email that their registration outputs are ready.

Secure FTP – Potentially, have customers notified electronically via a secure FTP customer folder, similar to the plan submission process.

8.2. Survey Plan Searches

8.2.1. Business Goal

Enable easy access to all Alberta registered survey plans electronically. Current business volumes are at approximately 130,000 annually and growing.

8.2.2. Current Process

Registration of a survey plan is based upon information in the plan image and accompanying legal documents that are retained by Land Titles. All survey plans are presently submitted digitally and then search by a number of methods from the SPIN system.

8.2.3. Current Issues

Bandwidth - There are concerns that the bandwidth in some parts of the province may not be able to currently able to handle the size of the digital plan files once distribution/downloading of the data becomes more frequent.

Sell versus Distribute - Registry agents, or any other value added service providers, are not allowed to re-sell the survey plans off the SPIN system. However, they may be able to provide survey plans off the SPIN system provided they are at the same cost as the government charges. The service provider is allowed only to charge the customer a service fee for providing the plan to the customer.

8.2.4. Future Vision - ALTA 2

All documents would be stored in a digital format and available on-line for searching.

a) **Access to Survey Plans** - In future the survey plans should be searchable immediately upon registration. At present there is an overnight delay.

- b) **Delivery Channels** - Enable choices for service delivery. Promote the broadest access possible to the searching function via all distribution channels e.g. Land Titles Offices, SPIN 2, Registry Agents, Service Alberta, etc.
- c) **Survey Plan Search Facilities** - A number of search methods are envisioned
- The current SPIN 2 solution offers access to the survey plans via survey plan registration number, legal land description and via a drill down facility through the cadastral map fabric of Alberta. All of these features need to be retained in the future vision of plan searching and supplemented by additional search variables such as possibly survey plan type, municipality, subdivision name, etc. At some point in the future, this data could be available through a variety of GIS tools.
 - Enhance the searchable data on surveys with the introduction of “live” data stored as part of the survey plan. Live data examples could include registration date range, surveyor name, etc. This would only be available with day forward documents but would enable better searching capability.
 - Enable searching for multiple plans simultaneously with the selected criteria (present functionality).
 - Enable limited access to search variables depending upon type of user.
 - Complete the full enablement of access to associated registration documents or titles by drilling down through the Alberta map fabric to locate a plan associated and then display the current land title registration numbers for selection by the customer via SPIN 2.
- e) **Product Customization** - Enable electronic certification of digital registered survey plans upon request.
- f) **Product Printing** - A number of opportunities are envisioned:
- Opportunity to apply watermarks to plans printed in the Land Titles office.
 - Potential opportunity to outsource the printing of survey plans.
 - Potential to distribute the printing of survey plans to other locations selected by the customer for their convenience.
 - Enable customers to print a receipt if required.
- g) **Product Media** - Enable customers to select their own preferred media option to obtain the documents (e.g. hardcopy or digital).
- h) **Product Format** - Enable customers to select their own preferred format option to obtain the documents via (e.g. paper, diskette, CD-ROM, etc.) (Present functionality).

- i) **Product Payment** - Enable customers to select the payment mechanism they prefer to use (e.g. credit card, on account, E-Commerce vendor account, etc.) (Present functionality).
- j) **Product Delivery** - Enable customers to select their preferred delivery option to receive the documents (e.g. mail, courier, call box, pickup, email, download, etc.) (Present functionality).
- k) **Product Pricing**
 - Low, level price for the printed or downloaded product regardless of the delivery channels.
 - No charge to the customer for searching or viewing the low-resolution image of the survey plans.

8.2.5. Critical Success Factors

- The time delay involved for AltaLIS to incorporate the plans into the map fabric must be reduced to a minimum.
- Survey plans must be accessible electronically as soon as they are registered to serve the needs of customers.

8.2.6. Benefits

TABLE 8.0 – BENEFITS (SURVEY PLAN SEARCHES)

Vision Item	Benefits
Product Format	<ul style="list-style-type: none"> • Digital format of survey plans eliminates the manual processing of storing paper or mylar copies and eliminates the manual retrieval process. • Enables the self service delivery model, e.g., savings at the counter.
Access to Survey Plans	<ul style="list-style-type: none"> • Prevents any potential business decisions being made on the basis of outdated survey plan data.
Delivery Channels	<ul style="list-style-type: none"> • Potential to increase sales with increased access points. • Enables customer choice. • Registry agents will be able to obtain the survey plans directly for their customers. • Service Alberta integration should be relatively easy to achieve, as the service would be constructed to fit the self-serve model.
Search Facilities	<ul style="list-style-type: none"> • Enhanced level of customer and LTO satisfaction with search options.
Product Customization	<ul style="list-style-type: none"> • Elimination of the manual certification effort. • Enhanced level of customer satisfaction with customization options.
Product Printing	<ul style="list-style-type: none"> • Potential for reduced amount of printing in LTO. • Customer now has digital format of the plan giving them additional printing options. • Enhanced level of customer satisfaction with customization options.
Product Media	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options.
Product Payment	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options.
Product Delivery	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options.

8.2.7. Delivery Channels and Constraints

The following table outlines the proposed distribution points. Proposed methods are tagged with “(new)”.

TABLE 9.0 – DELIVERY CHANNELS (SURVEY PLAN SEARCHES)

Delivery Channel	Request Submission	Document Distribution
Mail	√	√
E-mail	√	√
Courier	√	√
Fax	√	√
Counter Service	√	√
Internet	√	√
Service Alberta	√ (new)	

8.3. Land Title Searches

8.3.1. Business Goal

Enable easy access to all Alberta registered land titles electronically. Current business volumes are at approximately 4.0 million annually or approximately 19,000 per day.

8.3.2. Current Process

Land Title Office users, SPIN 2, government users and Registry agents can all request title searches. A title search is available by selection of either the legal land description, by land title registration number, LINC number or SPIN 2 map search. This function handles the distribution of both current and historical land title information. Land Titles can provide a copy or certified copy of the title only as a part of a registration package or via SPIN 2.

8.3.3. Current Issues

-

Processing

- All external title searches are handled in a separate search environment, SPIN 2, which has its own costs and overheads associated with it. With changes to the system, it is possible to integrate some portions of this 2nd environment to achieve some cost savings and perhaps some performance improvements.

Scope of ALTA Database

- Titles that were cancelled prior to the establishment of ALTA are not converted on the new system and therefore are not available for electronic search.

Product Pricing

- A two-tiered pricing system has been legislated.
- Customer feedback indicates objection to higher cost for self-service options.

8.3.4. Future Vision - ALTA 2

All titles and registered documents would be stored electronically and available on-line for searching at reduced, cost recovery rates, via a broader choice of access/delivery channels.

- a) **Product Format** - Have all titles on-line to enable rapid retrieval and distribution to customers and to enable the self-serve model being added to the distribution channels for this product.
- b) **Delivery Channels** - Enable equal opportunity for service delivery. Promote the broadest access possible to the searching function via all distribution channels e.g. Land Titles Offices, SPIN 2 / Web Services, Registry Agents, Service Alberta, etc.
- c) **Title Search Facilities** - A number of search methods are envisioned and many already in production through the SPIN 2 System.
 - Enable an enhanced level of title search fields such as municipal address.
 - Enable searching for multiple titles simultaneously.
 - Enable access to search variables depending upon type of user and good information management practices.
 - Enable access to titles by drilling down through the Alberta map fabric to locate the property and then to obtain the current title for the property.
 - Access to complete historical searches on line, once imaging and indexing of unconverted historical titles is completed.
- d) **Product Customization** - Enable electronic certification of all land titles.
- e) **Product Media** - Enable customers to select their own preferred media from a set of options to obtain the title via (e.g. hardcopy, digital etc.)
- f) **Product Payment** - Enable customers to select the payment mechanism they prefer to use. With the introduction of self-serve comes a requirement to process E-Commerce credit card transactions. Other forms of payment could be debit cards, cheque, or on account depending upon, to some degree, the delivery channel chosen.

