

FSH Working Group

Invitation to Submit a Proposal (Supplemented)

November 7, 2000

Updated March 30, 2001



SECRECY and CONFIDENTIALITY

The importance of confidentiality with respect to this Invitation to Submit a Proposal cannot be overstated. The existence and work of the FSH Working Group are known only to a small number of key title industry individuals. Premature disclosure of its existence, its work, or the concepts it will implement, would, in its view, cause unrest and discord in the industry and its associated industries, with potentially serious consequences, and would threaten this important work with almost certain failure.

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Table of Contents

1. Purpose
 2. Business overview
 3. Technical overview
 4. Definitions
 5. Scope
 6. Required Services
 7. Types of files
 8. Types of visitors
 9. Types and characteristics of visits
 10. Statistics, Traffic and capacities
 11. Constraints and requirements
 12. High level requirements list
 13. Start, development, and launch milestones
 14. Liaison & Communication
 15. Invitation to submit a Proposal
 16. General Specifications for PTI/AIO Electronic Policy Submission & Retrieval
- Appendix: Conceptual Diagram
- Triple Tier Host Side Architecture Overview & Discussion
 - Triple Tier Host Side Architecture Network Diagram & Discussion
 - FSH Index Field Descriptions
 - AIO Search & Retrieval Process flowchart
 - AIO Post Process
 - Prior Policy Center PTI Load & Post Architecture Policy Index Backfile Workflow Overview
 - Prior Policy Center Policy Index Go-Forward Upload & Post Workflow Overview

INVITATION TO SUBMIT a PROPOSAL

1. Purpose

The purpose of this document is to describe the technology requirements of a business undertaking in detail sufficient so that potential technology partners (Host Technology Provider) can determine whether it is the type of opportunity that appeals to them; to describe the kind of Proposal sought; and to invite qualified providers to offer Proposals. It is not the purpose of this document to favor any one technology over another merely to define the need for that type of functionality. If the technology partner's solution varies from what is specified simply identify it as different than specified.

2. Business overview

FeeSimpleHosting, Inc., a Delaware corporation, is a consortium of land title industry firms and executives which plans to build an internet-based Information Center of a unique kind. Its planning and design group, known as the FSH Working Group, is designing the facility to serve as an electronic commerce resource for the entire industry, collecting and pooling information from title offices as they produce title examinations and making it available to them as they process new orders. The Center is designed to be used in every U.S. real estate settlement in which a title examination is required.

Nothing like the Center exists today. Simple in concept, it cuts across the entire title assuring process to generate significant economic benefits, including materially reduced production costs.

Everything about the undertaking, including its structure, ownership, operating methods, and pricing model, is designed to be appealing to title companies, with special emphasis on the large title insurers whose acceptance of the concept will assure its success.

Operating plans and specifications are nearing completion. Strategic partners are being sought to provide technology and capital.

3. Technical overview

The FSH business model calls for the outsourcing of all host-side technology development and operations to a single provider. When fully operational the facility will feature a back office in the form of a data warehouse of files (text, image, and other types) incrementing at the rate of five to ten million files each year, each file represented by a record or records in a database index to those files. New files arriving at the site, whether individually or in batches, will be accompanied by a header containing the information needed to index them.



An electronic commerce front office will create billing accounts for visitors, accept and verify incoming files, receive and process queries seeking to find files, download or otherwise distribute found files, bill visitors for files distributed, handle credit card and other billing methods, and process other accounting details. The facility will produce a wide variety of daily, monthly, and annual reports.

The process of handling visitors will be fully automated on the FSH or host side, with no human intervention. User tech support will be provided by the Host Technology Provider. Non-technical customer service support will be handled by FSH.

The entire hardware-software array will be of the highest quality available with maximum attention to security, robust and trouble free operations, fault tolerance, and data-mirroring and redundancy.

4. Definitions

The following are terms used in this document.

- Authorized Issuing Office (AIO), a title insurance office authorized by a PTI to upload and distribute files.
- Participating Title Insurer (PTI), a title insuring company which has agreed to participate in the facility.
- FSH Working Group (FSH), the organizational, planning, and design committee of FeeSimpleHosting, Inc.

5. Scope

The scope of this Invitation is confined to the hardware, software, and operations of the FSH Information Center at its data hosting and electronic commerce site. It does not include

- Any responsibility for modifying or integrating FSH systems with management or administrative systems operated by individual PTIs, such as claims management systems, policy management systems, agency management systems, or the like.
- Training, other than online help, necessary to familiarize AIOs with the system. It does include training of PTI and FSH personnel in the making of global reports and queries to the system.
- Administrative Customer Service Support (Billing, sign-up, etc.)

6. Required Services

All FSH technology design and development and all day-to-day Information Center operations are to be outsourced to a single Host Technology Provider. In particular, the services required under this Invitation to Submit a Proposal include:

- Selection of computers, servers, communications equipment, and all other hardware and equipment, of whatever type, needed to operate the Center;
- Physical hosting of the equipment and its environment;
- Selection and installation of the operating system and DBMS needed;
- Design and development of the database structure and application software necessary to manage traffic to and from the database;
- Selection and installation of Electronic Commerce utilities necessary to manage the facility.
- Customization of the EC utilities necessary to manage and administer transactions and customers;
- Day-to-day management and administration of the entire Center, including hardware, software, equipment, communications, reporting, staffing, etc.
- Application software support to the site visitor. This encompasses managing traffic to and from the database (uploads and downloads), user interface and other usability items.
- Design, development, maintenance, or deployment of application software needed by AIOs to automate their communication with the Center;(see section 16)
- Design, development, maintenance, or deployment of software or hardware systems needed by PTIs to automate batch uploading of files to the Center;(see section 16)

The deliverable documents (or their equivalent) desired for functional and technical design will include:

1. Detailed Functional Specifications
2. Technical Design Documents to include:
 - a. Database Requirements
 - i) Complete database diagram for the selected database engine (SQL, Jasmine, Oracle, db2, etc.)
 - ii) Detailed data dictionary
 - iii) Database environment summary
 - iv) Database must only expose and manipulate data through stored procedures.

- b. Application Requirements
 - i) Adhere to a defined set of standards for naming, source code comments and style guidelines unless others are agreed upon.
 - ii) Fully documented source code in a form that can be compiled.
 - iii) Use Case Diagrams:
 - 1. GUI Design
 - 2. Database design (including the Data Dictionary)
- c. Architectural Design
 - i) Class Sequence Design
 - ii) Sequence Diagrams
 - iii) Activity Charts
 - iv) The tool(s) to be used for Object Oriented design (Rational Rose, ERWIN, etc.)
- 3. Quality Assurance**
 - a. Test plans
 - b. Test cases
 - c. Test results metrics
 - d. Certification documents
- 4. General**
 - a. Documentation of setup and configuration of the server and visitor machines.
 - b. Technology partner training for FSH representatives

7. Types of files

Three types of files will be admitted to the site as a part of the project's backloading and go-forward programs.

File ID	File type	Typical size	% of all uploaded in Year 1	% of all uploaded in year 5
FT1	Text or Rich Text	10K	20%	3%
FT2	Image	100K	70%	3%
FT3	XML	40K	10%	94%

8. Types of visitors

Visitors can be said to fall within the following seven types.

Visitor ID	Visitor type	Approximate Count	Visit frequency	Common platforms	IS Resources
VR1	PTI Headquarters	60	Low	OS, VMS, Windows	Large
VR2	PTI Regional Data Ctr.	200	Low	OS, VMS, AIX, Windows	Medium
VR3	PTI Regional Other	200	Low	Client/Server, VMS, AIX, Windows	Small
VR4	PTI AIO	2,000	High	VMS, Windows,	Small
VR5	Independent AIO	20,000	Low to high	Client/Server, DOS, Unix, Windows, VMS	Small to Large
VR6	FSH Administration	1	Low	Windows	Medium
VR7	User Tech Support	1	Low	Windows	Small

9. Types and characteristics of visits

Visits to the facility can be said to fall generally into the following categories.

