



IT SHARED SERVICES
DEPARTMENT OF PUBLIC WELFARE
COMMONWEALTH OF PENNSYLVANIA

Nominating Category: Enterprise IT Management Initiatives

Nominator

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Executive Summary

The Commonwealth of Pennsylvania's Governor's Office of Administration (OA) provides policy direction, management services and technology infrastructure to all agencies under the jurisdiction of Pennsylvania Governor Edward G. Rendell. This includes, but is not limited to, the Departments of Public Welfare, Transportation, Labor and Industry, Corrections, Revenue, and the Pennsylvania State Police. With the support and commitment of the above key agencies, the OA's Office of IT (OIT) embarked on Shared Services and related Consolidation Initiatives in 1998 to help better support growing citizen needs and refocus the Commonwealth's IT culture from technology alone to business. These leading initiatives have improved efficiency and led to \$317 million in savings with an additional savings of \$240 million expected over the next five years.

In support of enterprise IT transformation and improved citizen service, the Department of Public Welfare (DPW) has fully embraced shared services and its early adoption of a shared services model helped drive lessons learned and best practices into OA's state-wide approach. DPW has partnered with OA to develop and execute best practices in policy, processes, governance, workforce development and enterprise change management to drive a successful shared services enterprise-wide initiative for the Commonwealth as a whole.

DPW is the largest of the Commonwealth's agencies. The agency is responsible for meeting the needs of over two million clients with the assistance of 15,000 support workers, 500,000 providers, and 300,000 employers. The significance of the technology infrastructure required to manage this complex organization is reflected in the department's annual information systems budget, which has averaged about \$160 million in recent years.

The enterprise IT applications used to manage the administration of DPW's core programs are both large and complex, due to the intricate regulatory, financial, and fiduciary requirements of these systems. The goal of its *IT Shared Services* model is to augment functional expertise with technical experts who can move across functions as demand for their services fluctuates. This alleviates DPW from handling technical IT resources as "fixed costs", which are bound to a particular functional initiative whether or not there is an immediate demand for their services. It also allows DPW to better manage agency requirements and improve service to citizen through the implementation of newer technology.

Furthermore, the agency's approach to shared services and its commitment to helping OA continually innovate in this area – such as its current move to an SOA environment – has helped Commonwealth agencies significantly improve IT agility, service levels and performance and reduced operations and security risks.

Project Description

The Department of Public Welfare's (DPW) *IT Shared Service* Initiative was initiated to provide DPW's line-of-business applications with IT specialists across common technical domains, such as database administration, security, and configuration management. DPW began significant system modernization efforts of these systems more than 7 years ago, with the creation of their first web-based applications. These efforts have gained momentum over the last several years as DPW has sought to aggressively move select functionality off of their mainframe platform and onto server-based systems.

Prior to embarking on an *IT Shared Services* model, DPW first established a shared enterprise IT infrastructure and cost allocation model. DPW's first generation of *IT Shared Services* extended this infrastructure model to address commonality and standardization across their first generation of web-based applications. By establishing cross-functional teams, each responsible for a particular technical domain, DPW found that it could much better establish and maintain shared processes, standards, and technical assets. This shift allowed DPW to extract and pool resources specializing in fields such as database administration, security, configuration management, architecture, and performance tuning. Pooling of these resources in a shared services capacity allowed DPW to better address fluctuations in demand for these resources over time and avoid the over-allocation of funds for dedicated resources that were already available elsewhere within their project portfolio.

DPW's second, and current, generation of *IT Shared Services* represents an evolution of their previous shared services model and its application towards increasingly distributed, service-oriented applications. The move to service-oriented systems has brought with it opportunities to expand beyond the core technical domains into two new areas: (1) infrastructure services such as storage in the cloud and geocoding that can be offered as common services across applications; (2) support of sophisticated COTS technologies such as enterprise rules engines, portals, service bus, and content management systems – many of which support service oriented interaction.

