

SFA Modernization Partner

U. S. Department of Education Student Financial Assistance

Electronic Audited Financial Statements & Compliance Reports

Requirements Definition Document

Task Order #13

Deliverable 13.6.3

January 12, 2001



Table of Contents

- Project Background
- Review Current EAFS Process
- Primary Objectives
- Option Evaluation Criteria
- Options and Comments
- Recommendations
- Technical & Other Considerations
- Next Steps
- Appendix A – Requirements Definition



Project Background

- **Project Task** – SFA requested assistance of Modernization Partner in determining scope of the requirements necessary to collect electronic audited financial statements and compliance reports from participating institutions and their auditors. Specific purposes:
 - ◆ Identify functional and technical requirements of system.
 - ◆ Evaluate various options and provide recommendations for solution.



Project Background (continued)

- **Approach** – Modernization Partner teamed with ED personnel to review current processes, evaluate options and identify requirements under a Quick Response Task Order (Mad Dog). Key sources of information gathered and used in the evaluation process:
 - ◆ DRCC and Case Team Interviews
 - ◆ Other SFA & ED Office Interviews
 - ◆ External Agency Site Visits
 - ◆ School Focus Group Meeting



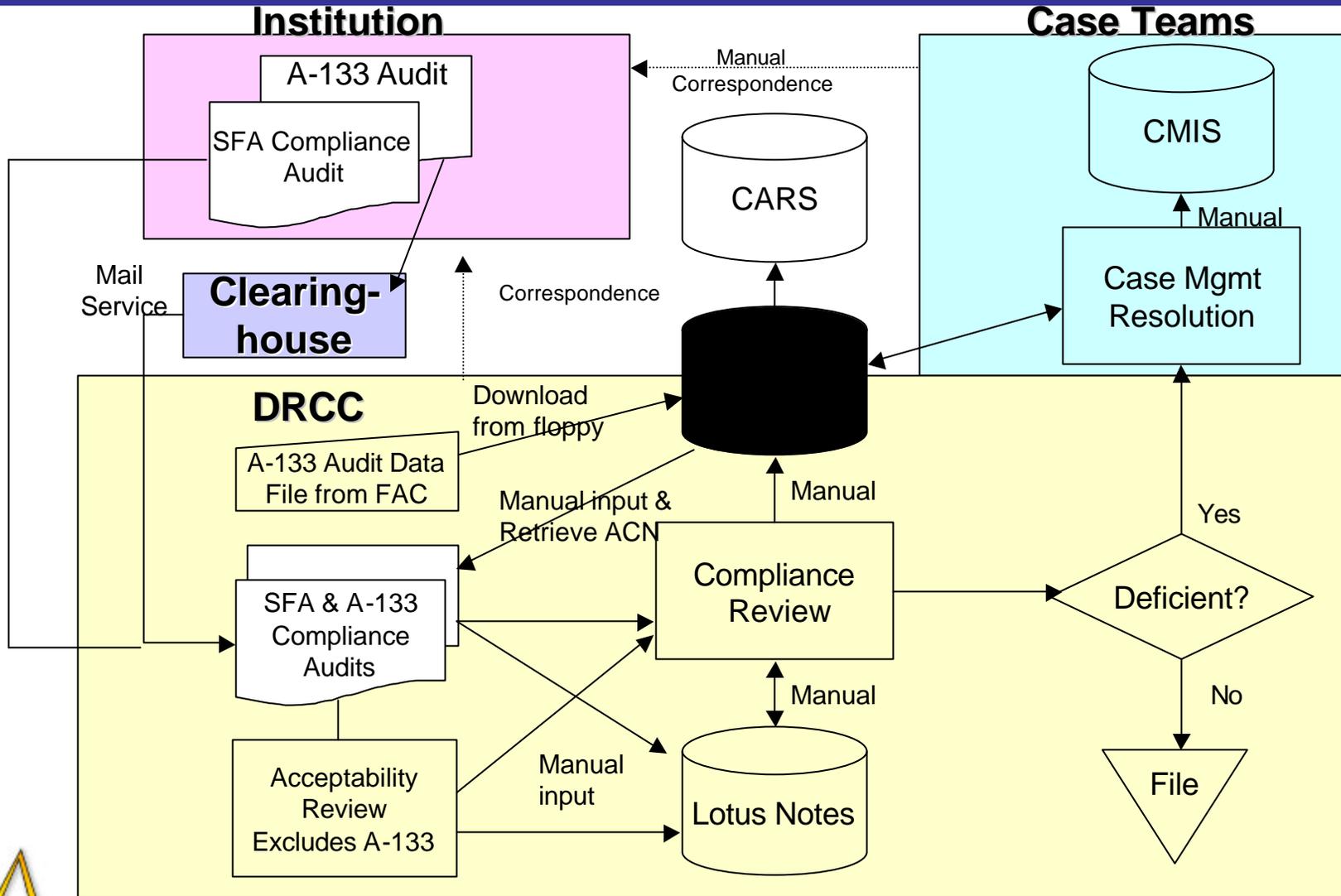
Purpose Of This Document

- Provide Overview of Current State
- Present Primary Objectives Which Integrate Into Target Architecture
- Evaluate Options for Solution
- Define Functional and Technical Requirements of System

