



**NATIONAL INTEGRATED LAND SYSTEM
(NILS)
SURVEY MANAGEMENT and
MEASUREMENT MANAGEMENT**

**SECOND ADDENDUM AND UPDATE TO
PROJECT PLANNING DOCUMENT OF
AUGUST 21, 2001**

AUGUST, 2002

**PREPARED BY
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
LAND & RESOURCES PROJECT OFFICE
DENVER FEDERAL CENTER
DENVER, COLORADO 80225-0047**

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**National Integrated Land System (NILS)
Addendum to Survey Management/Measurement Management and
Parcel Management Project Planning Documents
August 27, 2002**

This document will provide an update on the Scope, Schedule and Budget project planning parameters for the SM/MM and PM extensions for the NILS Project.

Scope: There is no change in scope for SM/MM or PM.

Schedule: There is no change in the SM/MM and PM project schedules.

Budget:

From our submission of the NILS Cost Benefit Analysis in August 2001, the following changes have been made to more accurately depict further refinement of the NILS architecture and outline actual costs that have been incurred for FY2001.

Direct Costs Sheet:

H/W Purchases – The following changes have been made based on the December 2001 NILS Architecture Study:

1. Application server numbers remained the same but the phasing to purchase the servers has been changed.
2. Data server will not be purchased initially, rather NILS will use the existing Sun E10000 until which time it is replaced with a technology upgrade (TBD)
3. ArcIMS servers – have replaced estimated costs with more accurate costs

S/W Purchases – The following changes have been made based on the December 2001 NILS Architecture Study:

1. ArcSDE – costs are based on using 16 CPUs on the Sun E10000
2. S/W Maintenance costs (ArcIMS & ArcSDE) are based on actuals not stated as a percentage.

Contractor Costs –

1. Replaced estimated contractor costs, in FY2001, with actual costs
2. Added O&M costs for 2004 – 2008
3. Extended FGDC Compliance task one year
4. Moved Configuration Management function from BLM labor to Contractor Costs

BLM Support Costs –

1. Replaced estimated BLM Support Costs in FY2001 with actual costs

Training –

1. Adjusted training to correspond with deployment of SM/MM and PM
2. Replaced FY2001 Technical Training costs with actuals

Indirect/Travel –

1. Replaced FY2001 Travel costs with actuals

Indirect Shared Costs Sheet:

Adjusted S/W licensing and H/W maintenance costs based on the December 2001 NILS Architecture Study (see attached)

Current/Future Costs and Benefits Summary Sheets

Costs were adjusted based on when benefits would be realized after deployment of SM/MM and PM extensions.

ROI summary Sheet

Changed the Discount Rate, per SCO direction, from 2.7% to 7%.

By changing the discount rate only (and without any of the above changes), the Benefit/Cost ratio decreased from 2.7 to 2.5.

By changing the discount rate (and with all the above changes) overall NILS Benefit/Cost Ratio decreased from 2.7 to 2.2.

Section 1.3.2 Project Schedule Overview

SM/MM Phased Functionality Deployment

	DFE General Requirements	SM/MM Functions	SM/MM Data Prep	PM
Phase 1 – September 2002	• Workflow Framework	• COTS Survey Analyst	• Legal Description Fabric Data Model	• Parcel Fabric Data Model
	• -Workflow Manager	• Survey Fabric Data Model	• Import Tools (LSI to LD Fabric)	• COTS ArcGIS editing tools
	• -Task Assistant	• Point ID structure and utilities	• Tools to Link LD Fabric to Survey Fabric	
	• -Workflow Admin Tools	• Survey Project Structure and Utilities	• Topology Rules	
	• Security Functions Integrated with BLM Component	• Import from Standard File Format (SFF)	• Topology Correction Tools (Task Assistant)	
	• Unique ID creation and management utilities	• Export from SFF	• Edgematching Rules	
	• Edit Auditing	• Basic COGO Functions	• Edgematch Correction Tools (Task Assistant)	
	• System Level AOI Functionality	• Basic LSA Functions	• QA Reports	
	• Hyperlinking of Documents to Features	• Import/Export to standard exchange formats		
		• Projection Management Tools		
		• Survey Research Tools		
		• Digital Survey Plat Template		
	• Miscellaneous Reports			
Phase 2 – February 2003	• User Defined AOI	• Geodetic Computations	• Reliability	• Construct and Edit Legal Description Text
		• Extended COGO	• Progress Viewer	
		• LSA Robusting		
		• Additional LSA QA Functions		
		• Import Non-NILS data		
		• Automated Section Subdivision		
Phase 3 – September 2003	• Feature Lineage	• Automated Minor Subdivision		• Verify Parcel
	• Historical Analysis	• Survey Analyst in the Field (Disconnected Editing)		• Create/Edit Parcel using Workflow
	• Integration with Document Management			• Import/Create Parcels from Land Description (Parcel Generator)
				• LD Interpreter /Generator Tool
				• Update Parcel Geometry from Survey
				• LR2000 Interface
				• Digital MTP Template

Section 1.3.3 PO-504 Project Budget/Resources Overview

PO-504 NILS

7/22/2002

FY 2002 Budget Request for WO-330 Land & Resources Project Office.