Visit ID	Visit type	Daily Volume in Year 1	Daily Volume Year 5	PTI HQ Year 5	PTI Reg'l Data Ctr Year 5	PTI Reg'l Other Year 5	PTI AIO Year 5	Independent AIO Year 5
VT1	Batch backfile uploads	Thousands	None	No	No	No	No	No
VT2	Single backfile uploads	Hundreds	None	No	No	No	No	No
VT3	Go forward upload using online form	Hundreds	Hundreds	No	No	Yes	Yes	Yes
VT4	Go forward upload using auto insert	Hundreds	Thousands	No	No	Yes	Yes	Yes
VT5	Amend prior file upload	Tens	Hundreds	Yes	No	Yes	Yes	Yes
VT6	Search and distribute using online form	Thousands	Thousands	No	No	Yes	Yes	Yes
VT7	Search and distribute using auto insert and interactive select	Hundreds	Thousands	Yes	No	Yes	Yes	Yes
VT8	Search and distribute using auto insert and auto select	None	Thousands	Yes	Yes	Yes	Yes	Yes
VT9	Ad hoc index query	Tens	Hundreds	Yes	Yes	Yes	Denied	Denied
VT10	Single file special distribution	Tens	Tens	Yes	No	Yes	Denied	Denied
VT11	Tech support query	Hundreds	Tens	No	Yes	Yes	Yes	Yes
VT12	Customer support query	Tens	Tens	No	Yes	Yes	Yes	Yes
VT13	FSH administrative/finance query	Tens	Tens	Yes	No	No	No	No

10. Statistics, traffic, and capacities

The chart below contains selected statistics taken from the project's detailed modeling of anticipated activity. Of necessity some performance statistics rely on estimates of when business managements will elect to, or are able to, initiate process changes. All are subject to variations in real estate activity and the economy in general.

Other statistics rely on estimates of the readiness of administrative systems within large companies to produce files and the logistical availability of those files, which vary greatly from company to company.

SELECTED STATISTICS	
Participating Title insurers, Year 5	90
Authorized Issuing Offices participating, Year 5	23,500
Average file size	40K
Maximum file size	250K
Database index fields	40
Approximate cases processed annually, industry, 1999	10,000,000
Annual disk growth	200 to 400 Gigabytes

The following chart shows traffic and capacity estimates taken from the project's performance model.

SELECTED TRAFFIC AND CAPACITIES	Year 1	Year 5	Year 10
Total files uploaded / year	10,800,000	9,200,000	10,600,000
Total Information files hosted in pool	10,800,000	44,800,000	95,500,000
Searches conducted / year	2,600,000	8,700,000	9,973,000
Searches conducted / business day	10,600	34,900	40,000
Files found and distributed / year	193,000	3,032,000	7,332,052
Files found and distributed / business day	771	12,128	29,328

11. Constraints and Requirements

The project has these constraints and requirements.

- **Data Security, Data Redundancy, and Fault Tolerance.**

When fully operational the Center will have a processing cost value of approximately \$1 billion each year, and represent the sole source for the files it contains. The facility will encourage its users to replace existing systems required by law, regulation, and the prudent conduct of their businesses. Its participating firms will demand to be assured that its defenses against theft, penetration by terrorists, technical failure, and catastrophes of every nature are not only the best available in the world, but perfect.

- **In good hands**

As a part of their decision to take part in this Center, Participating Title Insurers will prefer the Center's technology provider or providers, and those to whom they assign key roles, to be world class players of impeccable reputation, names they know, at the top of the technological world, and reliable to a fault.

- **Hosting contract period**

Proposals should call for a contract period of ten years with automatic renewals thereafter unless terminated earlier.

- **Coordination with client side development group**

A separate project will develop software for AIO sites needed to manage communication with the Center and the many varieties of production software used by AIOs. Coordination between the two efforts will be required. This project is now included and outlined in item 16.

- **Ownership of the business concept and integrated applications**

Maximum benefits accrue to the consumer and to the title industry if there is but one Center of the type described, and that it be carefully, fairly, and economically managed. Nothing about the work to be done in this project should be construed as giving the Host Technology Provider any right to propose or assist competing efforts in any way. All agreements between FSH and technology providers will specifically acknowledge that the exclusive ownership of the concept and the makeup of the Center's assemblage of systems is vested in FSH.

- **Ownership and use of developed software**

FeeSimpleHosting will have exclusive ownership of all software developed as a part of this undertaking.

12. High Level Requirements List

Column keys for the requirements chart below are as follows:

Column	Description
1	Requirement ID
2	Requirement defined
3	Responsibility of the Host Technology Provider to develop, operate, and support
4	FSH Management participation: Assistance and coordination during design; coordination and authorization during operations
5	FSH Information Systems participation: Assistance and coordination during design; coordination during operations.
6	FSH Tech Working Group, an ongoing advisory committee comprised of FSH IS personnel and PTI IS personnel: Assistance during design; coordination and participation during operations.
7	Additional comment

The chart on the following pages lists high-level functional requirements which the Host Technology Provider will be responsible for developing, operating, and supporting, together with the coordination and assistance it will receive from other sources.

1 ID	2 Requirement	3 Required/ Optional	4 FSH Management	5 FSH IS	6 FSH Tech Working Group	7 Comment
RA	Creates PTI accounts			Assists		
RA1	Creates accounts for PTI and its authorized personnel; establishes authorization types;	R	Authorizes		Coordinates	
RA2	Creates accounts for PTI Regional data centers	R			Coordinates, authorizes	
RA3	Creates accounts for other PTI Regional centers	R			Coordinates, authorizes	
RA4	Creates accounts for PTI Issuing Offices	R			Coordinates, authorizes	
RA5	Creates confirmation and authorization table for AIOs	R			Coordinates, authorizes	
RA6	Creates Authorized Insuring Area table for PTI offices	R			Coordinates, authorizes	
RA7	Creates Overlimit formula for AIOs	O			Coordinates, authorizes	
RA8	Establishes PTI billing and crediting schema	R			Assists	
RB	Creates AIO accounts					
RB1	Creates accounts for AIO and its authorized personnel	R				
RB2	Permits alternative billing methods	R				
RB3	Consults RA5 and RA6 at each login, upload, and distribution	R				
RB4	Consults RA7 at each upload	O				
RC	Batch Backfile uploads					
RC1	Permits batch uploads of backfiles using optional file types	R		Assists	Assists	
RC2	Permits batch uploads of backfiles using optional index field population methods	R		Assists	Assists	

1 ID	2 Requirement	3 Required/ Optional	4 FSH Management	5 FSH IS	6 FSH Tech Working Group	7 Comment
RD	Single backfile uploads					
RD1	Permits single file uploads of backfiles using interactive index entry form	R				
RD2	Permits single file uploads using auto login and auto populate	R				
RD3	Permits later change/correction of index entry info	R				
RE	Enables go-forward uploads					
RE1	Enables go-forward uploads using interactive form	R				
RE2	Enables go-forward uploads using auto population of index fields	R				
RE3	Verifies file content conformity with appropriate XML DTD	R		Assists	Liaison	Liaison with industry group
RE4	Enables AIO production system communication with host	Cooperate with				Subject of a separate proposal
RG	Search, find, distribute, and bill					
RG1	Screens users for authorization area	R				
RG2	Enables search using interactive form	R				
RG3	Enables search using auto population of index fields from search request	R				
RG4	Consults XML tagged files for additional search information	Later				
RG5	Compares legal description search criteria with file information for probability evaluation	Later				Under third party development
RG6	Provides interactive searcher with ordered list of high-likelihood hits	R				
RG7	Provides interactive searcher with follow-up query for additional file information	R				
RG8	Enables interactive user selection, distribute, and billing	R				

1 ID	2 Requirement	3 Required/ Optional	4 FSH Management	5 FSH IS	6 FSH Tech Working Group	7 Comment
RG9	Enables auto insert user with auto reply option	O				
RG10	Initiates file license credit	R				
RH	Accounting					
RH1	Calculates net billing for PTIs	R			Coordinates	
RH2	Calculates billing for AIO accounts	R				
RH3	Invoices and statements PTIs and AIOs	R	Option			For discussion
RH4	Provides complete, integrated corporate accounting application, including G/L, A/R, A/P, C/M, Payroll, etc. as specified by FSH.	R	Specifies			
RI	Reports					
RI1	Prepares daily, monthly, year to date reports for management	R	Specifies			
RI2	Prepares monthly PTI activity reports	R			Coordinates	
RI3	Prepares PTI-specific reports	R				
RJ	Queries					
RJ1	Provides management with defined queries	R				
RJ2	Provides management with ad hoc query tools	R				
RJ3	Enables single entry queries by PTIs	R			Coordinate	
RJ4	Enables single file requests by PTIs	R			Coordinate	

13. Start, development, and launch milestones

This chart contains an overview of the principle milestones in the development and launch plan for the undertaking and their place in the development sequence.