- g) **Product Delivery** - Enable customers to select their preferred delivery option to receive the titles, e.g. mail, courier, call box, pickup, email, download, etc.
- h) **Product Pricing** - Pursue cost recovery pricing for the product dependant upon the delivery channel and service provided.

8.3.5. Critical Success Factors

- Search function must be flexible and provide alternative methods and tools for searching in a FOIP compliant manner.
- Title data and title searches must continue to reflect current information.

8.3.6. Benefits

TABLE 10.0 – BENEFITS (LAND TITLE SEARCHES)

Vision Item	Benefits
Delivery Channels	<ul style="list-style-type: none"> • Self-serve model allows consumers who wish to request the product directly can do so at any time. • Service Alberta integration should be relatively easy to achieve, as the service is constructed to fit the self-serve model.
Title Search Facilities	<ul style="list-style-type: none"> • Improved ability to locate the title with geographic drill down capability and other search criteria.
Product Customization	<ul style="list-style-type: none"> • Elimination of the manual certification effort. • Enhanced level of customer satisfaction with customer options.
Product Content	<ul style="list-style-type: none"> • Potential opportunity to increase sales with title data being supplemented with other data. • Enhanced customer satisfaction with product.
Product Media	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options.
Product Payment	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options.
Product Delivery	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options.
Product Pricing	<ul style="list-style-type: none"> • Potentially lower cost for customers. • Enhanced level of customer satisfaction. • Standard pricing will simplify systems and accounting.

8.3.7. Delivery Channels and Constraints

The following table outlines the proposed distribution points. Proposed methods are tagged with “(new)”.

TABLE 11.0 – DELIVERY CHANNELS (AND TITLE SEARCHES)

Delivery Channel	Request Submission	Land Titles Distribution
Mail	√	√
E-mail		√
Courier	√	√
Fax	√	√

Delivery Channel	Request Submission	Land Titles Distribution
Counter Service	√	√
Self-Service	√ (new)	√ (new)
Internet	√ (new)	√
One-Window	√ (new)	√ (new)

Self-Service - Access to computer terminals for customers to access SPIN 2 at the Land Titles counter or other locations to get their own search done instead of having to leave Land Titles to go to a Registry Agent location for a search and then return back to Land Titles to complete the service they had intended to complete.

Customer Access through the Internet - Enable self-serve searching via SPIN 2 to the public for those that want the convenience of obtaining the data at their desktop.

Service Alberta - Offer links to this service through any and all one-window channels.

8.4. Document Searches

8.4.1. Business Goal

Enable easy access to all Alberta registered land documents electronically via SPIN 2. Current business volumes are approximately 300,000 annually or approximately 143 per hour.

8.4.2. Current Process

Registration of a land title or subordinate interests registered against a land title is based upon information in legal documents that are retained by Land Titles. These legal documents are presently imaged after registration and then retrieved by document registration number.

A customer may mail, courier, fax or come into the Land Titles or Registry Agent Office in person to obtain a copy of documents. An SPIN 2 user can obtain a copy of these documents (from the mid-70's forward) for their own business purposes (but not for resale) by ordering online. Requests for documents stored in hard copy format are queued in the SPIN 2 ODS system for further processing.

8.4.3. Current Issues

Paper Documents

- Paper documents being retrieved, are subject to loss between the time that they leave the file cabinets and are returned.
- Manual process to retrieve documents is time consuming
- Paper documents deteriorate with normal wear and tear.
- No backup of paper documents are maintained.

Microfilmed Documents

- Some forms and vintage of microfilmed documents do not have backups
- Some forms and vintage of microfilm rolls are deteriorating
- Manual process to retrieve documents is time consuming

Access

- Not all documents are available through all channels. There is huge pressure for self-serve.

Product Pricing

- There may be an opportunity to reduce costs when delivery becomes fully automated.

8.4.4. Future Vision – ALTA 2

All documents would be stored in a digital format and available on-line for searching.

- a) **Product Format** - Have all documents in digital format to enable rapid retrieval and distribution to customers and to enable the self-serve model being added to the distribution channels for this product.
- b) **Document Conversion** - Undertake a long-term project to convert the existing microfilmed and paper documents to digital images. The conversion of microfilmed documents to a digital format, has resulted in the old ODS system be phased out and replaced by SPIN2
- c) **Delivery Channels** - Enable equal opportunity for service delivery. Promote the broadest access possible to the searching function via all distribution channels (e.g. Registry Agents, SPIN 2, Service Alberta, etc.)
- d) **Document Search Facilities** - A number of search methods are envisioned
 - Enter a link to document searches via the titles
 - Enable access to documents by drilling down through the Alberta map fabric to locate the current title associated with a property, and then to the documents associated with that title.

- e) **Product Customization** - Enable electronic certification of digitally registered documents upon request. Enable customers to select the pages of the document to be purchased e.g. just page one, just the 1st and last pages, all pages, etc.
- f) **Product Media** - Enable customers to select their own preferred media option to obtain the documents via e.g. hardcopy, digital, etc.
- g) **Product Format** - Enable customers to select their own preferred format option to obtain the documents via e.g. paper, diskette, etc
- h) **Product Payment** - Enable customers to select the payment mechanism they prefer to use. With the introduction of self-serve comes a requirement to process E-Commerce credit card transactions. Other forms of payment could be debit cards, cheque, or on account; depending upon, to some degree, who provides the service.
- i) **Product Delivery** - Enable customers to select their preferred delivery option to receive the documents e.g. mail, courier, call box, pickup, email, download, etc.
- j) **Product Pricing** - Uniform cost recovery, level pricing for the product regardless of the delivery channel.

8.4.5. Critical Success Factors

- Search function must be flexible and provide alternative methods and tools for searching in a FOIP / Personal Privacy compliant manner.
- Documents must be accessible electronically as soon as they are registered to serve the needs of customers subsequent to the registration.

8.4.6. Benefits

TABLE 12.0 – BENEFITS (DOCUMENT SEARCHES)

Vision Item	Benefits
Product Format	<ul style="list-style-type: none"> • Digital format of documents eliminates the manual processing of microfilm and the paper retrieval process. • Reduced turnaround time for document retrieve. • Opens up delivery channels that are not currently available.
Document Conversion	<ul style="list-style-type: none"> • Enables simplification of the document search process by eliminating the manual paper process and the microfilm search process. • Eliminates the requirement for the ODS system. • Preserves old paper documents and eliminates the risk of loss.
Delivery Channels	<ul style="list-style-type: none"> • Self-serve model allows consumers who wish to request the product directly can do so at any time. • Customers will be able to obtain the documents directly rather than have to fax or run it into LTO. • One-Window integration should be relatively easy to achieve, as the service would be constructed to fit the self-serve model.

Vision Item	Benefits
Product Customization	<ul style="list-style-type: none"> • Elimination of the manual certification effort. • Enhanced level of customer satisfaction with customer options.
Product Media	<ul style="list-style-type: none"> • Potentially reduced printing costs at LTO. • Enhanced level of customer satisfaction with customer options.
Product Payment	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options.
Product Delivery	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options.
Product Pricing	<ul style="list-style-type: none"> • Lower cost for customers. • Enhanced level of customer satisfaction. • Standard pricing will simplify systems and accounting.

8.4.7. Delivery Channels and Constraints

The following table outlines the proposed distribution points. Proposed methods are tagged with “(new)”.

