

LECG SMART

COP000372



August 15, 2008

Honorable Mayor Luke Ravenstahl
City of Pittsburgh
512 City- County Building
Pittsburgh, Pennsylvania 15219

Honorable Dan Onorato, County Executive
Allegheny County
436 Grant Street, Room 101
Pittsburgh, PA 15219

Dear Mayor Ravenstahl and County Executive Onorato:

As your staff is aware, under the auspices of the Act 47 Coordinator, SMART studied how the independent authorities, the City of Pittsburgh, Allegheny County, the Port Authority of Allegheny County, and the Pittsburgh City Schools can effectively roll their now independent Information Technology (IT) operations into a single organization. We produced a plan, entitled Western Pennsylvania Shared Services Assessment, and delivered that plan to the Act 47 Coordinator and to your key administrators in April, 2008.

There is great potential to save money, increase service levels and improve operations for all of the IT operations within the authorities, the City and the County. Our recommendations included the need to create a shared organization to level the "ownership" issue between governments. The so-called Shared Services Organization (SSO) would be created, and run by a Steering Committee to assure that everyone has equal ownership in the planning and operation of the organization that can serve multiple governments in an equal and even handed way. However, the pending decision by the City to purchase an updated ERP system is a key moment in time. The SSO would have to be created and participate in that decision to make this work.

It appears the SSO concept, with equal ownership and collaboration, is of interest to both the City and County as a way to save money, improve service and to demonstrate to the public the wisdom of moving towards more shared city/county services. It certainly aligns with the vision of the Nordenberg Commission, the Act 47 Recovery Plan for the City, and the Commonwealth's encouragement of increased joint working between counties and cities across the state.

Below you will find our recommendations on what it will take to plan, implement and operationalize a Shared Services Organization (SSO) jointly owned/operated through a legal agreement with the County and the City. There are three immediate tasks ahead including:

Task	Weeks	Deadline
1. Confirm Shared Services Strategy	1-2	Early- Sept
2. Develop Blueprint on Approach	2-8	October 21
3. Finalize Detailed Workplan	4-8	October 21
4. Gain Final Approvals	7-8	October 28
Summary (Assumes early September Start Date)		10/28/2008

Task 1: Confirm Understanding of a Shared Vision with Mayor/County Executive Team

The confirmation will cover all critical decision points for the authorities, City and County including:

- A. Validate what IT services will be shared by whom, and when
- B. Confirm type of organization that the City, the County and others including the Authorities can use to get secure critical IT services



- C. Focus on Information Technology as the first tenant. The SSO will be designed in a way that multiple services can be supported in the future. The first series of IT services will likely be phased in over a 6 -24 month period of time
- D. Assess how the new City ERP will integrate into the SSO, prior to procurement

Task 2 - Prepare a Blueprint to Create a SSO (6-8 weeks)

A detailed blueprint is needed to create a SSO and an agreed upon approach to accomplish that goal. A detailed Blueprint lays out the strategy, the governance model (SSO), the IT services to be shared, service level benchmarks, and the general approach to how people, technology and services will be migrated. The blueprint becomes an essential "appendix" to whatever legal agreement the City and County legal counsels feel are needed to share services. The Blueprint will be prepared with key involvement with respective executive staffs, CIOs, Budget and Accounting Directors, the Authorities and other key stakeholders. *The Blueprint will require the signature of the Mayor and the County Executive as the top sponsors.*

Task 3 – Prepare Detailed Implementation Plan (5 weeks - concurrent with above)

To ensure success, a detailed workplan in Microsoft Project Workbench will be prepared that reflects the strategy agreed upon in the blueprint. The workplan will assign tasks to City/County executives, create a Steering Committee, and generally lay out the logistics of what needs to be done, by whom and by when to establish the SSO. The plan will cover legal, bargaining unit, civil service and retirement issues, as well as procurement, management and financial considerations. The plan will identify dates for completion including a targeted startup of first quarter, 2009.

Task 4: - Gain Final City and County Approval of Blueprint and Workplan (1-2 weeks)

This task is by no means a routine one. If the Executive Sponsors – the Mayor and the County Executive - approve both plans, the SSO can become a reality as early as the first quarter in 2009.

To begin, we respectfully ask for a meeting with Mayor Ravenstahl and County Executive Onorato to discuss this plan. We sincerely believe a joint Shared Services Organization starting with IT services and eventually including other services sends the most powerful and compelling message that can be sent at this critical time in demonstrating how local governments can work together well in advance of any organization consolidation.

Sincerely,

Charles J. Woods
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cc:

Yarone Zober, Chief of Staff to Mayor Ravenstahl
Arthur Victor, Director of Operations
Kathleen McKenzie, Chief of Staff to County Executive Onorato
James Flynn, County Administrator
James Roberts, Eckert Seamans, Act 47
Dean Kaplan, PFM, Act 47
Fred Reddig, Executive Director, Governor's Center for Local Government Services



September 21, 2008

Honorable Mayor Luke Ravenstahl
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Honorable Dan Onorato, County Executive
Allegheny County
436 Grant Street, Room 101
Pittsburgh, PA 15219

Dear Mayor Ravenstahl and County Executive Onorato:

This letter is a response to your request for additional detail on our proposed approach. On August 15, 2008, we sent a letter describing a proposed approach to save significant tax dollars, increase service levels and improve Information Technology operations within the independently operating authorities, the City of Pittsburgh, and Allegheny County.

The attached engagement letter provides an outline on what it will take to plan, implement and deploy a "shared services organization" to support commonly needed IT services in any grouping of these organizations. It also lays out a foundation for the City and County in particular to share a future Enterprise Resource Planning (ERP) application as a common denominator for the SSO. *The decision on whether to include the independent Authorities into the planning also needs to be made.*

The proposed work summarized below would be the next step in planning how the City and the County, and perhaps the Authorities can begin to evolve a workable Shared Services Organization (SSO).. Late in 2007, SMART Business Advisory and Consulting (SMART) was engaged by the Act 47 team, managed by Eckert Seamans and Public Financial Management (PFM), to conduct an independent assessment of the feasibility of introducing a Shared Services delivery model within eight different Pittsburgh-area organizations, and to provide high-level recommendations regarding implementing such a model. The scope of shared services primarily focused on Information Technology infrastructure and IT support of enterprise software, recognizing that as IT services migrate to a shared delivery model, additional administrative and operational business functions might subsequently follow that model. The eight governmental organizations within the scope of the assessment included

- The City of Pittsburgh and its four independent Authorities: the Parking Authority, the Water and Sewer Authority, the Sports and Entertainment Authority, and the Urban Redevelopment Authority
- Three other major Allegheny County public services organizations: the Allegheny County government, the Port Authority, and the School District

The assessment utilized web-based surveys to perform initial data collection efforts from both an IT and an Administrative Services perspective. The data was summarized and report was issued to the City and County via Eckert Seamans in April, 2008.

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To confirm that the project stays true to City and County objectives, and thereby limit risk, we are recommending that the next work effort be addressed in two stages. The first stage would focus on defining a workable shared services arrangement and organization structure that is feasible and practical as well as consistent with your goals and objectives. The second stage would focus on the details of implementation and transition. In this letter, we focus on Stage 1.

The results of the first stage assessment will be discussed with you and your designated Project Leaders with the aim of forming a consensus on a shared services organization structure. We will also ascertain and document any specific guiding principals that you would want to have govern the next set of activities which would include the development of governance materials and plans for implementation and transition.

We propose to perform this assessment over a six to eight week period beginning on October 1, 2008. If this proposal is approved, we would need to impose an aggressive schedule of data gathering and interviews in October. We would plan to document our analysis and present our findings in the latter half of November. The team performing the work would consist of myself, Scott Barr and Jeanette Gang with some added assistance from Charles Gerhards, the former CIO for the Commonwealth.

At that point, assuming you are comfortable with the results of Stage 1, we would present, at that time, a time line of similar duration and a corresponding approach for the detailed governance, implementation and transition plans. We would expect that timeline to be a similar amount of time (e.g. 6-8 weeks) beginning in November, 2008 and finishing by late 2008 or early 2009.

I have attached a detailed approach, workplan and cost estimate. As the firm who completed the work for the concept of the SSO organization, we look forward to helping the City and County quickly bring a working model into existence to demonstrate the power and economies of working more closely together for common back office services. We would like to have a meeting with you, and your lead people as soon as possible.

The work effort for Stage 1 involves 8 weeks of SMART team effort. The combined cost including travel is \$90,000. We look forward to talking directly with the City and County as soon as possible. SMART would only need a "Notice to Proceed" to begin work either from the City or the County. Thank you again for this extraordinary opportunity to demonstrate to the citizens how the City and County is committed to a future with more service at less cost.

Sincerely,

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Project Approach

Defining the structure of the shared services organization is a critical first step. As explained in our letter of August 15, the shared services organization would be created and run by a Steering Committee to provide for equal ownership in the planning and operation of the organization. However, even with that important provision, there are several alternatives for the structure of the shared services organization; and there are a number of important areas that will need to be considered in selecting an option that will meet both the near and longer term needs of the City and County.

As the important first stage of the project, we will help the City and County in choosing an organizational construct that will allow both entities to meet their financial and performance goals. We will begin by understanding what each of you see as the goals of the shared services organization and the factors by which you will measure its success. With that information in hand, we will explore a number of criteria and their implications related to six distinct organizational options. We will assess and evaluate the ramifications of a shared services organization which is created and alternatively:

- Defined as part of City government
- Defined as part of County government
- Attached to an existing independent government association
- Combined with a new public or private or entity
- Outsourced to an existing private or quasi-private entity

To properly evaluate these alternatives, we will need to understand, at a fairly detailed level, the implications of many factors as related to each option. This would include but not be limited to:

- The latitude the City and County have in defining a new organization with a legal entity status
- The legal or regulatory restrictions associated with existing charters or other governing documents
- The constraints or complications imposed by existing personnel, civil service and/or labor agreements
- The issues related to transfer of current assets as well as the ownership of future assets
- The extent to which the option would dictate where, geographically, the organization would be located and the corresponding implications the location would have on the previously listed items
- The likely public reaction and corresponding political impact

To explore the required areas, we will need to meet with and obtain key information from a variety of City and County officials, including executives from your respective legal, HR (including Labor Relations/Civil Service), financial, procurement, and IT departments.



Deliverables

The outcome of the first stage of the project will be an assessment of alternatives for a Shared Services Organization structure, including:

- A description of the potential for each option to meet your collective and documented goals and criteria for success
- A analysis of critical legal, HR, financial, support services, geographic, political and procurement implications
- A ranking of alternatives based upon feasibility and potential for success
- A description of tasks that will need to be undertaken and obstacles that will need to be overcome to successfully implement any of the alternatives that meet the stated goals and objectives

As the deliverables are drafted, we will work closely and iteratively with your respective staffs to be sure they are in support of the contents of the plans. A formal presentation would be given to you at the end of November, 2008. At that time, a more detailed Implementation Plan can be prepared.

Detailed Work Plan

We envision the project involving two stages; 1) Define a SSO Model, and when completed, 2) Implementation and Transition Plan. *We believe the first stage will need to be completed and have the full sign off of the affected organizations before stage two can be completed.*

Stage I – Identify Shared Services Organization (SSO)

The SMART team has included additional detail of our helping the City and the County plan the optimal approach to developing, organizing and operationalizing the SSO. Our approach has two primary work stages. Stage I focuses upon the discovery and evaluation activities that will help us identify what is legally, administratively, technically and politically feasible in terms of the likely candidate for the SSO organization. The second stage, which can begin in later in November/December, 2008 will be centered on the Implementation Plan for the preferred SSO organizations.