ID	Description	Approximate duration	Percent complete
S1	Create, proof, and approve project plans, specifications, projections, supporting studies, etc.	300 days	90%
S2	Determine capital partners and requirements	90 days	50%
S3	Arrange for technology partners and requirements	90 days	25%
S4	Obtain industry participation	60 days	N/A
S5	Develop technology; create site, test	90 days	0%
S6	Organize managing entity	60 days	20%
S7	Declare backfile loading process open for use	N/A*	N/A
S8	Declare open for go-forward loading and search/find/sell operations.	N/A	N/A

* N/A Not applicable

14. Liaison and communication

Proposals, as well as any correspondence or questions concerning this Invitation, should be addressed to Patrick Vaden, Executive Vice President and Chief Technology Officer, FeeSimpleHosting, Inc. at (phone) 615.361.8404, or (email) PatV@CumberlandTitle.com.

15. Invitation to Submit Proposal

FeeSimpleHosting seeks Proposals for the services described from firms qualified to act as Host Technology Providers. Members of the FSH Working Group will make themselves available for questions and discussion of any requirement requiring clarification or additional detail.

16. General Specifications for PTI/AIO Electronic Policy Submission & Retrieval; Index requirements; Host Side Architecture

Business Overview

Today, over 25,000 offices transact residential and commercial real estate closings and create title insurance policies across the nation. Approximately 40% of title industry's revenues are from offices that are direct operations or affiliates of national or regional underwriters (PTIs). Each underwriter maintains one or more types of title insurance production software systems that produce the appropriate closing documents, commitments, and policy documents. The underwriters maintain in-house IT staffs capable of maintaining and updating these systems.

Independent agents' revenues (AIO) comprise the remaining 60% of the market. The majority of independent agents are using software from third party vendors (such as First Data Systems, SoftPro, LandTech, Infostream, SMS, Landata, Title Express, RamQuest, ACS, Elliptus, etc.). A variety of operating systems and proprietary and/or open standards are encountered in the field such as: DOS, Novell, Unix, NT, Windows, DEC/VAX, etc. In some instances, the AIOs utilize software that have no software support and in fact their vendors may no longer be in business.

In many instances, the PTIs have worked with both their agents and direct operations to extract policy information for routine policy remittance (payment for issued policies). This information contains varying degrees of data that could be used to build a Prior Policy Index and even a complete database with the addition of the policy data itself (such as the complete legal description and Schedule B items (exceptions, restrictions, easements – language that outlines the exceptions to the standard policy coverage)). In several instances, the agents may be electronically remitting this information (via email, diskette, tape, etc.). Refer to the Exhibit "General Specifications for Electronic Policy Reporting", attached, for a sample of one of the underwriters methods.

Many underwriters have been and are beginning to use various methods of storing prior title insurance commitments and policies in .TIFF, microfilm and other formats with limited index information. Some systems are proprietary built in-house by current IT departments, while others are third party storage solutions. The purpose of the storage of this data is not only for administrative purposes, but also for providing AIO's starter files that significantly decrease the amount of time necessary for completion of a new policy on the same piece of property.

Technical Overview, Scope & Requirements

Creation of the national prior policy center as described in Section 2, Business overview. This requires technology solutions to assist the PTI and AIOs to accomplish two objectives:

1) Acquiring policy information:

a) PTI location:

i) Routines and applications are necessary to convert existing “backfile” information from PTI-based storage environments into the new prior policy center. It is FSH’s vision that its technology partner will provide posting standards and other consulting services enabling the PTI to quickly post millions of backfiles in the first year of the center’s operation. See “Prior Policy Center PTI Load and Post Architecture, Policy Index Backfile Workflow Overview” for additional detail.

ii) Applications and standards necessary to send go-forward information into the new prior policy via an XML interface. See “Prior Policy Center Policy Index Go-Forward Upload & Post Workflow Overview” for additional information.

iii) Ultimately, it is desired that complete policy information be sent via the XML defined standards, without any attachments. However, in the interim, even after the underwriter has converted to sending XML data there will be a mix of data types – those that are accepted as complete and those that have accompanying attachments (text or TIFF). (By accommodating attachments for a predetermined time will allow the PTI to continue to send information for the agent that cannot upgrade their software without having to reenter all the desired policy data.)

b) AIO location: Internet-based and Windows-based applications (applet) to capture go forward information for posting policies to the Prior Policy Center in an XML format. See “Prior Policy Center Policy Index Go-Forward Upload & Post Workflow Overview” and “AIO Post Process” for additional information.

The above described applet will reside at the AIO location and will be utilized to capture the indexing information during the policy generation cycle and forwarding it for posting to the FSH Prior Policy Center. This RFP does include establishing those XML standards with which the 3rd party integrators can comply for posting.

2) Distributing policy data:

a) AIO location: During the search and retrieval process, a prior policy is located that the AIO wishes to use for a new file. The data can be passed from the center to the

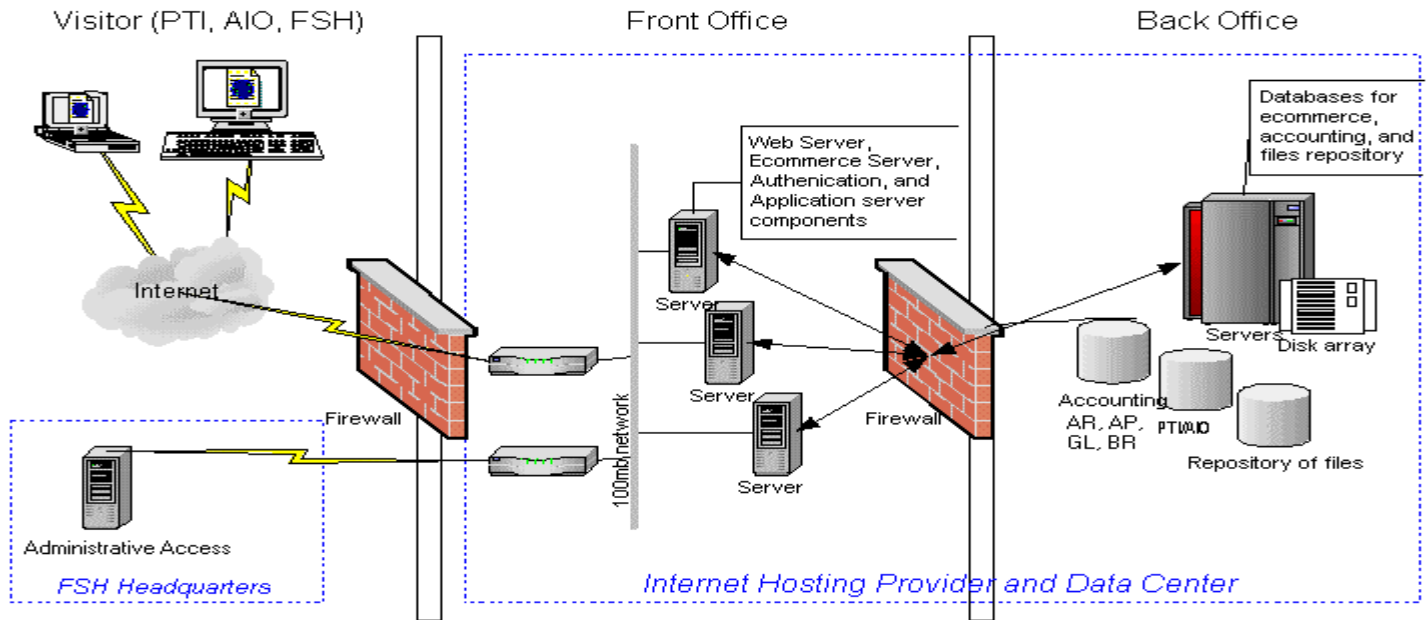


agent in an XML format for reuse in the new file. See “AIO Search & Retrieval Process” for additional information.

