



## 1. Executive Summary

## Introduction

The Washington State Legislature created the Information Technology Work Group (ITWG, Work Group) in Section 962 of the 2007-2009 Operating Budget. Composed of legislative members, agency directors, chief information officers, and members of the business community, the Work Group was chartered to examine opportunities to improve the administration and coordination of state information technologies (IT). In November 2007, ITWG submitted its preliminary report to the Governor and the Legislature. In the report, the Work Group made specific recommendations regarding IT project approval and oversight, purchasing practices, and the shared use of Department of Information Services (DIS) infrastructure. The Work Group also asked the Legislature to appropriate funds to hire a consultant to evaluate – and develop a strategy for – the governance and delivery of state IT services. In September 2008, the IT Work Group engaged Pacific Technologies, Inc. (PTI) to conduct that evaluation.

Over 100 state stakeholders – with representatives from over 70 state agencies, boards, and commissions, as well as the State Senate, House of Representatives, and the Governor's Office – contributed to this planning effort through interviews, focus groups, and other data collection efforts. PTI:

- Conducted 26 one-on-one interviews with state executives from the State Senate, House of Representatives, Governor's Office, Information Services Board, Department of Information Services, Office of Financial Management, and other state agencies
- Facilitated 12 focus groups with 125 state stakeholders representing nearly 40 state agencies, boards, and commissions
- Participated in a roundtable discussion with Washington State IT professionals at the 2008 Information Processing Management Association (IPMA) conference
- Reviewed input from vendor representatives who participated in a 2008 vendor forum on IT governance and service delivery in Washington State sponsored by the Information Technology Work Group
- Researched published survey data and other documentation on the topics of IT governance and service delivery
- Reviewed state statute and budget instructions regarding IT governance structures and funding mechanisms
- Analyzed the State's agency IT portfolios
- Collected and assessed detailed quantitative data related to statewide IT staffing spending, and related infrastructure
- Surveyed seven states<sup>1</sup> and British Columbia to identify current trends and lessons learned in IT governance and service delivery among Washington's peers

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<sup>1</sup> Including Colorado, Michigan, Missouri, North Carolina, North Dakota, Texas, and Virginia.

- Assessed the State's IT service delivery against industry standards, best practices, and our database of public sector technology benchmarks

This assessment represents a point in time, based on analysis conducted from September 2008 through April 2009. The scope of this study did not include higher education in Washington or the Washington State Department of Transportation.

The following table summarizes the key findings and major recommendations resulting from this study.

**Summary of Key Findings and Major Recommendations**

Key Findings	Major Recommendations	Primary Benefits
1. Currently, the Information Services Board (ISB) delegates much of its statutory authority and has assumed a project oversight role.	<b>Refocus the ISB on setting and guiding IT direction for the State, and establish a Project Review Board for Level 3 projects.</b>	<ul style="list-style-type: none"> <li>• Aligns technology investments with the State's business priorities</li> <li>• Ensures the State's limited IT resources are directed to the highest areas of need</li> <li>• Leads to long-term cost savings through the avoidance of duplicate IT projects</li> </ul>
2. The State's PC to PC support ratios are significantly below targets for high performing organizations <sup>2</sup> , and a large amount of agency labor is dedicated to non-agency specific infrastructure support.	<b>Centralize desktop and infrastructure support functions to achieve economies of scale – leave application support in the agencies.</b>	<ul style="list-style-type: none"> <li>• Promotes basic IT provision as a utility<sup>3</sup> across the State</li> <li>• Allows agencies to focus on core business needs rather than technical infrastructure</li> <li>• Leads to long-term labor and hardware cost savings</li> </ul>
3. The State's distributed approach to infrastructure management results in an excess of servers, higher costs, and support inefficiencies.	<b>Optimize and reduce infrastructure in alignment with enterprise architecture best practices.</b>	<ul style="list-style-type: none"> <li>• Improves reliability, security, and disaster recovery</li> <li>• Leads to long-term labor and cost savings</li> <li>• Reduces future replacement costs and makes outsourcing more practical</li> </ul>

*Centralize utility IT services across the State, leading to long-term labor and infrastructure savings – leave application support in the agencies.*

<sup>2</sup> Benchmark targets defined and annually updated by PTI based on more than 15 years of IT staffing and inventory data collected from public sector organizations. Currently the target for PCs to PC support staff is 250:1 to 350:1.