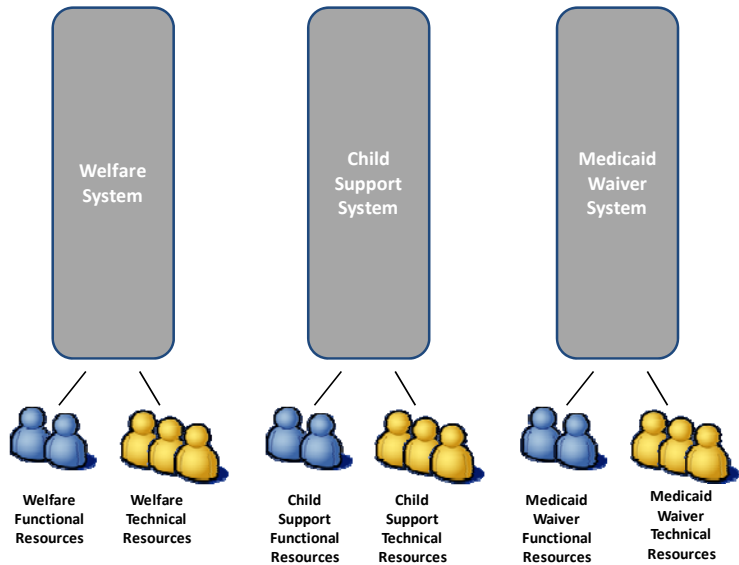
The Business Challenge

The business challenge that DPW faced during their initial system modernization efforts, siloed IT service allocation, is illustrated in figure 1.

Figure 1 - Siloed IT Service Allocation

The siloed IT service allocation represented by figure 1 presents a situation where both functional and technical resources are allocated and managed by the line-of-business applications, which are represented by generic DPW business applications in this figure. The challenges of this allocation mechanism are twofold:

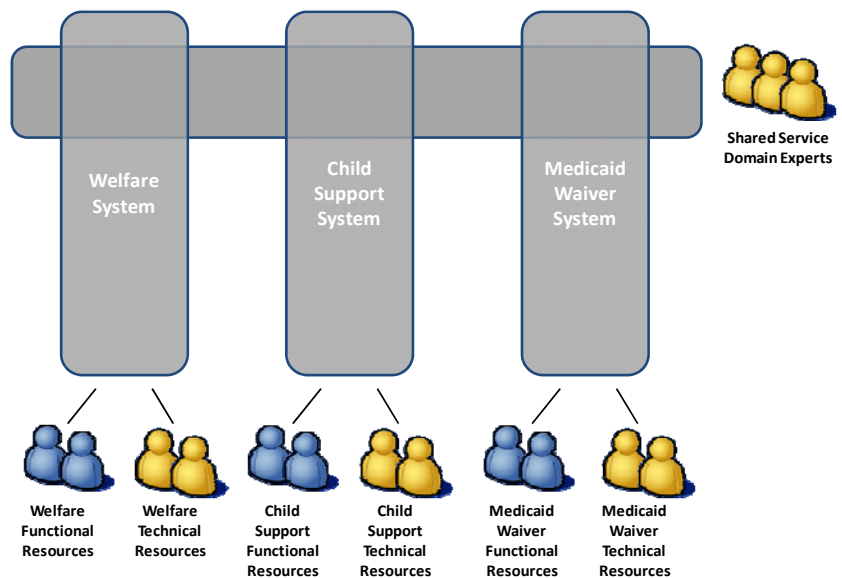
1. Duplication of IT technical services across applications is an inefficient use of resources
2. Allowing line-of-business applications to own technical resources decreases the likelihood of standardization and results in minimal reuse of common process and technical assets



What this ultimately meant was that DPW's IT resources, and ultimately their IT projects, were operating at a suboptimal level. The use of IT Shared Services was DPW's strategy to counter this trend.

IT Shared Services, Phase 1

Figure 1 – IT Shared Services, Phase 1



IT Shared Services, Phase 1, as represented in figure 2 addressed the immediate challenges posed by the siloed IT service allocation mechanism.