Policy Index information stored in the policy center is expected to contain the data as specified in the document attached referred to as “FSH Index Field Descriptions”. Please note that several fields are recurring entries (for example, multiple insured names, each line of the full legal description, exceptions, etc.)

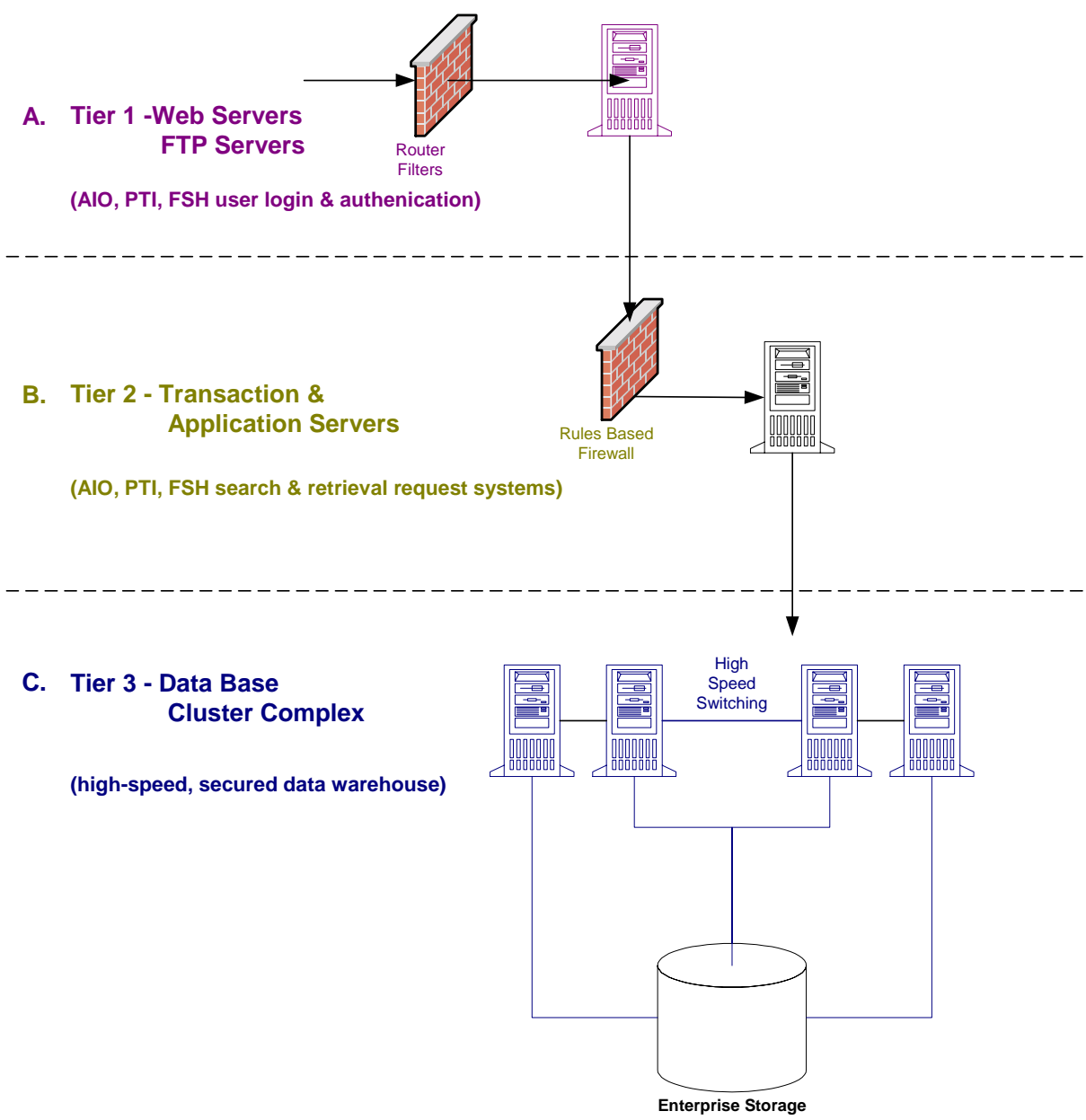
Triple Tier Host Side Architecture Overview and Triple Tier Host Side Architecture Network Diagram outlines a suggested approach for the host side data center network.

FSH Conceptual Diagram



APPENDIX

Triple Tier Host Side Architecture Overview



APPENDIX Triple Tier Host Side Architecture Overview Discussion

Process described from top to bottom on the diagram:

A. Tier One. Separate Web servers and FTP servers are available behind filtering routers which only allow traffic in for specific protocols and ports. Scalability is available by load balancing requests across servers and by handing database requests to transaction processing application servers at Tier 2.

Two DMZ's exist to allow web browsing on a public web server which is exposed to attack. A customer, who activates a login to FSH, on the first public web server, is thereafter routed to another Secured web server at which authentication takes place. They then, can activate a session on the secured Web server, which will fetch data across a rules-based firewall from a switched session to the second tier.

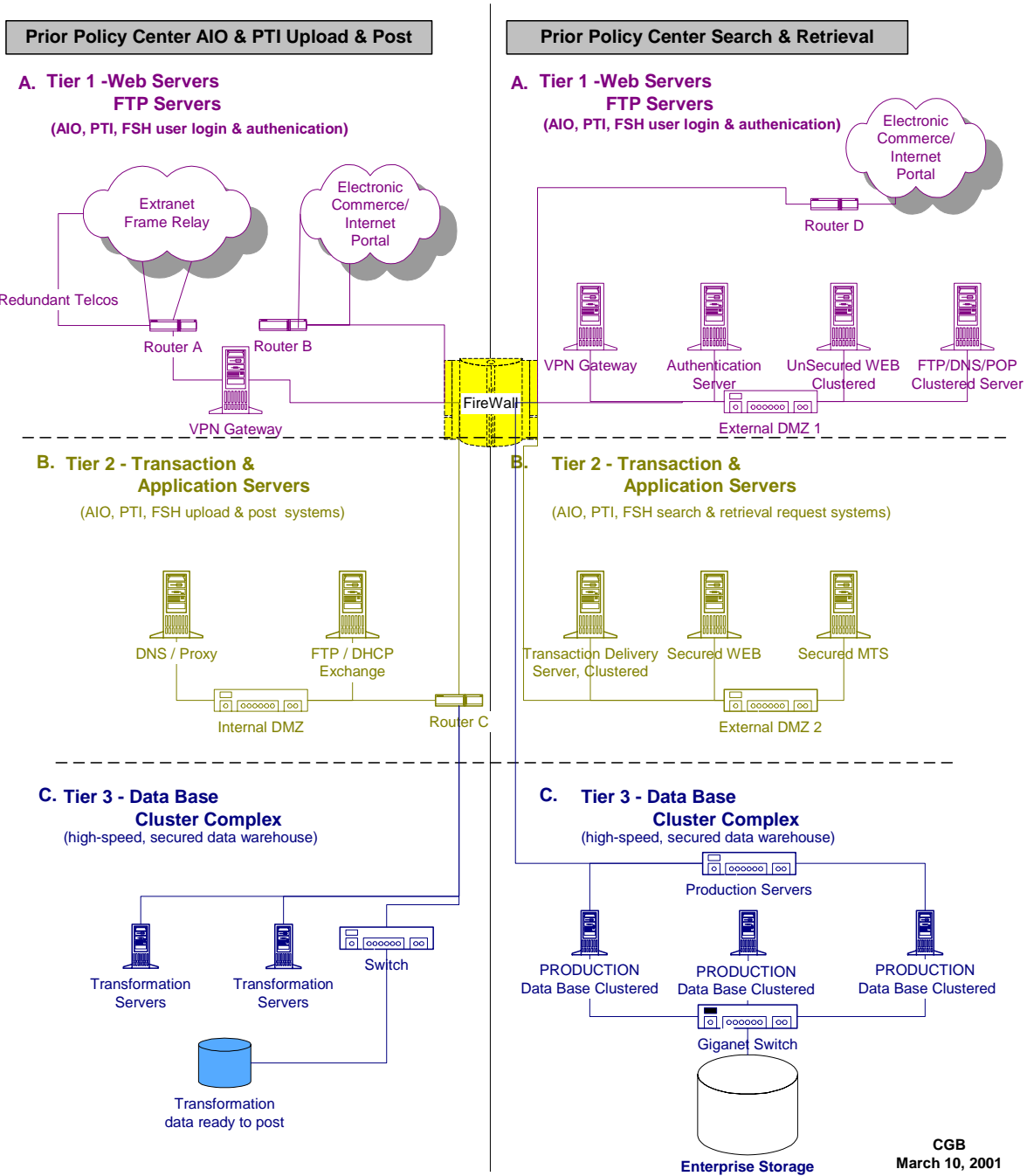
B. Tier Two. Multiple Transaction Servers handle brokering of objects at this tier and perform accesses to the various databases on the behalf of sessions running on the secured Web servers. This structure is scalable as well with redundancy built-in.

