



ACTS to ARCSIS

Planning A Phased Migration



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Goals and Objectives

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- Economy
 - Usability
 - Adaptability & Scalability
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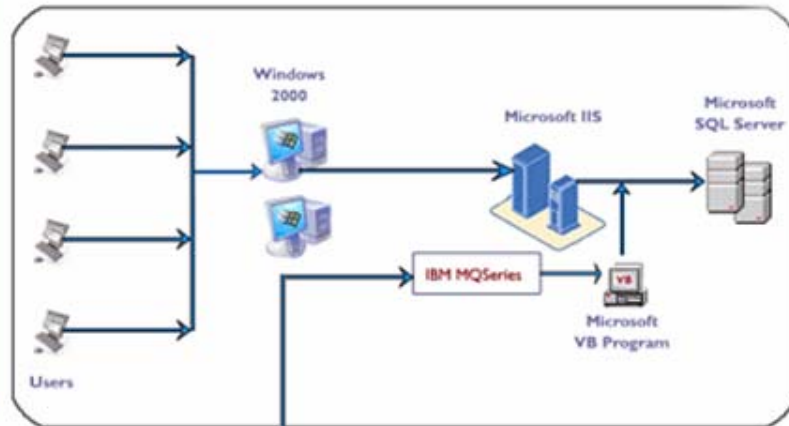


Prior to Planning the Phases

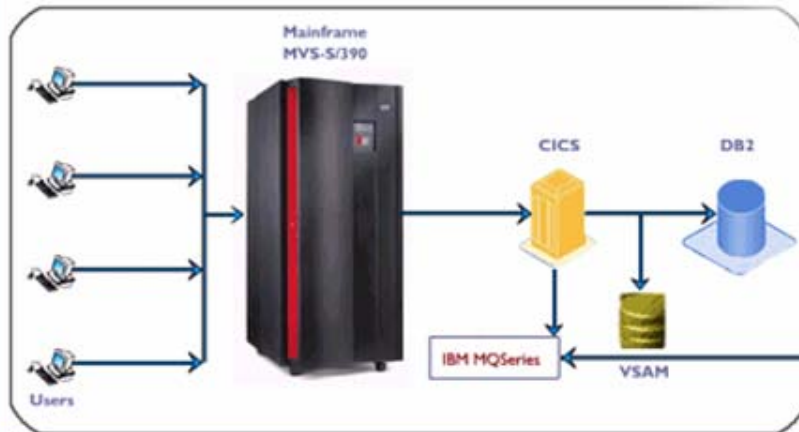
- Finalization of the high-level Architectural Framework for the technical environment.
 - Use proven, well-supported, low-risk and mature technology for migration.
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What worked for Arkansas OCSE....

ARCSIS (Arkansas Child Support Information System)



ACTS (Arkansas Child Support Tracking System)




7 Steps Followed in Planning

- 1. Identify the phases of the project;
- 2. Determine and document the business and technical reasons for the timing of implementation of each phase;
- 3. Completely identify the functional boundaries of each phase;
- 4. Understand and completely architect the implementation of all phases;
- 5. Perform a consistency analysis to ensure that the phases do not have inconsistent implementation dependencies;
- 6. Prioritize implementation phases in the order of risk;
- 7. Clearly explain the plan to the stakeholders with a detailed analysis of risks, to ensure buy-in and support.



Step 1. Identify the phases of the project.

- What are the sections that belong together?
 - What is a logical “breaking point” for different modules?
 - Rate the visibility level of the phase; low, medium, or high visibility.
 - Rate the migration risk level of the phase: low, medium, or high risk.
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Example of One Defined Phase