RESP	DESCRIPTION	ACTIVITY	WMs	OC 11 Labor	OC21 Travel	OC23 Rent/Util	OC24 Print	OC25 Contract	OC26 Supplies	OC31 Equip	Total
LABOR	Project Mgr.	4550	12	146,000							146,000
LABOR	Deputy Project Mgr.	4550	6	48,000							48,000
LABOR	Computer Specialist	4550	6	48,000							48,000
LABOR	Computer Specialist	4550	6	24,000							24,000
LABOR	Program Analyst	4550	12	89,000							89,000
LABOR	Program Analyst	4550	12	81,000							81,000
LABOR	GIS Specialist	4550	6	44,000							44,000
LABOR	Program Analyst	4550	12	80,000							80,000
LABOR	Admin. Asst	4550	12	49,000							49,000
LABOR	Student	4550	7	28,000							28,000
LABOR	Student	4550	6	15,000							15,000
LABOR	Student	4550	6								0
LABOR	Student	4550	5	20,000							20,000
LABOR	Student	4550	5	20,000							20,000
LABOR	SME Participants	4550	12	50,000							50,000
TRAVEL	Travel-staff	4550			50,000						50,000
TRAVEL	Travel Domain Experts	4550			75,000						75,000
TRAINING	Training	4550			40,000						40,000
CONTRACT	Contract Support (CM/QA)	4550						50,000			50,000
CONTRACT	GeoCommunicator O&M (NILS)	4550						250,000			250,000
CONTRACT	Survey Mgmt & Measurement Mgmt	4550						500,000			500,000
CONTRACT	Design and Analysis Parcel Mgt (NILS)	4550						1,225,000			1,225,000
CONTRACT	FGCD Compliance Support Contract	4550						40,000			40,000
CONTRACT	Contract Documentation & Mgt	4550						160,000			160,000
CONTRACT	Integrate BLM Land Data	4550						460,000			460,000
MISC	Maintenance-Evoke Software	4550						90,000			90,000
EQUIPMENT	Equipment	4500								140,000	140,000
MISC	Misc	4550							21,000		21,000
TOTAL			101	742,000	165,000	0	0	2,775,000	21,000	140,000	3,843,000

Section 1.4 Project Documentation Plan

Add updated and new documents list:

Document Title	Description
Concept of Operations and User Requirements (COURS)	High-level (initial) analysis and use cases for NILS.
NILS Requirements (Detailed Feature/Functionality (DF))	Summary of all requirements for NILS.
Survey Management (SM) Use Cases	Detailed analysis and use cases for SM.
Measurement Management (MM) Use Cases	Detailed analysis and use cases for MM
Project Planning document, and Return on Investment (ROI)	Initial project planning document, cost benefit analysis, project schedule and Addendum.
Software Requirements Spec. (SRS)	Requirements document.
Software Development Plan (SDP)	
Data Management Plan (DMP)	<ul style="list-style-type: none"> • Entity Relationship diagram • Data Migration Plan • Physical Model
System Security Plan (SSP)	System, Internet and Intranet security procedures.
Software Test Plan (STP)	How software will be tested and kinds of test to be performed
Software Test Description (STD)	Description of tests to be performed for FQT
Software Test Report (STR)	Report on tests performed and results
Final Qualification Test Scripts (FQTS)	Description of procedures to run the tests
Final Qualification Test Signoff (FQT Signoff)	Summary of FQT tests & signoff
Implementation Plan (IP)	Overall plan for deploying system

Document Title	Description
Interface Requirements Specification (IRS)	External interfaces (e.g. LR2000) and plan to interface
Requirements Traceability Matrix (RTM)	Traces defined requirements to system
System Design Document (SDD)	Describes design of software
Computer System Operation Manual (CSOM)	Outlines method to install, configure, operate and administer system
Software User Guide (SUG)	Reference and training guide for users
Engineering Release Record (ERR)	Identifies Release for a system
Version Description Document (VDD)	Describes software
Official Agency Records Document (OARD)	
Training Plan	Describes training strategy

Section 2.1.9 Risk Management

Add:

Incomplete hardware/software deployment – lack of servers, redundancy hardware, client hardware, application software, etc.	Follow deployment plans as outlined in documentation
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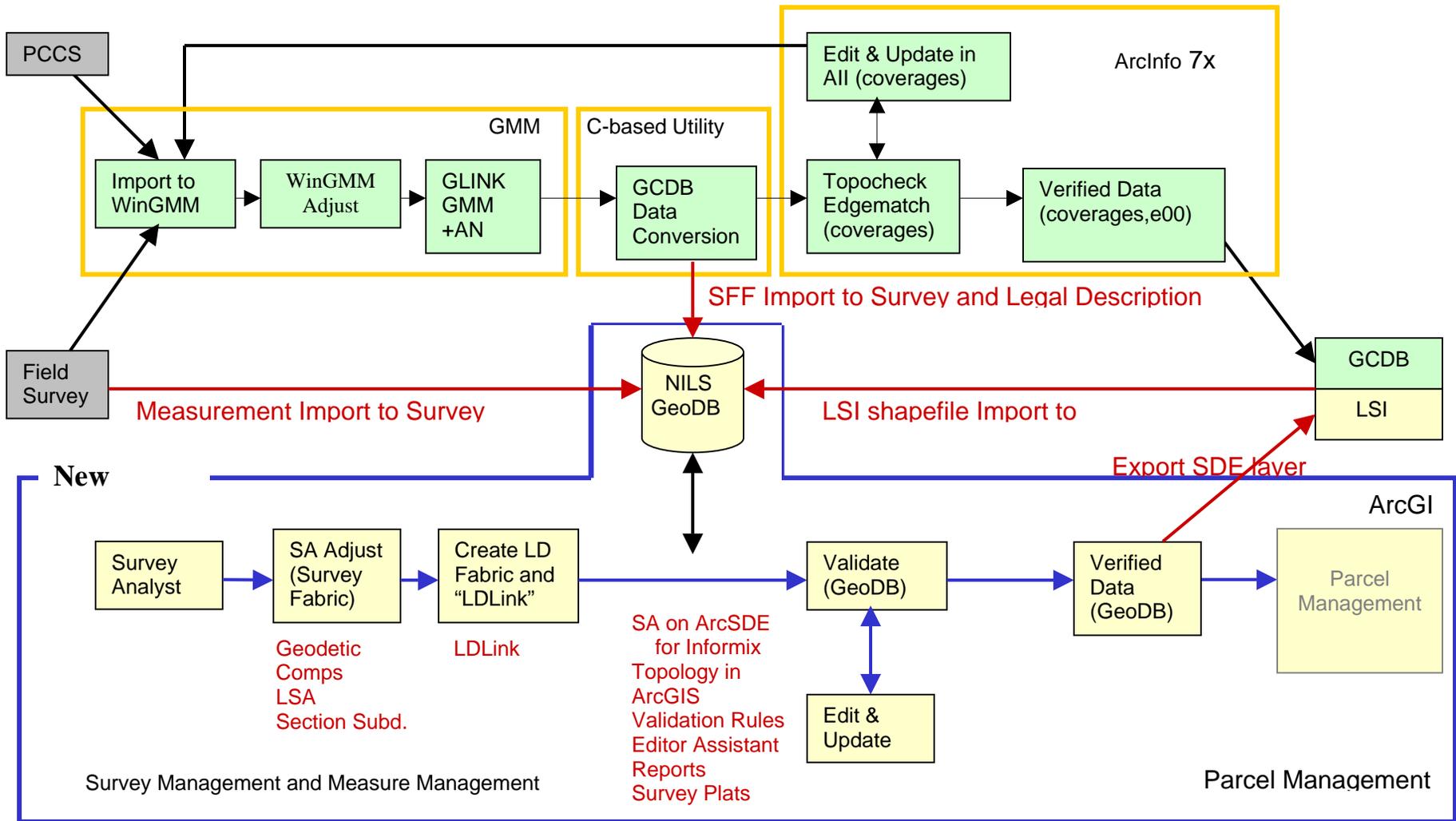
Sections 3.1, 4.1, 5.1 Supporting Documents