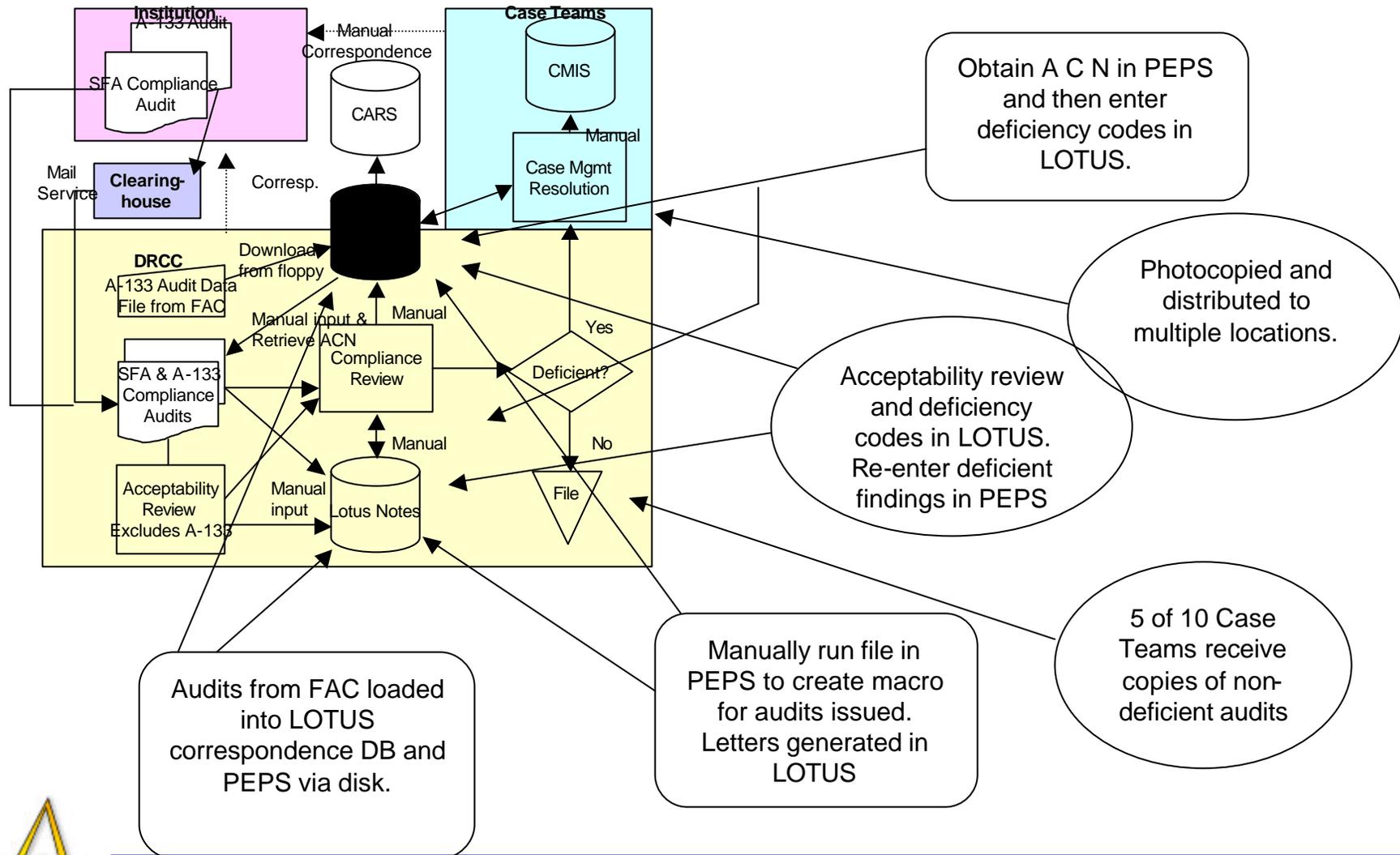
Note: This document does not provide detail design and specifications for a system.