TABLE 13.0 – DELIVERY CHANNELS (DOCUMENT SEARCHES)

Delivery Channel	Request Submission	Document Distribution
Mail	√	√
E-mail		√
Courier	√	√
Fax	√	√
Counter Services	√	√
Self-Service	√ (new)	√ (new)
Internet / SPIN 2	√	√
Service Alberta	√ (new)	√ (new)

Constraints

- Restrict Alberta Land Titles account holders to use of the on-line service to reduce the number of mailed, faxed or courier requests coming into Land Titles.
- To accommodate this AGNPAC has been replaced with the Alberta SuperNet high-speed communications infrastructure.

9. Source Document Archiving

9.1. Business Goal

Enable the safe retention and fast and efficient retrieval of source documents from the Land Titles document registration process. Approximately 4,200 multi-paged documents must be archived daily.

9.2. Current Process

In keeping with the Torrens System, Alberta retains original source documents. These include all instruments that cause a title to be cancelled and a new title to be created or caused a registration or removal of an interest from a title. Over the years, Land Titles has used several types of media for long-term storage: paper, microfiche, microfilm and Mylar (plans).

From 1975 (Edmonton) and 1973 (Calgary), all Land Titles' documents are digitally imaged and available online via SPIN 2. The original paper versions of the documents are sent to ARC for long-term storage. Because of this process, Land Titles maintains its repository of documents relating to southern land in Calgary and northern land in Edmonton. The Alberta Records Centre houses a complete set of archival records.

As of late 1999, the entire plan archives have been imaged and made available across the WEB via the SPIN system. The surveys system has been re-engineered and the archive is maintained, day forward, in a digital form.

9.3. Current Issues

Document Storage

- There is significant exposure if paper documents that have never been microfilmed were lost in a fire or other form of disaster. Land Titles could be held liable if they were unable to produce the original documents.

Digitizing Old Documents

- Old documents from the past come in a variety of shapes and sizes, rolls, books, etc. The variety in the originals, as well as the fragility of some documents due to their age, means that some of the paper documents, microfilm rolls, and microfiche are in a very fragile state and deteriorating. The digitization of these documents will not be straightforward. A quality assurance process will be resource and time intensive.

Duplicate Registration Numbers

- Due to the two repositories of data, duplicate numbers exist in registered documents between Edmonton and Calgary.
- Similarly, duplicate numbers exist for plans and documents.
- A process to handle duplicate numbers must be identified as part of the imaging project.

9.4. Future Vision - ALTA 2

Land Titles will change the business practice from creating the archive and working copies of documents from a back-end process to a front-end process. In the future, it is assumed that there will continue to be some customers that wish to submit paper documents for registration. The procedures for processing those documents would commence with capturing a digital copy of all the documents to allow their insertion into a digital examination environment.

- a) **“Original” Record** - In future the electronic document will replace the paper document as the original record subsequent to the document being registered at Land Titles.
- b) **Digital Documents** - In future, there will be additional avenues for documents entering Land Titles in a digital form:
 - Paper documents coming into Land Titles may be digitized upon receipt.
 - Digital documents submitted via secure transmission means from approved submission agencies.
 - Existing card files for all non-title affecting documents would be replaced with documents registered and indexed within ALTA itself, eliminating the need for card file records.
- c) **Historical Documents – Digitizing** - Over the course of the next several years, all original source documents will be digitized to facilitate access as well as to provide improved backup security:
 - Paper documents - document rolls, books, single or multi-paged documents will be digitized.
 - Microfilmed documents - will be transferred to a digital format.
- d) **Digitized Document Standards** - Supported by current research of industry standards, the document imaging standard within Land Titles is TIFF Group 4. The adoption of future standards would be contingent on its compatibility with the existing format.
- e) **Document Retention Schedule** - The document retention schedule for the paper version of documents not submitted electronically will be reviewed and if necessary amended to reflect a shorter retention time as the electronic image becomes the “original” record.

- f) **Document Indexing** - Indexing maintained in ALTA can be used as a method to search and access an imaged document. Documents can be accessed directly by registration number from the Image repository.

Business workshops held during the preparation of this document identified a number of detailed requirements for examination operations. This list represents some very preliminary requirements for the document imaging component. Detailed requirements development will occur following confirmation of the vision by the stakeholders; however, it is worthwhile to begin documenting these requirements to preserve them for these future phases in the ALTA 2 project.

TABLE 14.0 – REQUIREMENTS (SOURCE DOCUMENT ARCHIVING)

Requirement:
Daybooks could be imaged for resolving conflicts with document searches.
Documents resubmitted with corrected errors will need to have the existing image altered or replaced.
Viewing a document will require either the capability to zoom into sections of the document or to ask customers to use a large text font when creating the original document. Presently some customers use a very small font.
Need to add registration numbers to imaged documents.
Amended documents – Have documents that are being amended flagged with a sticker so that staff is immediately aware that there was a change to the document.
Enable document versioning.
System needs to accommodate special forms. Not all documents of one type are standard.
Need fast flexible means, including line by line or page scrolling, to quickly manoeuvre through a document. Need to be able to link directly to 1 st page, last page, 4 th page, etc. quickly with minimal keystrokes or page scrolling.
Ability to connect a land ID to registered documents as part of the registration process.
Requirement to accurately label each document that has been scanned and to maintain its link to its source DRR.
Viewing the complete image may require a separate screen or large screens. Capability to have either option in future.
Capability to add, change, replace or remove images in future.
Requirement to print selected pages of an image.

9.5. Critical Success Factors

- All digitized documents will be retrievable by document registration number.
- Documents will be available for searching immediately after registration.
- Images will be integrated as part of the overall process and application, including workflow, examination, registration and archiving.

9.6. Benefits

The benefits of source document archiving in a digital format are significant.

TABLE 15.0 – BENEFITS (SOURCE DOCUMENT ARCHIVING)

Vision Item	Benefits
Electronic Original Record	<ul style="list-style-type: none"> • Reduces or eliminates storage and backup issues related to paper documents. • Eliminates the need to go back to the paper copy of the documents.
Digitizing Documents	<ul style="list-style-type: none"> • Several thousand square feet of storage in the Calgary and Edmonton Land Titles offices and at the Alberta Records Centre can be freed for other uses with the digitizing of documents presently stored at these locations. • Enabling online self-service searching of documents for customers. • Eliminates the delay while customers wait for microfilming to be completed. • Enables online access to documents at Registry Agent offices or through ROL that was never available previously without significant manual effort and time delays to locate the document. • Improving customer search capabilities and responsiveness. • Enabling Calgary to respond to customer requests for registered documents from just completed registrations much sooner than is presently the practice. • Eliminating the need for boxes of documents being transferred from Calgary Land Titles to Edmonton Land Titles and then on to the Alberta Records Centre. • Enhanced access to documents will improve the workflow process in the examinations area. • A central image repository would enable the operation of a centralized work queue for document and survey registration based accessible from any location and based on province wide priorities. • A central image repository would enable customers across the province to view and obtain documents regardless of where they were registered. • Reduces potential liability for claims against the government.
Digitized Document Standards	<ul style="list-style-type: none"> • Enable digitizing at multiple locations with commonly procured software. • If documents are received in digital format the effort of archiving paper documents will be reduced.
Document Retention Schedule	<ul style="list-style-type: none"> • Reduces considerably the time paper documents are held before destruction.

10. Internal/External Reporting

10.1. Business Goals

Provide an environment that promotes easy access to data for both internal and external customers.

10.2. Current Process

Internal Reporting

All internal reports are generated as a result of a development request to the systems staff. A number of batch jobs generate reports used by the Land Titles operation. There are four main categories of reports: financial, statistical, exception and ad hoc. Over time a library of ad hoc reports has been accumulated which can be used as templates for new requests. No ad hoc facility for the business exists today. There are over 200 existing reports in the system library of which approximately 160 are in current use.

External Reporting

External customer reporting needs are exclusively distributed in the form of bulk data. Customers make a request to the Land Titles office, the request is reviewed and estimated in terms of the effort involved in developing the solution. Requests are also reviewed to ensure compliance with FOIP regulations. Either an existing job will be modified to handle the request or a new job will be developed and tested prior to releasing the results to the customer. Thirty-three external requests were processed for 1998/1999 as an example.