Updated table:

Document Citation	Date	Information Content	On Web Site?
Geographic Measurement Management User’s Manual and other documentation.	2/28/00	Geographic Coordinate Database and cadastral survey spatial information processes.	http://www.spatial.maine.edu/~kwurm/
BLM land management business process procedures.		Business rules and functional requirements for land management.	No

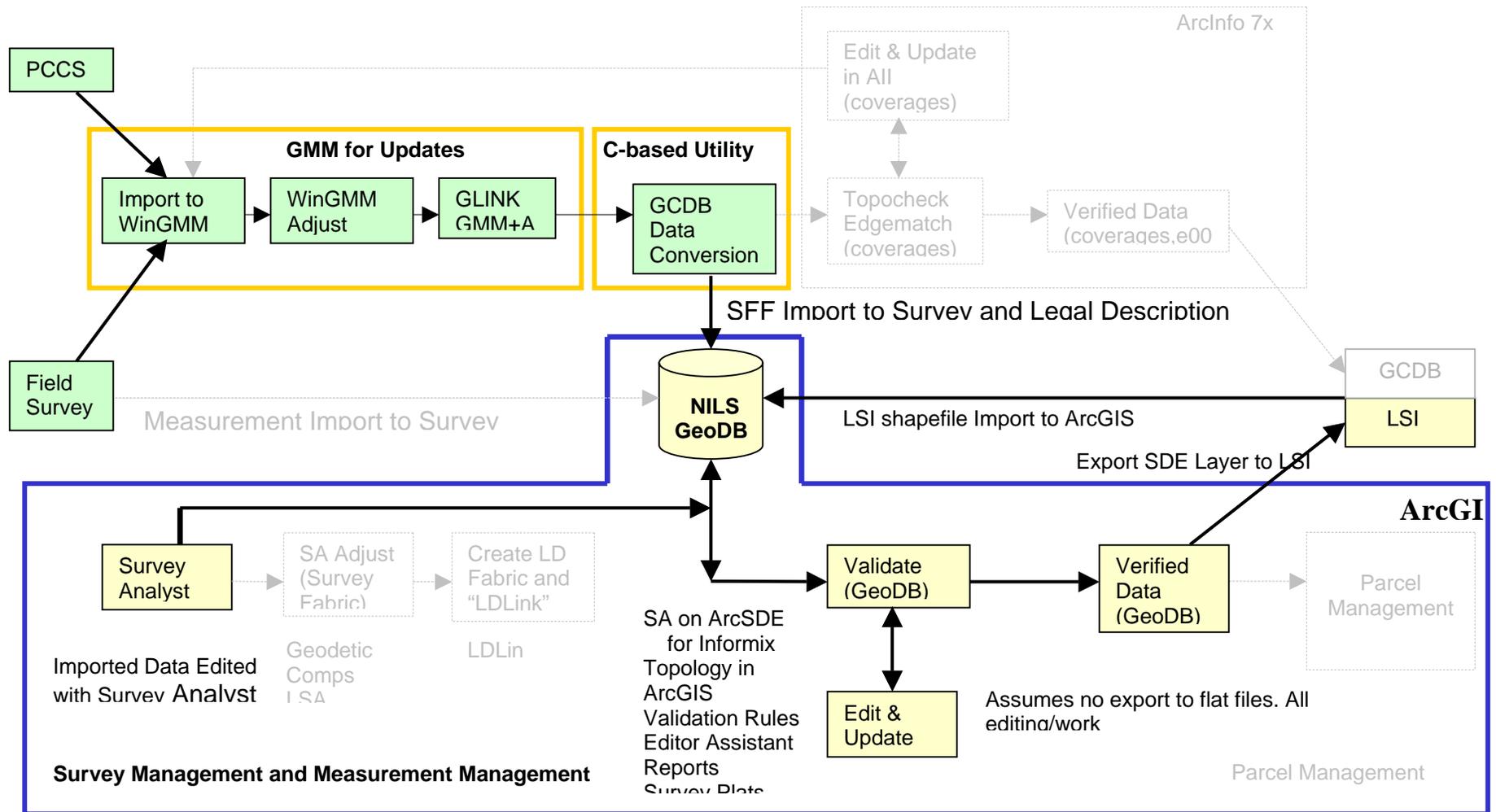
Document Citation	Date	Information Content	On Web Site?
NILS Concept of Operations and User Requirements document.	3/00	Project requirements which would drive analysis/build /review phase.	http://www.blm.gov/nils
BLM IT Architecture vs. NILS Essential Elements Cross-walk.	3/14/00	Comparison of BLM IT Architecture and NILS proposal	No.
Draft Business Process to Strategic Plan Comparison	3/10/00	Comparison of NILS business processes with BLM business processes	No.
Manual of Surveying Instructions	1973	BLM surveying business rules	No
Detailed Feature/Function Specifications	7/2002	Initial high-level requirements	http://www.blm.gov/nils
BLM Information Technology Architecture Technical Reference Model (TRM) Vol. 1 and Vol. 2	6/26/01	Direction for design, construction, purchase, deployment and management of Information Technology	http://web.blm.gov/nirmc/syseng/ita.html
Content Standard for Geospatial Metadata, FGDC STD 001-1998	1998	Metadata standards.	http://www.fgdc.gov
FGDC Cadastral Data Content Standard for the National Spatial Data Infrastructure.	1999	Standard for cadastral data model.	http://www.fgdc.gov
Use case Analysis Document	7/2001	Detailed Requirements	http://www.blm.gov/nils
The Red Book	-	BLM title, status and record procedures	No.
Glossary of Use Case Terms	7/2002 (update)	Explanation of terms and concepts.	http://www.blm.gov/nils
Initial NILS System Architecture Design	12/2001	Hardware and software deployment strategy	http://www.blm.gov/nils

Section 3.3.2 Target System



General Requirements...