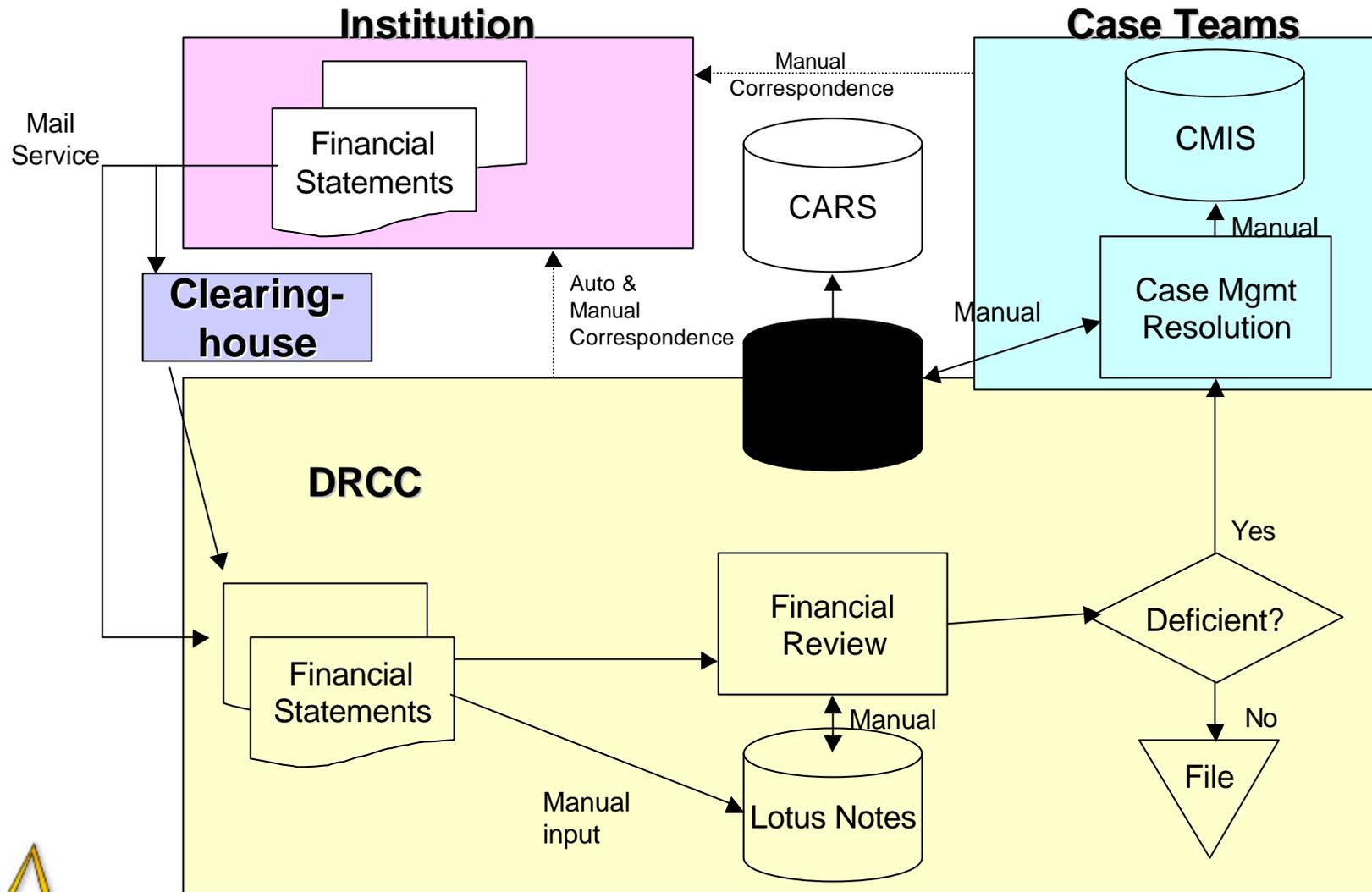
Current Process Overview



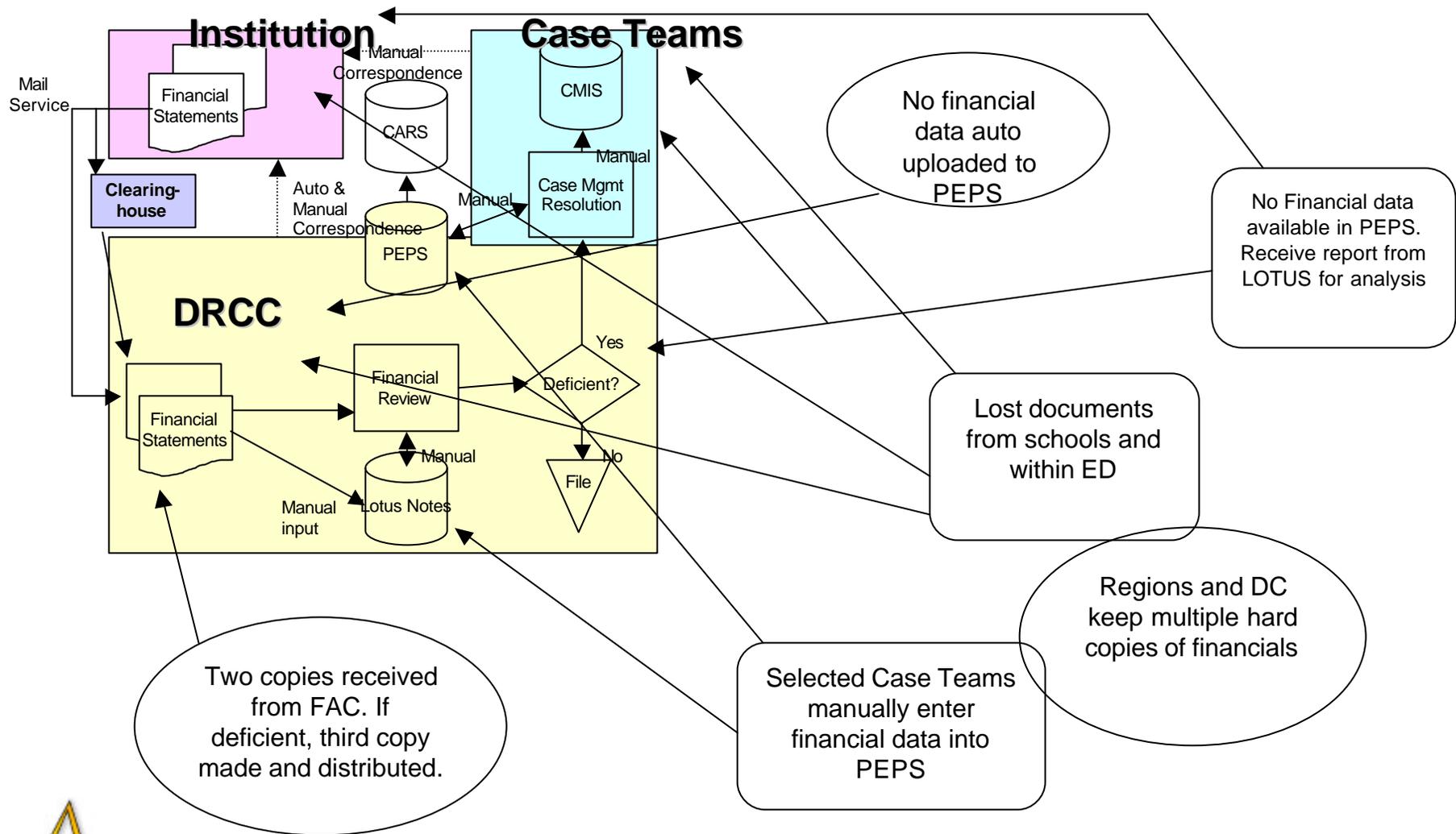
Compliance Process Issues



Current Process Overview

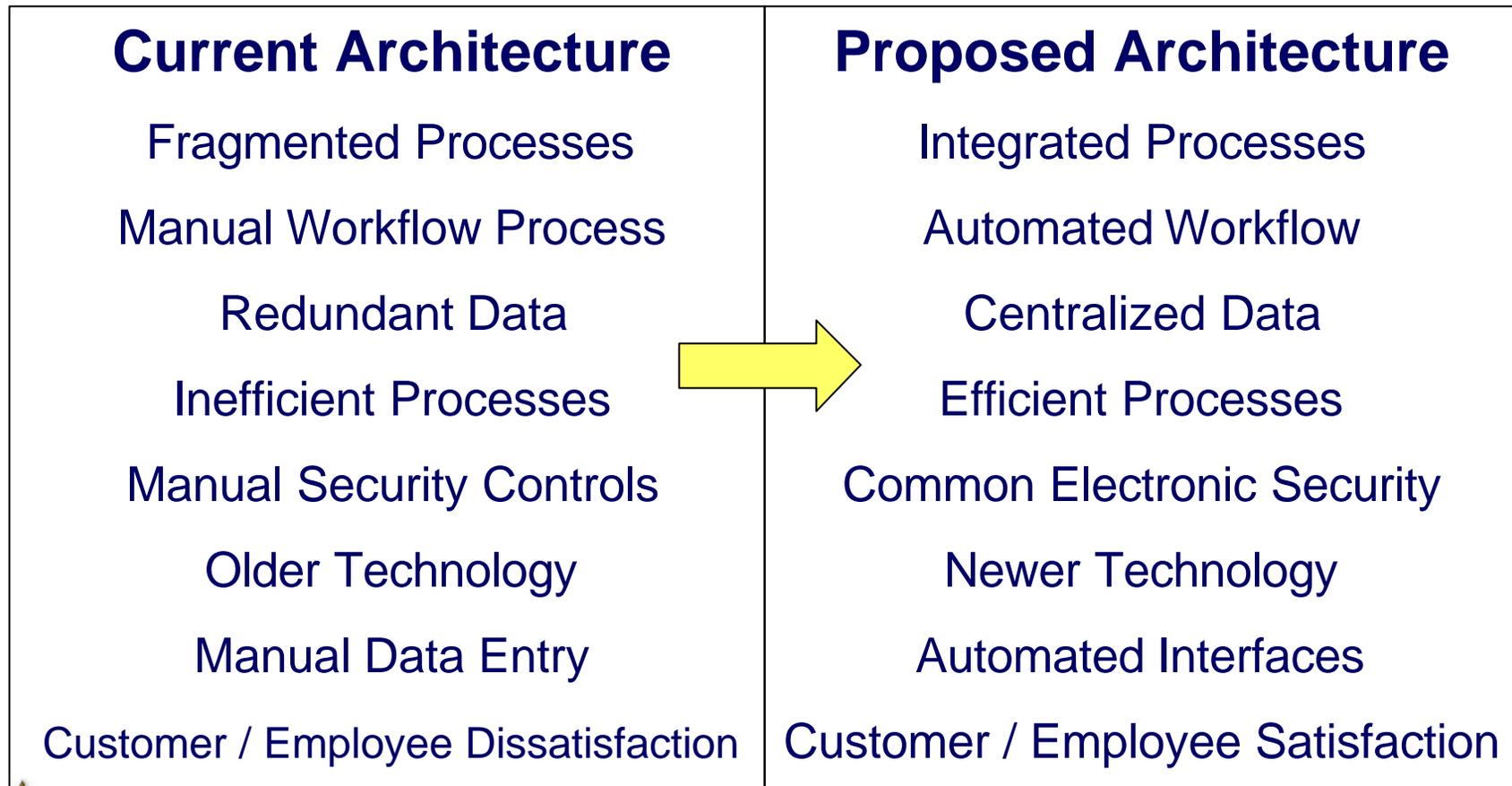


Financial Process Issues



Primary Objectives

The Primary Objectives are those listed under the Proposed Architecture.



Option Evaluation Criteria

In order to recommend a solution, potential solutions are evaluated based on their impact on the following evaluation criteria.