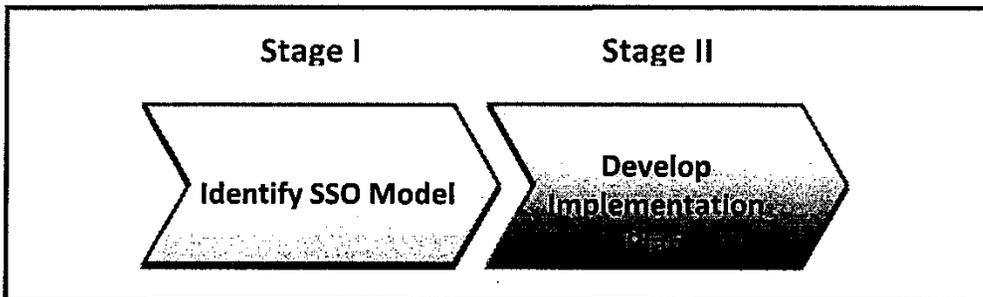


Figure 1 - High-Level Project Approach

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We separated these activities into two work stages because the Implementation Plan is wholly dependent on decisions coming from Stage 1. SMART will make every effort to leverage findings from previously completed shared services studies, audits, strategies and assessments to minimize disruption to the City/County management and IT personnel during this project. A more detailed view of the Stage 1 activities follows:

Stage I - Identify SSO Model

The following illustration shows the various steps and tasks the SMART Team will follow to complete the project. A more detailed explanation of the key steps and tasks follows.

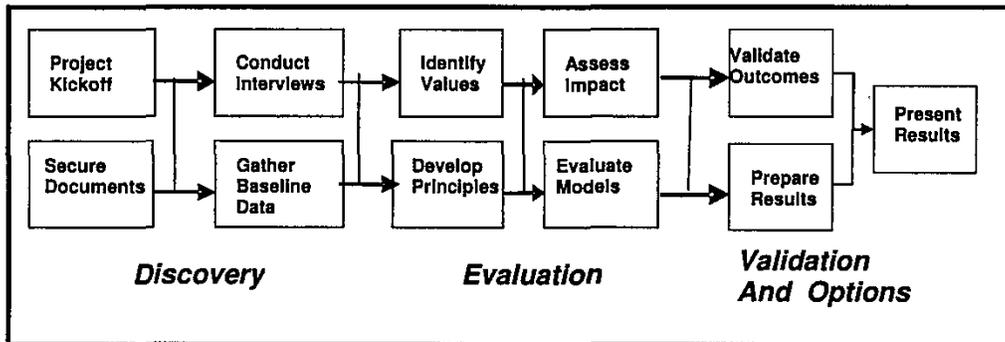


Figure 2 - Detailed Project Approach for Stage 1

The following 6 work tasks, plus Project Management oversight will allow us to recommend various SSO options to the City and County in November, 2008.

Task 1: Project Planning and Kick-Off

The following sub-tasks will be completed for the project kick-off:

- Confirm City and County goals, scope and expectations and standards.
- Finalize the SMART project team, responsibilities, time commitments, and communication channels.
- Finalize SSO scope including Authority participation
- Identify potential project participants, including a proposed City/County Steering Committee and Technical Team members.
- Request documentation for Legal, Human Resources, Labor Relations and Civil Service, Legal, Shared Services including office space, and Procurement baseline information. We will use this information to confirm the IT organization, staffing, processes and the technical environments using prior survey and interview data plus new data collection activities
- Schedule interviews and focus group sessions with identified managers, elected officials, and Department and Technical Team members.
- Schedule interviews with City and County Executives, Senior Directors, Steering Committee and necessary external stakeholders (as needed).

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Task 2: Conduct Interviews and Gather Baseline Data

We will take the information collected from the interviews, and integrate it with the survey information collected during the earlier SMART project and SSO best practices. Our focus will be on defining the nature and type of new SSO organization, but equally important, we will be interviewing related stakeholders at the executive, legal, HR, procurement and support service organizations at the City and County level to inventory the necessary support for the new organization. The following sub-tasks will be completed as part of our data gathering and analysis for the SSO Model:

- Distribute a high level interview questionnaire (in advance of interview) to assist with data gathering regarding the requisite support for a new SSO organization.
- Conduct one-on-one and/or group sessions with individuals supporting IT and related support functions within the City, County and Authorities (optional):
 - Administrative Management including management, administrative, HR, legal, support services, procurement, etc. (Estimate at 15 FTEs)
 - IT Management (Estimate at 8 FTEs)
 - Other IT and end-users (Estimate at 15 FTEs)
- Organize the information under the options and supplement with other information from previous studies, national best practices, etc.

NOTE: We will work with both City and County leadership (Authorities, if included) to determine the most appropriate format for the data gathering sessions, either as one-on-one interviews, group sessions or a combination of both.

Task 3: Develop Planning Principles for SSO Organization

To measure the strengths, weaknesses, threats and opportunities associated with the likely SSO model candidates, the SMART team will develop a set of principles to use in the evaluation process. The planning principles identify what the stakeholders expect in terms of service levels, costs, and transitional versus operating expectations.

The principles will come from the values and goals for the SSO as obtained from City and County Executives, as well as best practices from within the public sector and related commercial service industries. The principles provide the team with a comparative based to analyze the options available to create and sustain a workable SSO.



Task 4: Assess Impact of SSO Models

We will take the data gathered from the tasks above, and evaluate the various SSO models using the data from Task 2, and the desired principles developed in Task 3. The principles allow the team to then assess the ability of the City and County to be successful using the available data to draw high level conclusions.

During this segment of the SSO planning stage, SMART will leverage our unique understanding of the business and IT processes, applications, and infrastructure in both organizations, as well as line Department implications for the various possible SSO models. As an outcome of the interviews and the group sessions, we use this understanding of current City and County's business/operational IT requirements to assess how IT and business requirements are best met using the future SSO strategy. Added attention will be paid on the impact applications, including the ERP project pending at the City along with the recently completed one at the County will have on an SSO model. In addition, we will:

- Identify and review critical business processes that are drivers for the City and County shared service vision
- Review the impact on the primary IT infrastructure/applications that support these processes including the ERP application
- Identify key effectiveness drivers, obstacles and enablers to success if these assets were managed within the various SSO models
- Define planning assumptions and industry trends specific to the SSO's core IT business operations
- Map out implications of major infrastructure, applications including the ERP and service levels for each model



Task 5: Validate and Affirm Model on City and County IT Processes

This task will conclude the validation of the recommendations task at this stage of the Project. Once the models are vetted, the SMART Team will validate and affirm the



Figure 3 - Validation Required on Impact to City and County

current organizational, technical, application and business processes now in place to support the current independent operations of the City and County's IT function, as illustrated in Figure 3.

Specifically, SMART will validate and affirm the models and how they impact the City and County organization (both IT and management support Departments, the IT infrastructure, applications, and service levels, and the overall business needs of the Departments. The latter is key to a new SSO and how it will provide Service Level Agreements that actually exceed current levels in their respective organizations. The validation is necessary to confirm what the team concludes in terms of a model's ability to be supported by the executives, management and the employees themselves who may be asked to move to a new organization.

Task 6: Present Results

We will meet with the designated Project Manager from the City and County throughout the engagement to introduce ideas, highlight quick wins and to share our feedback. During this last sub-task, we will jointly present our findings to City and County leadership and the proposed Steering Committee for approval. *This approval will serve as the gate for initiation of Stage 2 work activities.*

Project Management & Quality Assurance

In accordance with our Project Management methodology, SMART will manage the work plan with the assistance of the assigned City and County Project Manager (PM). Based

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on our experiences helping other Cities and Counties with similar shared services planning efforts, we recommend the City and County perform the following key tasks, including but not limited to:

- Identifying key personnel for interviews and focus group sessions
- Facilitating meetings and ensure they occur on time given the tight timelines in the proposal
- Providing copies of previous studies, reports, strategies and other documentation
- Providing resolution to project related issues

Status reports on project progress, budget, issues, and expenses will be reported on a bi-monthly basis to Steering Committee and City and County executive leadership. In terms of shared responsibilities, the SMART PM responsibilities will include:

- Coordinating project communications
- Maintaining the project task plan
- Reviewing the project budget
- Allocating project resources
- Maintaining the problem identification report
- Generating status reports
- Reviewing the quality of work product for the duration of the project.

Stage 1 - Timeline and Schedule

SMART estimates we will complete Stage 1 in 7-8 weeks. A high-level project schedule is depicted in Figure 5. Figure 6 provides detailed timeframes by task.

Stage I – SSO Model Plan (Weeks 1 – 8)	Week
Project Planning and Mobilization	1
Discovery - Interview Key City and County Executives	1-3
Discovery - Interview MIS Director and MIS Department Managers	2 – 3
Discovery -Interview Selected Department Managers/ IT Users in Key Departments	3 – 4
Evaluation - Review existing studies, strategies, plans and documents	2
Evaluation - Gather Benchmark Data and Best Practices	4 – 5
Evaluation - Synthesize and Organize Data	6 – 7
Validation- Compare Data/Findings to Best of Breed Organizations/Best Practices	7
Validation - Identify Gaps	7 – 8
Present Recommendations	8
Project Closeout and Preparation for Stage 2	8

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Western PA Shared Services Assessment
A Report to the Act 47 Team

April 15, 2008

Prepared by:

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COP000386

1. Executive Summary

Introduction

Purpose

SMART Business Advisory and Consulting (SMART) was engaged by the Act 47 team, managed by Eckert Seamans and Public Financial Management (PFM), to conduct an independent assessment of the feasibility of introducing a Shared Services delivery model within eight different Pittsburgh-area organizations, and to provide high-level recommendations regarding implementing such a model. The scope of shared services primarily focused on Information Technology infrastructure and IT support of enterprise software, recognizing that as IT services migrate to a shared delivery model, additional administrative and operational business functions might subsequently follow that model. The eight governmental organizations within the scope of the assessment included

- The City of Pittsburgh and its four independent Authorities: the Parking Authority, the Water and Sewer Authority, the Sports and Entertainment Authority, and the Urban Redevelopment Authority
- Three other major Allegheny County public services organizations: the Allegheny County government, the Port Authority, and the School District

Methodology

The assessment utilized web-based surveys to perform initial data collection efforts from both an IT and an Administrative Services perspective; followed by in-person and telephone interviews with key executive managers including Chief Financial Officers, Chief Information Officers, and other stakeholders to clarify and refine the understanding of the IT and business environments.

This report represents the result of the analysis of the survey results, interview findings, research into industry best practices and trends, and SMART's experience with "shared services" implementations, and contains recommendations for shared services delivery within these regional governmental organizations.

Key Findings

Because of the interdependent nature of the City and its Authorities, we find that a Shared Services delivery model is more applicable and would be more easily implemented with this set of organizations. Therefore, we present our recommendations in two parts: first, for this smaller set of entities; then, considering the City among its three peer-level organizations within the Allegheny County region.

Phase 1 – Intra-city Shared Services Organization

The IT support within the Authorities is already quite lean, well below the industry average in personnel costs and total budget, given the size of the organizations. This indicates that the cost savings that are commonly reported for IT consolidation efforts (up to 30% overall IT spending reductions) would not be realized by simply incorporating the IT organizations of the Authorities within the larger and more robust IT organization of the City. The primary benefits of such a consolidation in the early stages would be "soft" benefits relating to reliability and availability. These benefits, alone, would not justify a move toward consolidation.

However, given the plan that the City has to acquire and implement an ERP solution, consideration should be given to utilizing that solution to support not only the operations of the City, but also of its Authorities. Based on our "best practice" research, the creation of a shared

services delivery model is an optimal way to deliver the same ERP functionality the City acquires to the relatively smaller Authorities. Ultimately, this shared services model would yield standardized execution of business processes, providing the opportunity for ongoing process improvements and resulting cost savings approaching the industry averages as existing software and service costs are eliminated.

Also, in the case of the Water and Sewer Authority, real dollar savings can be achieved on the ERP side due to their contracting out of this service via a third party (and off-shore) provider for their internal needs.

The primary challenge in implementing a consolidated environment is the establishment of the necessary governance model that will provide the Authorities with the appropriate “ownership” of the shared services organization, fostering the confidence that their unique requirements will be met by the consolidated organization. Therefore, we propose a multi-step process to phase in a true Shared Services Organization (SSO), not merely a simple IT consolidation effort. Each step addresses a larger scope and additional complexity, providing a path that runs concurrently with the City’s ERP initiatives, so that by the time that the ERP implementation is active, the SSO could assume responsibility for it and incorporate the Authorities’ processing in the same system image as the City.