<sup>3</sup> Common services utilized by all or most users of the State's network (e.g., PC support, server support, network support); these services most typically are not directly related to the business mission of agencies.

The remainder of this executive summary:

- Briefly summarizes the project background
- Provides an overview of the State's current IT environment
- Presents key recommendations for change
- Highlights an implementation plan
- Concludes with key transition considerations

## Project Background

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During the course of this study, the State experienced the most significant economic downturn in its history, facing a \$9.3 billion budget deficit and the prospect of continued economic decline through at least 2010. In response to this revenue shortfall, Governor Christine Gregoire proposed major budget cuts through the elimination of over 150 boards, commissions, and committees; streamlined operations; and the use of technology to deliver services more efficiently. Based on these changing circumstances and priorities, this study shifted focus to include the identification of specific short-term IT cost savings strategies as well as to create a more effective IT governing structure and service model in the long term.

Overall, the scope of this effort centered on surfacing opportunities for improved IT efficiencies and attendant potential cost savings. It did not include an analysis of potential investments required to support defined recommendations, such as one-time expenditures for data center consolidation. It also did not include an evaluation of potential customer service and business process improvements that could be made possible via technology. Finally, there is a likelihood that even greater opportunities for enhanced efficiency and effectiveness exist in other service areas across the State. This also was not within the scope of this project.

## Current IT Environment

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This section summarizes the current IT governance and service delivery environments in Washington State.

### IT Governance

Chapter 43.105 of the Revised Code of Washington (RCW) creates both the Information Services Board (ISB) and the Department of Information Services (DIS), headed by a Director. The ISB and the Director of DIS – Washington State's Chief Information Officer – form the basis of information technology governance in Washington State.

In addition to these two governing bodies, state statute creates the following two advisory bodies: the State Interoperability Executive Committee (SIEC) and the Customer Advisory Board (CAB). The ISB created two additional committees to provide advice and recommendations in particular topic areas, including the