- ◆ Project Duration
- ◆ Complexity / Risks
- ◆ Modernization Target Architecture Integration
- ◆ Cost
- ◆ Primary Objectives



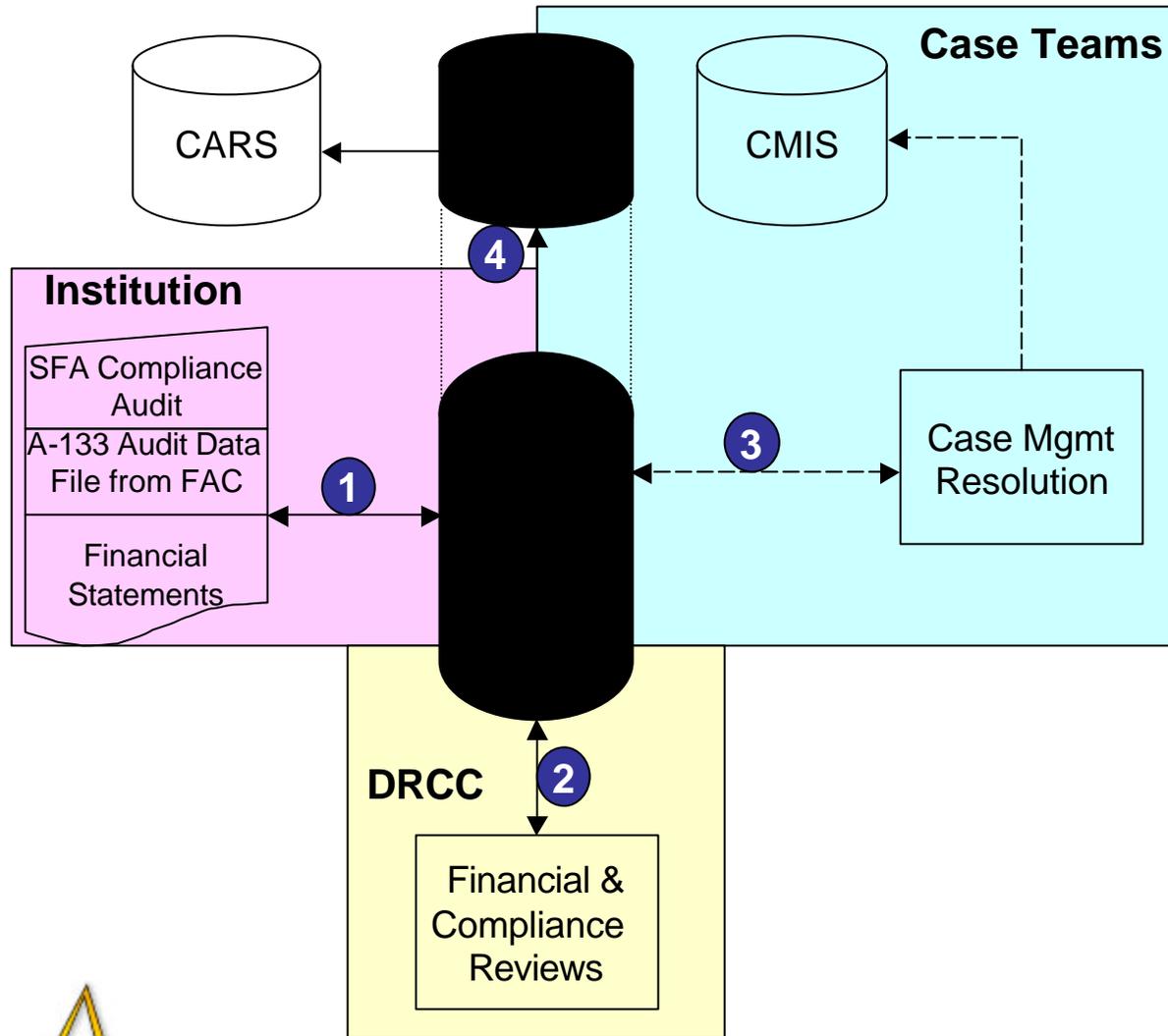
Fundamental Requirements

The following are fundamental requirements for the recommended solution based upon Modernization target state.

- ◆ Centralized Database
- ◆ Automated Workflow Process
- ◆ Common Security Module with Authorization Levels for Multiple Audiences



Areas Targeted for Evaluation



Each of the numbered interfaces will be evaluated on the pages that follow:

- 1 Institution
- 2 DRCC
- 3 Case Team (Direct)
- 4 PEPS



1

Institution Interface Options

1. **Manual Input:** Key data from hard-copy directly into New DB.
2. **Automated Download:** Develop automated download process to load data into New DB directly from the institutions (e.g. CSV flat file).
3. **Internet Transaction from Clearinghouse:** Develop web-based application for Clearinghouse to enter data into New DB and transmit documents.
4. **Internet Transaction from Institution:** Develop web-based application for institution to enter data into New DB and transmit documents.
5. **COTS Solution:** Purchase modifiable software to support #3 or #4 above.
6. **PC-based Solution:** Deploy system to institutions for data entry and transmission to New DB.



