Agenda Item 11

MEETING DATE: January 17, 2018

SUBJECT: Investment Accounting System Report

SUBMITTED FOR: Consent Deliberation and Action Receive X and File

RECOMMENDATION

Staff recommends the Board receive and file the Investment Accounting System presentation by Chris Spurrell, Castle Peak Associates.

PURPOSE

Inform the Board of the results of the Investment Accounting System requirements analysis and solution strategy project recently completed.

DISCUSSION

As noted in the Background section below, Castle Peak Associates Principal Chris Spurrell has been engaged by SCERS to assist with the procurement of an Investment Accounting System (IAS) project. Mr. Spurrell’s and Castle Peak’s qualifications include more than 20 years of experience in investment accounting and related disciplines for retirement systems and large institutional clients.

The objectives of the requirements analysis effort, in addition to increasing SCERS staff understanding of the IAS market system solutions, include:

- Document current processes and tools
- Identify requirements for an improved investment accounting system
- Identify risks and constraints
- Develop solution alternatives
- Determine a preferred solution architecture and target operating model

The findings and recommendation of the project are summarized in the attached presentation and are described in more detail in the Final Report (available on request).

Additional phases of the IAS modernization will continue over the coming 18 months. The exact schedule will depend upon balancing accounting staff resource demand with other
modernization projects including the new Pension Administration System and the Financial Management System.

The next planned IAS project is the issuance and evaluation of Requests for Information. This project will begin to provide the additional detail necessary for more accurate budgeting and scheduling of the actual implementation.

SCERS staff will present plans and budget for the next phase of the investment accounting system project at the February 2018 Board meeting.

BACKGROUND

The SCERS Strategic Plan 2014-2018 identifies the need for modernization of IT systems to improve efficiency and reliability of business processes in the benefits and accounting operations and to improve self-service for members and benefit recipients.

The Investment Accounting System (highlighted in the blue box on the diagram below) is one of the components of the IT Modernization Program.

![IT Modernization Program Plan](image)

The procurement of new financial systems, including investment accounting, was initially part of the consulting agreement with Linea Solutions. After Linea began work further discussions revealed a level of subject matter complexity beyond Linea’s in-house skill base and it was decided to remove the financial systems from the Linea scope.
Castle Peak Associates was engaged by SCERS to assist with the Investment Accounting Systems project(s). Their initial engagement is to identify system requirements and alternative solution strategies.

**ATTACHMENTS**

Presentation by Chris Spurrell, Castle Peak Associates

Prepared by: ___________________________  Reviewed by: ___________________________

/S/ Stephen Hawley  
Chief Strategy Officer  
/S/ Eric Stern  
Chief Executive Officer
Investment Accounting System

Requirements and Solution Strategy Project

Chris Spurrell, Principal
CASTLE PEAK ASSOCIATES
Agenda

– Background
– Project Objectives
– Project Approach
– Project team
– Current State
– Risks Constraints and Capabilities
– Solution Options
– Next Steps
## Background

### IT Modernization Program Plan

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Modernization Projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT Modernization Consultant (Linea)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pension Administration System</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Build</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support/Maintain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Conversion (ICON)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Website Modernization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replace</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment Accounting System</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements/Solution Strategy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Request for Information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Request for Proposals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Reporting System</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Background

• SCERS' Strategic Goals (from Strategic Plan 2014 – 2018)
  – Goal Four: Fiscal Responsibility includes the following:
    • Assure high quality fiscal analysis and reporting, and make that information readily accessible to SCERS’ stakeholders.
    • Evaluate opportunities to update financial systems and tools to enhance analysis and reporting to internal and external customers.
    • Establish, where appropriate, SCERS’ capability to address its own financial management and operational needs
  – Goal Five: Risk Management includes the following:
    • Enhance SCERS’ investment risk management by developing an investment operational due diligence capacity, independent of SCERS’ investment consultant and strategic investment partners.
Project Objectives

- Document Current State Process
- Define Requirements for Investment Accounting
- Identify Risks and Constraints
- Develop Solution Alternatives
- Determine a Preferred Solution Alternative and Target Operating Model
Project Approach

- Analyzed and documented investment holdings, account structures, accounting processes, data and systems.
- Developed requirements and scope.
- Identified risks, constraints and capabilities.
- Developed 4 options as candidate target operating models
- Researched vendors
  - Identified representative vendors.
  - Researched capabilities.
  - Held demonstrations.
  - Solicited tentative non-binding pricing.
- Conducted solution analysis
  - Identified advantages and disadvantages of each approach
  - Created high level tentative cost estimates for each approach
  - Developed Recommendation
- Developed suggested future state target operating model
## Project Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chris Spurrell</td>
<td>Castle Peak Associates</td>
<td>Core Team: Consultant</td>
</tr>
<tr>
<td>Thuyet Dang</td>
<td>SCERS</td>
<td>Core Team: Primary Investment Accounting Subject Matter Expert</td>
</tr>
<tr>
<td>Steve Davis</td>
<td>SCERS</td>
<td>Core Team: Primary Investment Management Subject Matter Expert</td>
</tr>
<tr>
<td>Steve Hawley</td>
<td>SCERS</td>
<td>Core Team: Program Management Oversight</td>
</tr>
<tr>
<td>Brian Miller</td>
<td>SCERS</td>
<td>Core Team: Investment Management Subject Matter Expert</td>
</tr>
<tr>
<td>Xee Vang</td>
<td>SCERS</td>
<td>Investment Accounting Subject Matter Expert</td>
</tr>
<tr>
<td>Joycy Escobar</td>
<td>SCERS</td>
<td>Investment Accounting Subject Matter Expert</td>
</tr>
</tbody>
</table>
Current State System and Data Flow