Step 1 – Specialized IT Services and Support would create a Center of Excellence structure to replace the Authorities’ expenditure on IT consulting skills with the specialized IT skills resident in the City’s IT organization.

Step 2 – Email/Messaging would expand the scope of the CoE to include consolidated processing of commodity email services among the Authorities within a centralized environment.

Step 3 – IT Infrastructure Management would expand the scope of that SSO in two phases, the first to include additional server and network consolidation, the second to add a virtual SSO model to provide workstation support.

Step 4 – ERP Implementation and Operations would capitalize on the City’s anticipated ERP implementation to migrate the HR, payroll, and back-end financial processing of the Authorities into a single ERP system image.

Step 5 – Business Operations Shared Services would build upon the consolidated processing environment of step 4 to allow the centralization of commodity back-end services such as HR and payroll.

The timeframes we propose for this sequence span multiple years, allowing ample time for the evolution of a mature SSO which can earn the trust of the Authorities rather than mandating radical change which could result in service disruptions and processing inefficiencies.

Phase 2 – Inter-governmental Shared Services Consortium

Considering the City of Pittsburgh along side of the three other major public services organizations of Allegheny County – the County government, the Port Authority and the Pittsburgh School District – there is no clear leader in terms of IT infrastructure support. Further, the disparate nature of these organizations and the lack of a common jurisdictional framework have historically led to significant challenges in any collaborative effort. Our assessment led to no clear migratory path to introduce cost savings through shared services, without significant organizational change and the necessary political impacts that change would entail.

That there would be a value to consolidating various IT services across these organizations into a shared services delivery model is unquestioned. The challenge is how to get there, given the independent nature of the local governments. Rather than an evolutionary approach that culminates in a robust SSO, the roadmap for an intergovernmental shared services

implementation should begin with a “big bang” that could deliver immediate benefits to all the participating local government organizations.

The City’s anticipated pursuit of an ERP solution provides such an opportunity. All four of these major government organizations operate using ERP software from the same vendor – the City, School District, and Port Authority use Oracle/Peoplesoft while the County uses Oracle/JD Edwards. Migration of all of these implementations into a single, global instance of an upgraded ERP solution could be the key driver to affect the change to a shared services implementation, leveraging that ERP acquisition and the subsequent design and implementation in a manner that could support additional organizations.

For this to be successful, the acquisition must involve key stakeholders from the other agencies from the start of the City project. The City, as a consequence, may feel that it was losing control of the acquisition process. The governance issue, therefore, would have to be addressed as the first step in moving forward with any inter-governmental shared services model. The trend among small-to-medium government agencies is the creation of a separate, independent agency – a consortium – to manage the execution of a shared services organization. This consortium would need to have a well structured governance model that ensures a focus on continued process improvements and cost reductions, while maintaining the interests of all sharing agencies.

Thus, the overall roadmap for the Inter-governmental Shared Services Consortium would encompass these steps:

Step 1 – Establish a Vision and Create an Organizational Structure would create an appropriate governance model and the framework for a shared services organization.

Step 2 – Implementation of the Shared ERP Solution for the City would expand the scope of the current City ERP initiative to encompass a solution that can be expanded to support additional government organizations in a “Global Single Instance” (GSI). Though the initial implementation would encompass only the City’s functionality, the system must be architected, from the onset, to support multiple legal entities.

Step 3 – Migration of Other Governments ERP Functionality would focus on the migration of the other governments into the shared ERP implementation, based on business needs and existing software licensing/upgrade requirements.

Step 4 – Migration of Shared IT Services would leverage the SSO to improve the performance and efficiency of other shared IT services, such as consolidating email and messaging infrastructures, disaster recovery capabilities, etc.

Step 5 – Business Operations Shared Services would build upon the consolidated processing environment of step 3 to allow the centralization of commodity back-end services such as HR and payroll.

The Contents of this Report

In this report, we present

Section 2 – Study Scope and Methodology contains more detail concerning the project scope and the survey/interview methodology utilized

Section 3 – Evaluation of the Current Environment contains a summary of the results of the data collection efforts

Section 4 – Best Practice Research contains highlights of the key trends in the industry resulting from our research into industry best practices, and presents a case study of a consortium approach to providing an ERP for multiple, independent municipalities

**Western PA Shared Services Assessment
A Report to the Act 47 Team**



Section 5 – Shared Services Implementation Recommendations contains a more detailed presentation of the recommendations outlined here.

Next Steps

As stated above, we believe Phase 1 activities can begin soon, assuming the governance issue can be mitigated quickly because the authorities are siblings, so to speak, of City Government.

In addition, the City's plans for acquiring a new ERP solution is a driving factor in both the timing of, and the effectiveness of, a Shared Services delivery model, for either or both the four independent Authorities and the other Allegheny County governmental agencies. If the findings of this assessment are to be carried forward, it should be done in concert with that acquisition in anticipation of an Intergovernmental Shared Services Consortium for ERP/other services. A shared services vision for that ERP implementation must be established before the City of Pittsburgh RFP is released or product evaluation and selection occurs or the opportunity for an intergovernmental approach will not be possible.

2. Study Scope and Methodology

Objectives

In the past few years there has been an unambiguous trend in both private industry and public services organizations toward consolidating commonly needed “Back Office” functionality, including IT infrastructure and services, into what is popularly referred to as “shared services.” Among the benefits that can be realized by this consolidation is the reduction in costs, through improving the utilization of scarce and expensive I/T resources, and through reducing redundancy.

The Act 47 team, managed by Eckert Seamans and Public Financial Management (PFM), was interested in evaluating the applicability of a “shared services” strategy to the City of Pittsburgh, Allegheny County, and other governmental organizations in Western Pennsylvania, as part of its overall cost-reduction and operational improvement plans for these organizations.

SMART Business Advisory and Consulting (SMART) was engaged by the Act 47 team to conduct an independent assessment of the technical and operational environments for eight different Pittsburgh-area organizations, and to provide high-level recommendations regarding opportunities for implementing shared services. These opportunities are categorized according to:

- The number of organizations which could easily migrate to the shared services arrangement,
- The potential cost savings which can be realized, in very general (high, medium, low) terms

In addition, the analysis includes:

- Major risks and key hurdles to overcome – staffing, technical, operational, and organizational
- Potential migration strategies
- Potential timelines and schedules

Scope

The scope focused on back office services as viable options to improve service levels and reduce costs. The assessment includes the following public services organizations:

- The City of Pittsburgh, and its independent authorities
 - Pittsburgh Water and Sewer Authority
 - Urban Redevelopment Authority of Pittsburgh
 - Sports and Exhibition Authority
 - Pittsburgh Parking Authority
- Allegheny County
- Pittsburgh Public Schools
- Port Authority

The primary focus of the assessment is the implementation of an IT Shared Services model, including:

- Computing Services – servers and server facilities and data center management services
- Seat Management – support for personal computers, personal digital assistants, and related devices, and help desk services
- Enterprise Software Support – enterprise standard software services to support back-office human resources, financial, procurement, customer/citizen relationship management, and email functionality

However, because IT services are driven by the business units that the technology supports, it was important for the team to gain a high-level understanding of the business of each organization. Therefore, the assessment scope also includes:

- Functional Areas of Common Responsibilities – identify and catalogue the primary back office and customer facing responsibilities each organization performs for internal or external customers.

Approach

The assessment was conducted in four steps as agreed upon by the project sponsors including Eckert Seamans and Public Financial Management (PFM). The categories used in the survey, and the questions included were designed to gather ample data to draw conclusions relevant to how the organizations collectively could improve their back office operations and reduce costs at the same time.

1. Develop and distribute assessment surveys

We created two web-based surveys to facilitate initial data collection for each organization:

- A Computing Services survey, directed to the CIO or other technology stakeholder
- An Administrative and Operational Services survey, directed to the COO or other primary administrative stakeholder

2. Confirm and clarify the survey results and collect additional information through interviews.

After the survey was distributed in October 2007 and completed by the stakeholders by February 2008, SMART conducted interviews, either in-person or by phone, with the key stakeholders identified. Survey results were reviewed, and the interviews were utilized to confirm and clarify the answers provided via the survey. In addition, stakeholders from the Commonwealth's Office of the Budget and the ICA were interviewed.

3. Conduct research on industry best practices

We researched the current state of the industry relating to shared services implementations, especially among government organizations; as well as ERP implementations in a shared services environment. Our research sources included Gartner, Forrester Research, and Oracle's solution center.

4. Analyze data and formulate recommendations

This report represents the result of the analysis of the survey results, interview findings, best practice research, and SMART's experience with "shared services" implementations.

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The following table identifies the primary stakeholders in each organization which were responsible for completing the surveys and who participated in the interviews.

Organization	Operational Services Contact	Computing Services Contact
Allegheny County	Amy Griser, Director, Budget & Finance	Richard Lewis, Interim CIO
City of Pittsburgh	Catherine Qureshi, Assistant Director of Finance	Howard Stern, CIO
Port Authority	David Gramc, Controller	Dominic Talotta, Director, Support Services
Sports and Entertainment Authority	Rosanne Casciato, CFO	Steve Morrison, Director of Information Systems
School District of Pittsburgh	Christopher Berdnik, CFO	Lawrence Bergie, CIO
Public Parking Authority	Anthony Boule, Director of Administration	Anthony Boule, Director of Administration
Pittsburgh Water & Sewer Authority	Stephen Simcic, Accounting Manager	LaBaugh Stansbury, MIS Manager
Urban Redevelopment Authority	Did not complete survey	Did not complete survey

3. Evaluation of Current Environment

Overview

The current IT environments within the local governmental organizations were evaluated by considering three distinct categories of services:

- Computing Services – servers and server facilities and data center management services
- Seat Management – support for personal computers, personal digital assistants, and related devices, and help desk services
- Enterprise Software Support – enterprise standard software services to support back-office human resources, financial services, customer/citizen relationship management, and email functionality

However, because IT services are driven by the business units that the technology supports, it was important for the team to gain a high-level understanding of the business of each organization. Therefore, the assessment scope also includes:

- Functional Areas of Common Responsibilities – identify and catalogue the primary back office and customer facing responsibilities each organization performs for internal or external customers.

This section summarizes the data collected by the surveys and subsequent interviews, and highlights key areas of strengths and weaknesses within each organization.

Technology Evaluation

Computing Services

The primary IT infrastructure area to be considered is the size and complexity of the server farms within each organization. The following table provides the basic data collected from the surveys:

Organization	Hardware Environment				Staffing	
	# Servers	# Locations	% Microsoft	Virtualization	FTE	Budget
Allegheny County	155	5	90%	Yes	15	\$889,000
City of Pittsburgh	53	2	60%	Yes	9	N/A
Port Authority	75	11	97%	Yes	4	\$390,000
School District of Pittsburgh	260	68	99%	No	9	\$830,000
Sports and Entertainment Authority	7	2	100%	No	1	\$75,000
Public Parking Authority	23	11	100%	No	2	N/A
Pittsburgh Water & Sewer Authority	7	2	100%	No	2	\$125,000

The metrics of numbers of servers and the distribution of those servers in different locations provides a high-level understanding of the size of each computing facility. The use of virtualization technology indicates a more robust data center environment, allowing greater flexibility in the provisioning of computing resources and providing greater support for disaster recovery. The presence of non-Microsoft servers (that is, the use of a variety of Unix/Linux) within the environment indicates more complexity, and the need for greater skill sets.

The staffing numbers, as uncovered during the subsequent interview process, represent the entire IT infrastructure support staff, not just the server support. The number of support staff is another indication of the complexity of the environment.

As expected, the IT environments in the four largest organizations reflect the complexity of those organizations. As uncovered during the interview process, the City and the School District were notable in the rigor of their data center, and the depth of experience in their IT staff.