10.3. Current Issues

- The current situation allows only for custom reports to be designed and coded by systems staff. This is costly and time consuming for Land Titles and its customers.
- There are insufficient computing resources and report query time to meet all customers' requests.
- No report generator tools are available for ALTA to enable management or systems support staff to generate ad hoc reports.
- Current database technology prevents LT from participating in a Service Alberta initiative that would allow customers to view data from a variety of databases throughout government.

- Current reports are in mainframe type layout and are difficult to read.
- Batch reporting functions consume a lot of CPU resources and time. Approximately 2-3 hours nightly is devoted to the production of existing batch reports.

10.4. Future Vision - ALTA 2

Internal

- a) Facilities will be created to provide access to data in three primary ways:
 - Scheduled static published reporting.
 - Parameter driven reports through query interface.
 - Flexible, easy to use ad hoc query tools.
- b) Ad hoc management reporting to:
 - Support the business goals.
 - Allow for better decision making through timely answers to key business questions.
 - Analyze data in a detailed manner.
 - Provide consistency of answers throughout the department.
 - Increase speed and flexibility of use.
- c) Many of the financial reporting functions will be eliminated from the Land Titles application and a central, common accounting system will produce financial reports.

External

- a) External customers with the appropriate authority will have access to a secure data facility and the appropriate data for bulk data extraction.
- b) User access agreements will clearly prohibit the reselling of Land Titles data.
- c) Customers with appropriate authority will have online access to data to run their own custom developed queries. Charges will be automatically applied to data obtained.
- d) Payment for bulk data will be available through E-Commerce type transaction or on account.
- e) Bulk data will be available through a variety of delivery channels (i.e. download, secure e-mail, secure FTP) and variety of media (i.e. CD-ROM, diskette)
- f) Provide features to electronically calculate the fees for various types of ad-hoc data requests.
- g) Invoices can be triggered for billing of ad-hoc and scheduled requests.

- h) Require the ability to link external data (e.g. municipality address) to the land titles data, to enhance the access to and usability of the land data.

General

- a) In future access to data must be inexpensive, timely and easily accessible to users.
- b) The extraction of data will not negatively impact the Land Titles daily operations such as document and plan registration and searches.
- c) Access profiles will be used for both internal and external customers, and would define the user’s data access rights. These profiles would be maintained internally by the business, but some aspects could be updated by users

10.5. Critical Success Factors

- Well-designed and implemented data facility or data warehouse.
- Thorough analysis of internal and external user needs and requirements
- Determination of an appropriate external data access policy. Including what data, costs, security profile, and access arrangements.
- Money and resource time to set up complete and ongoing training programs for internal staff.
- Flexible and easy to use reporting tools for users.
- Team of business staff to support the reporting environment and user profile administration. They must be familiar with the database and proficient in all tools selected for the reporting process.

10.6. Benefits

TABLE 16.0 – BENEFITS (INTERNAL/EXTERNAL REPORTING)

Vision Item	Benefits
Internal	<ul style="list-style-type: none"> • Reduction in costs to the current method of internal report creation and distribution. • Reduction in paper and delivery costs. • Quick access to data and statistics about the Land Titles operation. • One consistent source of data across the department.

Vision Item	Benefits
External	<ul style="list-style-type: none"> • Reduction in costs to the current method of external report creation. • Elimination of the distribution of microfilm rolls of documents. • Streamline of service delivery for bulk data requests. • Promotes the self-serve model. • Eliminate the limitations for access to data in terms of time and resources to accommodate the request.
General	<ul style="list-style-type: none"> • Knowledge base within the business about Land Titles data. • Improved performance if operational database is not encumbered with reporting tasks. • Internal control over data and access to that data.

10.7. Delivery Channels and Constraints

The following table outlines the proposed distribution points. Proposed methods are tagged with “(new)”.

TABLE 17.0 – DELIVERY CHANNELS (INTERNAL/EXTERNAL REPORTING)

Delivery Channel	Request Submission	Document Distribution
Mail		√ (diskette, CD)
E-mail		√ (secure)
FTP		√ (secure)
Courier		√ (diskette, CD)
Internet	√	√
One-Window	√ (new)	√ (new)

Constraints - Large volumes associated with bulk data extracts may restrict the method of delivery for these requests.

11.Accounting

11.1. Business Goal

Enable streamlined accounting practices that support and enhance Land Titles' ability to register land titles and survey plans, and sell associated information.

11.2. Current Process

ALTA has a complete accounting function built into the system that accommodates:

- Account Management
- Fee Calculations
- Payment Processing (account, cash, debit, pre-payments, shortage/overages, adjustments)
- Billing and Monthly Statements
- Accounts Receivable
- Reporting and Reconciliation
- Volume and statistical information
- Online account status inquiry

The fee calculation component of ALTA initiates the accounting function. Fees are calculated for all document registrations and searches that are entered and registered or rejected and the accounting function manages the monies associated with those transactions. Fees associated with orders for titles, documents, survey plans and other products are recorded in the SPIN 2system, which then produces a file for update to the ALTA system overnight.

11.3. Current Issues

Cash Transactions

- Approximately 5% of daily transactions are paid via cash, typically cheques. The effort around cash handling is significant and represents the bulk of the manual effort in accounting at both Land Titles locations.

Account Types

- Each customer can have their own charge account at Land Titles. Not all regular customers take advantage of this opportunity and use the cash method of doing business.
- Some customers should have the option of a credit account, a service that is not presently available.

- Credit limits on the land titles charge accounts do not exist. This can lead to customers getting large balances, which they then have difficulty in paying.

Billing and Monthly Statements

- Some customers are asking for separate billing for each of their locations. This is presently not available from IMAGIS.

Billing Inquiries

- There is presently no method of accessing customer invoices on-line from IMAGIS in order to respond to customer queries about their invoices.

Government Directions on Accounting

- The government of Alberta is rapidly migrating all accounts receivable and billing transactions to the IMAGIS system, which is the Alberta project name for the implementation of the PeopleSoft financial and human resources product suite.
- The direction is that each customer of the government will have one account with the government for service charges from all ministries. From a Land Titles perspective, it means that eventually, the billing and accounts receivable functions of ALTA must be migrated to IMAGIS.

11.4. Future Vision - ALTA 2

In future, Land Titles is expecting that there will be a greater demand from customers on how they want their statements, invoices, options for payment of services, etc. From an internal perspective, Land Titles is looking for flexibility in managing the accounting for land title services that is not overly cumbersome or difficult to manage. In transitioning to new accounting software, Land Titles wants to preserve the positive features of ALTA’s current accounting processes such as online access to the account status, frequent payoff of refunds, etc.

Over the long term, it is expected that the accounting functions would be split between a new Land Titles system and the new accounting modules as following:

TABLE 18.0 – ACCOUNTING FUNCTIONS SPLIT

Accounting Functions	ALTA 2 Accounting Functions	IMAGIS or other 3 rd Party Application
Account Management		
Create Accounts		√
Maintain Accounts		√
Maintain Account Status	√	√
Inquire on Account Status	√	√
Calculate Fees	√	

Accounting Functions	ALTA 2 Accounting Functions	IMAGIS or other 3 rd Party Application
Payment Processing (assumes online access available from Land Titles system) Apply Cash Payments Apply Payments on Account Apply Prepayment Calculate Shortage Calculate Overage Process Adjustments Generate Refunds Apply Debit Payments Apply Credit Card Payments		√ √ √ √ √ √ √ √ √
Billing and Monthly Statements Print Customer Registration Notices (CRNs) Print Statements	√	√
Account Inquiries <ul style="list-style-type: none"> • Account Inquiries • Transaction / DRR Inquiries 	√	√
Accounts Receivable Age Account Balances Apply Interest Accounts Receivable Statistics		√ √ √
Reporting and Reconciliation Print Financial Reports Access to financial data in ad-hoc operational reports	√	√

This split of functionality ensures that the Land Titles operational functions remain within the Land Titles control while the true “accounting” functions come under the control of Finance & Administration.