<table>
<thead>
<tr>
<th>Investment Accounting</th>
<th>Current State Data Flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager</td>
<td>Bank</td>
</tr>
<tr>
<td>Liquid Manager</td>
<td>Custody System</td>
</tr>
<tr>
<td>Manual Manager</td>
<td></td>
</tr>
</tbody>
</table>

- Separate flows for public (liquid) and private (manual) managers
- Public (Liquid) manager data flows to and through custodian
- Private (Manual) manager accounting performed in spreadsheets by SCERS and fed back to custodian
- SCERS Workflow provides:
  - Bank and ledger account mapping/reclass
  - Consistent security classification
  - Consolidation across quarterly reporting period
  - Basis for internal (ledger/subledger) reconciliation
- Drawbacks:
  - Labor intensive manual process
  - Dependent on MS Access database and multiple linked spreadsheets that require quarterly partial rebuild and update
  - Cumbersome and challenging to maintain
  - Limited ability to respond to change
  - Limited ability to provide timely and accurate information
Current State Process Overlay

Processes are generally distributed over multiple system components, providing a graphical illustration of the complexity of SCERS Investment Accounting process.

Drawbacks:
- Labor intensive manual process
- Dependent on MS Access database and multiple linked spreadsheets that require quarterly partial rebuild and update
- Cumbersome and challenging to maintain
- Limited ability to respond to change
- Limited ability to provide timely and accurate information
Risks Constraints and Capabilities

The following table summarizes the key findings from that exercise.

<table>
<thead>
<tr>
<th>Primary Constraints</th>
<th>1. Limited staffing.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Limited in-house technology capability.</td>
</tr>
<tr>
<td></td>
<td>3. Limited data availability from manual managers and limited ability of the custodian to record private market activity to SCERS’ requirements.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary Risks</th>
<th>1. Accounting function for Private Manager (private market) Assets based on complex set of spreadsheets.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Custodian limitations mean that Manual Manager (private market) entries are provided to them by SCERS staff.</td>
</tr>
<tr>
<td></td>
<td>3. Heavy reliance on a complex set of spreadsheets and a MS Access Database to support investment accounting and necessary controls.</td>
</tr>
</tbody>
</table>

These constraints and risks leave SCERS at risk relative to the accuracy, timeliness, scope and depth of its Investment Accounting and Reporting. It also leaves SCERS poorly positioned to respond to the needs of Senior Management, the Board and the Investment Office as SCERS continues to develop its strategies to meet required rates of return.
## Solution Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Key Points</th>
<th>Tentative Annual Cost</th>
<th>Order of Preference</th>
</tr>
</thead>
</table>
| Shadow Accounting    | ▪ Leverages expertise and capabilities of a Managed Services partner.  
▪ Provides appropriate reconciliation & control.  
▪ Improves capabilities and capacity for growth.                                                                    | $350k - $800k          | 1. Potentially complete solution at reasonable cost.                                                   |
| Warehouse Plus       | ▪ Replaces current infrastructure with robust industry standard warehouse.  
▪ Solves for Manual Manager (private market) accounting.  
▪ Solves for some technical risks.  
▪ Only supports current process capabilities.  
▪ Requires integration and maintenance.  
▪ Requires a reconciliation tool.                                                                                       | $400k-$750k           | 2. Less complete solution at similar cost – akin to re-platforming the current process.              |
| Best of Breed        | ▪ Potentially solves for all asset classes and fund types.  
▪ Requires multiple systems.  
▪ Requires integration and maintenance.  
▪ Requires a data integration platform.  
▪ Requires a reconciliation tool.                                                                                       | $500k-$1.8m+          | 3. Better functionality at higher cost with higher integration and maintenance demands.              |
| Custom Development   | ▪ Best case replicates current state at low cost using better technology  
▪ Worst case creates uncontrollable cost and ongoing maintenance requirement.                                                | $200k-$1.5m+          | 4. Assessed as highest risk and potentially highest cost.                                             |

1 Vendors were approached for tentative and non-binding pricing; these estimates combine those prices with estimates of additional costs for support and maintenance.
Next Steps

– Engage with vendors that can meet SCERS' preferred solution requirements.
– Issue an Request for Information (RFI) and conduct further due diligence to ensure that vendors can meet requirements for all asset classes and account structures.
– Reassess and confirm the preferred solution alternative.
– Issue Request for Proposal (RFP) and evaluate responses.
– Recommend a vendor to the Board.