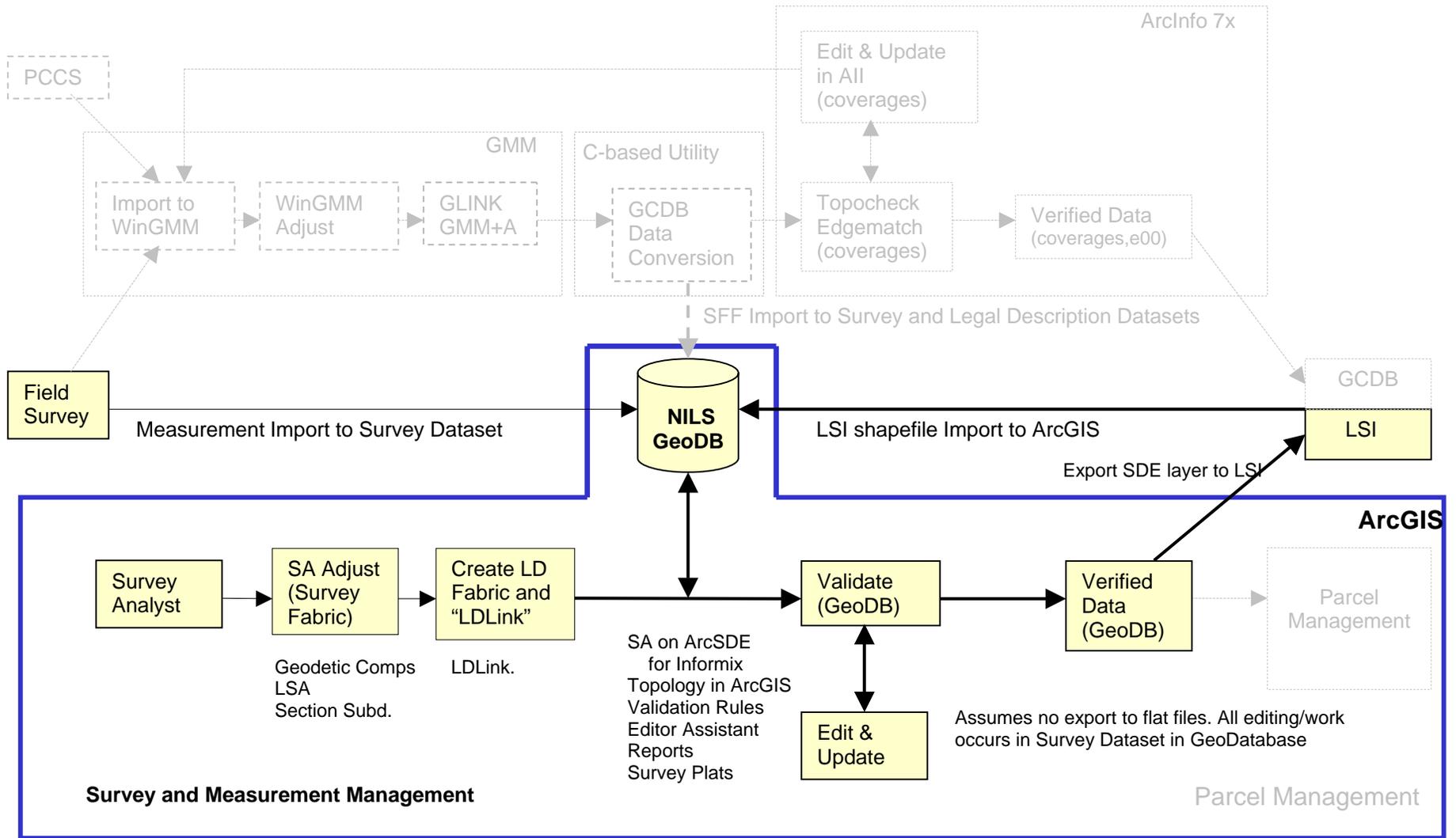
- Security
- Workflow/Job Management
- History Tracking/Lineage/Auditing
- Area of Interest
- Integration with Document Management



General Requirements...

- Security
- Workflow/Job Management
- History
- Tracking/Lineage/Auditing
- Area of Interest