Seat Management

Seat management is the term that describes the support of workstations, laptops, printers and handheld devices throughout the organization. These metrics provide a measure of the distribution of technology within the enterprise. The following table provides the basic data collected from the surveys:

Organization	Hardware Environment				Staffing	
	# Users	# Locations	Work-stations	Other Devices	FTE	Budget
Allegheny County	1,750	45	1648	515	13	\$775,000
City of Pittsburgh	3,000	100	2900	728	9	N/A
Port Authority	700	17	750	144	3	\$270,000
School District of Pittsburgh	30,000	75	14000	6,425	17	\$1,100,000
Sports and Entertainment Authority	80	4	90	40	1	\$75,000
Public Parking Authority	148	12	78	69	2	N/A
Pittsburgh Water & Sewer Authority	113	7	134	76	2	\$125,000

Again, the numbers from the City and the School District indicate complex, distributed environments and the staffing numbers indicate that these environments are very well managed; the ratios of devices to support staff are well below industry averages.

Enterprise Software Support

The final category of data collected in the IT Services survey relates to the support of enterprise-enabling software. This data was collected under four different headings, and presented in the following four tables:

HR and Payroll

Organization	Software Environment		Users	
	Type	Description	Power	Casual
Allegheny County	COTS, ERP	Currently converting from a variety of COTS products to Oracle Oneworld	75	315
City of Pittsburgh	COTS	Outsourced payroll via Ceridian	12	60
Port Authority	ERP	PeopleSoft (v8.0) HR, Payroll, Time & Labor, and Benefits Administration	6	75
School District of Pittsburgh	ERP	PeopleSoft	50	500
Sports and Entertainment Authority	COTS	Outsourced via ADP	4	5
Public Parking Authority	COTS	Outsourced via ADP	5	20
Pittsburgh Water & Sewer Authority	ERP	Outsourced via Ceridian	2	22

As seen, there is little standardization among the organizations regarding HR and Payroll processing. Each organization has created their own solution, for a process that should be easily standardized across peer level organizations. Multiple outsourcing contracts could be consolidated into one, or all processing could be standardized in a single ERP solution.

Financials

Organization	Software Environment		Users	
	Type	Description	Power	Casual
Allegheny County	ERP	JD Edwards Enterprise One 8.10	75	315
City of Pittsburgh	ERP	PeopleSoft v 6.01	20	50
Port Authority	ERP	PeopleSoft (v8.0) Financials and Supply Chain	8	75
School District of Pittsburgh	ERP	PeopleSoft	75	500
Sports and Entertainment Authority	COTS	MAS90	3	4
Public Parking Authority	COTS	Kintera FundWare (various versions)	4	25
Pittsburgh Water & Sewer Authority	ERP	MY SAP ERP 6.0	8	

Each organization is utilizing a different solution, though it is notable that the four primary major government entities (County, City, Port Authority and School District) each utilizes an ERP

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solution that is currently owned and supported by Oracle. Any future initiative to create a shared services model for financial ERP processing could leverage this relationship with Oracle to simplify the migration efforts.

Customer/Citizen Relationship Management (CRM)

Organization	Software Environment		Users	
	Type	Description	Power	Casual
Allegheny County	N/A			
City of Pittsburgh	Homegrown	Internally developed system for 311 support	5	20
Port Authority	COTS	Trapeze Customer Information System	5	25
School District of Pittsburgh	None			
Sports and Entertainment Authority	COTS	Ungerboeck-EBMS (Event management)	2	15
Public Parking Authority	COTS	Grope Techna Call Back from Mobile Enforcement Systems	4	35
Pittsburgh Water & Sewer Authority	ERP	MY SAP ERP 6.0	32	

While the City has taken the initiative to implement a 3-1-1 system to provide a centralized call center for city services, the support for Citizen Relationship Management across these organizations is lacking. A consolidated CRM solution, integrated with the City's 3-1-1 system would provide a single view into a citizen's interactions across all government organizations, streamlining the internal processes and improving the quality of service delivery.

Email

Organization	Software Environment		Users	
	Type	Description	Email	IT Support
Allegheny County	COTS	Microsoft Exchange 2003	4,500	3
City of Pittsburgh	COTS	Microsoft Exchange	2,000	10
Port Authority	COTS	Microsoft Exchange	780	1
School District of Pittsburgh	COTS	Microsoft Exchange	N/A	1
Sports and Entertainment Authority	COTS	Microsoft Exchange 2003	80	1
Public Parking Authority	COTS	Microsoft Exchange 2000	75	2

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Organization	Software Environment		Users	
	Type	Description	Email	IT Support
Pittsburgh Water & Sewer Authority	COTS	Microsoft Exchange Server 5.5	113	2

Email is a commodity service in today's enterprise. The use of Microsoft Exchange (though at different release levels) is ubiquitous across the organizations. This is a clear case of "low hanging fruit" that could easily be consolidated into a single email/messaging environment, reducing the infrastructure and support costs.

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Operational and Administrative Services

The following two tables provide the staffing and budget levels for the standard “back office” administrative and operational units within governmental agencies. Implementation of shared service delivery models will reduce these personnel and budget numbers.

Administrative Services Staffing Levels

Functional Area	Allegheny County	City of Pittsburgh	Port Authority	School District	Sports and Entertainment Authority	Public Parking Authority	Water & Sewer Authority
Accounting	47	72	11	15	2	5	5
Budgeting	8	10	4	11	1	0	1
Procurement	17	10	19	6	1	0	2
Communications / PR	3	5	3	7	0	0	1
Cash Management / Banking	5	5	1	0	1	0	
Finance / Bond Management	2	2	1	3	1	0	1
Risk Management/Insurance	2	4	16	3	1	0	
Shared Office Services	0	4	6	0	1	0	
Legal Support	48	16	8	3	0	0	1
Motor Pool/Fleet Management	3	2	21	19	0	0	
Construction Management	22	39	8	27	1	0	16
Facilities Management / Maintenance	48	43	83	70	1	0	190
Inventory Management	7	1	42	0	0	0	4
HR/Personnel	18	36	22	16	1	0	2
Benefits Administration	3	6	10	8	1	0	1
Payroll (including time clerks)	56	20	7	6	1	0	1
Revenue Collection	68	5	20	0	1	0	
Delinquency Collection	0	5	0	0	1	0	
Customer Interactions	0	20	23	2	1	0	39

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Administrative Services Budget Levels

Functional Area	Allegheny County	City of Pittsburgh	Port Authority	School District	Sports and Entertainment Authority	Public Parking Authority	Water & Sewer Authority
Accounting	\$2,961,000	\$2,250,000	\$472,460	\$1,075,955			
Budgeting	\$857,636	\$600,000	\$213,314	\$1,143,701			
Procurement	\$988,000	\$405,000	\$1,059,710	\$591,152		\$336,428	
Communications / PR	\$267,000	\$320,000	\$1,081,995	\$716,122			
Cash Management / Banking	\$340,000	\$150,000	\$103,865	\$0			
Finance / Bond Management	\$44,000	\$200,000	\$103,865	\$943,219			
Risk Management/Insurance	\$170,000	\$120,000	\$5,801,639	\$202,890			
Shared Office Services	\$0	\$160,000	\$916,564	\$0			
Legal Support	\$336,000	\$1,950,000	\$1,898,749	\$817,054		\$150,000	
Motor Pool/Fleet Management	\$2,967,000	\$4,870,000	\$2,034,055	\$2,567,766		\$81,644	
Construction Management	\$1,309,000	\$1,000,000	\$1,243,323	\$2,506,677			
Facilities Management / Maintenance	\$1,925,000	\$1,000,000	\$13,653,988	\$9,945,572		\$575,380	
Inventory Management	\$1,211,000	\$50,000	\$2,941,022	\$0			
HR/Personnel	\$168,000	\$1,640,000	\$2,979,010	\$1,713,954			
Benefits Administration	\$468,000	\$360,000	\$757,644	\$637,228		\$1,025,442	
Payroll (including time clerks)	\$2,185,000	\$800,000	\$413,405	\$435,044		\$4,253,593	
Revenue Collection	\$3,381,000	\$150,000	\$830,916	\$4,500,760			
Delinquency Collection	\$0	\$150,000	\$0	\$95,000			
Customer Interactions	\$0	\$155,000	\$1,102,681	\$169,625			

4. Best Practice Research

Overview

The trend toward Shared Services continues to gather momentum, in both private industry and in government services, making it the focus of much research. The theory is well proven; a single, standardized approach to IT support can be done more economically, with more security and a higher service level through a highly professionalized approach than what individual organizations tend to accomplish on their own.

As part of our examination, we reviewed the current research from two of the IT industry's leading research firms: Gartner, and Forrester Research. Additionally, we spoke with individuals from Oracle's solution center regarding their experience with Shared Services implementations. The latter conversation was key because of the potential afforded for ERP consolidation either for the authorities/City or the City/Other Organizations portion of our report. In this section, we summarize five key findings of our research into the "best practices" which have direct bearing on the application of a Shared Services model for the government organizations in the scope of our assessment, and we provide a case study of a multi-governmental consortium that has successfully implemented a shared services organization.

Research Findings

1. Shared Services is More Than Centralization

Misunderstanding the true nature of a shared-services delivery model is the root cause of many failed implementations. Gartner predicts that through 2010, 75% of internal IT efforts toward creating a shared services model will fail to deliver measurable performance improvements.¹ The most common misperception is equating shared services with centralization; therefore, it is valuable to distinguish between these two related terms.

In a classic shared services delivery model, services common to many business units are centralized to one site where the services are performed by centralized staff. While this approach can yield initial cost savings, the resulting centralized IT organization is often less responsive to the business requirements and fails to deliver predictable, reliable service results.² True long-term cost reductions are a result of a service delivery model that provides for continuous process improvements and a customer-focused orientation. It is this focus on common processes and subsequent process improvement that truly defines a "shared services" model. In fact, there are three different approaches to shared services that have all been implemented to reduce operational costs:

- **Fully Consolidated and Centralized.**

This is the classic model, where service providers are consolidated to one location from which all services will be provided. Cost reductions as much as 30% have been realized from IT consolidation coupled with an IT shared services model³

- **Virtual Shared Services**

The resources that deliver services remain distributed, but process ownership, definition and management is centralized. This model is effective where the process itself requires staff in distributed locations, such as desktop management and/or LAN server support.

¹ Young, C., Clarifying the Shared Services Delivery Model, Gartner, August 2005

² Young, C., Shared Services Differ from Centralization, Gartner, August 2005

³ Leganza, G., Issues and Practices in Shared Services, Giga Information Group, June 2002

This model does not achieve the initial cost reductions of consolidation, but can deliver reduction in operational costs over time as processes are coordinated and refined.

- **Centers of Excellence**

COEs can be considered miniature shared services centers, delivering one or more well-defined services for the enterprise. The particular aspect of a COE is that there is a specific skill or knowledge area for which there is limited expertise available, so the available talent is centralized for the creation of best practices. With COEs, the focus is on specialty services rather than commodity services, not because they are high in volume, but because they require special knowledge. Cost reduction of a COE model is found through the efficient reuse of that specialized, and therefore often expensive, skill set.

These three types of shared service models are not mutually exclusive. They can, and often do, coexist to address diverse needs and to balance economies of scale with effective service delivery. For example, data center and server operations might benefit from the traditional centralized model, capitalizing on efficiencies of a single data center and consolidated hardware; desktop workstation support might be delivered using a virtual model; while project management services might be delivered through a COE.

2. Shared Services Governance Model

When IT changes a service or services from one run for a single agency or organization to a shared service, attempts to retain the existing support and governance model (and simply add on some other agency's usage) will fail.⁴ Conflicts will develop between work requests, particularly regarding prioritization. Conflicts will also develop if different organizations require different service levels. As the workload increases, the organization that originally hosted the service will not want to fund the rest of the enterprise's processing at the same initial cost (or, worse, for free).