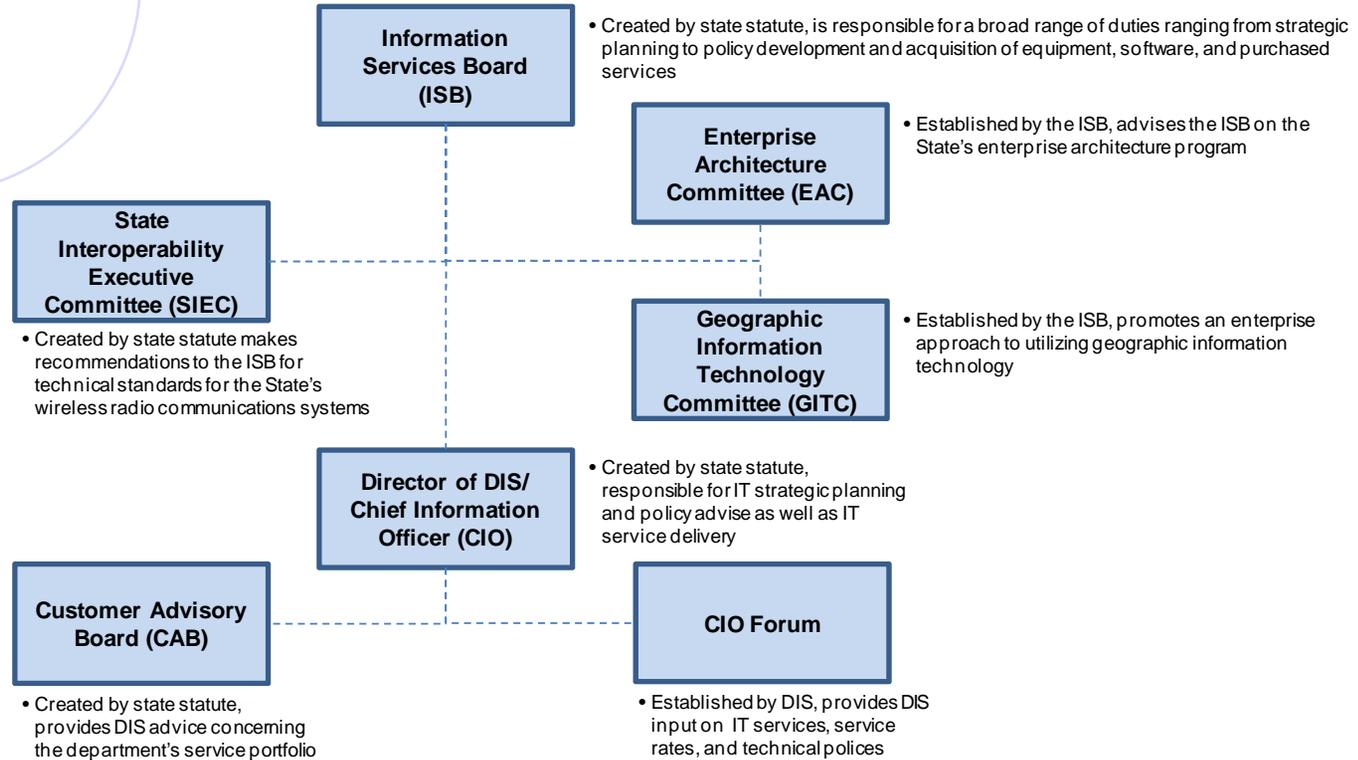
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*The Information Services Board and the Department of Information Services form the basis of information technology governance in Washington State.*

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Enterprise Architecture (EA) Committee and the Geographic Information Technology (GIT) Committee. The former Director of DIS established the CIO Forum. The following figure illustrates these governance bodies and summarizes the primary responsibilities of each.

### Current Washington State IT Governance Structure



### IT Service Delivery

As previously stated, the scope of this study did not include higher education in Washington or the Washington State Department of Transportation (WSDOT). Accordingly, **all of the data presented throughout this report reflects this defined scope and excludes both higher education and WSDOT.**

IT services within the State of Washington support over 54,500 employees serving 6.47 million state residents and numerous visitors each year.<sup>4</sup> Nearly 3,500 IT full-time equivalents (FTEs) work to provide customer support, application services, IT infrastructure services, and IT planning and administration support statewide.

Ninety-one percent of the State's IT FTEs are concentrated in Olympia and the far western region of the State. The majority of this IT staffing is highly decentralized and distributed among state agencies, with only 12% (414 FTEs) located in the central Department of Information Services. Over half (210) of these DIS FTEs are assigned to infrastructure services, concentrating on data center, server, and network support functions. However, even for these functions, DIS is not the majority service provider for the State – agencies provide the majority of the labor effort.

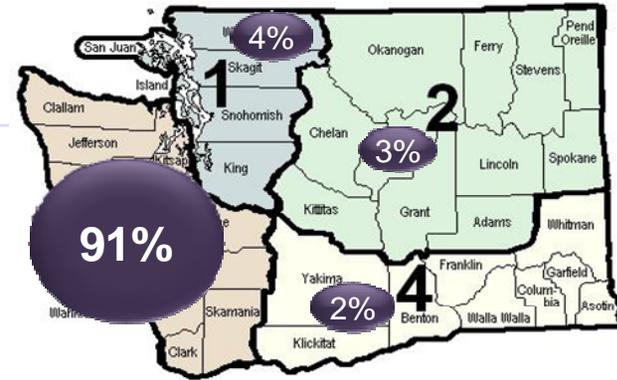
With the exception of applications services where they represent nearly nine percent of total statewide IT FTEs, contractors do not represent a significant percentage of the State's labor force.