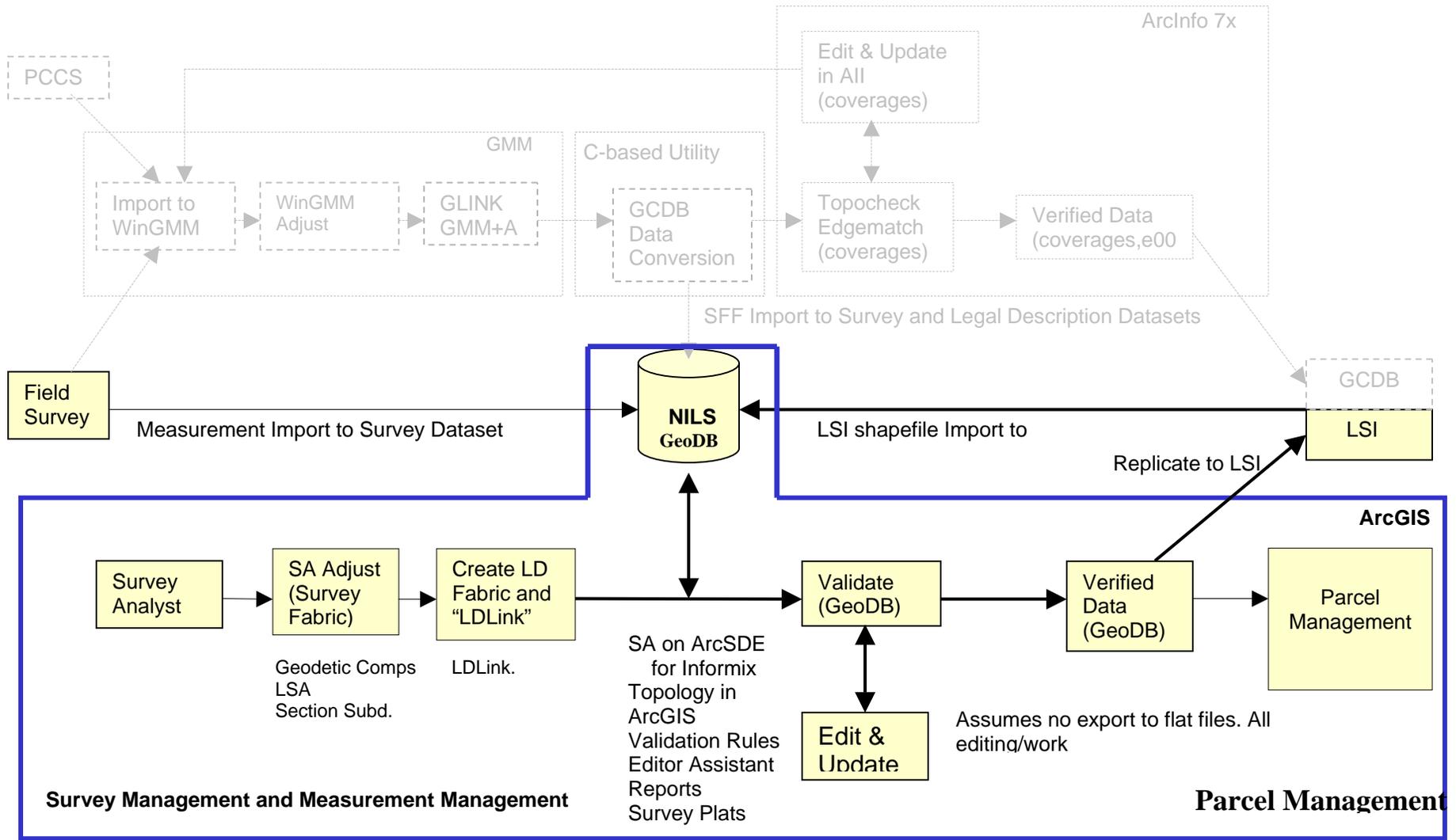
PHASE 1
September 2002



General Requirements...

- Security
- Workflow/Job Management
- History
- Tracking/Lineage/Auditing
- Area of Interest

PHASE 2
February 2003



General Requirements...

- Security
- Workflow/Job Management
- History Tracking/Lineage/Auditing
- Area of Interest
- Integration with Document Management

PHASE 3

September 2003

Section 3.4.1 High Level Data Groups

Add:

DATA GROUP	DESCRIPTION
APPEAL	All correspondence and documents generated by both the appellants and the BLM regarding legally contested decisions.
ASSESSMENT	The result of an analytic process. Does not include performance assessments, condition/status assessments.
AUTHORIZATION	The instruments that allow use to occur such as leases, grazing permits, mining claims, deeds, conveyances, etc. Includes terms & conditions, standards, and implicit authorizations.
BUDGET	Resource requests, financing, revenues and available funding such as appropriations.
COMMENT	Concerns, recommendations, issues, observations, etc. raised by the public regarding a BLM plan or proposed actions.
COMPLIANCE	Information on determinations of compliance with use terms, conditions and stipulations. Includes analysis of compliance (i.e. not under Assessment), also includes performance evaluation of customers (i.e. not under Results Evaluation).
CONDITION	Natural resource, social, economic, boundary and land tenure data used to compare landscape condition/status against identified standards and criteria and to define the current condition/status of the landscape. Includes analysis of resource data to derive Condition information.
CONTRACT	Leases, agreements, permits, etc., which legally obligate the BLM and at least one other party.
CUSTOMER	Individuals, corporations and groups which conduct business with the BLM or are involved in actions of the BLM.
EMPLOYEE	Employment information such as title, position, grade, etc., on someone who works for the BLM.

DATA GROUP	DESCRIPTION
ENFORCEMENT	Information about the exercise of compliance authority, including fines, impoundment and cancellation of use contracts. This includes the identification and resolution of trespass cases. Includes determination of corrective action (i.e. not under Assessment).
FACILITY	Information on structures erected and maintained by the BLM and others, including buildings, fences, culverts, etc. Includes information on all facilities (BLM or customer owned) .
GUIDANCE	Policies, procedures, directives, manuals, handbooks, etc. Includes strategies and activity plans.
INCOMING REQUEST	Expressions of interest for use authorization as well as request for general information or BLM-produced products.
LAND STATUS	Information on land ownership, sensitive or critical areas, lands available for disposal or use, etc. Includes determination of Land Status (i.e. not under Assessment).
LAND USE PLAN	Information on Resource Management Plans (RMPs) (does not include project plans, strategies, or work plans).
MANDATE	All imperatives placed on the BLM by law, regulatory bodies, executive orders, courts, etc.
NEPA	All correspondence and BLM-generated documents related to the NEPA process.
NOTICE	Formal communications both to and from the BLM such as sundry notices, demand letters and other legal documents.
ORGANIZATION	Information on the administrative and functional structure that sustains the enterprise.
OUTGOING REQUEST	Requests for information, models, protocols, permits, etc. initiated by the BLM, to the customer or other agencies or members of the public.
PROJECT	All actions undertaken on the ground except for the development and maintenance of facilities. Includes project plans. Also includes development and maintenance of BLM facilities.

DATA GROUP	DESCRIPTION
PUBLIC	Information on individual organizations and groups that are external to BLM (other than CUSTOMER).
QUESTIONNAIRE	Instruments for gathering performance results both within and external to the BLM.
RESOURCE	Information on both renewable and non-renewable resources.
RESPONSE IN	Information, permits, etc. provided to BLM as requested by BLM. Includes communications solicited by the BLM.
RESPONSE OUT	Information, approvals, denials of use authorization request, BLM materials, etc., provided to customers or the public as requested. Includes communications to other agencies, customers and the public, which require some response.
RESULTS	The analysis and evaluation of performance results, effectiveness results
EVALUATION	and organization and individual performance accomplishments. Does not include performance evaluation of customers.
STRATEGY	Goals, objectives, long-term performance objectives, expected outcomes, effectiveness measures and how to achieve them.
USE	Information on the legal enjoyment of property or resource. Includes all uses (legal & illegal), includes proposed & planned, as well as actual. Does not include allowed which is under authorization.
WORK LOAD	Demand work, workload needs, BLM-initiated work tasks, unachievable priority tasks, etc.
WORK PLAN	Organizational and individual task assignments, performance goals, funding and FTE allocations.