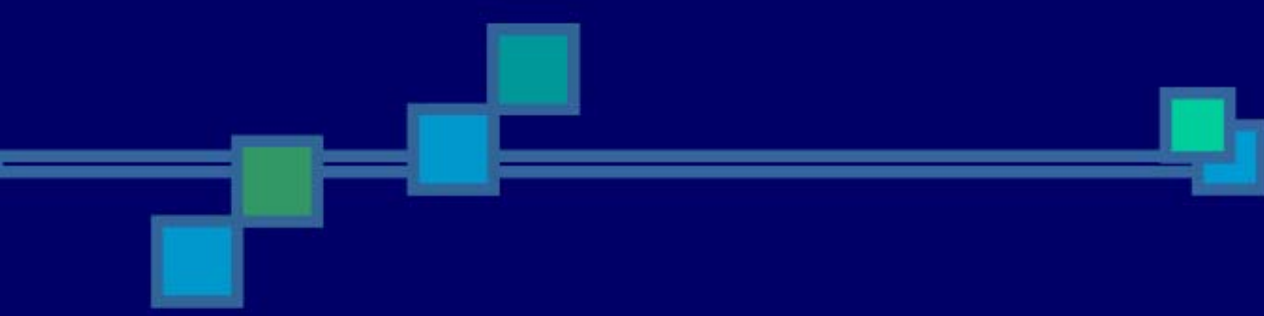
First, complete the low-complexity and low-risk, high-visibility implementations:

Example – Phase 1


- A core subset of operational and management reports that were widely used were chosen for this purpose.
- The manual distribution of these reports and the fact that they were not available in a timely manner were the driving factors in choosing these for initial implementation.
- Using MSSQLServer, ASP/Vstudio, online reports were created with a drilldown (data mining) facility, replacing reports that were previously manual or batch and had no detail data.
 - OCSE-157
 - OCSE-34
 - Performance Summary Reports (Color Coded – with AR county level data)
- Standardization of UI and navigation architectures: Standards for screen displays, navigation, user interface architecture and error messages were all customized based upon feedback from the users.
- Awareness, Fine-tuning and Resolution of Network Issues: Network issues related to access, bandwidth and security were also identified and resolved.

Example – Phase 1 (Cont.)

- Establish User Awareness and Buy-In: The implementation of these reports exposed users to the benefits of this technology in a low-key approach which were:
 - Easy accessibility and navigation:
 - On-line report views demonstrated the easy accessibility that this technology provided.
 - GUI features
 - The drill-down, point-and-click features familiarized the users with the enormous paradigm shift from “green-screens” and batch reports to GUI features and benefits including immediate audit ability and on-screen access to key data.
 - Reduced costs of operation
 - Expensive DB2 costs were substantially reduced.
- Awareness, Fine-tuning and Resolution of Network Issues: Network issues related to access, bandwidth and security were also identified and resolved.



Step 2. Determine and document the business and technical reasons for the timing of implementation of each phase.





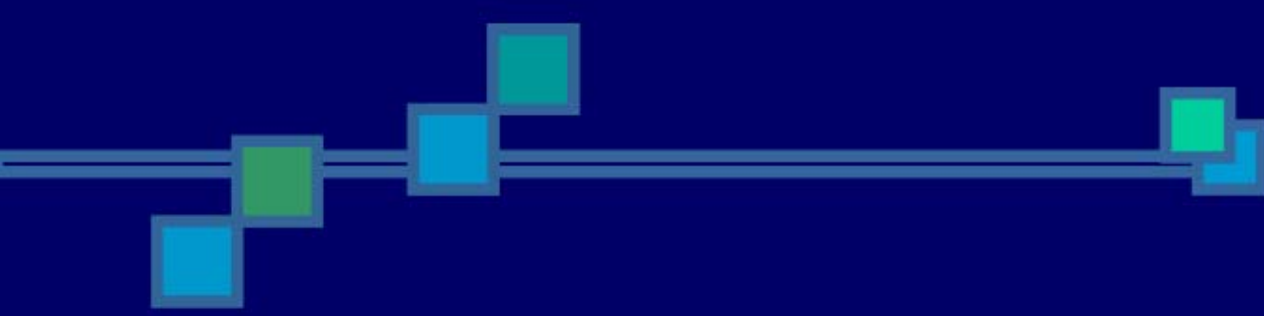
Step 3. Completely identify the functional boundaries of each phase.