- ALTA would require online access to account information and debit and payment transaction activity from IMAGIS.
- Increase or encourage expanded use of alternate methods of processing associated with cash payments. (e.g., Electronic payment such as online payments on account or direct payment at banking institution.)

a) **Account Management**

- Enable both charge accounts and credit accounts for Land Titles customers.
- Enable the establishment of credit limits for Land Titles customers
- Enable temporary accounts for the Land Titles cashiers to better manage the incoming cash payments.
- Allow customers to apply for an account online.

- Enable customer access to a limited portion of their customer account data to enable them to update their address, their preferred method of receiving billing data from IMAGIS or middleware product, their preferred method of payment, their preferred method of receiving a refund, etc.
- b) **Calculate Fees**
- Retain the current fee calculation processes but with the flexibility for LTO staff to apply the processes to the various transactions without re-programming the software.
 - Enable fee rate structures to be easily modified by LTO staff within a new application.
 - Enable time driven fee table entries to come into effect on future dates.
 - Enable the new system to check on-line that the account is not in arrears prior to charging the calculated fees to a customer's account. (current functionality)
- c) **Payment Processing - Apply Cash Payments**
- Continue to support customers using cash for paying for Land Titles services but implement new methods of processing that will streamline this process.
 - Link the DRR or SR to a prepayment entry number if applicable.
- d) **Payment Processing - Apply Payments on Accounts**
- Enable customers to pay their charge/credit accounts electronically using a variety of methods, e.g., nGage, credit cards, automated bank withdrawal, customer driven bank withdrawal, in addition to the present methods.
 - Enable accounts in arrears to become immediately chargeable once again upon payment of the arrears balance.
 - Enable EFT for regular bulk data subscribers.
- e) **Payment Processing - Apply Prepayment**
- Enable customers to submit cash payments for one or more DRRs and apply those payments without knowing the cost of the transactions beforehand. This type of functionality exists in ALTA today and must be preserved in future.
- f) **Payment Processing - Calculate Shortage / Overage** (current functionality)
- Enable the new system to determine the difference between the cash payment and the cost of the service and to follow different business rules based upon the value of the shortage or overage.
 - Initiate a refund of overage amounts based upon business rules and customer preferences.
- g) **Process Adjustments** (current functionality)
- Ensure IMAGIS can process adjustments to customer account balances for a variety of business reasons.
- h) **Generate Refunds**
- Enable timely refund of cash payments that have been deposited and the service has not been delivered due to problems with the DRR package.

- i) **Apply Debit /Credit Card Payments (current functionality)**
 - Ensure the new system can accommodate debit payments for in-person over the counter services.
 - Ensure the new system can accommodate credit card payments for self-serve over the Internet.

- j) **Billing and Monthly Statements**
 - Ensure the new system can generate CRNs (invoices) for customers based upon the SR or DRR submitted.
 - Ensure all transactions reported on CRNs to be passed electronically online to IMAGIS for updating of the account balance.
 - Ensure there is flexibility to generate monthly statements with various levels of detail, e.g., DRR totals or transaction level detail depending upon customer preference.
 - Enable separate billing for each customer location identified by a customer within one account.

- k) **Account Inquiries**
 - Enable Land Titles and customers access to their account details, balances and account transactions online.
 - Enable Land Titles online access to customer statements that would enable accounting staff and land titles staff to respond to customer queries.

- l) **Accounts Receivable**
 - Enable ageing of land titles balance owing based upon a 30/60/90/120 basis.
 - Apply interest to overdue accounts. (Current functionality).
 - On the 10th day of each month, review all accounts to flag those which have a balance owing that has been outstanding over 30 days as being not in good standing.
 - Provide statistics on accounts receivable to Land Titles based upon the ageing of accounts and the accounts by status.

- m) **Reporting and Reconciliation**
 - Enable IMAGIS to provide the full suite of revenue and receivable reports to manage the Land Titles revenue collection taking into consideration new models of service delivery and new methods of payment.
 - Enable the extraction of revenue data that relates to the service volumes of Land Titles on an ad-hoc basis to support the planning, management information distribution and evaluation of the Land Titles program and fee structure on an ongoing basis. These will assist Land Titles to ensure the individual services are being charged back to customers on a cost recovery basis, in line with the strategic direction of the government.
 - Allowing LT to control input for sub-ledger maintenance and management.
 - Introduce sub-ledgers by document type to more precisely provide statistics.

As a result of business workshops held to review this document a number of detailed requirements were communicated. This list only represents some very preliminary requirements for the document imaging component. Detailed requirements gathering will occur following confirmation of the vision by the stakeholders; however, it is worthwhile to begin documenting these requirements to preserve them for these future phases in the ALTA 2 project.

TABLE 19.0 – REQUIREMENTS (ACCOUNTING)

Requirement:
Cash transaction could be treated the same as an unapplied transaction in MOVES. Provide a temporary cash account.
Requirement to be able to create a one-time invoice. (e.g., LTCS customers or other bulk data customers).
Image DRR's – this would be especially useful for accounting staff when resolving customer inquiries. Provide access to the DRR's through various keys – registration number, account number, customer file number or customer name.
Keep a running total of overage amounts < \$5. When this amount reaches a certain value have the system automatically generate a refund cheque. LT often gets requests to refund these overages.
Look at alternate ways of handling shortages < \$5. Often times the customer will send in the payment for the shortage amount, but this can no longer be applied to the DRR as the number is unavailable. Presently the amount is posted to suspense and the amount received is then credited to the suspense account.
Provide the flexibility to conduct frequent revenue cheque production runs.

11.5. Critical Success Factors

- In order to maintain the same level of customer service for Land Titles customers, it will be necessary for a new system to have an online connection to IMAGIS to pass debit transactions, payment transactions and account status between the two applications.
- Rapid return of refunds for services not performed is critical for Land Titles customers that are submitting cheques for services.
- Land Titles Office will require the ability to process a registration transaction regardless of the status of the customer's account on IMAGIS.
- The cost of credit card transactions is 1-2%. This will influence Land Titles ability to offer credit cards for all types of payments.

11.6. Benefits

From a finance perspective, transferring many of the accounting functions in the current system to IMAGIS will enable the processing of Land Title accounts to follow a similar process to that of Corporate Registry and Vital Statistics.

TABLE 20.0 – BENEFITS (ACCOUNTING)

Vision Item	Benefits
Account Management	<ul style="list-style-type: none"> • Potential for less cash transactions which will reduce the manual effort required in accounting for these transactions. • Enhanced level of customer satisfaction with customer options.
Calculate Fees	<ul style="list-style-type: none"> • Less cost to change fees. • Easier to respond to fee changes. • Ability to pre-implement fee changes ahead of schedule.
Apply Cash Payments	<ul style="list-style-type: none"> • More streamlined cash processing.
Apply Payment on Accounts	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options.
Apply Debit / Credit Card Payments	<ul style="list-style-type: none"> • Potentially lower cost for customers. • Enhanced level of customer satisfaction with customer payment options. • Enabling of self-serve mode.
Billing and Monthly Statements	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options.
Account Inquiries	<ul style="list-style-type: none"> • Enhanced level of customer satisfaction with customer options. • Enhanced ability for both Finance and Land Titles to respond to customer queries.

12.Future Direction for Land Data in Alberta

It is important at this point to communicate Land Titles vision of the future for province wide land related systems and data as it has a direct impact on Land Titles internal vision. The following section outlines the measures the business must take to be prepared for this environment in the future. It is also important to note the potential relationships between this vision and the “One Window on Government” initiative.

