Child Support Systems

"Identifying Alternatives for Replacement Systems"

a presentation by the Office of Child Support Enforcement

Our Guests Today Are:

- ## Nancy Starling Ross

President, PSI Technologies (a Division of PSI, Inc.)

- ## Joseph Bodmer

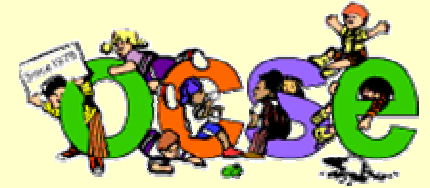*Senior IT Specialist, OCSE*

Our Topics Today Are:

- **Aging Platforms And Architectures**
  State paths to redesigning their systems

- **When Redesign Isn't Enough**
  Developing a new CSE system

- **Common Planning Mistakes To Avoid**
  A discussion of examples of mistakes that can cause rework, or worse, rejection of your Feasibility Study

Aging Platforms and Architectures

- **State paths to redesigning their systems**

  Data Warehousing and data marts
  Graphical User Interfaces and redesigned front-ends
  Database replacements
  Document generation and imaging
  Enterprise architectures and Object-oriententation

State paths to redesigning their systems

Data Warehousing and Data Marts

Who: AR, MI, NC, FL, WI, WA, WY, VT, etc.
How: APD's, SIP Grants
Why: Program incentives, performance, research
When: Most have taken 1-3 years to implement fully
Where: http://www.acf.hhs.gov/programs/cse/stsys/tab7.htm
Costs: Development - $500,000 to $5,000,000
             M&O - $50,000 to $500,000 annually
Risks: Though not terribly expensive, they require
              detailed planning and design, or costs soar.

State paths to redesigning their systems

Graphical User Interfaces and Front-ends

Who: ME, MI, NH, MA, TX, FL, MD, etc.
How: APD's
Why: Most are Browser-based using Java, XML
When: Most have taken 2-3 years to implement fully
Where: http://www.igs.net/~mjw/xgd/
Costs: Development - $3,000,000 to $20,000,000
              M&O - $200,000 to $2,000,000 annually
Risks: Detailed planning and design work is critical
              to success. Ensure resources are committed.

State paths to redesigning their systems

Database Replacements

Who: MI, FL, MA, etc.
How: APD's
Why: Need for relational versus heirarchical or flat
When: Most have taken 2-3 years to implement
Where: http://www.rpbourret.com/xml/XMLAndDatabases.htm
Costs: Development - $10,000,000 to $30,000,000
               M&O - $2,000,000 to $25,000,000 annually
Risks: Though expensive, without detailed planning,
               design, and testing, risks and costs can soar.

State paths to redesigning their systems

Document Generation and Imaging

Who: FL, MI, SD, WI, HI, etc.
How: APD's
Why: Improved system performance, lower costs
When: Most have taken 1-1½ years to implement
Where: http://www.knowledgestorm.com/search/keyword/
              document%20imaging/GAW03/document%20imaging
Costs: Development - $200,000 to $5,000,000
              M&O - $50,000 to $500,000 annually
Risks: Though not real expensive, careful planning is
              needed to ensure future support for product.

State paths to redesigning their systems

Enterprise Architectures and Object Orientation

Who: FL, TX, LA

How: APD's

Why: Ease of maintenance, code reuse, lower costs

When: None have yet been implemented; unknown

Where: http://www.sei.cmu.edu/str/descriptions/distcoll.html

Costs: Development - $20,000,000 to $100,000,000
          M&O - $5,000,000 to $25,000,000 annually

Risks: Expensive, complex platforms. Multiple
          interdependent components. New technology.

Our Topics Today Are:

- **Aging Platforms And Architectures**
  State paths to redesigning their systems

- **When Redesign Isn't Enough**
  Developing a new CSE system

- **Common Planning Mistakes To Avoid**
  A discussion of examples of mistakes that can cause rework, or worse, rejection of your Feasibility Study

When Redesign Isn't Enough:

Developing A New CSE System

- **<u>Planning Phase Funding</u>**
  A *Planning APD* can provide needed funding for conducting detailed analyses of the available options – including hiring a contractor to help

- **<u>Conduct Rigorous Planning</u>**
  Conduct a Feasibility Studies, including an Analyses of Alternatives with a Cost-Benefit Analysis of each alternative being considered

Developing A New CSE System:

Step 1: The Requirements Definition

- **<u>Document program functional requirements</u>**
  - ✓ Many requirements are already defined in your current automated CSE system