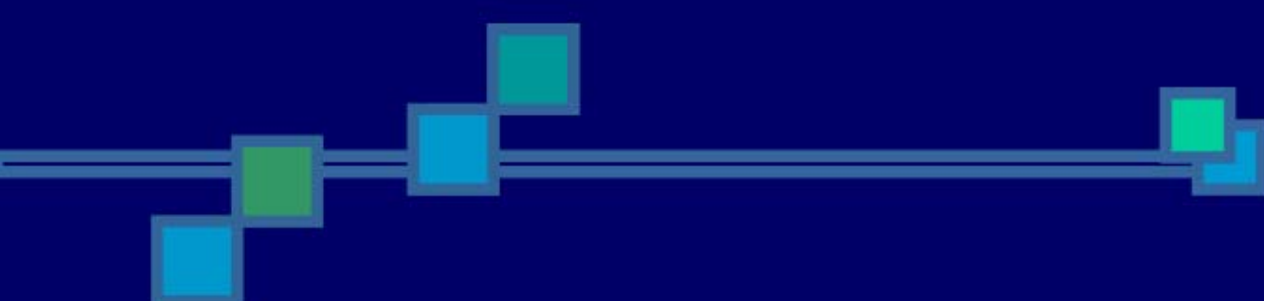
Step 4. Understand and completely architect the implementation of all phases.




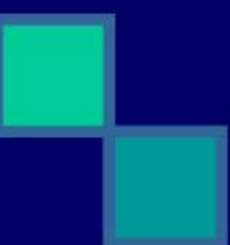


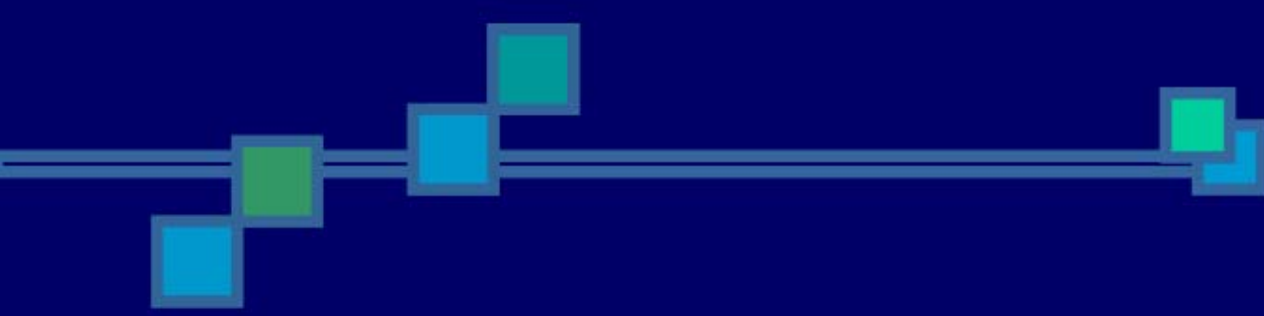
Step 5. Perform a consistency analysis to ensure that the phases do not have inconsistent implementation dependencies.






Step 6. Prioritize implementation phases in order of risk






Step 7. Clearly explain the plan to stakeholders with a detailed analysis of risks to ensure buy-in and support.





2 Key Success Factors for Arkansas OCSE IS

- An Iterative Approach to Requirements Specification
 - An Iterative Approach to Data Conversion
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An Iterative Approach to Requirements Specification

“We do not know what we don’t want until we see it.”

- More discussion and demonstration at “inch-pebble” levels of granularity.
 - Our experience has been that it is not only necessary to have more communication with users but to prepare for the reality that the requirements are subject to change due to subtle variations in the understanding of key concepts between IT groups and the user – it can get worse as the level of detail increases.
 - Arkansas OCSE IT used ultra-rapid iterative development used to validate requirements. Entire subsystem prototypes were built and demonstrated before they were accepted or rejected.

An Iterative Approach to Requirements Specification (cont.)

"You cannot read your way into success."

- Controlled levels of documentation
 - Lightweight documentation was essential for precise communication of concepts. Once both sides felt comfortable with the level of documentation, more detail was added by the implementers as the mutual understanding of the requirements increased thus making the validation of the documents by the user group much easier.
- Focus on best-practices from other states.
 - What have others done to address similar business issues? Try to avoid "re-inventing the wheel".