12.1. One Window (Service Alberta) on Government

An open and accessible government is of paramount importance to Albertans and to the Government of Alberta. Over the years, departments and agencies have addressed accessibility in a variety of ways, including direct access through a network of regional offices, registry agents and call centres, communications through printed media, and more recently access through the Internet. However, the current department-centric service delivery model requires Albertans to know the specific department and venues for a service before they can access information and conduct business related to that service. It also requires Albertans to travel to multiple locations for individual service offerings.

On May 25, 1999 Premier Ralph Klein announced the creation of the Department of Government Services, now Service Alberta, which includes a mandate to improve Albertans one-window access to services. It calls for the enhancement of services through registries by creating a true one-stop government information and registration service and advancing electronic access to information. The shift to a customer-centric service model will offer secure access via a common window to the portfolio of services and information provided by the government and allows customers the choice of delivery channel. The “One-Window Access to Services” project is a cross government effort to meet the challenge of this vision.

The new One Window initiative brought forward by the CIO and Government Services has great potential to significantly advance the government’s move into Internet based Electronic Government (E-Government) and Electronic Business (E-Business). The “one stop shopping” model of One Window will greatly assist land information systems development by providing a common interface through which cross government data and services could be brought together and accessed by Albertans.

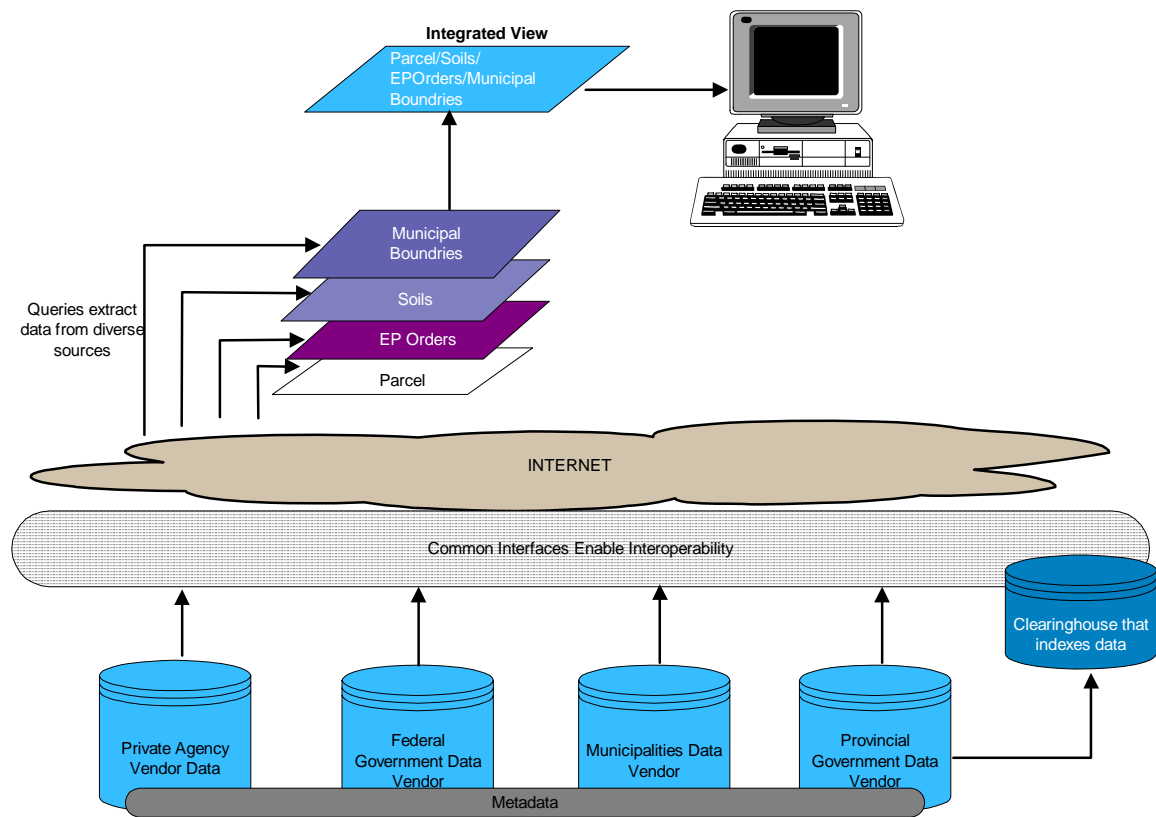
12.2. One Window Alberta Land Information Interface

Alberta Land Titles foresees the future requirements to locate many types of government data geographically. An example of one of the current requirements in Land Titles for this type of capability is geographic access to land related data. This is presently implemented through SPIN 2 using a smart mapping capability that enables a customer to

click on a position on an image of an Alberta map and then drill down to a specific location to locate the title, survey plan or other GoA land related data in question.

The future vision is that Alberta needs a geographic drill down capability to access a variety of data sources using some form of common map interface. This vision needs to be confirmed with stakeholders and customers. Although this type of functionality requires considerable effort to agree upon and implement a common geographic location standard, it can be implemented using today’s smart mapping facilities available today.

FIGURE 3.0 – MODEL FOR GRAPHIC DATA ACCESS



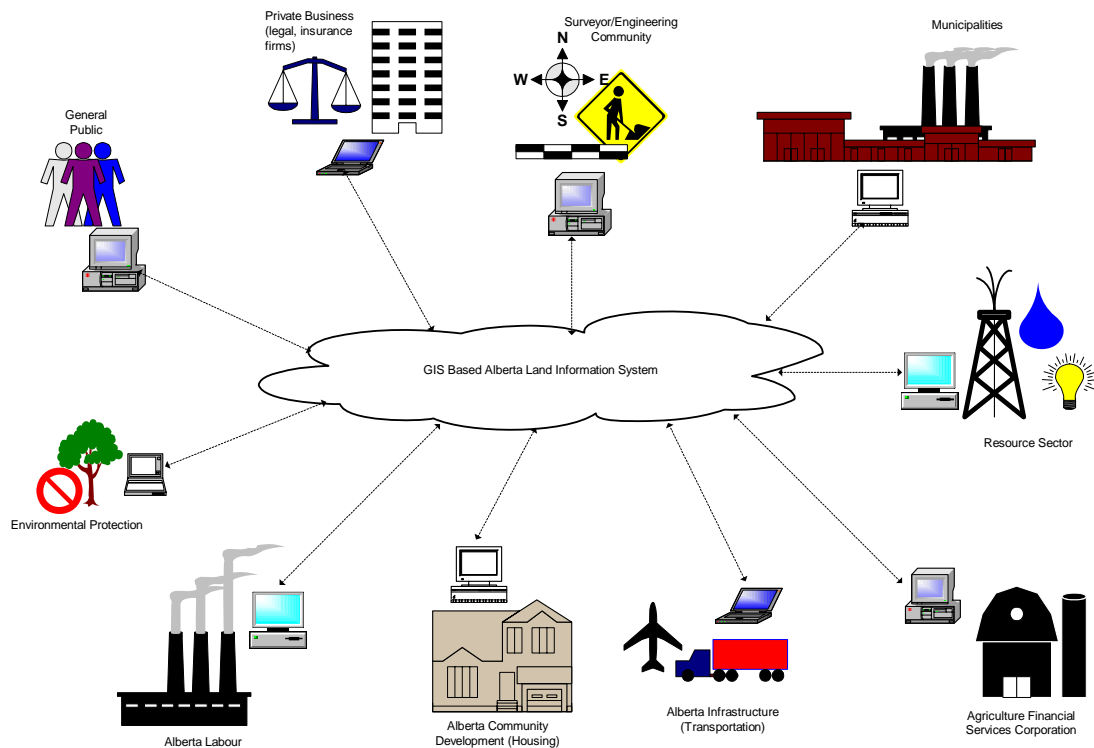
In the long term, the best approach is to use a GIS. A GIS is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information, i.e. data identified according to their locations. Modern Land Titles systems in Canada are being designed to operate in a Geographic Information System (GIS) environment. This capability allows virtually all forms of attribute land data (e.g. land titles, surveys, assessment, tax roll, oil and gas etc.) to be brought together in one spatial environment. A GIS based Alberta Land Information Interface could be achieved through creative partnering with government departments and private agencies and achieve in part the “One Window on Government” initiative. As depicted in Figure 3.0 above, this would not be a large centralized government system, but a distributed network potentially involving public and private interests (e.g. government departments, utility companies, resource sector, municipalities) building to the same common standards. Albertans would use a spatial

map fabric/index interface to “drill down” to an area anywhere on the province. Geo-referenced data residing on any participating databases could then be retrieved and viewed. The move to such an interface could act as a catalyst to move the view and structure of data the government holds to layers of linked information built to common core standards.