Section 3.8 System Accessibility

The following is the NILS contractor’s Section 508 policy and information statements. It applies, equally, to all of the NILS modules. All of the information is quoted from their public website.

ESRI has created this Section 508 Web site for its customers and the general public. It details the Section 508 Accessibility statements as defined by Section 508 of the Rehabilitation Act Amendments of 1998. The goal of this site is to offer comprehensive information about ESRI software in relation with Section 508.

ESRI believes that Section 508 reinforces the use of its technology by all people and is committed to meeting the requirements and goals of Section 508 of Rehabilitation Act.

ESRI is committed to providing the information you need to evaluate the impact of Section 508 on your GIS environment. As new information becomes available, this Section 508 -- Accessibility Internet Web Site will be updated.

Overview

Accessibility issues can occur in any level of technology. You should be aware of and understand what levels of computer technology are used in your applications. This will help you identify exposure points to investigate for potential Accessibility issues.

Custom Code	Users build or receive many custom applications
Applications and Run-Time Libraries	ESRI provides applications and runtime libraries.
Operating System	Sun Solaris, Windows 98, Windows NT, HP-UX, Digital UNIX, etc.
Hardware	Various UNIX and PC computers.
Computer systems have four layers of technology. Accessibility issues can occur at any level of technology.	

1. Hardware

Various hardware platforms have different accessibility issues. For example, the support for alternate types of keyboard and computer monitor size and resolution. Check your hardware vendor's web site and your operating system vendor's web site for Accessibility issues.

2. Operating System

The operating system handles many accessibility issues and facilitates the communication between the hardware and various assistive technologies (e.g., larger keyboards, dynamic Braille display...). For example, Microsoft Windows 98 and Windows 2000 include an Accessibility Wizard to help people adapt various operating system features to their needs. Check your operating system vendor's web site for Accessibility features.

3. Applications and Run-Time Libraries

Applications are software that run on your operating system and work with various databases. ArcInfo and ArcView are examples of ESRI applications. Applications may contain accessibility features such as keyboard shortcuts.

4. Custom Code

Custom applications are those built on top of ESRI software or that utilize ESRI software components (e.g., applications built with MapObjects or ArcInfo's ODE). It is definitely possible to build custom code that does not utilize the accessibility features of the underlying applications. For example, a custom-built user interface on top of MapObjects may not provide any keyboard short cuts for menu choices.

Summary

In order to gain a further understanding of the various technology layers at which Accessibility issues may occur, you should check your operating system vendor's web-site. A particularly good Web site for understanding these technology layers is Microsoft's Accessibility web-site:

<http://www.microsoft.com/enable/default.htm>.

ESRI Policy on Accessibility and Section 508

ESRI believes that Section 508 reinforces the use of its technology by all people and is committed to meeting the requirements and goals of Section 508 of Rehabilitation Act.

What is Section 508?

(excerpt from the Access Board website)

Section 508 is a part of the Rehabilitation Act of 1973 which requires that electronic and information technology developed, procured, maintained, or used by the Federal government be accessible to people with disabilities unless it would pose an undue burden to do so.

On August 7, 1998, President Clinton signed into law the Rehabilitation Act Amendments of 1998. These new amendments create binding and enforceable standards for all the Federal Agencies.

The enforcement provisions of Section 508 are effective as of June 25, 2001. By statute, the enforcement provisions of Section 508 apply only to electronic and information technology procured donor after the effective date.

ESRI and Section 508

ESRI believes that Section 508 is good for the GIS industry and its needs to provide GIS access to people regardless of their abilities. Our commitment to Accessibility is to support the accessibility tools provided by standard operating systems (e.g., Microsoft Windows, UNIX, etc.) as well as to build accessibility capabilities into Disjunctions across our product line.

ESRI's Accessibility strategy is to:

- Develop products, technologies, and services that are accessible and usable by all people.
- Leverage enabling accessibility technologies available in Operating Systems, Web Servers, DBMS's, when and where appropriate.
- Develop GIS-specific accessibility technologies to enable all people to use and apply GIS.
- Empower customers with information to make informed choices about the accessibility capabilities in the ESRI products they use.

Software Guide

Product	Version	Compliance
ArcInfo	8.1, 8.1.2, and 8.2	Compliant with minor issues
ArcEditor	8.1, 8.1.2, and 8.2	Compliant with minor issues
ArcView	8.1, 8.1.2, and 8.2	Compliant with minor issues
ArcView	3.3	Not compliant
ArcView	3.2x	Will not test
ArcSDE	8.1	Testing yet to be completed
ArcIMS	4.0	Compliant with minor issues
ArcIMS	3.1	Compliant with minor issues
ArcPad Application Builder	6.0	Testing yet to be completed
ArcPad	6.0	Testing yet to be completed
ArcPad	5.0	Will not test
ArcReader	8.2	Compliant with minor issues
MapObjects	2.1	Compliant
Maplex		Testing yet to be completed
ArcLogistics Route		Testing yet to be completed

ESRI has a process for testing and qualifying all of its software offerings. Our test criteria are designed around the technical standards for software applications and Web-based internet information and applications as set in §1194.21 and §1194.22 of Part 1194 Electronic and Information Technology of Accessibility Standards.

Our goal is to ensure we provide Section 508 compliant release versions (when applicable) for all ESRI software available on or after June 25, 2001. All software (ArcInfo, ArcEditor, ArcView, etc.) has a series of releases, and each individual release has its own compliance category.