The State has 72,474 PCs directly supported by 498 IT staff. This yields a PC support ratio of 146:1<sup>5</sup>. This is considerably lower than PTI's strategic target for high performing organizations of 250:1 to 350:1.

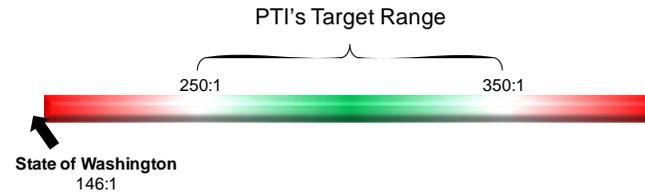
Olympia has 165 server facilities, with an average of 27 servers in each facility. Agencies have an additional 486 server facilities scattered across the State, with an average of three servers in each facility. Only a fraction of these facilities were designed to meet current environmental and security standards.

*In contrast to trends elsewhere, Washington's IT service delivery is largely decentralized. The majority of the State's IT staffing is distributed among state agencies, with only 12% located in the central Department of Information Services.*

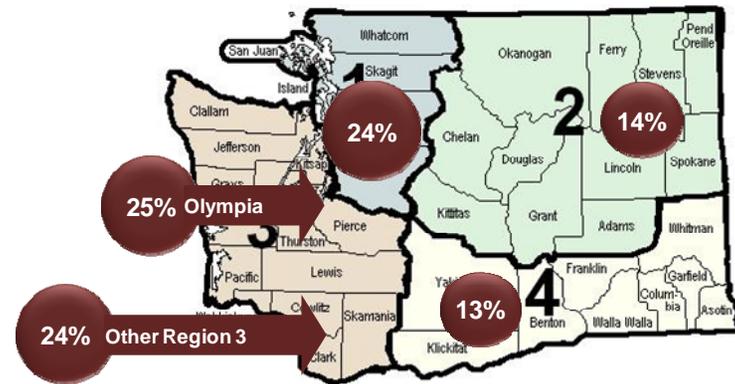
### Distribution of State IT FTEs



### Washington State's Ratio of PCs to PC Support Staff



### Distribution of State Server Facilities



<sup>4</sup>"State and County QuickFacts," U.S. Census Bureau, <http://quickfacts.census.gov/qfd/states/53000.html>

<sup>5</sup> 72,474 PCs divided by 498 IT FTEs yields 146 PCs per PC support staff.

## Key Recommendations

The State budgeted approximately \$1.39 billion on IT personnel, goods, and services for the 2007-2009 Biennium – a 20% increase over the previous biennium.<sup>6</sup> In the face of the current fiscal crisis, now is the time to evaluate ways to improve the efficiency and cost effectiveness of IT. However, efficiency and cost effectiveness alone is not enough. Ultimately, IT must support the business of government. As Governor Gregoire stated in the 2009-2011 Budget Highlights:

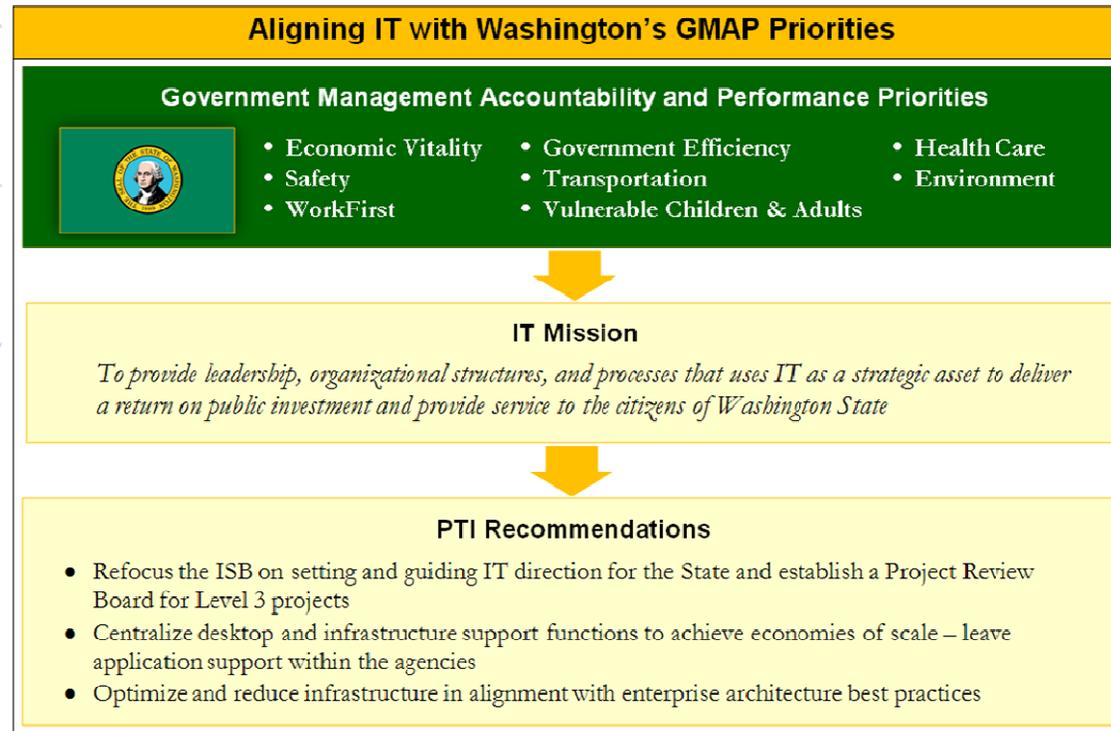
**“These are hard times for everyone. Our families are tightening their belts, and that’s what government needs to do. The State must squeeze every ounce of value out of every taxpayer dollar while maintaining our priorities...”<sup>7</sup>**

Governor Gregoire believes every state agency and program – including IT – must be visibly accountable to Washington citizens. The cornerstone of the Governor’s accountability initiative is the Government Management Accountability and Performance (GMAP) program. The GMAP program outlines eight statewide priorities and works with agencies to report on performance against target measures in each of these areas.

The following figure depicts how the recommendations outlined in this report support Washington’s government management accountability and performance priorities.

<sup>6</sup> Extracted from Washington State IT Portfolios as of November 3, 2008. Excludes higher education and the Washington State Department of Transportation.

<sup>7</sup> “2009-11 Budget Highlights,” State of Washington Office of Financial Management, <http://www.ofm.wa.gov/budget09/highlights>



*The State should centralize utility infrastructure services in DIS or with third party contractors as cost effectiveness dictates – leave application support within the agencies.*

The following narrative expands upon the major recommendations outlined above.

- **Refocus the ISB on setting and guiding IT direction for the State and establish a Project Review Board for Level 3 projects.** Focus the Information Services Board's (ISB) authority and responsibilities on strategic direction setting by divesting it of the duties that it has delegated to DIS and other agencies. Establish a separate Project Review Board with responsibility for reviewing, releasing funds for, and monitoring major IT project performance.
- **Centralize desktop and infrastructure support functions to achieve economies of scale – leave application support within the agencies.** Shift utility infrastructure services (such as PC, server, and telephone support) to the Department of Information Services or third party contractors as cost effectiveness dictates. These fundamental IT services have become widely available. Evidence clearly indicates that central provision of these functions is efficient, cost effective, and aligned with industry best practices.

By contrast, direct application support provides the greatest business benefit to the agencies for mission-specific operations. Make the primary emphasis of agency IT organizations support for these business applications, as well as for specialized and non-standard devices that are unique to agency requirements (e.g. radios and mobile devices).