12.3. Potential Partners

Figure 4.0 depicts some of the many data providers and customers of the Alberta government and private sector that could use a geographic locator facility to obtain the data they require.

FIGURE 4.0 – SHARING GEODATA BETWEEN PARTNERS



The following table defines potential example ministries and stakeholders that could use a GIS Alberta Land Information Interface to access their own and other data geographically.

TABLE 21.0 – POTENTIAL PARTNERS AND TYPES OF GEO-CODED DATA

Ministry/Stakeholder	Potential Data Examples
Environment	Integrating public lands data (leases, rights of way, easements) which cover over half the province, into the same mapping fabric as the privately held area administered by Land Titles. Hosting the survey monument structure of the

Ministry/Stakeholder	Potential Data Examples
	province
Service Alberta, Foreign Ownership of Land (FOLA)	Spatial attribute data such as mapping and soils
Service Alberta, Land Titles	Survey plans, titles, document data
Municipal Affairs	Locational needs related to Labour's permitting, inspections and accident sites. Management of Local Government's municipal boundaries. Grant Management Corporate Municipal Profiles
Municipal Affairs, Assessment	Assist in managing audit and industrial assessment systems
Alberta Economic Development	Municipal Profiles
Community Development	Geo-administrative requirements in areas such as Housing
Infrastructure (Highways)	Bridge plans, Highways
Infrastructure (Property)	Managing government property, building, IT and communication infrastructure data
Alberta Financial Corporation (AFC)	Combine air photography with parcel information
Resource Development	Permitting/process tracking/land information
Municipalities	Access Current Land Titles changes for assessment, planning, engineering and other uses.
Service Alberta, Consumer Services	Locating and managing cemeteries throughout the province.
Resource Sector	Mineral Titles, surveys, registration information
Utility Companies	Mineral Titles, surveys, registration information
Railway Companies	Rail plans and titles
City of Edmonton / City of Calgary	Exchange of cadastral data for access to SPIN
Spatial Data Warehouse/AltaLIS	Core survey fabric for maintenance of the provincial cadastral map
	Management of historic sites

These are only some of the possible data components that could become geographically accessible using a standard interface. There are undoubtedly many more. The vision Land Titles has is not that every ministry would have to participate but only those that are interested could work together to define the common interface solution.

12.4. Alberta Land Gazette

The Alberta Land Gazette is a concept that illustrates one of the possibilities in a “one window” GIS based Alberta Land Information Interface.

There are a number of provincial government departments, municipal government and regulatory agencies that are legislated to control or administer policy related to land (e.g. hazardous waste sites, flood plain restrictions, environmentally sensitive areas, zoning restraints). There is no common method in existence to bring this information together for the benefit of the agencies and general public. This interface would provide a method for

retrieving land notification and other attribute data for a particular parcel of land that is not currently registered at Land Titles.

12.5. Considerations

A number of key components must be brought together to bring about such a highly structured interface as described above. They include:

Common Data, Application and IT Standards - Critical to this initiative is the development of common data standards and naming conventions within government and private industry. This work has already begun through the CIO's standards committees, but there is much more to be accomplished.

Security - Users which include the public, private industry, municipalities and other government departments, would access the Alberta Land Information Interface via the Internet. Potentially, specific PKI security profiles would have to be developed to control this access to a variety of applications and services.

Technology - Industry wide standard products and methodologies would be defined for delivering new large system requirements. The assistance of an international body such as Forrester or the Gartner Group would be beneficial in this undertaking.

Partnering - Establish partnerships with departments and stakeholders to develop an interface in order to gain mutual efficiencies.

12.6. Land Titles Involvement

While Land Titles feels that the land data management business will inevitably move towards a GIS environment, it has neither the resources nor the mandate to lead such an initiative. They are, however exploring opportunities to partner with other government departments and private agencies to achieve this end. The development of the Internet based SPIN 2 has demonstrated the feasibility of such an interface and confirmed their commitment to this future direction for land data in Alberta.

SPIN 2 uses the Smartmap spatial map fabric as its' interface to allow Albertans to access, search and download survey plans over the Internet. However, this is only the beginning for the potential uses of SPIN 2. Discussions are currently underway with a number of other Departments to make their data accessible (e.g. public lands, Environment) via the spatial data fabric. Eventually, the same "drill down" approach used with SPIN 2 will be used to access Land Title or other attribute data. The development of a GIS would allow the Smart map functionality to be migrated or merged over to the new GIS environment.

Land Titles will continue to expand the functionality of SPIN 2 to satisfy internal business needs and to explore partnership opportunities with other government departments and outside

agencies. They will continue to keep up to date with emerging GIS technology and standards (e.g. GML and GIS standards) and focus on ensuring their data environment is GIS compliant and positioned to participate in a province wide GIS system. Land Titles expects to prototype new technologies to demonstrate their ability to provide benefit and increased level of services to its expanding customer base.

13. 3rd Party Input into the Land Titles Vision

13.1. Business Consultations

Having business stakeholders' feedback on the vision is essential to Land Titles as it will assist management in refining the vision to address key business issues and determine what issues or problems are critical from an industry perspective.

Business stakeholders have not been formally consulted to date. This will occur in the 2006 and be ongoing. The business stakeholder groups that will be consulted included:

- Financial Institutions
- Assessors, Appraisers, Developers, Development Companies, Property Management Companies
- Legal Community
- Insurance Community
- Registry Agent Network/Search Agents
- Survey / Engineering Firms
- Resource Sector / Utility Firms
- Law Enforcement
- Credit Agencies

Their feedback will be incorporated into the next version of this report early in 2001.

13.2. Provincial Government Consultation

Government stakeholders have not been formally consulted to date. This will occur in the fall of 2000. The provincial government stakeholder groups that will be consulted included:

- Alberta Advanced Education and Technology
- Alberta Education
- Alberta Infrastructure
- Alberta Justice and Attorney General
- Alberta Agriculture and Rural Development
- Alberta Environment
- Alberta Sustainable Resource Development
- Alberta Energy
- Alberta Health and Wellness
- Alberta International & Intergovernmental Relations
- Alberta Employment and Immigration
- Agriculture Financial Services Corporation

- Alberta Municipal Affairs
 - Assessment
 - Grants in Lieu of Taxes
 - Local Government Development

This consultation may occur in a group setting or individually in meetings. Their feedback will be incorporated into the next version of this report in 2006 produced as a result of the current ALTA 2 Business Architecture Project.

13.3. Municipal Government Consultation

Municipal government stakeholders have not been formally consulted to date. This will occur in 2006. The municipal stakeholder groups that will be consulted include the urban and rural municipal associations. This consultation may occur in a group setting or individually in meetings. Their feedback will be incorporated into the next version of this report early in 2001.