Note: Older software versions (i.e., versions that are no longer being offered for sale as of June 25, 2001) will not be tested for compliance. Select from the list above for up-to-date compliance information. ESRI has classified each of its software releases into the following five categories:

Category	Description
Compliant	The software release fully meet ESRI's standard of compliance. May have a prerequisite patch for compliance.
Compliant with minor issues	The software release meets ESRI's standard of compliance with some disclosed exceptions that constitute minor issues.
Not Compliant	The software release does not meet ESRI's standard of compliance.
Testing yet to be completed	Testing for the software release is not yet complete or has not been started. Software release will be tested.
Will not test	The software release will not be tested for compliance.

ArcEditor Version 8.1, 8.1.2, and 8.2
Last updated April 23, 2002

Note: The extensions carry the "Section 508 compliance rating" of the main product.

At the time of this writing, these are the currently known issues related to section 508 compliance. This list may not be comprehensive and will be periodically updated as more information becomes available.

1. Not all dialogs provide access through keyboard equivalent. (§1194.21 (a)) The "Select by Location" and "Select by Attributes" dialogs do not let the user "tab" through the options on the dialogs from the keyboard. The mouse must be used.

Note: Keyboard alternatives are required only when the function or the result of performing a function can be represented with words. Many GIS functions (such as drawing lines on the screen) cannot be represented with words and therefore no keyboard equivalent exists for these functions.

2. Information about user interface objects (§1194.21 (d)) The main menu items in ArcMap and ArcCatalog do not provide sufficient information about the user interface elements to be reliably used with some assistive technologies (e.g., narrator).

3. Map tips and Tables do not respect user selected display attributes. (§1194.21 (g)) The Tables environment of ArcEditor does not use the system settings for font properties. However, the font used in the Tables environment can be reset from within the application itself.

The color of Map Tips text cannot be changed via global setting or through application setting and remains black.

4. Animated information shall be displayable in at least one non-animated mode. (§1194.21 (h)) ArcEditor uses a spinning (animated) globe to indicate work in progress. Currently a non-animated equivalent option is not available.

Send questions to Section508@esri.com

ArcInfo Version 8.1, 8.1.2, and 8.2
Last updated April 23, 2002

Note: The extensions carry the "Section 508 compliance rating" of the main product.

At the time of this writing, these are the currently known issues related to section 508 compliance. This list may not be comprehensive and will be periodically updated as more information becomes available.

1. Not all dialogs provide access through keyboard equivalent.(§1194.21 (a))
The "Select by Location" and "Select by Attributes" dialogs do not let the user "tab" through the options on the dialogs from the keyboard. The mouse must be used.

The ArcTools application within ArcInfo Workstation does not provide keyboard shortcuts for all menu selections.

Note: Keyboard alternatives are required only when the function or the result of performing a function can be represented with words. Many GIS functions (such as drawing lines on the screen) cannot be represented with words and therefore no keyboard equivalent exists for these functions.

2. Information about user interface objects (§1194.21 (d)) The main menu items in ArcMap and ArcCatalog do not provide sufficient information about the user interface elements to be reliably used with some assistive technologies (e.g., narrator).

3. Map tips and Tables do not respect user selected display attributes.(§1194.21 (g))

The Tables environment of ArcInfo Desktop does not use the system settings for font properties. However, the font used in the Tables environment can be reset from within the application itself.

The color of Map Tips text cannot be changed via global setting or through application setting and remains black.

4. Animated information shall be displayable in at least one non-animated mode. (§1194.21 (h))ArcInfo Desktop uses a spinning (animated) globe to indicate work in progress. Currently a non-animated equivalent option is not available.

Send questions to Section508@esri.com

ArcIMS Version 4.0
Last updated March 18, 2002

At the time of this writing, these are the currently known issues related to section 508 compliance. This list may not be comprehensive and will be periodically updated as more information becomes available.

1. ArcIMS does not use local user accessibility settings.

Send questions to Section508@esri.com

Section 6.3 Sensitivity Analysis

Resource Risk	Description
All development costs increased by factor of 2	Benefit/Cost Ratio reduced from 2.2 to 2.0
Yearly shared costs increased by factor of 2	Benefit/Cost Ratio reduced from 2.2 to 1.9
Increased, by 5%, the cost estimate to “Support adjudication and derive land status to support case processing” under NILS (this item has single largest cost savings/year of any business process)	Benefit/Cost Ratio reduced from 2.2 to 1.4
Increased <u>all</u> project direct and indirect costs by 50%. Includes Hardware Purchases/Support, Software Purchases, Contracted Project Costs, BLM Support Costs, Training Costs, and Indirect Costs	Benefit/Cost Ratio reduced from 2.2 to 1.5

Appendix 1. High-Level Gantt Chart and WBS

Appendix 2. Detailed WBS and Gantt Chart

Appendix 3. Return on Investment Summary

Appendix 4. Summary of Return on Investment Data

Appendix 5. Return on Investment Assumptions

Appendix 6. Costs and Benefits

Appendix 7. Risk Management Summary Spreadsheet and Forms

Add item 11:

Priority	Risk Statement	Project Phase	Assigned to:	Overall Risk Rating
1.	Dedicated technology lead from BLM is required	All	Staff	<i>Risk eliminated</i>
2.	Decentralized data conversion effort	All	Staff	<i>Risk static</i>
3.	Missing fundamental user requirements	All	Staff	<i>Risk decreasing</i>
4.	Late, infrequent deliverables to illustrate progress	All	Staff	<i>Risk eliminated</i>
5.	Lack of support and/or acceptance because of perceived insufficient input from multiple levels of users	All	Staff	<i>Risk eliminated</i>
6.	Tools do not enforce data model standard and business rules effectively	All	Staff	<i>Risk decreasing</i>
7.	System not capable of aggregating and splitting land units properly	All	Staff	<i>Risk decreasing</i>
8.	Changes in business rules mandated by legislation.	All	Staff	<i>Risk static</i>
9.	Freedom of Information Act mandates.	All	Staff	<i>Risk static</i>
10.	Software and procedures unfamiliar to users.	All	Staff	<i>Risk static</i>
11.	Incomplete hardware/software deployment – lack of servers, redundancy hardware, client hardware, application	All	Staff	<i>Risk static</i>

	software, etc.			
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RISK IDENTIFICATION FORM		
Project Name: NILS	Module: Parcel Management	Project Focus Area: HW/SW Specifications
Probability of Occurrence: low	Schedule Impact: none	Overall Risk Rating: low
Risk Statement (explanation): Dedicated technology lead from BLM is required		
Risk Mitigation Measures Appointed by Project manager.		
Risk Mitigation Strategy: (avoid, mitigate, or accept) Mitigate		
Identified by : NILS Team	Date Identified: 3/00	Assigned to: NILS Team