1

Institution Interface Options

	Evaluation Criteria	Manual Input	Auto Download	Web from FAC	Web from Institution	COTS Solution	PC-Based
I M P A C T	Project Duration	Low	Low	High	Medium	Medium	Medium
	Complexity / Risks	Low	Low	High	Medium	Medium	High
	Cost	Low	Low	Medium	Medium	Medium	Medium
O B J E C T I V E S	Target Architecture	Yes	Partial	Yes	Yes	Partial	Partial
	Integrated Process	No	Partial	Yes	Yes	Yes	Yes
	Reduce Redundancy	Partial	Yes	Yes	Yes	Yes	Yes
	Improve Efficiency	No	Partial	Yes	Yes	Yes	Yes
	Supports Workflow	Partial	Yes	Yes	Yes	Yes	Yes
	Security	No	Partial	Yes	Yes	Yes	Yes
	Eliminate Manual Entry	No	Yes	Yes	Yes	Yes	Yes
	Customer Satisfaction	No	Partial	No	Yes	Partial	Partial
	Total Score	10	17	15	19	17	16



1

Institution Interface Recommendation

Recommendation: Internet Transaction from Institution

- Clearinghouse will require a business process change to eliminate transmission of hardcopy
- Financial Statement and Compliance Reports will be stored with the institution data, exactly as received (not modifiable).
- Institution receives immediate notification of receipt.
- Application level security is required to identify user (login/password) and authorization level(s).
- Solution provides easy access from any internet connection, requiring only a client-side browser.

Notes:

- COTS solution is viable for this interface, but reviews are required to determine compliance with target architecture.



DRCC Interface Options

1. **Web-Based:** Develop web-based application for DRCC to perform reviews, update New DB.
2. **PC-Based:** Develop PC-based application for DRCC to download data from NewDB to perform reviews, then upload results back to NewDB.
3. **Client-Server:** Develop non-web-based application to perform reviews, update NewDB.



DRCC Interface Options

	Evaluation Criteria	Web-Based	PC-Based	Client-Server
I M P A C T	Project Duration	Medium	Medium	Medium
	Complexity / Risks	Medium	High	High
	Cost	Medium	Medium	Medium
O B J E C T I V E S	Target Architecture	Yes	Partial	Partial
	Integrated Process	Yes	Partial	Yes
	Reduce Redundancy	Yes	No	Yes
	Improve Efficiency	Yes	Partial	Yes
	Supports Workflow	Yes	Yes	Yes
	Electronic Security	Yes	Partial	Partial
	Eliminate Manual Entry	Yes	Yes	Yes
	Customer Satisfaction	Yes	Partial	Partial
	Total Score	19	11	15



Recommendation: Web-Based

- Supports elimination of Lotus Notes system/database.
- Application level security is required to identify user (login/password) and authorization level(s).
- Solution provides easy access from any internet connection, requiring only a client-side browser.

Notes:

- Since the DRCC works out of a single location, the other options were viable, but being inconsistent with the other interface solutions would create security and workflow complexities.



Case Team Interface Options

1. **Web-Based:** Develop web-based application for Case Team to perform reviews, update New DB.
2. **PC-Based:** Develop PC-based application for Case Team to download data from NewDB to perform reviews, then upload results back to NewDB.
3. **Client-Server:** Develop non-web-based application to perform reviews, update NewDB.



3

Case Team Interface Options

	Evaluation Criteria	Web-Based	PC-Based	Client-Server
I M P A C T	Project Duration	Medium	Medium	Medium
	Complexity / Risks	Medium	High	High
	Cost	Medium	Medium	Medium
O B J E C T I V E S	Target Architecture	Yes	Partial	Partial
	Integrated Process	Yes	Partial	Yes
	Reduce Redundancy	Yes	No	Yes
	Improve Efficiency	Yes	Partial	Yes
	Supports Workflow	Yes	Yes	Yes
	Electronic Security	Yes	Partial	Partial
	Eliminate Manual Entry	Yes	Yes	Yes
	Customer Satisfaction	Yes	Partial	Partial
	Total Score	19	11	15



Recommendation: Web-Based

- Direct access to shared Compliance / Financial Data and DRCC Review results
- Application level security is required to identify user (login/password) and authorization level(s).
- Solution provides easy access from any internet connection, requiring only a client-side browser.

Notes:

- Since Case Teams at remote locations, Web-Based more viable approach.



PEPS Interface Options

For purposes of this interface evaluation, PEPS represents both the current or any future schools eligibility system.

1. **Manual Input:** Key data from NewDB.
2. **Automated Download:** Develop automated batch download process to load PEPS from NewDB.
3. **Integrate:** Plug NewDB structure into PEPS database architecture.
4. **Real-time update:** Utilize DB triggers to immediately update PEPS from NewDB.



4

PEPS Interface Options

	Evaluation Criteria	Manual Input	Auto Download	Integrate	Real-Time
I M P A C T	Project Duration	Low	Low	Medium	Medium
	Complexity / Risks	Medium	Low	Medium	Low
	Cost	Low	Low	Medium	Medium
O B J E C T I V E S	Target Architecture	Yes	Yes	Yes	Yes
	Integrated Process	No	Yes	Yes	Yes
	Reduce Redundancy	No	No	Yes	No
	Improve Efficiency	No	Partial	Yes	Partial
	Supports Workflow	Yes	Yes	Yes	Yes
	Electronic Security	No	Partial	Yes	Yes
	Eliminate Manual Entry	No	Yes	Yes	Yes
	Customer Satisfaction	No	Partial	Yes	Yes
	Total Score	9	17	19	17



Recommendation: Integrate with School Eligibility Data Architecture

- Integration of NewDB with PEPS may occur with either:
 - NewDB structure actually being embedded in database; or
 - As a standalone database that can be “plugged into” Target Architecture when appropriate.
- The benefit of this option is:
 - Elimination of data redundancy
 - Structure and design has reusable components
- If redundancy is not an issue, then the batch download or real-time options are viable to maintain data integrity.