13.4. 3rd Party Technology Consultation

Although the vision is still not confirmed by the stakeholders, some preliminary 3rd party consultation has occurred. They have been consulted regarding how to approach translating the various aspects of the vision into a reality. Much of this work has been done by other projects within SA, but do have an affect on how the Land Titles Office may proceed.

Some of the technology issues that need to be addressed include:

- The database technology used is IDMS, how best can we make a transition away from that technology and to what new platform?
- The business rules of how over 160 land related documents are processed are custom built into the current ALTA system. Can we get a copy of these rules from the ALTA system to reuse in ALTA 2? What tools can do this?
- How best can we offer access to information to our clients given the fact that many reports cannot be added to the current processing load of ALTA?
- Etc.

The 3rd parties contacted include the following businesses:

EDS Canada Inc. - The 1st step EDS, SA's Information Technology partner, performed was worldwide research in 2001 to locate other projects that are addressing similar technology issues. They located one of their business partners in the U.K. that specialized in legacy redevelopment. The next result of their analysis of the toolsets in the marketplace was that there were no tools available at that time that would extract

the business rules from ALTA's application code. Further work will be done by EDS in this area in later 2005 and 2006.

The next step was to examine the ALTA application code to locate areas of the system where possibly components of the application could be pulled out and replaced with a redesigned component based upon new technologies. This assessment is not yet complete.

Gartner Group Canada - The visioning team had contact with Gartner on two occasions during the 2001 project period. The 1st contact was through the Data Warehousing information session in Calgary this spring. As LTO wants to implement a form of Data Warehousing, it was important to understand where this sector of the industry was at this time. The conclusions from that session were communicated throughout the Land Titles project team and included:

- Which data warehousing tools were strategic, what was emerging, what was falling out of favour, etc?
- Significant investment and effort is required to construct and implement a robust data warehousing capability.
- Which database schemas were preferable for data warehousing.
- Requirement for extensive user training to operate a proper reporting system.
- Fundamental difference between a data mart and a data warehouse.
- Etc.

The 2nd contact was with the local Gartner representative who provided the project team with a report on key issues on extending legacy applications. From that report, the following conclusions / action items were derived:

- Legacy applications will continue to be reused to support new forms of service delivery for some time to come, as the older technology infrastructure is traditionally quite stable while the e-business infrastructure will continue to evolve rapidly over the next few years.
- Don't plan for discarding the old systems. Plan to introduce new flexibility into them that will enable integration with new channels.
- Create a legacy map of the systems, data, transactions and code that will assist with integration efforts.
- Create metrics that demonstrate the usability & quality of existing applications components; use these metrics to assess the legacy inventory for reuse potential.
- Legacy functionality must be surrounded with flexible wrappers; project designs must reflect this flexibility.
- Assess the capability of the existing infrastructure before attempting mass legacy reuse.
- New or existing technical infrastructure must be designed to rapidly support business change.
- Current projects must take advantage of component-based delivery models.
- Initiate efforts to create a component assembly development environment.

- Choose a single model for legacy integration that is flexible, but stable enough to withstand the onslaught of potential business change.
- Organizations should plan for enhancements to their software infrastructures and application architectures to allow for smooth accommodation of new composite applications.
- Non-invasive extension strategies (leave the base process code, data, transactions and user interfaces the same) should be chosen for tactical projects, invasive approaches should be chosen for more strategic initiatives.
- Focus on non-invasive approaches tactically, but ready the organization for component creation.
- Concentrate on integration activities for the greatest benefit opportunity.

Canada Post - Early in 2000, EDS Canada arranged a session with Canada Post to explore the possibility of distributing the results of some of SA registration outputs to customers via their newly announced electronic post office on the Internet (www.epost.ca). Although this looks very promising technology and it could save the government postage money there is a charge involved. Initial conclusions from a Land Titles perspective were that SA could provide their own “electronic post” type of access to account holders at no cost. Therefore this opportunity for electronic data distribution is not being pursued at this time.

AAMVA e-Government Symposium 2000 - In February 2000, SA and EDS representatives attended this symposium focused on electronic government strategies specifically related to the Motor Transport industry with applicability to all government verticals. Some of the findings from this symposium included:

- Built it right the 1st time. A bad solution can turn the customers off and they won't come back.
- Expect the e-channel to do about 22% of the overall services (long-term) in the US market. The Alberta market will most likely be a smaller percentage.
- Expect the change in service delivery to impact all aspects of your business. Call centres are an example; the phone support for e-transactions will increase the call rate.
- Some of the US jurisdictions have had problems with international firms and US that are selling government data e.g. driver's licences, through the Internet. It is difficult if not impossible to prosecute these companies.
- Service charges for use of the Internet channel just don't work.

OpenGIS Presentation by Ron Lake - In March 2000, Ron Lake came to discuss XML and the status of GML, which is Geographic Markup Language, a subset of XML for the geographic data sector. GML is currently a recommended standard. Some of the findings from that session included:

- XML is good for storing complex, structured data that may change. GML is for spatial data.

- Object databases are in their infancy, most firms continue to use relational databases.
- GML has applicability to the spatial data of Land Titles. It would make smart mapping relatively easy.

Discussions with City of Edmonton, Joni Mines - In April 2000, the Land Titles project team saw a demonstration of the city's new SLIM system (Spatial Land Information Management), to discuss why they built the system and the approach that was employed. The system was built to integrate / replace many of the existing systems at the city, many of which had duplicate map information. The conclusions that were drawn from this demonstration were:

- The system is using Oracle 8i technology
- That the city has a very good spatial data management system. Over 200 city systems may eventually be replaced / integrated into SLIM.
- That what land titles is trying to do is entirely practical and possible, although the scope is somewhat different.
- The city's solution may be a good model to follow.

Discussions with Al Newberry, Citibank, London - Al was the original architect of the current AGS Motor Vehicles System. In May 2000, Al came for a week to discuss technology trends and the possibly legacy renewal of the Motor Vehicles system. Some of the discussions were also relevant to ALTA and conclusions included:

- **Servers** - an IBM mainframe is an open platform for the future. New technologies can be used for delivery on this platform. If you want to leave the mainframe, consider Tandem, HP or IBM. Don't use DEC or Sun.
- **Redevelopment Philosophy** - the complete redevelopment of the system is not an option. Maybe re-write ALTA. Move away from COBOL. Native compilers exist for the mainframe with the same performance as C. Recommend Java. Three sources: Sun, J-Builder (recommended) with deployment/support built in; and VisualAge for Java (maybe).
- **Tiered Deployment Strategy** - why not put the middle tier on the mainframe? Web tools exist for the mainframe.
- **Migration Strategy** - must be developed for the overall transition to the target new system. De-constructing COBOL is not a reality. Convert the application by subsystem, not by transaction.
- **Database Selection** - Oracle does not take into account a mainframe's parallel sysplex capability. DB2 may be a better choice; it outperforms Oracle on the mainframe. Check into Gartner reports on this subject. In either case, change over to a SQL database.
- **Communications Strategy** - Use TCP/IP. It is available on the mainframe as well.
- **Network Strategy** - Stay with what you have. Take advantage of CORBA. May be the way to link everything.

- **Business Strategy** - Consider the development of a provincial utility to significantly reduce the cost of developing new applications.

Discussions with Buddy Kashuba, Quest, South Carolina - South Carolina's project manager of the development of their new Motor Vehicles System came to Alberta to share their experience in redevelopment and technologies. Some of the key learning from this discussion included:

- The South Carolina re-development schedule was reduced from 4 years to 2 years partially as a result of choosing newer technology and combining it with off-the-shelf software.
- Eight months was spent on data architecture and proof of concept phases. This has contributed to time and cost reduction by ensuring the system design is as complete, effective, efficient and maintainable as possible, before development begins.
- Oracle Designer was selected by South Carolina as their design tool. The design team was not trained in using this tool and there was a large learning curve. As well, the tool was slow and did not perform up to their expectations.