C. Tier Three. The production Tier includes high speed, clustered database servers as well as the transaction coordinating servers. All servers have mirrored system drives and RAID 5 secondary storage for local logs and data caching. The enterprise clustered RAID 5 storage area network is available at this point as well through a high speed Fiber Channel Switch. All access to this area is only available by switched connections through the rules based firewall. Only sessions with system services are capable of accessing the production storage area.

Key components:

- Each server must be of the same type, utilizing standard components preferably from the same manufacturer. Each interface card must be the same specification and all switches should be of the same manufacturer and model type as well. This allows scalability and "hot standby" replacements.
- Enterprise management software is utilized to access the servers and to perform SNMP traps on each network component.
- Each database server has multiple enabled SCSI UW2 differential controllers to allow access to secondary enterprise storage as well.
- All systems are maintained in air conditioned, secured and controlled environments.
- All servers are maintained to current service packs. Each firmware revision for routers and switches, as well as service pack for the servers are tested before loading to the production environment.

**APPENDIX Triple Tier
Host Side Architecture
Network Diagram**



APPENDIX Triple Tier Host Side Architecture Network Diagram Discussion

Systems described from top to bottom on the diagram:

Telecommunications Cloud (A. Post)

Multiple telephone circuits to different external providers through separate routers primarily dedicated to Posting traffic. Secured and known entities would access the site in this manner, be authenticated at the VPN gateway and enter the transformation server farm. Frame relay connections would be supported at this location with burstable capabilities. Fixed rates initially would depend on uploading traffic but not less than 384 Kb would be recommended for each of the two links. Primarily incoming traffic would be supported here until such time as that load diminished then these circuits would be rerouted to the next connection described below.

External Internet Telecommunications Cloud (A. Search & Post)

All other telecommunications, emails, web browsing in either direction as well as initial "Gets" from FSH would pass through these connections. Again, multiple connections and multiple providers as well. Recommended minimum frame relay would be 512 Kb.

Primary Demilitarized Zone. (A. Post)

All customers accessing the website (except those specifically routed to the connection described in A. above, would enter this area. Clustered web servers would serve pages and direct logins to a primary Authentication Server containing lists of valid users and IP addresses along with Public/Private Keys. Upon authentication, the VPN gateway would then direct customers to either of several secured Web Servers in External DMZ area 2.

Internal DMZ. (B. Post)

This primarily exists to allow transformation servers to serve customers in the production posting environment. It can also serve as an intermediate staging area for production related software which has been tested in the developer LAN (Area G.) but which isn't ready yet for full scale deployment. Email servers as well as internal FTP servers exist in this DMZ and are separated to maintain throughput on the production environments. The router serves to further isolate traffic demands from routine internal messaging.

External DMZ 2 (B. Search)

The systems in External Zone 1, on behalf of the customer, will then activate a session on secured Web servers. Multiple Transaction Servers handle brokering of objects at this tier and perform accesses to the various databases on the behalf of sessions running on the secured Web servers. These transaction servers will act on local databases for various activities but will then fetch data across a rules-based firewall from a switched session to the third tier in the production network This structure is scalable as well with redundancy built-in.

Transformation Servers (C. Post)

Multiple clustered transformation servers will respond to externally presented data, respond to syntax and formation errors as well as erroneous user input. They will also stage cleaned and parsed data and move the final products to an interim storage database. Before this data is loaded to the production database, analysts will inspect statistically sampled datasets and make decisions about uploading to the production database.

Production Network Zone (C. Search)

This zone has one purpose, to move data quickly and without interruption. This tier includes high speed, clustered database servers as well as the transaction coordinating servers. All servers have mirrored system drives and RAID 5 secondary storage for local logs and data caching. The enterprise clustered RAID 5 storage area network is available at this point as well through a high speed Fiber Channel Switch. All access to this area is only available by switched connections through the rules based firewall. Only sessions with system services are capable of accessing the production storage area.

Key components:

- Each server must be of the same type, utilizing standard components preferably from the same manufacturer. Each interface card must be the same specification and all switches should be of the same manufacturer and model type as well. This allows scalability and "hot standby" replacements.
- Enterprise management software is utilized to access the servers and to perform SNMP traps on each network component.
- Each database server has multiple enabled SCSI UW2 differential controllers to allow access to secondary enterprise storage as well.
- All systems are maintained in air conditioned, secured and controlled environments.
- All servers are maintained to current service packs. Each firmware revision for routers and switches, as well as service pack for the servers are tested before loading to the production environment.
- All switches and routers are at least 100 mb capable with upgrades possible to Gigabit capability.

Requirements / Assumptions:

1. Multiple zones exist to prevent intruders from crossing one zone to another as well as to isolate traffic.
2. Multiple telephone companies exist to allow redundancy of connections.
3. This diagram is for a full scale, 10,000 + simultaneous user environment with scalability in mind. Each server represented on the diagram is **not** the actual number of servers required. The design of the software and the assumptions controlling the extent, size and adoption of the business plan will alter the scale and scope of this infrastructure.
4. This design presumes a single location. Replication and plans for external duplication of the databases offsite are not included. They could be easily added to this structure without impacting the design.
5. Accounting servers would be tied into area H. and area F. to count Posts and Gets. I have not diagrammed this area but would treat it as a separate zone with a small database server and

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application server. Only accounting personnel would have access to this zone via the VPN gateway under area A.

6. Logging and management servers are not displayed but are required planned for each zone as well.
7. No formal Intrusion Detection system is specified but one is requested.