An Iterative Approach to Data Conversion

1. The level of complexity and the variation of complexity was assessed according to:
 - a. Data reliability
 - b. Criticality of the functionality to the overall business (ex.- record of distribution vs. 3rd party insurance codes)
 - c. Potential for ambiguity (ex.- Case type, Case action, Arrears, etc)
2. "Conversion clusters", groups of data that can be converted as a group at the same time, were identified. User input was combined with the broad and deep business process knowledge that the vendor brought to the table to identify these clusters.
3. Business needs were clearly identified, and conversion risks were identified in JAD sessions with users. These were phased and prioritized.
4. A detailed project plan was developed that provides the timelines and parameters for the project.

An Iterative Approach to Data Conversion (cont.)

5. "Spike" programming was used to provide proofs-of-concept for conversion viability. These were programs that create rough-cut converted data that were used to validate requirements and ensure that the whole team had consistent ideas on the conversion process and paradigms
6. Requirements were grouped into phases and each phase is thoroughly documented; a requirements document, general design document and detailed design document is provided for user approval and signoff. The detailed documents were provided to the development group for coding, implementation and validation.
7. Thorough testing was performed on all aspects of conversion development and done in parallel with the development process. Automated test scripts were generated and executed to ensure integrity of conversion.

Defined Phases for Arkansas

Low Risk Phases

OCSE-34, 157, Performance
Visibility - High

All Other Reports
Visibility - High/Medium

Data Conversion Version 1
Visibility - Medium

Key Notices Generation
Visibility - Medium/Low

Middleware integration -
Mainframe, SQL Server Link
Visibility - Low

High Risk Phases

Data Modeling/Optimization
Visibility - High

Financials Online - Version 1
Visibility - High/Medium

Financials Batch - Version 1
Visibility - Medium

Complete & Test Financial
Data Conversion
Visibility - Medium/Low

Non IV-D Programming /
Conversion
Visibility - Low

Medium Risk Phases

All Notices; Establishment
and Enforcement workflows
Visibility - High

Case Initiation Online
Visibility - High/Medium

Case Management Online
Visibility - Medium

Batch Monitoring Programs
Visibility - Medium/Low

Interfaces & Locate
Visibility - Low

Checkmarks

- ✓ High Visibility phases were done first as they gave us the most insight into the acceptability of the implementation processes and allowed the greatest possible review of the process by a wide spectrum of stakeholders.
- ✓ Mistakes were revealed early in the process and allowed us more time for corrections
- ✓ Subsequent risk-category phases were conducted in parallel with the current phases as our confidence in and stability of the methodology grew.

Checkmarks – (cont.)

- ✓ Each phase was treated as a complete development cycle up to User Acceptance Testing.
- ✓ All phases in a risk category moved to production at one point of time.
- ✓ Testing was a continuous and integral part of the lifecycle. Fully converted data was used for nearly 70% of the system and user testing.

Checkmarks – (cont.)

- ✓ Standards were evolving initially and stabilized long before the high-risk phase started.
- ✓ The high-risk phase was done before the medium-risk phase because the functional composition of the subsystems allowed this sequential refactoring in neat pieces.
- ✓ Emphasis on Iterative Approach

Checkmarks – (cont.)

- ✓ Sub optimization was avoided by referring to a master plan and stabilized data models (ERWIN modeler).
- ✓ Data models were re-engineered based on PRWORA regulations and the varieties of user experience with the legacy system thus re-engineering the system operation to be more efficient and exploiting the advantages of new technology.

Checkmarks – (cont.)

- ✓ The high-risk phase was done before the medium-risk phase because it covered a wider spectrum of the database and provided a better validation of the methodology.
- ✓ In addition, the State was under a PRWORA mandate to implement SDU and non-IV-D processing. This resulted in the SDU implementation dovetailing with the financial implementation - SDU could not be completed unless the financials were.

Next Steps for ARCSIS:

- Imaging and Document Management –
Goal: “Expedite communication and allow immediate access to documents in centralized manner to enable better customer service”
- High-Performance Locate Automation
- Detailed Performance Reporting throughout the lifecycle of a Case (OLAP program more efficient, problem resolution,)

Next Steps for ARCSIS(cont):

- Comprehensive self-service child support websites for CPs, NCPs, Employers and other stakeholders.
- Interagency Collaboration Efforts
- Refactor the system into platform-independent WebServices. Initial target is .NET & J2EE.
- Use BPM software to allow CSE to manage, measure, and gather more intelligence on the performance of internal business processes.



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