To be effective, the sharing agencies must feel that they retain partial ownership, and that they can influence the services delivered and program/project priorities.⁵ This requires a stakeholders' council or other governing structure that has a constitution or charter with clearly defined roles. Setting up an effective shared services organization (SSO) requires the following elements:⁶

- **Governing Council.** Management representatives from each stakeholder agency must establish and maintain the key operating principles of the SSO. This will include items such as goals and objectives, a value proposition, a funding model, the approval of capital and operating budgets, operating policies, the rights of a stakeholder to exercise veto power, the creation of staffing policies (including those concerning the assignment of agency staff), and the establishment of priorities and service-level agreements. The council must regularly review opportunities for innovation and improvement, and must ensure the continued viability of the agreement.
- **Operating Standards.** The leader and key staff of the SSO must agree on the range of services to be delivered, an organization model, a charging mechanism for each service, acceptable and defined service levels, performance metrics, processes for managing problems and requesting changes to services or new services, forward strategies including those related to sourcing, and training requirements for SSO and agency staff. Similarly,

⁴ Leganza, G., Governance of a Newly Shared Service, Forrester Research, June 2004

⁵ Roberts, P., The Growing Dimension of Government Shared Services, Gartner, January 2004

⁶ Roberts, P., Effective Governance of Government Shared Services, Gartner, January 2004

each participating agency must establish separate procedures and processes for work that it handles itself, work that requires involvement with the SSO, and work that must be done by the SSO.

- **Client Relationship.** The SSO must establish and maintain effective communication channels with its participating organizations to understand their current and future requirements, to measure their satisfaction, to help them get the most value from the services delivered, and to demonstrate the competitiveness and responsiveness of these services. This should not simply be reactive customer support; client service representatives must be actively engaged in the customer strategic-planning process.
- **Client-Focused Team.** The culture of an SSO is a critical success factor. A commitment to customer service and an intimate understanding of stakeholder requirements can differentiate an SSO from its rivals. The SSO's decisions must never appear to run counter to the interests of its stakeholders. The SSO must be fair and equitable in its treatment of stakeholders and show no favoritism. The SSO also must continually demonstrate its competencies and ability to deliver added value to stakeholder agencies.

3. Shared Services Implementation Challenges

Changing established organizational structures and responsibilities is always difficult, involving trade-offs, political negotiations, new funding models, and service level agreements. The leader of the shared services organization (SSO) must be an effective communicator, able to drive these changes through collaboration and teamwork with the agency stakeholders; mandating compliance without gaining stakeholder buy-in will lead to failure.⁷

Other common issues faced during SSO implementations have included:⁸

- **Explaining the value.** Participating governments will need clear justification for the massive changes required to implement the model. The value to the organization must be quantified and communicated in a way that will be meaningful to their executives, IT management and end-users. There must be a clear vision of the end state, backed by reliable metrics that show the advantages that the new model will provide to the organization.
- **Dealing with service level disruption during change.** This was the issue most often cited as the most important critical success factor. Implementing the model requires changing business processes for obtaining services and completely overhauling service delivery. The possibilities for service disruption are significant and nothing short of meticulous planning and extensive communication will get the job done effectively.
- **Dealing with internal IT disruption during change.** Services must be provided throughout the planning and transition phases. Potential confusion during the transition must be mitigated by detailed planning and thorough communication.
- **Structuring the services.** This mundane task is the core of the new model. Which services will be provided, what will the workflow be, what will the standard processes be, what resources will be required and what service levels can be expected must be defined comprehensively. Most shops initiating this process will have to begin with an itemization of the services they perform and an analysis of the workflow and resource requirements for each service.

⁷ Leganza, G., Governance of a Newly Shared Service, Forrester Research, June 2004

⁸ Leganza, G., Issues and Practices in Shared Services, Giga Information Group, June 2002

4. ERP Functionality in a Shared Services Model

The benefits of Enterprise Resource Planning (ERP) software have been well-documented. Briefly, an ERP is

- A system from a single vendor encompassing at a minimum a fully integrated suite of business-enabling applications (G/L, Accounts Payable/Receivable, Inventory Management, HR, Payroll, etc.).
- The system supports a common logical data model and common processes for an entire enterprise that may include multiple legal entities.
- The system can have multiple components with their own databases as long as they act as a fully integrated whole.

Pressure on small local governments and school districts will continue to build, requiring them to adopt state-of-the-art financial management systems. Smaller organizations, including local governments and school districts, usually lack the internal capability to deploy and maintain a sophisticated financial management system, especially in times of changing business requirements. There are several viable alternatives to each local government and school district deploying their own financial management system:⁹

- **Application Service Provider (ASP).** In an ASP model, government buys the software products and configures them as needed. But the software is run on a vendor's equipment, in an outsourced environment.
- **Software as a Service (SaaS).** In a SaaS model, governments subscribe, usually on a per-seat or per transaction basis, to software provided by a third party. Government has little opportunity to configure the software to its specific needs.
- **Shared Services.** In a shared-service model, multiple governments are supported by another government that has greater expertise in the product. There are three variations on this model within government:
 - *Peer to peer.* In this model, a unit of government of the same type or at the same level hosts the system on behalf of multiple governments.
 - *Hierarchical.* In this model, a central, state or regional government of some kind hosts the system on behalf of subordinate units of government.
 - *Dedicated shared-service organization.* In this model, which is prominent in many school districts in the U.S., a regional organization (usually called an "intermediate school district" or an "educational service agency") is created for the purpose of supplying administrative and support services on behalf of several school districts within the region.

While the ASP and SaaS models are increasingly common in the Small and Medium-size Business (SMB) market segment, historically governments and especially K-12 school districts have been reluctant to trust their confidential and essential data operations to outsiders. Sending sensitive data, such as revenue and spending data or tax collection and student records, outside the realm of their immediate control is a risk that many organizations are not willing to accept. Further, governments and school districts contain business units with political agendas that they jealously protect. The ASP and SaaS sourcing methods can be considered a threat to the

⁹ Kost, J. and B. Rust, Getting ERP into Small Governments and School Districts, Gartner, March 2007

autonomy of business leaders who consider any loss of control over the way that IT supports their function to be a threat to their position and power within the organization.

Thus, the Shared Services model is the logical choice for deployment for many organizations. As discussed above, the value of this model increases as the model is correctly understood to encompass both the centralized operation of the software (the IT dimension) as well as standardized execution of business processes (the Business dimension). Local governments and school districts must pool their resources to develop the resources necessary to support an ERP solution, and leverage those resources in the most efficient way possible.

5. A Trend toward Shared Services Consortia

Enterprise software procurement remains a complex and resource-intensive undertaking for business process owners, CIOs, and IT sourcing professionals in the county, municipality, state authority, and small to midsize state market. Aging systems, shrinking revenues, and flat IT budgets pressure business process and applications professionals to replace, upgrade, and consolidate aging systems in a cost-effective manner. Unfortunately, enterprise-class applications remain out of reach because of cost-prohibitive vendor selection processes, license fees, implementation costs, maintenance fees, and life-cycle support costs.

To overcome these challenges, small to midsize public sector organizations are coming together as services consortia to gain cost-effective access to enterprise applications. Some are simply buying collectively and these arrangements not only contract for the deployment and maintenance of specific applications, but also in some cases develop the necessary in-house IT skill sets which are then shared by many member institutions. Key benefits include:¹⁰

- **Increased purchasing power.** As individual organizations, most local governments lack the capability to afford top-tier enterprise solutions. However, mutual infrastructure, improved license discounts, and shared support costs lower total cost of ownership, reduce risk, and improve financial performance. In cases where the consortia do not develop the trained resources internally, consortia drive system integrator and hosting costs down as standardized service-level agreements (SLAs) are deployed across member organizations. Additional savings often result from coordinated and standardized tools, methodologies, business processes, and systems.
- **Coordinated vendor selection.** Requirements gathering, request for proposal (RFP) creation, and evaluation often consume a business process and applications professional's time. While most small to midsize public sector organizations have a full-time resource dedicated to vendor selection processes, many lack the necessary resources or in-depth knowledge to successfully manage and complete the process. In a consortium environment, one team member can serve as that dedicated point of contact and efficiently distribute work as required among the team. Members benefit from specialization of vendor selection activities and can focus on developing shortlists and scenario- and process-based demos.
- **Shared knowledge and collaboration.** Consortium members benefit from best practices from other member organizations and shared functional requirements during the design process and implementation. As operations are reviewed, business process and application professionals cite collaboration and knowledge sharing as a factor in improved operations in processes such as payroll, procurement, and finance.

¹⁰ Wang, R., Shared Services Consortium Buying Brings Enterprise-Class Benefits to Public Sector SMEs, Forrester Research, February 2007

- **Improved staff retention and recruitment.** Most member organizations face shortages of technical resources and process management skills. Low retention levels often result from a lack of formal training and development programs, technical camaraderie, and investment in new technologies. By consolidating key IT talent, consortia develop the critical mass required to attract, develop, and retain key personnel. As these talent pools are developed, consortia gain the capability to add additional service delivery without adding full-time employees (FTEs).
- **Developed shared services capabilities.** With an in-house talent base, consortia centrally and efficiently coordinate enterprise capabilities such as upgrade, testing, and support services. Shared services allow for the development of advanced capabilities such as composite application factories, Web services design and reuse, and custom but shared development on open standards.
- **Strengthened project staffing and post-implementation operations.** Consortia deploy one core group of experts in each functional and technical area across consortium members instead of multiple teams for each area. The net result is not only a reduction of staff required to support the implementation, but also the development of a core group of specialists to support post-implementation activities. Shared staffing strategies also build collaborative bond among multiple jurisdictions and provide quality peer interaction.

Case Study

Faced with similar needs to upgrade their business-support systems, three cities in Texas took a shared services approach to addressing their technology needs. The cities of Arlington, Carrolton and Grande Prairie, Texas had historically operated their own systems to support their human resources, payroll, finance and purchasing operations. In 2003, each of the three cities independently considered upgrading its existing software with several similar goals in mind, including:

- Enhancing operations
- Improving the user experience
- Reducing the maintenance burden
- Expanding back-up and recovery capabilities

And, each was dismayed to learn what the required upgrade would cost. Rather than compromising on their goals, the cities choose to pool their resources and collaborate in the replacement of their business systems.

The three cities engaged the services of the North Central Texas Council of Governments (NCTCOG)¹¹ to facilitate their collaboration. The cities approached NCTCOG to coordinate the procurement and implementation of software and to provide operational shared services including redundant, high-availability systems and network support.

The NCTCOG managed the procurement process, facilitated the implementation and provided hosting services in support of all three cities, all under the auspices of a joint powers agreement, which defined:

- The manner in which the cities would collaborate
- The method of cost allocation

¹¹ The NCTCOG is a voluntary association established to assist local governments in planning for common needs and operating for mutual benefit and was in position to serve as an unbiased third party.

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- The applicable service levels
- The leadership structure
- The process by which a city could exit the consortium

From all available reports, the consortium was largely successful. By working through the NCTCOG, the cities were able to leverage their purchasing power and save money on the acquisition of ERP software, maintenance contracts, and infrastructure components. The project was handled as a single implementation and the three cities benefited from the shared cost. *By combining their efforts, the combined costs were \$8 million which is estimated to be approximately 50 percent less than had the cities implemented the new software individually.*

Beyond the tangible cost savings, the three cities experienced a number of additional important benefits as a result of the shared services approach:

- By collaborating on the implementation, functional specialists from the different cities were able to share ideas and approaches – resulting in improved operations and a better system than any city would have achieved individually.
- By leveraging a combined pool of journeyman personnel from both technical and functional areas, the staffing demands of the implementation were spread across the three cities – lessening the overall time commitment on behalf of each city.
- By committing to a strategy of standardizing on “best business practices” where there were jurisdictional discrepancies in approach, the cities were able to limit system customization – simplifying implementation and minimizing the cost of future system upgrades.

As one would expect, this approach had its share of challenges. Consensus building was critical but could be time consuming. To facilitate timely decision making, the NCTCOG created a Shared Services Board with representation from each of the cities, the NCTCOG and the software/implementation vendor. The Board assumed the important roles of managing communications and resolving disputes. The shared services approach required patience and compromise on the part of the participants, but by paying appropriate attention to consortium mechanics, the NCTCOG was able to implement a model that effectively *balanced the needs of each city with the needs of all cities at a price the cities could afford.*¹²

¹² Consortium buying: best practices for local government implementations, Government Finance Review, February, 2007.