APPENDIX FSH Index Fields Descriptions

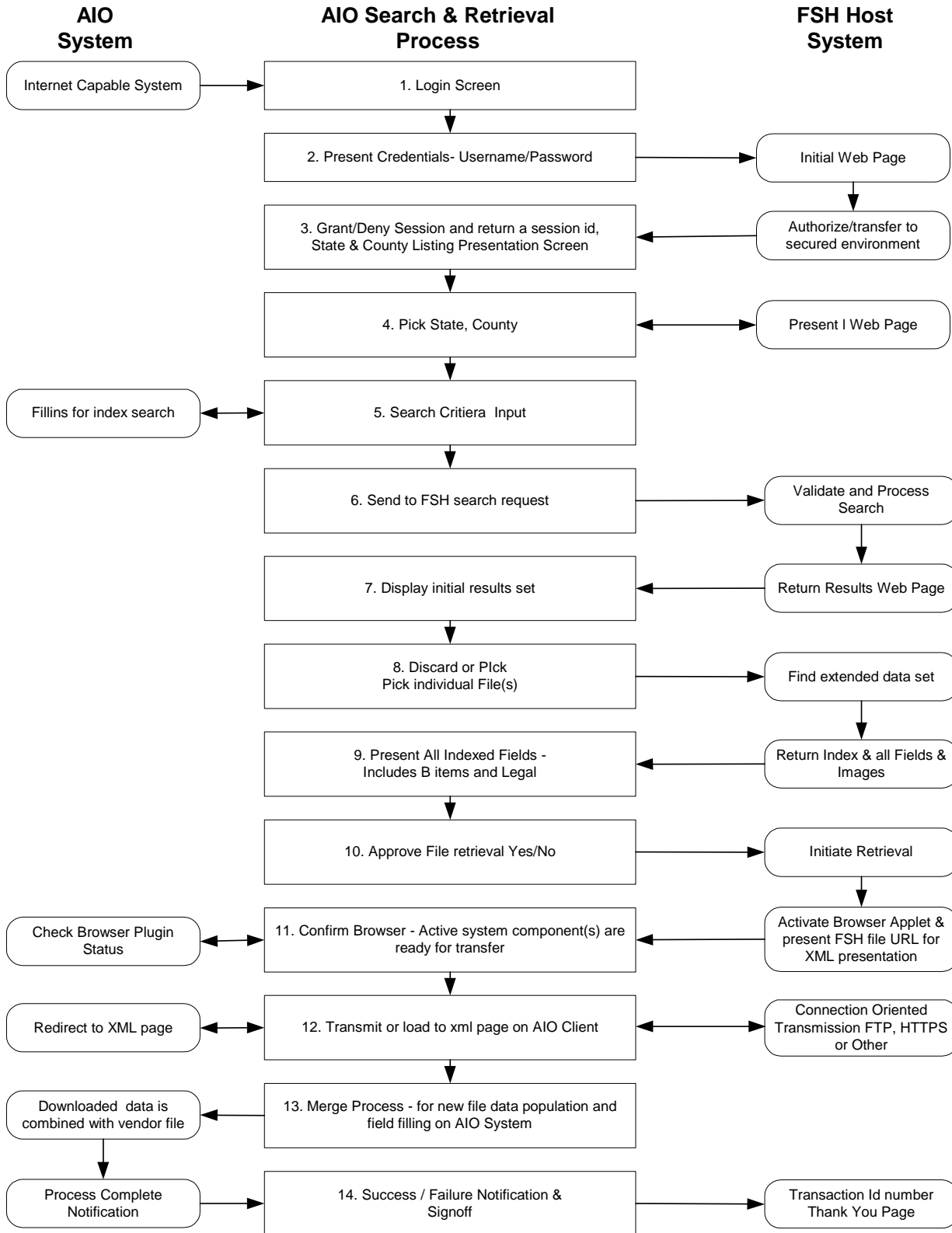
Item	Description	Required for backfile post	Required for go forward post (if XML)	Inquiry	Optional	Loops Poss.	Size	Parsing	Notes & Comments
1	Transaction ID	Y	Y	Y		Y	12		Supplied by FSH host system during post
2	Original or Modification, Code	Y	Y			Y	2		Supplied by FSH host system during post
3	Timestamp	Y	Y			Y	14		Supplied by FSH host system during post
4	AIO control file number (batch)	Y	Y	Y			10		Supplied by FSH host system during post
5	Title File Number			Y			16		
6	Escrow File Number			Y			16		
7	Lender Loan Number			Y			20		
8	Master Policy Number			Y			16		
10	Policy Number	Y	Y	Y			16		
11	Recording Date & Times						14		
12	Recording Id Number						16		
13	Recording Book Number						8		
14	Recording Page Number						8		
13	FSH Member Id (AIO)	Y	Y	Y			12		
14	AIO Branch Id	Y	Y				6		
15	AIO Preparer Id	Y	Y				12		Agent #?
16	AIO Comments						255		
17	PTI Id (expand)	Y	Y	Y			8		Underwriter Name
18	Name of Insured (Owner/Buyer/Lender)	Y	Y	Y		Y	35	Y	Character string - unparsed
19	Individual or Business			Y			1		If not supplied, FSH will parse
20	Last		Y	Y			24		
21	First		Y	Y			18		
22	Middle		Y	Y			18		
23	Honorific/other		Y		Y		4		
24	Multiple Buyers		Y	Y			1		Search on any name examines all names for that field
25	Assigned Lender Insured Name				Y	Y	35	Y	
26	Policy Type		Y	Y			5		Does ALTA have standards? TLTA?
27	Policy Effective Date	Y	Y	Y		Y	10	Y	

28	Coverage Amount		Y		Y		12	
29	Property Type						5	Classification of real estate insured
30	Rate rule codes					Y	6	
31	Form Group ID's					Y	3	
32	Endorsement Codes					Y	3	
33	Endorsement Amounts					Y	12	
34	Address		Y	Y		Y	255	String
35	Address Parsed - Yes / No		Y	Y		Y	1	Y Supplied by Address Standardization
36	Building Number/Name		Y	Y			12	Supplied by Address Standardization
37	Address Number		Y	Y			12	Supplied by Address Standardization
38	Directional ID		Y	Y			4	Supplied by Address Standardization
39	Street Name		Y	Y			30	Supplied by Address Standardization
40	Street Identifier		Y	Y			12	Supplied by Address Standardization
41	City		Y	Y			25	Supplied by Address Standardization
42	Zone		Y	Y			6	Supplied by Address Standardization
43	County	Y	Y	Y				
44	State	Y	Y	Y			2	Supplied by Address Standardization
45	Zip		Y	Y			5	Supplied by Address Standardization
46	Zip+Plus			Y			4	
47	FIPS Code	Y	Y	Y		Y	12	Created by post
48	Legal Description Form	Y or	Y or				1	Scanned / Text
49	Pointer to external file	Y or	Y or				30	full path
50	Full Legal	Y or	Y or			Y		Pages or Text
51	Brief Legal	Y or	Y or	Y		Y	255	One string
52	Legal Parsed - Yes / No		Y or	Y		Y	1	Y If not supplied, FSH will attempt to parse?
53	Lot Number/Name			Y			12	
54	Block Number/Name			Y			12	
55	Outlot/Master Block Number			Y			10	
56	Subdivision Name			Y			30	
57	Plat Book/Page ID			Y			12	
58	Acreage Amount			Y			10	
59	Portion			Y			10	
60	QQQ			Y			6	
61	Section			Y			3	
62	Township			Y			3	
63	Range			Y			3	
64	Survey/Abstract/Rancho Name			Y			30	