- **Optimize and reduce infrastructure in alignment with enterprise architecture best practices.** Consolidate servers into fewer centralized data centers that meet current environmental and security standards. Close remote and substandard data center and server room facilities. Reduce server count through virtualization<sup>8</sup> and architecture optimization.<sup>9</sup> Centralize telephony and control of PC and server replacement cycles.

Chapters 2 and 3 provide additional detail surrounding PTI's recommendations.

## Potential Cost Savings

PTI's IT service delivery recommendations are targeted at increasing efficiencies in customer services, infrastructure services, and IT planning and administration – making significant IT staff reductions possible.

The following table presents estimated five year staff reductions ranging from 400 (a moderate reduction) to 800 (a significant reduction) based on PTI's recommendations. A moderate reduction assumes the State is only partially successful at carrying out the strategic recommendations in this study. A significant reduction assumes the State achieves public sector best practices in IT service delivery.

**Estimated Five Year Staff Reductions (FTEs)**

IT Function	Current (IT FTE)	Reduction Level		Five Year Target Range	
		Moderate	Significant	Resulting IT FTE (Moderate)	Resulting IT FTE (Significant)
Customer Services	534	(136)	(208)	398	326
Infrastructure Services	884	(198)	(316)	686	568
Application Services	1,272	0	0	1,272	1,272
IT Planning & Administration	732	(73)	(298)	659	433
<b>FTE Total</b>	<b>3,422</b>	<b>(406)</b>	<b>(832)</b>	<b>3,015</b>	<b>2,599</b>

<sup>8</sup> A single physical server can be configured to run several virtual servers. Each virtual server runs its applications independently; a malfunction on one does not affect the others. Virtual servers require less space, power, and management than stand-alone servers.

<sup>9</sup> The optimization effort reduces the number of different hardware platforms and operating systems. It seeks to standardize and combine similar server functions (e.g., mail servers, web servers, gateways) for more efficient management and fewer physical devices.

Assuming an annual cost of \$87,000 per IT FTE, including salary and benefits, the State may realize IT labor savings of **\$35 million to \$72 million** by the end of the five year implementation period, as the following table indicates. Attrition may account for a portion of FTE reductions and associated savings. *Actual savings will vary depending on cost and number of positions eliminated.*

**Note: Achieving these savings will require significant initial investment to effect the recommended changes. This scope of work did not include estimation of these costs, or an associated cost-benefit analysis. While long-term savings will clearly result, the cost to implement any strategy would offset some of the projected benefits.**

**Estimated Five Year Annual IT Labor Cost Reduction (millions)\***

IT Function	Current IT Labor Cost	Reduction Level		Five Year Target Range	
		Moderate	Significant	Resulting IT Labor Cost (Moderate Reduction)	Resulting IT Labor Cost (Significant Reduction)
Customer Services	\$46.4	(\$11.8)	(\$18.1)	34.7	\$28.4
Infrastructure Services	\$76.9	(\$17.2)	(\$27.5)	\$59.7	\$49.4
Application Services	\$110.7	(\$0)	(\$0)	\$110.7	\$110.6
IT Planning & Administration	\$63.7	(\$6.4)	(\$26.0)	\$57.3	\$37.7
<b>Annual IT Labor Cost Total</b>	<b>\$297.7</b>	<b>(\$35.4)</b>	<b>(\$71.6)</b>	<b>\$262.3</b>	<b>\$226.1</b>

\*Some numbers do not total due to rounding.

Since these recommendations are strategic in nature and demand major organizational change, it will take several years to fully realize savings. It is important to note that staff reductions cannot be precisely predicted, as they will depend on the actual efficiencies achieved through consolidation and on the willingness of the State to translate these into real position cuts.