Note: Final recommendation contingent on timing and future direction of PEPS system.



Recommended Options

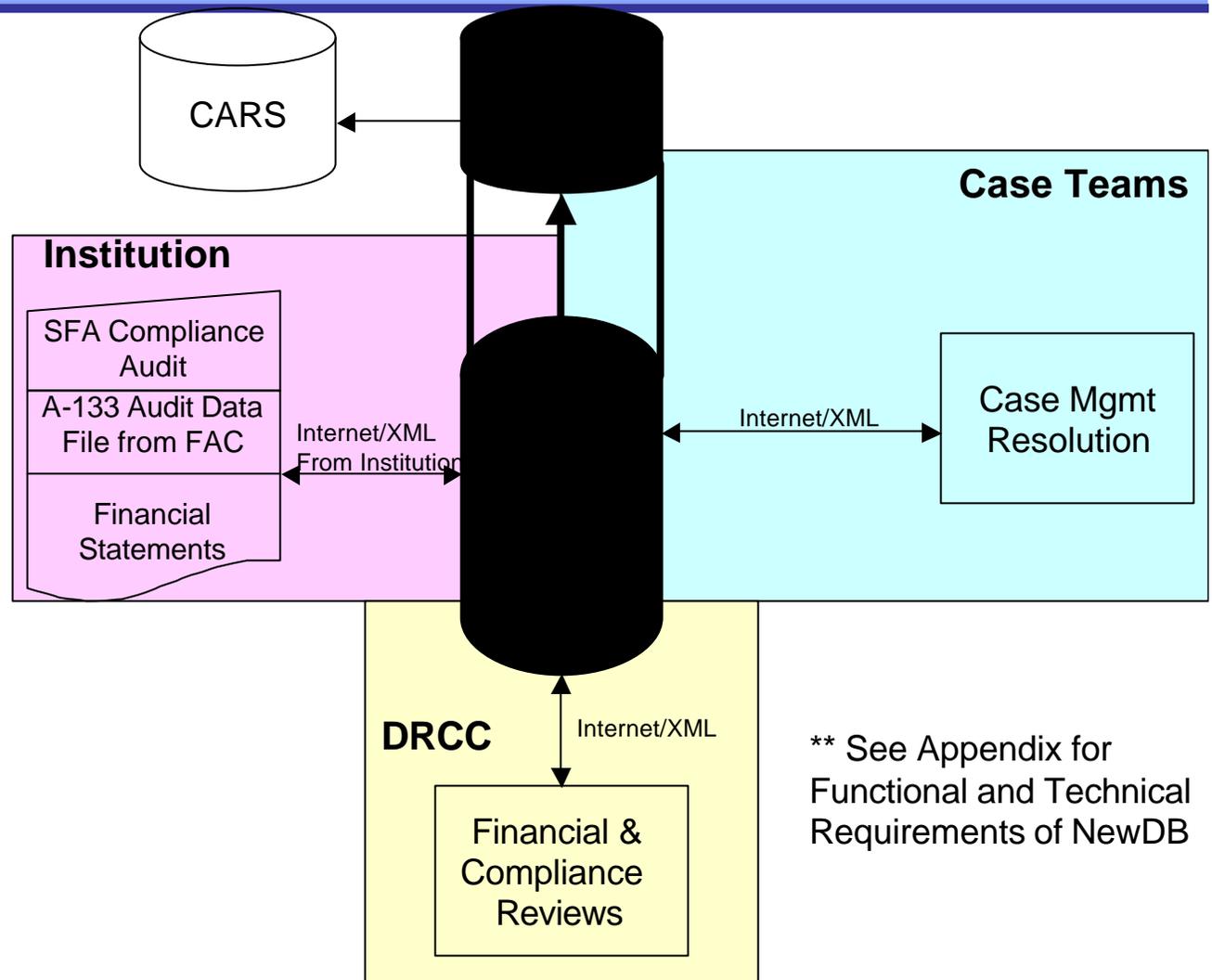
User Interface Options:

- Web-based application preferred by customers.
- If COTS meets these architecture requirements, would be viable solution.

Database / Repository Options:

- Integrate NewDB with PEPS.
- Standalone NewDB with interface with PEPS. Reusable components for future requirements.

Note: Decision on timing and future of PEPS critical to final recommendation (See next slide).