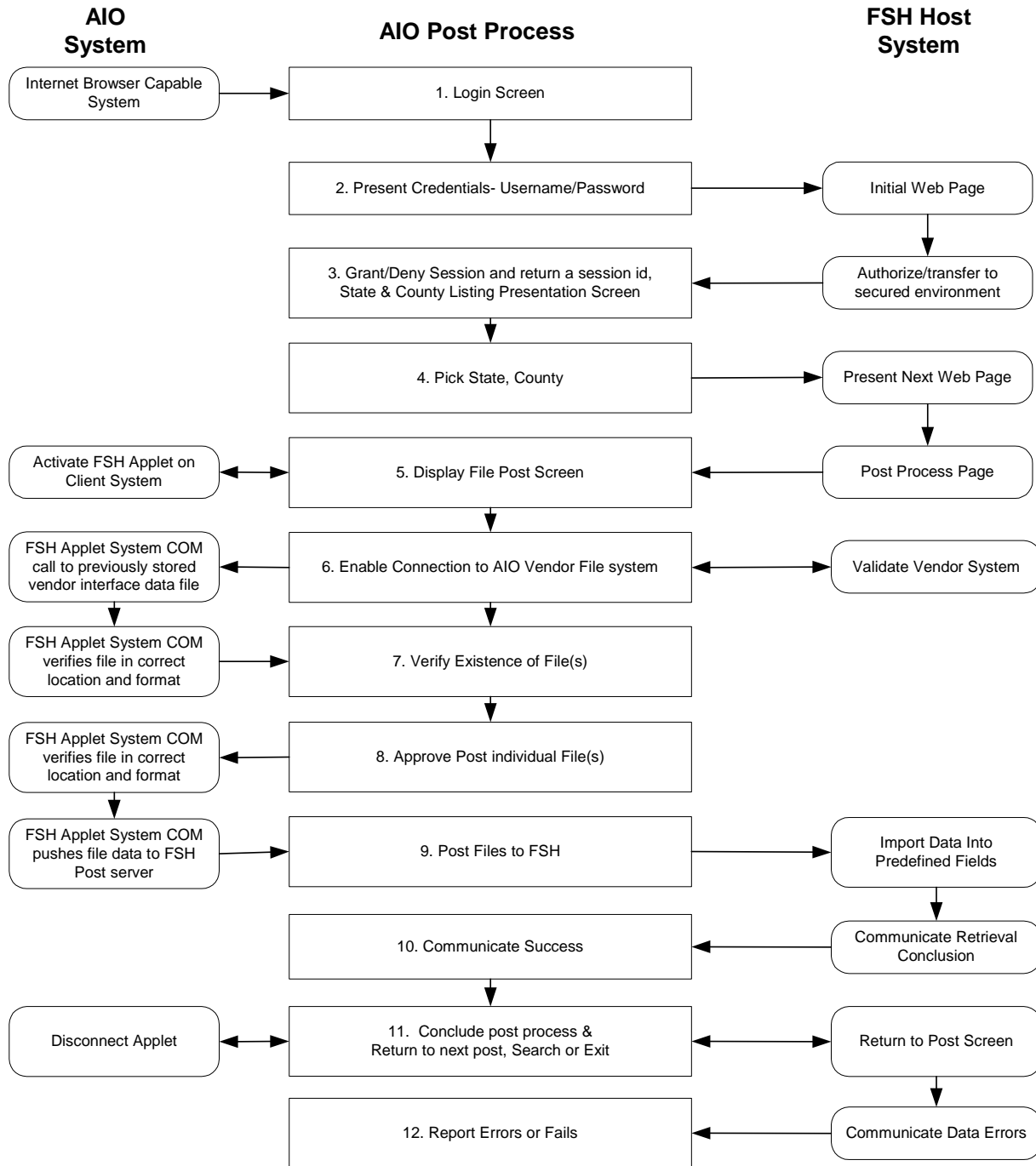


65	Survey/Abstract/Rancho Number			Y			8	
66	Claim Number			Y			8	
67	Other ID			Y			18	
68	Tax Id/Parcel number			Y		Y	50	
69	Alternate ID number			Y			30	
Schedule B items								
70	Exception Form	Y	Y			Y	1	Scanned / Text
71	Pointer to external file	Y	Y				14	
72	Exception Numbers					Y	3	
73	Exception Data Type					Y	3	
74	Exception Data		Y			Y		

APPENDIX AIO Search & Retrieval;

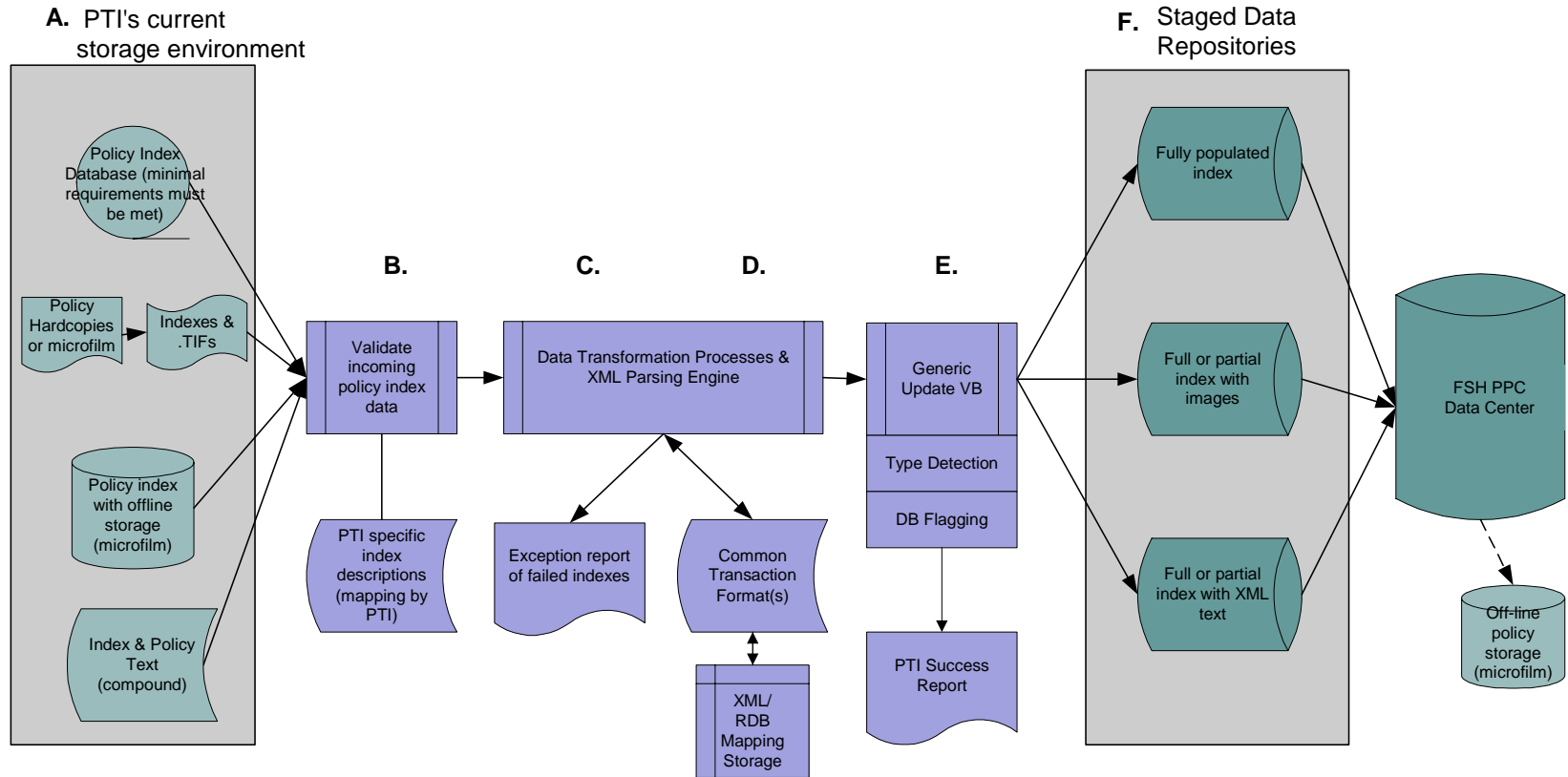


APPENDIX AIO Post Process



Note: This process anticipates that AIO third party software application vendors will provide comma delimited or XML formatted files conforming to FSH published specifications (DTD) and schema. Many of these third party vendors provide underwriters with other data for currently used for remittance and other reporting. FSH will supply the applet for enabling the AIO to manually input a policy for posting or transmitting a file supplied its FSH-enabled policy preparation system provided by that third party vendor.