5. Shared Services Implementation Recommendations

Introduction

The eight governmental organizations within the scope of the assessment included

- The City of Pittsburgh and its four independent Authorities: the Parking Authority, the Water and Sewer Authority, the Sports and Entertainment Authority, and the Urban Redevelopment Authority
- Three other major Allegheny County public services organizations: the Allegheny County government, the Port Authority, and the School District

Because of the interdependent nature of the City and its Authorities, we find that a Shared Services delivery model is more applicable and would be more easily implemented with this set of organizations. Therefore, we present our recommendations in two parts:

First, for this smaller set of entities, we suggest a roadmap that can incrementally implement an **Intra-City Shared Services Organization** within the same jurisdictional structure as the City and its Authorities.

Second, considering the City and its Authorities as a single jurisdiction among the four peer-organizations within the region, we suggest that a shared services model will require the creation of an **Inter-governmental Shared Services Consortium** to meet the needs of the City, County, Port Authority and School District.

Intra-City Shared Services Organization

Strategy and Approach

When looking at opportunities for cost savings in overall IT expenditures, it would be easy to suggest that the City of Pittsburgh's IT organization assimilate the IT units in the four independent Authorities under the Mayor's jurisdiction. Due to its size and scope, the City's data center operation is significantly more robust, including more advanced server technology (e.g., virtualization), higher levels of data reliability (e.g., regular offsite backups, and a plan for disaster recovery being formulated), and more specialized skill sets among its employees (e.g., networking). Further, because of the common governing structure uniting all of these organizations, such a move toward assimilation could perhaps be enacted by executive directive, with the appearance of just "flipping a switch."

A more careful analysis, based on our interviews and the "best practice" research summarized in Section 4, would indicate that there are significant dangers moving forward hastily with such a plan:

- As described in Section 4, consolidation is not the same as "shared services", and consolidation alone does not yield the improvements in business processes that can yield consistent efficiencies. In fact, consolidation would be met with great resistance from the Authorities, who rightly fear the loss of autonomy and the risk of reduced service levels to their business operations.
- The initial cost reductions (often as much as 30% of IT budgets) often seen in such consolidations in the industry would not be realized in this environment. The IT units in the Authorities are already lean, below industry averages for the ratio of IT staff to total employee base. The potential for easy, "quick wins" in cost reductions is low.

However, given the plan that the City has to acquire and implement an ERP solution, consideration should be given to utilizing that solution to support not only the operations of the City, but also of its Authorities. Based on our “best practice” research, the creation of a shared services delivery model is an optimal way to deliver the same ERP functionality the City acquires to the relatively smaller Authorities. Ultimately, this shared services model would yield standardized execution of business processes, providing the opportunity for ongoing process improvements and the resulting cost savings.

Moving forward with the creation of a shared services organization should be done carefully and deliberately, to ensure that the concerns of the Authorities are addressed and that their service expectations are met.

Roadmap

We have identified a five-step process, beginning now and extending beyond the future implementation of the City’s ERP solution, which incrementally builds a robust Shared Services Organization (SSO) encompassing not only IT services but common business processes. The creation of a stakeholders’ council, the establishment of measurable service level agreements, and the collaborative development of operational standards are all required for the Authorities to have confidence that the SSO will meet the needs of their business operations. This trust cannot be achieved by mandate or fiat, but must be earned by proven service delivery. With each step of the process, the City and Authorities can work together to develop the governance model that is necessary to make the SSO a success:

Step 1 – Specialized IT Services and Support would create a Center of Excellence structure to replace the Authorities’ expenditure on IT consulting skills with the specialized IT skills resident in the City’s IT organization.

Step 2 – Email/Messaging would expand the scope of the CoE to include consolidated processing of commodity email services among the Authorities within a centralized environment.

Step 3 – IT Infrastructure Management would expand the scope of that SSO in two phases, the first to include additional server and network consolidation, the second to add a virtual SSO model to provide workstation support.

Step 4 – ERP Implementation and Operations would capitalize on the City’s ERP implementation to migrate the HR, payroll, and back-end financial processing of the Authorities into a single ERP system image.

Step 5 – Business Operations Shared Services would build upon the consolidated processing environment of step 4 to allow the centralization of commodity back-end services such as HR and payroll.

Step 1 – Specialized IT Services and Support

Description

As described in Section 3, the IT staff of the Authorities maintains the day-to-day operations of their IT infrastructure. Their support is supplemented by contracted professional services for both:

- Specialized knowledge and skill sets, such as unique server configuration and troubleshooting requirements, database management, networking configuration and telecom support

- Staff augmentation for peak workloads, as, for example, large relocation efforts or desktop workstation refreshes.

Because the IT organization of the City is larger, their dependence upon such contracted services is minimal, maintaining these specialized skill sets in house, and having the staffing depth to manage periodic fluctuations in workloads. As described in Section 4, one approach to shared services delivery is the creation of a “Center of Excellence” (CoE) which can leverage specialized skills across multiple operational units.

An initial “first step” toward a larger SSO implementation could be the development of a formal CoE model to provide specialized IT Services and Support across the City and all of the Authorities.

Implementation Timeframe and Considerations

We project that this CoE implementation could be created in the near term, within perhaps a 3 to 6 month timeframe. No organizational or staffing changes would be necessary in the Authorities. The CoE could be easily compatible with their existing processes for obtaining contracted professional services. It would be necessary to formalize a CoE service agreement between the Authorities and the City, detailing what services and skill sets would be made available, how the service costs would be charged to the Authorities, and, most importantly, commitments by the City to specific performance targets. There may be some organizational changes necessary within the City’s IT organization, to aggregate the resources that provide the agreed upon services into one unit, which would provide unbiased service to the rest of the City’s IT organization and the four Authorities.

Benefits

- **Reduced spending**

These specialized services are acquired at a premium from professional services firms, at a higher cost per hour than could be delivered by an in-house employee. The Authorities would experience a cost savings from reducing their spending on external contract help.

- **More efficient staff utilization**

Even though the City’s IT organization has individuals on staff with these specific skill sets, it is likely that their utilization of these skills is less than one hundred per cent, and that they spend time performing secondary support for other services (e.g., a network specialist might also provide routine server management). By centralizing all such specialized work within a CoE, these resources would be more effectively leveraged throughout the combined enterprise, and their knowledge and skills would increase as they are able to focus more of their time on their primary responsibility. This secondary support role could be back-filled with other, less expensive staff.

- **Introducing the SSO model**

Perhaps the primary benefit of this initial step is the introduction of an SSO model, and the development of initial service level agreements and governance controls. The primary customers of the CoE will be existing IT staff in the Authorities, and this step provides an opportunity to prove the value of shared services to these stakeholders. If the CoE can earn the trust of these stakeholders, the larger organization will be less reluctant to the adoption of future SSO initiatives.

Risks

The professional services firms utilized to provide these specialized services today are disadvantaged and/or minority-owned businesses. The Authorities have guidelines for the per

cent of their spending that should be directed to such businesses, and eliminating this spend will impact their ability to meet these guidelines. Finding a suitable alternate source for meeting these guidelines may be difficult.

Step 2 – Email/Messaging

Description

Providing email services has become a standard commodity service in IT organizations with clearly measurable economies of scale. The larger the installed base of users supported, the lower the cost per user becomes.¹³ Today, the City and each of the Authorities maintain their own email environment. Significantly, each of these installations uses Microsoft Exchange as the email server, though different solutions have been implemented for antivirus and spam protection. The consolidation of these separate email operations would provide a straightforward and well-defined, initial step into a classic, centralized shared services delivery model. This could build upon the governance model and performance management agreements of Step 1.

Implementation Timeframe and Considerations

Because of the current consistency in mail server and client access software, the implementation of this shared services model would have minimal impact to email users. No organizational or staffing changes would be necessary in the Authorities, the existing IT support staff would function as the “customers” of the centralized Shared Services Organization (SSO), and there may be some changes necessary to help desk and other end-user support processes. If this is built upon the CoE implementation of Step 1, we project that the necessary governance model and support process changes could be analyzed and implemented within a 3 to 6 month period.

Benefits

- **Reduced spending**

As mentioned, the cost per user of delivering email services declines as the size of the user base expands. A consolidated environment will eliminate Microsoft Exchange from the software inventory of the Authorities and the server hardware supporting Exchange can be re-provisioned to other uses, eliminating the need for future maintenance and upgrades. The corresponding increase in client-access licenses and server capacity for the centralized Exchange environment within the City’s data center would be charged back on a fixed cost-per-user.

- **Improved reliability**

A centralized email environment will result in more consistent configuration, testing, and problem resolution services. Standardized antivirus and spam filtering products will also benefit from the economies of scale, and result in improved overall reliability for the enterprise, as the centralized environment will be able to provide more specialized staff support.

- **Strategic positioning**

A centralized environment positions the enterprise for future growth and expansion in unified communication technology. The industry trend is toward a convergence of email, voicemail, chat/IM, and remote (via handheld and smart-phone devices, and web-based access) communication. A single, consolidated organization can more readily adapt to and integrate these new technologies across the larger enterprise.

¹³ Cain, M., E-mail Consolidation in the Public Sector, Gartner, June 2006

Risks

As previously mentioned, this change of email server infrastructure should be able to be implemented with only minor (if any) disruptions to end-users. The primary challenge associated with implementing this step will be expanding the CoE governance model and service level agreements to include a centralized SSO delivery model.

Step 3 – IT Infrastructure Management

Description

The establishment of an SSO with both a CoE service model for leveraging specialized IT skills and a centralized service model for management of email servers the governance model for the SSO should be well defined, which would allow for continued expansion of scope of the SSO. This expansion could be performed in two different phases, to make the transition within the business units more gradual, providing opportunities for the SSO to gradually earn the trust of the business leaders within the Authorities and to minimize the risk of service disruption.

Phase 1

The provisioning of server and other infrastructure resources could be performed by the SSO, with the SSO having responsibility for the “commodity” services at the hardware, operating system, network, and data management level. The specialized support of Authority-specific applications would continue to remain the responsibility of Authority IT personnel. This differentiation of responsibilities would keep the Authority IT staff as both the primary agent supporting the business units in the Authorities, and the primary customer of the SSO. Service level agreements and governance issues would be managed between the SSO and Authority IT personnel.

Phase 2

Further, the SSO model could consolidate all IT functionality in the City and its Authorities into a single organizational entity. Because there is specialized software in each authority that would have no applicability to other authorities (e.g., vendor supplied software for managing garage operations in the Parking Authority), there would be a need to be dedicated SSO personnel assigned to, and physically present at, each Authority. Further, end-user and desktop support will require dedicated staff at authority locations. This would result in a “virtual” SSO model, as described in Section 4, and the primary customer of the SSO would shift from IT to business leadership.

This second phase is optional, in the sense that the consolidated SSO organization described in Phase 1 could be an end in itself. Industry experiences have shown that the distribution of responsibility for IT service delivery – between internal IT staff at an agency and a centralized SSO – results in political infighting between IT organizations and risks to service delivery due to the distance of the SSO from the business operations which their services ultimately support.

However, the implementation of both phases concurrently would create high levels of organization churn, leading to service disruption. Therefore, our recommendation is that two phases be pursued serially, gradually shifting the responsibility of all IT service delivery to a Shared Services Organization.

Implementation Timeframe and Considerations

Clearly, this conversion to a all-inclusive SSO has implications at both technology infrastructure and organizational level, and the impacts should not be underestimated. The initial task should

the development of a strategic vision and a comprehensive roadmap, taking into account the interests of all stakeholders of the end-state organization.

We have stressed the development of the SSO governance structure in Steps 1 and 2, above. With the proper governance structure in place, the implementation of Phase 1 of this step, while complex, is a straightforward expansion of the functionality implemented with Step 2. Once begun, it should be able to proceed quickly. The initial planning is most important, to develop an inventory of all IT infrastructure resource and a prioritization of each based on current licensing status, upgrade schedules, and serviceability requirements. We project that this could be accomplished within a six-month timeframe.