** See Appendix for Functional and Technical Requirements of NewDB



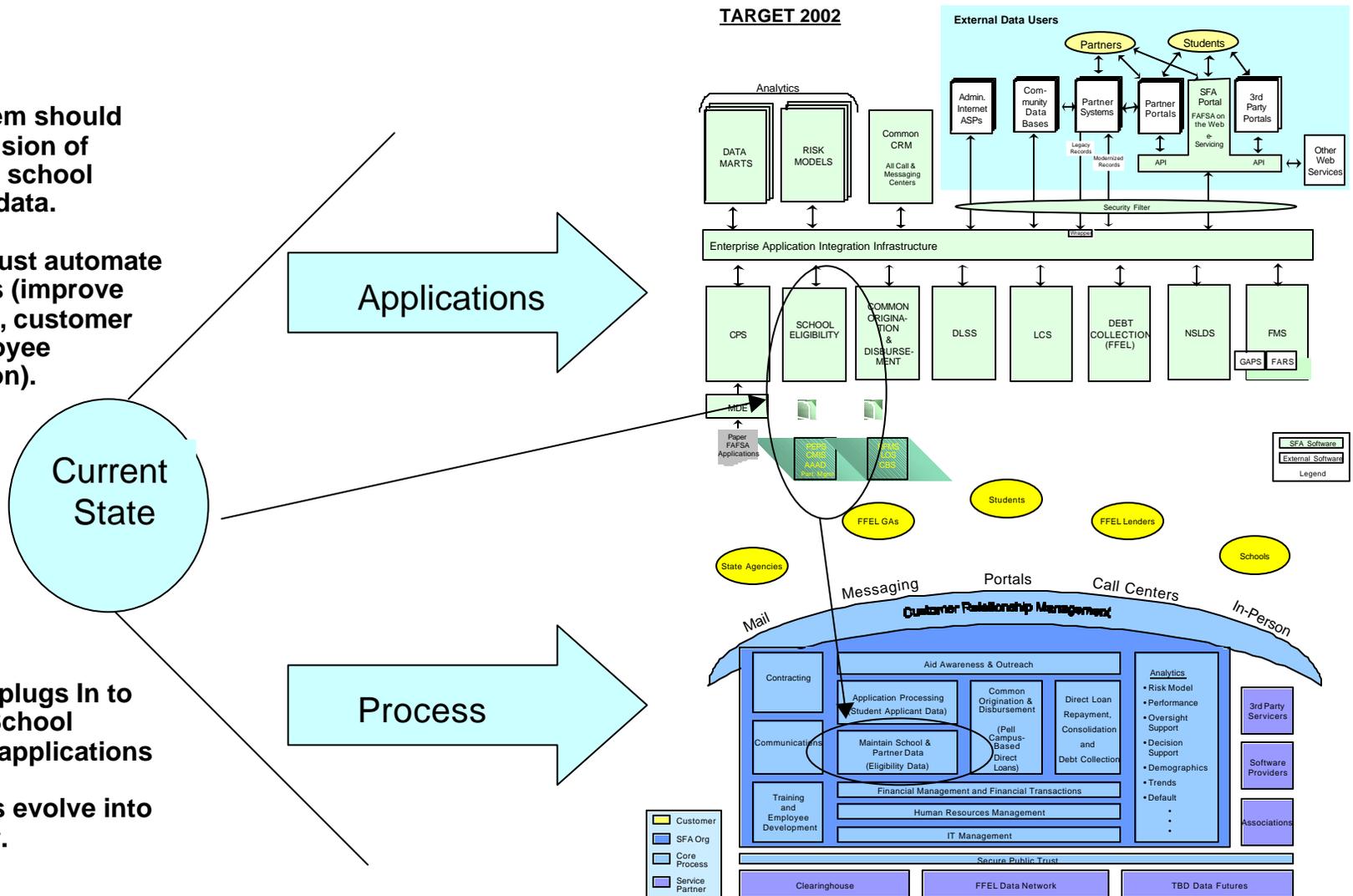
Impact of Recommended Options

Overall Options	Benefits	Impact Items
Integrate into PEPS Architecture	<ul style="list-style-type: none"> No redundancy of data Development effort for new features required under all scenarios 	<ul style="list-style-type: none"> Designed to meet PEPS architecture instead of future state Throw away components
NewDB Interfaces with PEPS	<ul style="list-style-type: none"> Developed with reusable components Can be “plugged” into PEPS and future architecture 	<ul style="list-style-type: none"> Some duplication of development effort Redundancy of data
Standalone Application	<ul style="list-style-type: none"> Developed with focus on target architecture 	<ul style="list-style-type: none"> Maintain PEPS while new application developed and deployed Interface still required for eligibility data



Move Process To Target State

- New system should support vision of integrated school eligibility data.
- System must automate processes (improve cycle time, customer and employee satisfaction).
- Database plugs In to targeted School Eligibility applications
- Processes evolve into CRM layer.



Technical Considerations

Technical details will be determined once the architectural solution is determined. Key areas will include:

Security

- ◆ Network-Level – Encryption via SSL
- ◆ Application-Level – Login/Password to determine Authorization Levels
- ◆ Database-Level – Encryption of sensitive stored data.

Tools & Technology

- ◆ Workflow software (COTS, Custom)
- ◆ Development Software (XML, Websphere, Java, etc.)
- ◆ Database (Oracle, etc.)



Technical Considerations (Cont'd)

Hardware/Network

- ◆ Based on projected user-base, number of annual submissions, data volume, and storage requirements, the HW/NW impact is minimal.
- ◆ Redundant n-tiered architecture specification
- ◆ Firewall requirements
- ◆ Network bandwidth requirements



Other Considerations

Potential Impact on Functionality:

- ◆ Standardization of Balance Sheet and Income Statement Data Elements
- ◆ Timeframe for Clearinghouse move to electronic environment
- ◆ Evolution of Extensible Business Reporting Language (XBRL)
- ◆ Future Plans for PEPS
- ◆ Initial Data Load requirements (conversion, pre-load of historical data, development of applications to load data, etc.)
- ◆ Workflow package determination – Custom or COTS



Next Steps

- Make decision on future of PEPS
- Approve recommendations
- Develop business case
- Begin DSG and IRB process



Appendix

Functional and Technical Requirements