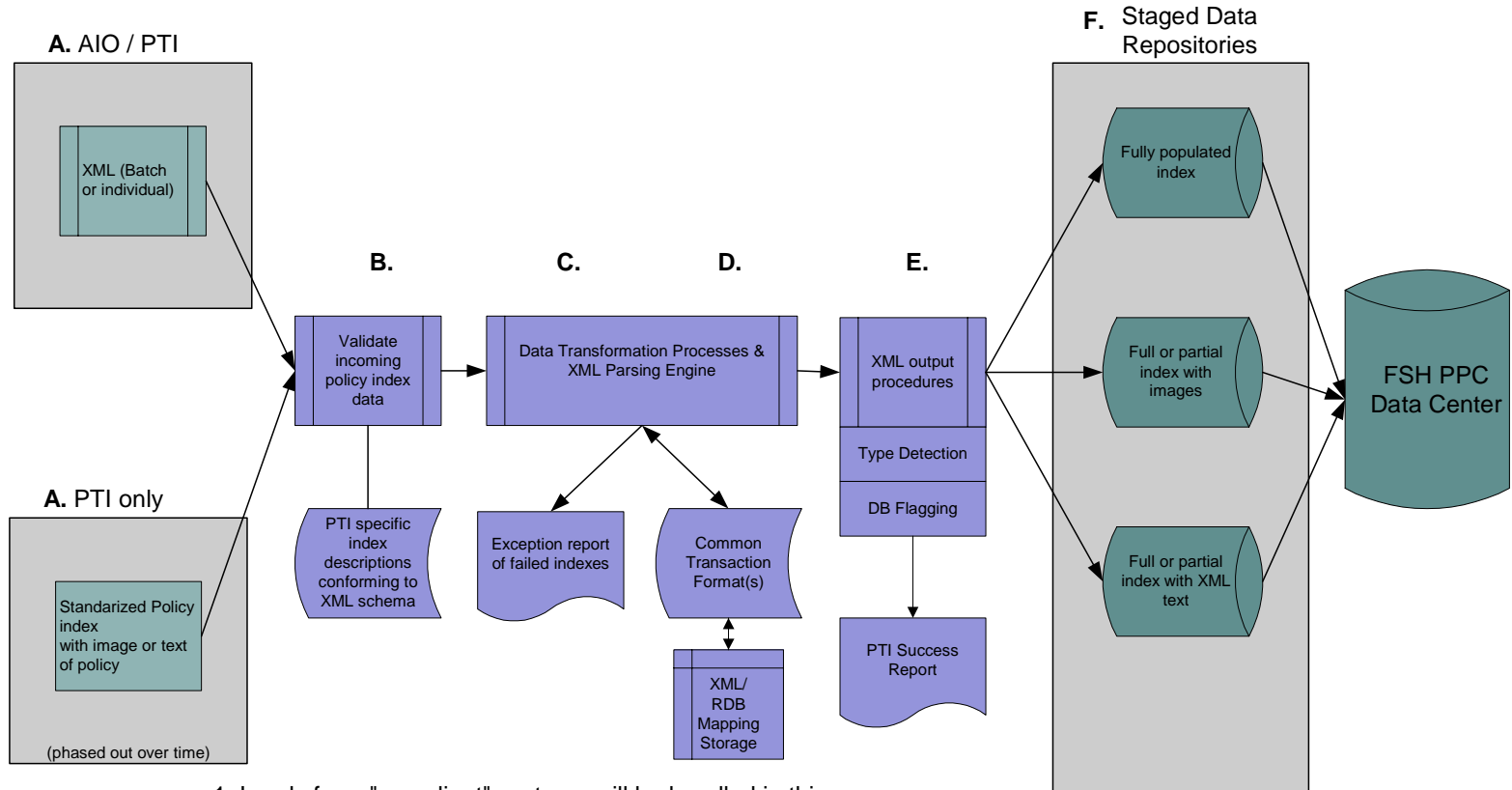
**APPENDIX Prior Policy Center
PTI Load and Post Architecture
Policy Index Backfile Workflow Overview**



1. Initial Loads only will be handled in this manner.
2. All Files posted will be converted to a uniform XML format
3. Adds only treated herein - Modifications, Deletes treated in a maintenance/administrative process
4. Fails will require treatment - automate with email return notices
5. Prior Policy Center anticipates PTI offering of microfilm policy image retrievable by email/fax to AIO

APPENDIX

**Prior Policy Center
Policy Index Go-Forward Upload & Post
Workflow Overview**



1. Loads from "compliant" systems will be handled in this manner.
2. All files posted will be converted to a uniform XML format.
3. Adds only will be treated here. Modifications and deletions will be treated in a maintenance/administrative process.
4. Fails will require treatment - automate with email return notices

APPENDIX Policy Index Go Forward Upload & Post Workflow Overview Discussion

Process described from left to right on the diagram

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- A. AIO / PTI or PTI only: All files will arrive in either as produced or XML format (AIO or PTI) or as a standardized policy index with image or text of policy as attachment (PTI only).
 1. Individual or Batch policy index /file data most likely originates from systems where a "sweep" of that day's/week/month production takes place. Probably the legacy systems in the market will have to follow this form of posting because of their inability to extend an internet capable connection to each user on their AIO network. These will be produced in an identical format to the individually posted customers.
 2. Individual data will be posted on a per file basis using the client side or browser based applications supplied by FSH in XML.

- B. Similar to the Load and Post procedures described elsewhere all files are then sampled for required index fill-ins, and specific fields are checked for integrity, verified as to locale such as State, County and AIO authorization and origination codes, etc.

However, batch files have this step performed in background mode while individual files interact "Live" with these processes. This data will serve to invoke specific file transformation routines in the next step.

- C. This step is identical to the Load and Post procedures described already.

Data transformation processes will then be invoked to check and process the data and prepare it for a common transaction format. An acknowledgement of passed and failed records, invalid or not well-formed data elements will be returned to the designated contact for the AIO and the respective policies for that AIO for that PTI electronically (via email).

- D. Successful records will utilize the stored XML schema and be posted to a compatible relational database storage format. Output from this step will be formatted in such a way as to be easily inserted into the appropriate data repository.

- E. Most records will filter through the Import XML output procedures built at this point directly suitable for inserting into the production database.

However, this step still is required for treating the few companies which have either not upgraded their systems and are still utilizing text based systems or which have refused to upgrade but are forced to coexist with FSH upon PTI request.

Again, data will be detected as to type (for instance an image file and a record describing that image will be handled in a different manner than a text only recordset) and forwarded to the correct repository. Each record moved through the system will be inserted into the database as well as for tracking receipt and disposition.

F. Interim storage of data will be handled with Staged Data Repositories which will be regularly inserted into the main databases in low load times. Duplicates will be transmitted as well to the backup site.

Requirements / Assumptions:

1. A single format will exist for XML posting.
2. Again, minimum requirements for addition to the database must be decided.
3. All records will be counted at each stage so there is no discrepancy or lost records.
4. All record processing will be electronic; no human intervention will be required.
5. All record processing will be cataloged electronically (output to web based log files) to minimize paperwork and facilitate customer service inquiries.
6. Interim storage space will be recaptured by adding the records to the master databases and emptying the drive spaces regularly.
7. All individual processes are envisioned to be instantaneous, however batch loads could still take minutes, with a typical bulk record load (for instance 15,000 policy files) to occur in under one hour. Obviously, this timing will still be affected by size of the file and type of attachments with images and non-standard text taking different routes.
8. Transformation engines (servers) will be parallel processing requests to increase throughput and boost production.
9. All processes will be modeled separately before the final tests are performed to verify process requirements and timings.
10. All data will conform to a single insert format. Data transformation processes in step C will accept data in multiple formats but output one format. This format will in step D be transformed into a format suitable for loading into a relational database. Images will be output in a separate format.

Please note the addition of the XML native format allows a post directly to the database.

Key components:

- The data transformation (Step C.) has several sub components which are - address standardization, zipcode lookup, name cross-indexing, name standardization as well as parsing the data into separate data elements.
- Source file samples (Step B.) and common transaction formats (Step D.) will need to be coordinated and managed with coded data inserted into the records.
- Decisions as to validity, soft errors and hard rejects will be the subject of much discussion but need to be firm before testing and solid upon production.