- **<u>System architecture requirements</u>**
  - ✓ Document current architecture, future directions,
  - ✓ Define leading edge, not bleeding edge
  - ✓ Conduct market surveys and look at vendor support

Developing A New CSE System:

Step 1: The Requirements Definition

- **Operations and Maintenance Requirements**
  - ✓ Consider who will maintain your system
  - ✓ What platforms can/will your State support

- **Document your organizational requirements**
  - ✓ State administered? County operated? Clerks? DA's?
  - ✓ County or State infrastructures: telecom, networks
  - ✓ Numbers of users, locations, unique issues such as geography

Developing A New CSE System:

Step 1: The Requirements Definition

- **<u>Risk Management</u>**
  - ✓ Define your assumptions and constraints
  - ✓ Define the risks: technical, program, cost, resources, support

- **<u>Define procurement strategies</u>**
  - ✓ In-house, body-shop, or prime contractor support
  - ✓ Ensure competition in all procurement strategies
  - ✓ Create evaluation criteria and weighting = Selection

Developing A New CSE System:

Step 2: The Feasibility Study

- **Allow for broad consideration of all alternatives**

  - ✓ State system transfer, new system development, major redesign of your current system, a hybrid approach

  - ✓ Identify the universe of potential transfer candidates

Developing A New CSE System:

Step 2: The Feasibility Study

- **<u>Create Evaluation Criteria – High and Low level</u>**
  - ✓ Create high level criteria based on requirements definition
  - ✓ Create weighting of high level criteria
  - ✓ Create detailed (low level) evaluation criteria that build upon and further define high level criteria – be consistent
  - ✓ Create weighting for evaluation scoring of the detailed, low level evaluation criteria – again, be consistent
  - ✓ Consider using questionnaire or other user-friendly format for evaluation process – include systems and program staff as evaluators

Child Support Systems
"Identifying Alternatives for Replacement Systems"

Developing A New CSE System:

Step 3: The Alternatives Analysis

- **<u>Define and narrow your options</u>**

  - ✓ Using the high-level criteria – narrow the potential universe of transfer candidates

  - ✓ Visit the remaining viable transfer candidates – score them using the detailed, low-level weighted evaluation criteria and/or questionnaires

Developing A New CSE System:

Step 3: The Alternatives Analysis

- ### **Create other alternative(s) – New Development, Hybrid, Redesign**

  - ✓ Ensure consistency – define each alternative to the same level of detail as was used to evaluate the transfer candidates

- ### **Select the two or three most viable, highest scoring alternatives**

  - ✓ Transfer doesn't necessarily need to make the cut of the two or three most viable – but it must have been considered

Developing A New CSE System:

Step 3: The Alternatives Analysis

- ## Document and evaluate the status quo
  - ✓ Document the costs, benefits of the current automation
  - ✓ Score the status quo using the already defined, low-level, weighted evaluation criteria used for the alternatives

- ## Score, including a cost-benefit analysis, each alternative
  - ✓ Use detailed, low-level weighted criteria, now including weighting for costs and benefits, and rescore the two or three viable alternatives against the status quo.

Developing A New CSE System:

Step 3: The Alternatives Analysis

- ### <u>Pick a winner and document everything you did</u>

  - ✓ Prepare all documentation for Federal review

  - ✓ Prepare a summary for inclusion in the upcoming Implementation Advance Planning Document

  - ✓ Bear in mind that when you have alternatives that are extremely close in scoring, creating what is essentially a "toss-up", the state can select either of the alternatives

  - ✓ Only when the choice is clear will the Federal government challenge a failure to select the most cost-beneficial, efficient and effective solution

New Jersey's IT Challenges:

◎ **Conduct Feasibility Study While Assuring All Federal Criteria For Such Studies Are Addressed**

◎ **Address Need For Cost Reasonableness While Achieving System Effectiveness**

◎ **Move The State Forward Into A New, Supportable Technical Architecture**

◎ **Leverage Existing State And Contractor Skills and Resources**

◎ **Develop and Deploy A Single CSE System**

New Jersey's Planning Phase:

Still In The Planning Phase

- ✓ **Requirements analysis was completed based on current system functionality and new program and system requirements**

- ✓ **Feasibility Study and Analysis of Alternatives completed and submitted to Federal OCSE**

- ✓ **Alternatives examined were a system transfer, a whole new development effort and a hybrid of the two**

New Jersey's Planning Phase:

Current Status

- ✓ **Submitted Feasibility Study to OCSE in October 2003**

- ✓ **OCSE conducted a detailed IV&V review of the Feasibility Study**

- ✓ **The IV&V review took 2 weeks of documentation review by OCSE of the Feasibility Study prior to a 3-day on-site review.**

New Jersey's Planning Phase:

Current Status

- ✓ **The on-site review included interviews of State and contractor staff who performed the Feasibility Study as well as performing collection of more financial and evaluation criteria data and analysis information.**

- ✓ **OCSE subsequently spent 5 more weeks analyzing the data collected on-site and compiling their report of findings.**

New Jersey's Planning Phase:

Current Status

- ✓ **OCSE accepted the Feasibility Study in a report submitted to the State in March 2004.**

- ✓ **OCSE's IV&V report included findings of errors and recommendations for perfecting inaccuracies found**

- ✓ **Primary OCSE recommendation was that if after correcting errors the system alternative didn't change, then to submit an IAPD**

New Jersey's Planning Phase:

Current Status

✓ **State submitted an Implementation APD to OCSE in July 2004. It is under review.**

✓ **A Request for Proposal is under final preparation and review. We hope to release the RFP to the vendor community in the coming months. The RFP will also first require CSE review and approval before it's release for bids. OCSE has promised an expedited review.**
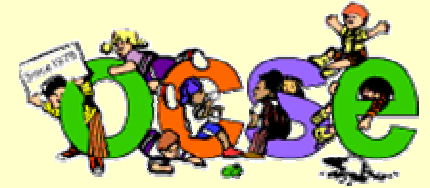
Our Topics Today Are:

- **Aging Platforms And Architectures**
  State paths to redesigning their systems

- **When Redesign Isn't Enough**
  Developing a new CSE system

- **Common Planning Mistakes To Avoid**
  A discussion of examples of mistakes that can cause rework, or worse, rejection of your Feasibility Study

Common Mistakes In Planning

What are the five factors that OCSE examines as part of its IV&V efforts

- ✓ Accuracy
- ✓ Measurability
- ✓ Repeatability
- ✓ Consistency
- ✓ Reasonableness

Common Mistakes In Planning

Mistakes: Inaccuracy

- ✓ Mathematical errors
- ✓ Incorrect formulae and algorithms
- ✓ Carryover errors compounded
- ✓ Missing math executions

Common Mistakes In Planning

Mistakes: Lack of Measurability

✓ Missing or unpublished sources

✓ Lack of explanation for decisions

✓ Assumptions used versus real data

✓ Personal experience as foundation

✓ Assumptions and constraints are undefined

Common Mistakes In Planning

Mistakes: Lack of Repeatability

- ✓ Missing data sources
- ✓ Missing formulae and algorithms
- ✓ Answers lack underlying math
- ✓ Assumptions and constraints are undocumented
- ✓ Personal experience as foundation

Common Mistakes In Planning

Mistakes: Lack of Consistency

- ✓ Same underlying sources not used
- ✓ Inconsistent application of criteria used in evaluating alternatives
- ✓ Weighting changes over time
- ✓ Different evaluators used for each of the various alternatives examined

Common Mistakes In Planning

Mistakes: Lack of Reasonableness

- ✓ Weighting variation is too extreme
- ✓ Unreasonable assumptions
- ✓ Too few criteria or lack of critical evaluation criteria (risk)
- ✓ Double counting of scores, benefits, etc., by using criteria different in name only

Common Mistakes In Planning

How does OCSE analyze the Study?

- ✓ "What-if" analyses (scoring, criteria)
- ✓ Correct math errors and recalculate
- ✓ Eliminate unsupported scoring, faulty benefits, unfounded assumptions)
- ✓ Determine if errors are cumulative, and if so, whether Study is fatally flawed

Common Mistakes In Planning

What happens after OCSE's IV&V?

- ✓ A report is issued to the State
- ✓ The report will explain the weaknesses found, ask they be corrected, and:
  - ➢ If the resultant selection didn't change, to submit an IAPD as soon as possible
  - ➢ If the result did change, well ….
  - ➢ IAPD's receive Federal funding approval, not Feasibility Studies

Questions and Answers

Thanks to our Guests:

- **Nancy Starling Ross**

  President, PSI Technologies (a Division of PSI, Inc.)

- **Joseph Bodmer**

  Senior IT Specialist, OCSE

Child Support Systems

"Identifying Alternatives for Replacement Systems"

... and ...

Thank You