RISK IDENTIFICATION FORM		
Project Name: NILS	Module: Parcel Management	Project Focus Area: Data Modeling
Probability of Occurrence: low	Schedule Impact: ?	Overall Risk Rating: low
Risk Statement (explanation): Decentralized data conversion effort would impact schedule by creating lack of data.		
Risk Mitigation Measures: Analyze data and business rules prior to data model development. DIA Project and data modeling.		
Risk Mitigation Strategy: (avoid, mitigate, or accept) (circle one) Mitigate		
Identified by : NILS Team	Date Identified: 3/00	Assigned to: NILS Team

RISK IDENTIFICATION FORM		
Project Name: NILS	Module: Parcel Management	Project Focus Area: Requirements
Probability of Occurrence: Low	Schedule Impact: ?	Overall Risk Rating: Low
Risk Statement (explanation): <i>(describe the range of possible outcomes, expected timing, frequency)</i> Missing fundamental user requirements would require unanticipated changes to software/hardware.		
Risk Mitigation Measures: <i>(tie mitigation to the project schedule, identify each by it's Activity Id #)</i> Requirements gathering, data analysis, OOAD project management techniques.		
Risk Mitigation Strategy: <i>(avoid, mitigate, or accept) (circle one)</i> Mitigate		
Identified by : NILS Team	Date Identified: 3/00	Assigned to: NILS Team

RISK IDENTIFICATION FORM		
Project Name: NILS	Module: Parcel Management	Project Focus Area: Milestones
Probability of Occurrence: Low	Schedule Impact: ?	Overall Risk Rating: low
Risk Statement (explanation): Late, infrequent deliverables to illustrate progress		
Risk Mitigation Measures: Follow project schedule, track contractor progress.		
Risk Mitigation Strategy: <i>(avoid, mitigate, or accept) (circle one)</i> Mitigate.		
Identified by : NILS Team	Date Identified: 3/00	Assigned to: NILS Team

RISK IDENTIFICATION FORM		
Project Name: NILS	Module: Parcel Management	Project Focus Area: Requirements
Probability of Occurrence: Medium	Schedule Impact: ?	Overall Risk Rating: Low
Risk Statement (explanation): Lack of support and/or acceptance because of perceived insufficient input from multiple levels of users		
Risk Mitigation Measures: Involve users and technical experts in requirements gathering and analysis		
Risk Mitigation Strategy: (avoid, mitigate, or accept) (circle one) Mitigate		
Identified by : NILS Team	Date Identified: 3/00	Assigned to: NILS Team

RISK IDENTIFICATION FORM		
Project Name: NILS	Module: Parcel Management	Project Focus Area: Requirements
Probability of Occurrence: Low	Schedule Impact: ?	Overall Risk Rating: Low
Risk Statement (explanation): Changes in business rules mandated by legislation.		
Risk Mitigation Measures: Create reusable modular software which allows changes in business rules.		
Risk Mitigation Strategy: (avoid, mitigate, or accept) (circle one) Mitigate		
Identified by : NILS Team	Date Identified: 3/00	Assigned to: NILS Team

RISK IDENTIFICATION FORM		
Project Name: NILS	Module: Parcel Management	Project Focus Area: Requirements
Probability of Occurrence: Low	Schedule Impact: ?	Overall Risk Rating: Low
Risk Statement (explanation): Freedom of Information Act mandates.		
Risk Mitigation Measures: Create reusable modular software which allows changes in business rules.		
Risk Mitigation Strategy: <i>(avoid, mitigate, or accept)</i> <i>(circle one)</i> Mitigate		
Identified by : NILS Team	Date Identified: 3/00	Assigned to: NILS Team

RISK IDENTIFICATION FORM		
Project Name: NILS	Module: Parcel Management	Project Focus Area: Requirements
Probability of Occurrence: Low	Schedule Impact: ?	Overall Risk Rating: Low
Risk Statement (explanation): System not capable of aggregating and splitting land units properly		
Risk Mitigation Measures: Extensive modeling of section subdivision processes.		
Risk Mitigation Strategy: <i>(avoid, mitigate, or accept)</i> <i>(circle one)</i> Mitigate		
Identified by : NILS Team	Date Identified: 3/00	Assigned to: NILS Team

RISK IDENTIFICATION FORM		
Project Name: NILS	Module:Parcel Management	Project Focus Area: Requirements
Probability of Occurrence: Low	Schedule Impact: ?	Overall Risk Rating: Low
Risk Statement (explanation): Tools do not enforce data model standard and business rules effectively		
Risk Mitigation Measures: Extensive data modeling and requirement s analysis.		
Risk Mitigation Strategy: (avoid, mitigate, or accept) (circle one) Mitigate		
Identified by : NILS Team	Date Identified: 3/00	Assigned to: NILS Team

RISK IDENTIFICATION FORM		
Project Name: NILS	Module:Parcel Management	Project Focus Area:
Probability of Occurrence: Medium	Schedule Impact: ?	Overall Risk Rating: Medium
Risk Statement (explanation): Incomplete hardware/software deployment – lack of servers, redundancy hardware, client hardware, application software, etc.		
Risk Mitigation Measures: Complete and follow system architecture design		
Risk Mitigation Strategy: (avoid, mitigate, or accept) (circle one) Mitigate		
Identified by : NILS Team	Date Identified: 3/00	Assigned to: NILS Team

RISK IDENTIFICATION FORM		
Project Name: NILS	Module: Parcel Management	Project Focus Area: Training
Probability of Occurrence: Low	Schedule Impact: ?	Overall Risk Rating: Low
Risk Statement (explanation): Software and procedures unfamiliar to users.		
Risk Mitigation Measures: Effective training, training plans, Work Flow Manager		
Risk Mitigation Strategy: (avoid, mitigate, or accept) (circle one) Mitigate		
Identified by : NILS Team	Date Identified: 3/00	Assigned to: NILS Team