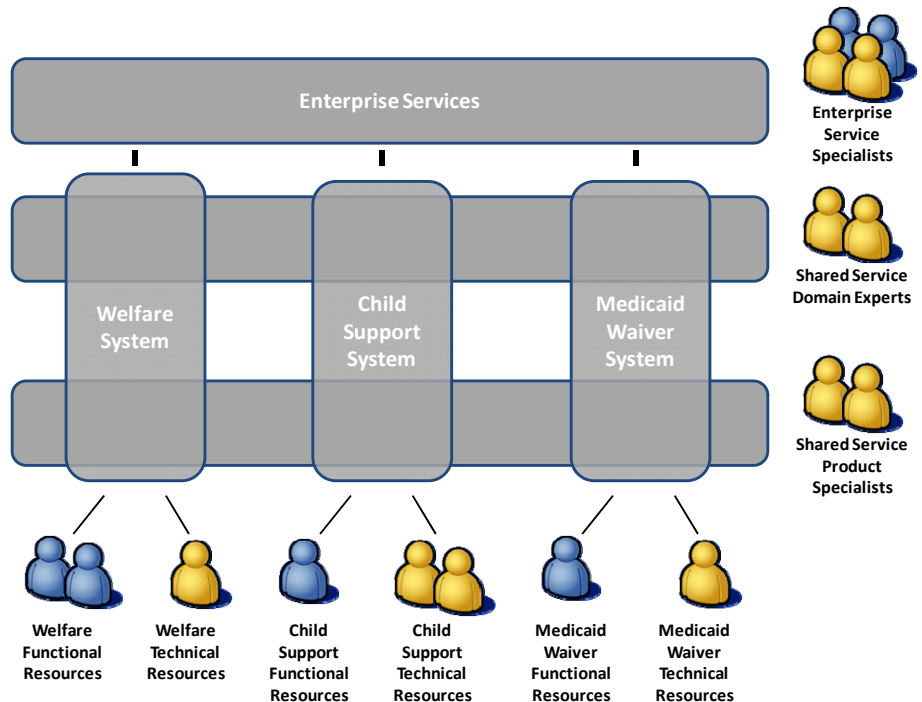
1. Duplicative IT functions were extracted from line-of-business applications and organized into cross-functional technical domain teams
2. These technical domain teams were empowered to create standards governing their domain and governance mechanisms were created to enforce the use of standard processes and technical assets across the applications.

The use of a cross-functional *IT Shared Service* model was very successful at DPW. It allowed the organization to respond to fluctuations in IT resource demand in a much more agile fashion and resulted in a greater degree of standardization and cohesion within and across the technical domains. The model recognized that line-of-business applications still benefitted greatly from application-specific technical resources in the form of business function savvy application developers and made no attempt to realign these resources. However, the push towards a service-oriented architecture is leading DPW to revisit what exactly “application-specific” means and is leading to the next generation of *IT Shared Services*

IT Shared Services, Phase 2

Figure 2 - IT Shared Services, Phase 2

IT Shared Services, Phase 2, as illustrated in figure 3, represents the ongoing evolution of shared services along with other trends within the DPW organization, including SOA and IT consolidation. Unlike Phase 1, it does not imply a simple transition of existing resources. Rather, it is premised upon the following two changes occurring within the DPW IT organization:



1. The rise of a new class of product specialists with deep expertise in a particular tool or technology (e.g. rules engine modeling, data warehousing) critical across DPW’s IT applications.

2. The real trend towards enterprise services that reside outside of the core line-of-business applications and require dedicated maintenance resources separate from the line-of-business applications. As denoted in Figure 3 through the use of both yellow and blue icons, this team is increasingly made up of both business and technical resources.

Operational Timeframes

As a point of reference, DPW undertook the creation of its first web-based applications in late 2000. The shared services model, Phase 1 has been fully operational since 2004. In 2008, DPW began to shift towards a SOA. The trend towards a model resembling *IT Shared Services*, Phase 2, has been evident since this time.