Phase 2 is not as much a technical implementation effort as an organizational and governance challenge. Organizational change is difficult to implement, especially within government agencies not accustomed to sharing services but recent advances by the City/County on shared services offers a model for expansion. Once the initial end-state vision is established, the necessary steps to implement the organizational change can be identified. We anticipate that this planning for organizational restructuring can be undertaken concurrently with the implementation tasks of Phase 1, so that the actual implementation of Phase 2 can be accomplished relatively quickly following the completion of Phase 1. We project an additional three-month period following Phase 1. Therefore, we project a nine-month implementation timeframe for this step.

Benefits

- **Reduced spending**

It is with this step that the primary cost savings of the SSO will be realized. The consolidation of infrastructure resources will allow for more efficient provisioning of resources. Server consolidation should be accompanied by implementation of virtualization technology, allowing for more granular and therefore more cost effective allocation of computing power. Software licensing may be reduced as common functionality across authorities is centralized. Environmental costs will be reduced as multiple server environments are consolidated into one. Personnel costs can be reduced, over time, as well, as the consolidated data center will allow more efficient leveraging of organizational expertise and more cost effective deployment of staff to work tasks.

- **Improved reliability and reduced technology risk**

Improved reliability and reduced risks are the primary benefits of the consolidation effort. Today's processing environment distributes computing infrastructure in many poorly managed locations, with inconsistent data backup schedules and no disaster recovery plan. The City's data center is more robust, with a disaster recovery plan being developed. Allowing the authorities to participate in this more rigorous data management environment will improve the reliability of their processing environment and reduce operational risk to the business.

Risks

Guidelines for governance models of Shared Services Organizations indicate that because of the size difference between the City and the Authorities, there is a significant risk of the Authorities feeling disenfranchised by the move to a shared services delivery model.¹⁴ Therefore we continue

¹⁴ "As a general rule, shared services are unlikely to be effective when any one of the stakeholders has more than 50 percent ownership — because the stakeholder is likely to assert veto power — or where individual stakeholders have less than 15 percent ownership — because they are likely to feel disenfranchised. As the number of stakeholders with less than 15 percent ownership rise, it becomes more appropriate to term the service "centralized." — Roberts, J., "Effective Governance of Government Shared Services," Gartner, January 2004

to stress the need to establish a governance model that incorporates Authority business leaders into a governing counsel and that can be used to foster a true customer-centric focus within the SSO. Any initial cost savings of consolidating IT infrastructure will not have lasting impact to the enterprise without a real commitment to that consolidated IT organization's support of the business units.

Step 4 – ERP Implementation and Operations

Description

We assume that the City of Pittsburgh is moving forward with the acquisition of an ERP system to fully integrate its back-office applications and improve city operations. As described in Section 4, there is increasing pressure on smaller government entities to also adopt state-of-the-art ERP systems, as the need for better financial management and process efficiency grows. The Authorities are no exception to this trend. However, they lack the internal capability to acquire, deploy and maintain a sophisticated ERP system. One of the Authorities has turned to an ASP delivery model (in which the software is run on a vendor's equipment, in an outsourced environment) with much success, indicating that hands-on ownership of the operational system is not a requirement for these Authorities.

A trend among large corporations with multiple subsidiaries is the consolidation of many distinct ERP implementations among their subsidiaries into one "Global Single Instance" (GSI). All of the top-tier ERP packages are capable of supporting multiple, distinct legal entities within one instance. Oracle is a leader in providing this capability, having pioneered the move to a GSI within its own enterprise.

As the City moves forward with its ERP implementation, it should do so in a way that ensures the functionality of the ERP package will be available to each of the Authorities, while maintaining the distinct status of each Authority within the single implementation. It is imperative that this vision of the ERP implementation supporting multiple organizations be established early in the acquisition process, and included in any RFP or system evaluation efforts. This is a unique opportunity for the City – as it is much easier to architect a solution to support multiple organizations when initially installing an ERP, than to reverse-engineer such support into an existing implementation.

"It is imperative that the vision of the ERP implementation supporting multiple organizations be established early in the City acquisition process, and included in any RFP or system evaluation efforts".

If this option is pursued, the execution of the ERP system would need to be within a Shared Services Organization. Thus, the prior proposed Steps become a vital prerequisite, building an operational SSO that will have the experience required to assume ownership of the ERP implementation and successfully deliver services to the City and each of the Authorities.

Implementation Timeframe and Considerations

The timeframe for delivering this ERP support via a Shared Services delivery model is dependent upon the implementation timeframes outlined within the City's ERP strategy. However, we recognize two important considerations:

- While the initial ERP implementation must be architected to support multiple organizations for this support to function seamlessly, it is not necessary to implement multiple organizations at one time. That is, the City can pursue its ERP implementation, including the complex conversion of data and business processes, without any impacts to

the Authorities. Once the ERP package is operational, then each Authority can be migrated into the global system image, one at a time, to minimize the complexity of the implementation challenges.

- The specific timing of each Authority's migration should be established based on considerations within the Authority, and an overall priority established based on benefits and impacts to business processes, as well as ongoing costs for existing back-office financial software.

Benefits

- **Reduced spending**

The marginal cost of supporting the Authorities within a single ERP implementation will be low, capitalizing on the per-seat licensing structure of ERP software and the relatively small size of the Authorities user base. The elimination of existing internal financial systems, and the ASP and outsourcing arrangements currently used to provide payroll and HR functionality, will provide cost savings to the Authorities.

The expense of operating an ERP solution, including the acquisition (through training or hiring) of specialized in-house expertise, would be subsequently spread across a larger user-base, and the charge-back to the Authorities would share the expense across the enterprise.

- **Improved reliability and reduced technology risk**

There are many risks associated with the disparate solutions implemented within each Authority today. The ASP and outsourcing models currently used allow sensitive personnel and financial data outside the control of the Authority introducing an exposure to privacy breaches. Financial management software is outdated, with reduced options for ongoing support. These risks would be mitigated by migrating the payroll, HR and financial management of the Authorities into a comprehensive ERP solution managed by an experienced Shared Services Organization.

Risks

The most significant risk of the proposed approach to implementing this consolidated, shared services ERP model is that the Authorities are not involved in the initial implementation of the ERP software. When the migration of an Authority into the ERP solution occurs, it might be possible that specific requirements of that Authority cannot be met by the package, or that the customization required to meet those requirements would conflict with other customizations already in the current implementation. This risk can be mitigated by involving the Authorities in the ERP evaluation and acquisition process, and by creating the necessary SSO governance model earlier rather than later.

Step 5 – Business Operations Shared Services

Description

We include in this discussion a potential final step: the consolidation of business processes into a Shared Services Organization. If a single ERP solution is utilized to deliver the payroll, HR, and financial management services for the City and each of its Authorities, it is possible that one or more of the business processes supported by that ERP package could be consolidated into the SSO as well. An example might be the payroll functionality that, in many of these Authorities, is already outsourced to a service provider.

The feasibility of this level of functionality within an SSO is very dependent upon the implementation of a shared ERP solution, as there would be no productivity gained by consolidating functionality that is supported by the disparate systems in place today.

Timeframe

The implementation of this shared business functionality is not a technical implementation effort, but an organizational and governance challenge first and foremost. In addition to the normal political challenges faced with such re-organizational efforts, there would be both internal difficulties to overcome (for example, establishing proper charge-back mechanisms to the Authorities) and external challenges (for example, a shared HR organization dealing with the various unions involved across the Authorities). If these challenges can be overcome, it will require a carefully planned and executed process. We can project no timeframes for this stage of an SSO migration. This final step represents the ongoing evolution of the SSO, which will be built upon the foundation outlined in the steps detailed above.

Benefits

A goal of any organization should be continual process improvement resulting in increased efficiencies. A Shared Services Organization for business operations would centralize the expertise for these operations from across the enterprise and provide the proper environment for implementing such process improvements. *These efficiencies and the economy of scale introduced by a consolidated organization can reduce operational costs in the range of 5 to 35 per cent.*¹⁵

Risks

The risks associated with consolidating business operations are related to the loss of control that an organization might experience over those operations, resulting in a slower response to changing business requirements. It is necessary to foster a culture of “customer service” within the SSO, and to ensure that the governance model provides the proper mechanisms to address the concerns of the Authorities.

Summary

As outlined above, there is a logical progression of development of a SSO to serve the City and its Authorities. The primary challenges of such an implementation are not technical, but political and organizational. We have focused on the need to “phase in” an SSO organization, allowing for the evolution of a mature governance model. This governance model must include the creation of a stakeholders’ council, the establishment of measurable service level agreements, and the collaborative development of operational standards. The Authorities must have confidence in the responsiveness of the SSO to the requirements of their business operations. This trust cannot occur overnight, but must be developed over time by proven service delivery.

The requirements of the SSO are complex, incorporating three different service models:

- **Centers of Excellence**

An initial CoE would be established for delivering specialized IT services and support, and this CoE model could be extended to provide specialized support of ERP functionality to the various Authority business units.

- **Fully consolidated and centralized.**

¹⁵ Liddell, H., Best Practices – How CIO’s make Shared Services Work, Forrester Research, April 2005

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The SSO would utilize the classic model for consolidating the IT infrastructure and services, and the implementation of a shared ERP solution.

- **Virtual shared services**

The resources that deliver ongoing IT support for unique requirements in each Authority would remain physically part of the Authority, but be part of the virtual shared services organization.

The following Gantt chart summarizes the individual steps and their projected time frames. This is a high level estimate that would need to be verified from a bottom level up work plan:

Step	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Ongoing
1. Specialized IT Services and Support	■	■											
2. Email/Messaging		■	■	■									
3. IT Infrastructure Management		■	■	■	■	■							
4. ERP Implementation and Operations					■	■	■	■	■	■	■		
5. Business Operations Shared Services												■	■

***Inter-governmental Shared Services Consortium
Strategy and Approach***

The relationship between the City and the Authorities, under a common political charter, led to the recommendation of a Shared Services Organization within the existing political framework. Further, the difference in the size and scope of the IT organizations with those five entities led to the recommendation that the City’s IT organization evolve into that SSO, servicing not only the City but also the Authorities. However, as we assessed the existing relationships between the City, the County, the Port Authority and the School District, we saw organizations that are independent and autonomous entities. Though there are instances of cooperation among them – shared procurement practices, for example – these instances have not introduced integrated business operations. Additionally, each organization has a comparably robust IT organization and well-provisioned infrastructure. In contrast to the City and its Authorities, we see no evolutionary migration path for the implementation of an SSO to serve these larger entities.

That there would be a value to consolidating various IT services across these organizations into a shared services delivery model is unquestioned. *There is ample evidence in the industry of overall reductions in infrastructure expenditures up to 30 percent, which could equate to tens of millions of dollars if planned and implemented well.* However, as presented in Section 4, consolidation, by itself, does not introduce shared services: The resulting centralized IT organization is often less responsive to the business requirements and fails to deliver predictable, reliable service results. True long-term cost reductions are a result of a service delivery model that provides for continuous process improvements and a customer-focused orientation. Such a delivery model requires that there be a well structured governance model that ensures a focus on continued process improvements while maintaining the interests of all sharing agencies.

We believe that the implementation of an effective SSO among these four peer agencies would require the creation of an independent SSO, perhaps utilizing a Consortium model as described in the Section 4 of this report. We have included in that section a case study, highlighting the experiences of three autonomous Texas cities and their use of the North Central Texas Council of Governments (NCTCOG) to develop an effective, independent consortium for the delivery of IT shared services. While the Texas cities had the advantage of expanding the role of an existing inter-governmental counsel, we recognize that no formal organizational entity exists to service the City, County, Port Authority and School District. Creating such an organization or other independent agency would require a significant effort, and the charter must be carefully crafted: with the increasing pressure to reduce the cost of government in the region, creating a new entity would be a challenging endeavor, and the charter should provide firm milestones for measurable cost reductions.

Roadmap

Rather than an evolutionary approach that culminates in a robust SSO, the roadmap for an intergovernmental shared services implementation should begin with a “big bang” that could deliver immediate benefits to all the participating local government organizations. The City’s pursuit of an ERP solution provides such an opportunity. If there is sufficient motivation among two or more of these peer organizations to move forward with a regional shared services consortium, the vision and organization must be established in the near future, in order to appropriately guide the acquisition process. Once the City’s ERP implementation starts, the window of opportunity to benefit from a shared services model will be lost.

“Once the City’s ERP implementation starts, the window of opportunity to benefit from a shared services model will be lost”.

Then, in parallel work streams, that SSO Consortium can be formalized while the ERP implementation for the City progresses. Once the initial implementation is complete, additional government agencies can be incorporated. Once there is a common ERP shared services model, the SSO can evolve to support additional functionality, such as providing shared IT infrastructure services as described above for the intra-city SSO. Finally, once multiple government organizations are supported in a shared ERP environment, the ongoing development of a shared business operations environment can take place.

Thus, the overall roadmap for the Inter-governmental Shared Services Consortium would encompass these steps:

Step 1 – Establish a Vision and Create an Organizational Structure would create an appropriate governance model and the framework for a shared services organization.

Step 2 – Implementation of the Shared ERP Solution for the City would expand the scope of the current City ERP initiative to encompass a solution that can be expanded to support additional government organizations in a “Global Single Instance” (GSI). Though the initial implementation would encompass only the City’s functionality, the system must be architected, from the onset, to support multiple legal entities.

Step 3 – Migration of Other Governments ERP Functionality would focus on the migration of the other governments into the shared ERP implementation, based on business needs and existing software licensing/upgrade requirements.

Step 4 – Migration of Shared IT Services would leverage the SSO to improve the performance and efficiency of other shared IT services, such as consolidating email and messaging infrastructures, disaster recovery capabilities, etc.

Step 5 – Business Operations Shared Services would build upon the consolidated processing environment of step 3 to allow the centralization of commodity back-end services such as HR and payroll.

Step 1 – Establish a Vision and Create an Organizational Structure

Description

The City and its Authorities share a common jurisdictional platform or model under the Mayor's office. There is no similar jurisdictional model readily available that oversees the City, the County, the School District and the Port Authority. Each of these organizations is independent, and has a tradition and culture that will resist ceding control of its business processes to another entity. Thus, the primary challenge in moving beginning a journey toward a shared services model is establishing the proper political and organizational structure to house the shared services organization, which will also require the development of proper funding models, service level agreements, and benefit realization measures.

Timeframe

While the details of this organization can be worked out over the duration of the City's ERP implementation, it is imperative that a common vision for shared services be established within each of the organizations in the very near future, so that the City's ERP acquisition can proceed without delay. Each member government would need to be involved in the acquisition process, to ensure that the software selected will address the unique requirements of that government. The challenge of creating a culture of collaboration, and fostering a vision of common success must be overcome early in the ERP software evaluation and selection process.

Benefits

The creation of a common vision among the leadership of each participating government is an important criterion for long-term success. This vision must be translated into an effective governance structure with a clearly defined mandate and charter, to empower the SSO organization to overcome the resistance to change that will be the natural result within the lower levels of each government's organization.

Risks

Each local government will resist ceding control to a centralized shared services organization (SSO). This SSO must be carefully constructed to allow each participating organization to share ownership; and each organization must have a vested interest in success, sharing in the cost savings and process improvements.

Step 2 – Implementation of the Shared ERP Solution for the City

Description

As stated above, the City's planned acquisition of a new ERP solution would be the driver for the establishment of a proposed inter-governmental consortium. Making the transition from a City-centric procurement to a consortium-centric procurement will require the participation of key stakeholders from each of the government entities, starting immediately with the planning and research but progressing throughout the implementation. This initial implementation would focus on the ERP acquisition, initial setup and configuration, and the migration of the City's processing to the ERP software, but the involvement of the other governments would be required throughout this process to ensure that architecture, design and implementation decisions are being made in a way that will satisfy the needs of all sharing governments. This may require utilizing a

contracted third-party to lead the implementation effort to provide an objective perspective and to avoid the appearance of City ownership of the initiative.

Timeframe

The timeframe for this step must be coordinated with the City's existing plan for an ERP acquisition, and with any adjustment to that plan that may result from consideration of the "Intra-city Shared Services Organization" discussed above.

Benefits

Expanding the scope of the City's ERP implementation to a shared operating model introduces a number of soft benefits in addition to the immediate sharing of costs among the participating governments.

- **Tier-1 ERP Capabilities**

Given the size and scope of the City's operation and budget, it would be feasible for the City to pursue the acquisition of a "Tier II" ERP solution.¹⁶ However, the combined requirements of an inter-governmental implementation will require a "Tier I" solution. Sharing the costs of this acquisition among multiple governments will provide the enhanced functionality that a Tier I solution can provide.

- **Shared Expertise**

One of the major challenges facing the City is the ongoing support of the ERP implementation. A shared ERP environment will leverage the ERP implementation and support expertise across multiple governments.

- **Reduced maintenance costs**

One of the hidden advantages of a shared services implementation model is the reduced "customization" that is performed on the base ERP package. Rather than a single government customizing the solution to match their existing processes, the need to share the solution among competing interests often leads to an agreement to utilize the ERP functionality "as is" and modify business processes to match this functionality. Note only does this result in shared, streamlined business processes, minimizing customizations significantly reduces the costs of future ERP software upgrades.

Risks

The success of this initial ERP implementation for the City is critical to establish the reputation of the SSO as a viable model for an inter-governmental consortium. The SSO must be aware of the City's business units feeling that they have lost control of the implementation. To mitigate this risk, the SSO must be focused on the implementation timeline and not introduce any unnecessary delays, and work to build a collaborative and customer-responsive organization.

Step 3 – Migration of Other Governments' ERP Functionality

Description

Once the City's operations have been successfully implemented into the shared ERP environment, a timeline would be created to support the migration of the other governments' data and processes into the system. It would be prudent to effect this migration one government at a time, to minimize the rate of change to the system and to provide focused support to each migration effort.

¹⁶ "An Evaluation of Financial, Payroll, and Human Resource Management Systems," GFOA Report to the City of Pittsburgh, October 2007

Timeframe

The timeline would be prioritized based on the readiness of the agencies to migrate, and the cost savings that would result based on eliminating the processing costs at each government (e.g., current outsourcing costs for HR and payroll, software licensing costs being reduced, and hardware being re-provisioned). The overall schedule for these migrations must balance the need to provide ample time for the migration causing minimal service disruption with the need to maintain a forward-looking momentum to ensure that the initial vision of the SSO can continue to be realized.

Benefits

As each additional government is brought into the ERP processing environment, there would be additional cost savings realized:

- **Streamlined Processing**

A large part of any initial ERP implementation is the establishment of “best practices” for the business processes supported by the ERP software. The initial implementation to support the City should be accomplished with the participation of key stakeholders from each government, resulting in more ready buy-in within the business units for the resulting business processes. Further, the sharing of the ERP solution would lead to the sharing of business process expertise across the government entities, facilitated by the SSO staff, resulting in ongoing process improvements.

- **Reduced Infrastructure**

As each government’s back-office functionality is migrated into the SSO model, the infrastructure in place to support that functionality can be eliminated from that government’s environment. This would include IT infrastructure (software licensing and upgrade costs, hardware maintenance and upgrade costs, and any outsourced or supplemental staffing costs).

Risks

Each migration provides a building block upon which future migrations rest. Given the political nature of the consortium, any delays or problems encountered will feed the inherent resistance to change that will already exist in each organization. We cannot overstate the need for a robust governance model, and the establishment of the SSO vision at the highest levels of leadership within each participating organization.

Step 4 – Migration of Shared IT Services

Description

Once the proper mechanisms are in place to support a shared ERP implementation, the scope of the support provided by the SSO can expand to encompass additional IT infrastructure services. This inter-governmental SSO could provide, for example, the same services that the intra-city SSO could provide: shared email and messaging services, consolidated server management, and common data management (e.g., data backups and disaster recovery).

Timeframe

In contrast to the intra-city migration, the development of shared IT services would follow the ERP implementation, rather than precede it. The IT infrastructures of all four governments in the scope of this consortium approach are robust, and there would be minimal value in migrating to a shared service model prior to a shared ERP model. However, once the core back-end functionality of an ERP solution is shared, other services – as appropriate – can be migrated into that model, with the timeframe dictated by licensing and upgrade considerations.

Benefits

As previously described in both Section 4 and this section, shared IT infrastructure services can reduce operational expenditures by as much as 30%. We are projecting the move to a shared IT services model to be a slow migration, and each step along the way would require a cost-benefit and/or ROI analysis to ensure that there would be a measurable benefit. It is not feasible that all IT infrastructure and support across all of the local governments can be consolidated – only those services where there is real benefit to be gained should be migrated to this model.

Risks

The corresponding risk is that the move to a shared services model becomes political or otherwise not grounded in objective decision-making. Where a shared model does not make sense, services should remain distributed in each government. Forcing a shared model where it is not justified will result in service degradation and frustrated end-users, and – ultimately – will raise resistance to other shared services initiatives where they would make sense.

Step 5 – Business Operations Shared Services

Description

As with the intra-city implementation described above, we recognize that this is the potential final goal: the consolidation of business processes into a Shared Services Organization. As each government migrates to a common ERP instance for payroll, HR, and financial management services, it becomes feasible to integrate the business processes into a consolidated SSO as well. An example might be the payroll functionality that in some cases is already outsourced to a service provider.

Timeframe

The implementation of this shared business functionality is not a technical implementation effort, but an organizational challenge. In addition to the normal political challenges faced with such re-organizational efforts, there would be both internal difficulties to overcome (for example, establishing proper charge-back mechanisms to the individual governments) and external challenges (for example, a shared HR organization dealing with all of the various unions). Thus, we underscore the importance of the first step in this process: the establishment of the proper political and organization governance structure.

Benefits

A goal of any organization should be continual process improvement resulting in increased efficiencies. A Shared Services Organization for business operations would centralize the expertise for these operations from across the enterprise and provide the proper environment for implementing such process improvements. These efficiencies and the economy of scale introduced by a consolidated organization can reduce operational costs in the range of 5 to 35 per cent.¹⁷

Risks

The risks associated with consolidating business operations are related to the loss of control that an organization might experience over those operations, resulting in a slower response to changing business requirements. It is necessary to foster a culture of “customer service” within the SSO, and to ensure that the governance model provides the proper mechanisms to address the unique needs and concerns of each government entity.

¹⁷ Liddell, H., Best Practices – How CIO’s make Shared Services Work, Forrester Research, April 2005

Summary

As described in the steps above, the creation of an independent “Shared Services Consortium” to support the processing of the local governments in the Western Pennsylvania region must be driven by a vision established at the highest levels of leadership in each organization, and must deliver measurable benefits to each participating government. The City’s acquisition of an ERP solution can be the catalyst to create such a consortium, delivering the benefits of a “Tier I” ERP package to all of the participants.

The following Gantt chart summarizes the individual steps and their projected time frames. This is a high level estimate that would need to be verified from a bottom level up work plan:

Step	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Ongoing
1. Establish a Vision and Create an Organization	█	█	█										
2. Implementation of the Shared ERP Solution for the City			█	█	█	█							
3. Migration of Other Governments' ERP Functionalty				█	█	█	█	█	█	█	█		
4. Migration of Shared IT Services									█	█	█	█	
5. Business Operations Shared Services													█

Next Steps

As stated above, we believe that the Intra-City Shared Services activities can begin soon, assuming the governance issue can be mitigated quickly because the authorities are siblings, so to speak, of City Government.

In addition, the City’s plans for acquiring a new ERP solution is a driving factor in both the timing of, and the effectiveness of, a Shared Services delivery model, for either or both the four independent Authorities and the other Allegheny County governmental agencies. If the findings of this assessment are to be carried forward, it should be done in concert with that acquisition in anticipation of a Intergovernmental Shared Services Consortium for ERP/other services. A shared services vision for that ERP implementation must be established before the City of Pittsburgh RFP is released or product evaluation and selection occurs or the opportunity for an intergovernmental approach will not be possible.