Project Significance

The adoption of an *IT Shared Services* model is part of a logical solution to addressing many of the drivers of change facing state government today. It is likely that the same or similar challenges are driving other states to take a variety of actions to realize improvements to the operations of the government. The following list enumerates DPW-specific examples of how *IT Shared Services* impacted their organization:

- **Economic Downturn** – With the current economic situation, it’s hard to get funding for any new resources. The *IT Shared Services* model alleviates DPW from handling technical IT resources as “fixed costs” and helps iron out some of the demand fluctuation as projects go through the project lifecycle.
- **IT Consolidation** – Mandated IT consolidation across Commonwealth agencies is facilitated by a model that does not further reinforce the building of silos between formerly disparate systems but rather, encourages sharing.
- **Service-Oriented Architecture** – The transition towards a service-oriented architecture (SOA) goes hand-in-hand with DPW’s Phase 2 *IT Shared Services* model.
- **Skill Shortages** – IT recruiting and retention challenges are reduced by maximizing the utilization of existing resources and alignment of likeminded technical domain experts.

Project Benefits

The financial underpinnings of the *IT Shared Services* model are extraordinarily simple, building on the basic economic concepts of fixed and variable costs. What's unique about *IT Shared Services* and other modern IT models such as the increasingly popular cloud/utility computing model is that they attempt to cast what would otherwise be fixed costs (servers or IT staff) into variable costs. The cloud / utility computing model creates variable costs by taking servers out of datacenters where they often sit underutilized, creating a massive network of computing power and then selling that power "on demand" so that consumers only pay for what they use. The *IT Shared Services* model creates variable costs for specialized IT staff by removing them from specific line-of-business projects where they may often be underutilized and then reallocating them across project lifecycles according to peak demand and utilization opportunities.

Industry benchmarks initially suggested a bottom-line costs savings of 10% - 30% per annum as a result of adopting a shared services approach. Expected DPW cost savings through hardware and software pooling both within and across Commonwealth agencies like DPW have been valuated at about a *10% cost savings*.

On top of that, that *IT Shared Services* has yielded additional savings, which are illustrated in figure 4 using a conceptual example of a recent DPW IT services procurement.

Taken together then, the combination of hardware/software and *IT Shared Services* is expected to save DPW approximately 22.5% per annum in IT costs. This is at the upper end of industry expectations and is expected to rise further as DPW moves towards Phase 2 of *IT Shared Services*.

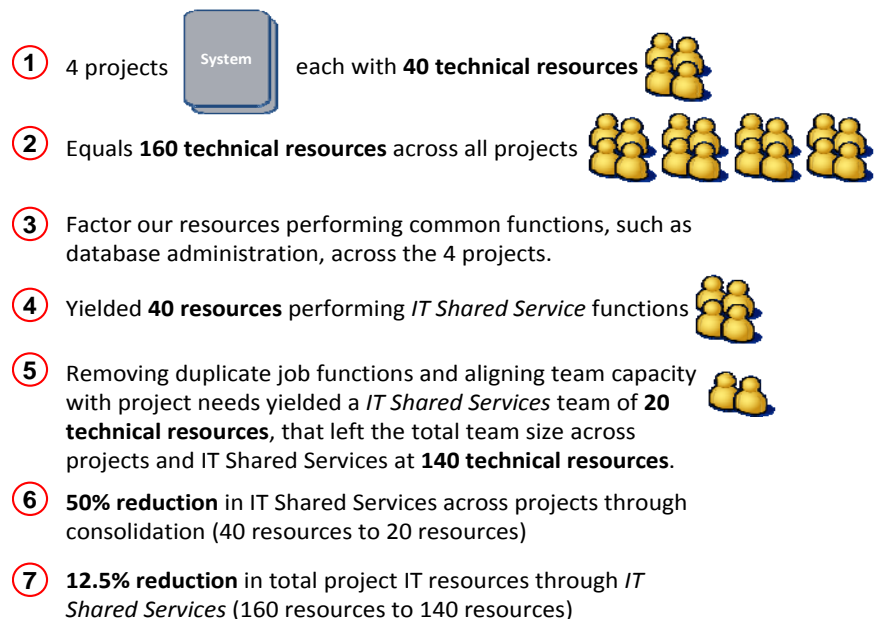


Figure 4 - IT Shared Services Cost Savings

The innovative approaches that DPW has taken on shared services and its partnership with OA to drive ongoing enterprise-wide transformation has allowed fellow agencies to benefit from their experience and ultimately the citizens they service.