*The State may realize annual IT labor savings of \$35 million to \$72 million by the end of the five year implementation period.*

While PTI's recommendations ultimately will yield improved efficiencies and large recurring cost savings, few of these strategies will save money in the current biennium, and their full benefit will not be gained for five years or more. Given the dire budget constraints facing the State, the ITWG also asked PTI to identify short-term IT cost saving options that might assist in getting through the present crisis. In response to this request, PTI identified the following short-term opportunities:

- Curtail use of contractors<sup>10</sup>
- Focus application support solely on critical tasks<sup>11</sup>
- Delay PC and server replacement<sup>12</sup>

Appendix D details these cost saving opportunities.

## Staffing Impacts

The following table illustrates present FTE levels at DIS and the agencies, and highlights staffing impacts attendant to PTI's recommendations.

All FTE levels are based on November 2008 figures, and do not take into account changes since that time.

**Note that this analysis assumes all staff reductions will be accomplished by DIS, since DIS will be responsible for PC and infrastructure support statewide. The State may choose other ways to accomplish these reductions.**

Immediately after centralization, DIS will have much higher levels of customer and infrastructure services staff than it will need in the long term. Some of these staff can be eliminated fairly quickly; other labor reductions rely upon DIS's ability to reduce PC and server inventory, consolidate and standardize infrastructure, and deploy automated management tools. Given the length of time necessary to accomplish these transitions, retirements and attrition may account for a major portion of the reduction. It is important to note that **application support staff will remain within the agencies.**

<sup>10</sup> Passed during the course of this study (effective February 18, 2009), Senate Bill 5460 restricts the authority of state agencies to enter into new contracts for personal services other than in certain limited circumstances.

<sup>11</sup> Although this strategy may offer short-term cost savings, it risks long-term application performance – potentially impacting agency services – and may result in higher maintenance expenses in future years and an atrophy of current application support skills.

<sup>12</sup> Although this strategy may offer short-term cost savings, it increases security and hardware performance risks, may impact application performance, and misses opportunities to take advantage of emerging or new sustainable technologies.

## Re-Allocation of IT FTEs Post Centralization

IT Service Functions	Present FTE Level			Post Centralization	
	Total	DIS	Agencies	DIS	Agencies
<b>Customer Services</b>	<b>534</b>	<b>25</b>	<b>509</b>	<b>499</b>	<b>34</b>
Help Desk (Tier 1)	186	19	167	186	-
<b>Tier 2 Support:</b>					
Personal Computer Support	230	4	226	230	-
Portable Device/Specialized Device Support	36	1	35	1	34
Personal Computer Administration	51	1	50	51	-
Personal Productivity Tool Support	31	1	31	31	-
<b>Infrastructure Services</b>	<b>884</b>	<b>210</b>	<b>674</b>	<b>835</b>	<b>49</b>
Database Administration	166	8	158	166	-
Security Administration	97	19	79	97	-
Data Center/Server Room Operations	130	59	71	130	-
Server Administration:	247	75	172	247	-
<b>Communication Services:</b>					
Network Administration (WAN/LAN/Wireless)	137	38	99	137	-
Radio Support	49	-	49	-	49
Telephone Systems Support	59	12	47	59	-
<b>Application Services</b>	<b>1,272</b>	<b>45</b>	<b>1,227</b>	<b>45</b>	<b>1,227</b>
Packaged Application Support	274	3	272	3	272
Custom Application Support	998	42	955	42	955
<b>IT Planning</b>	<b>169</b>	<b>45</b>	<b>124</b>	<b>45</b>	<b>124</b>
<b>IT Administration</b>	<b>563</b>	<b>90</b>	<b>473</b>	<b>90</b>	<b>473</b>
<b>Total FTEs</b>	<b>3,422</b>	<b>414</b>	<b>3,007</b>	<b>1,514</b>	<b>1,907</b>

All agency PC support staff move to DIS, except support for portable and specialized devices

All agency infrastructure support staff move to DIS, except radio support

Application support staff remain with the agencies

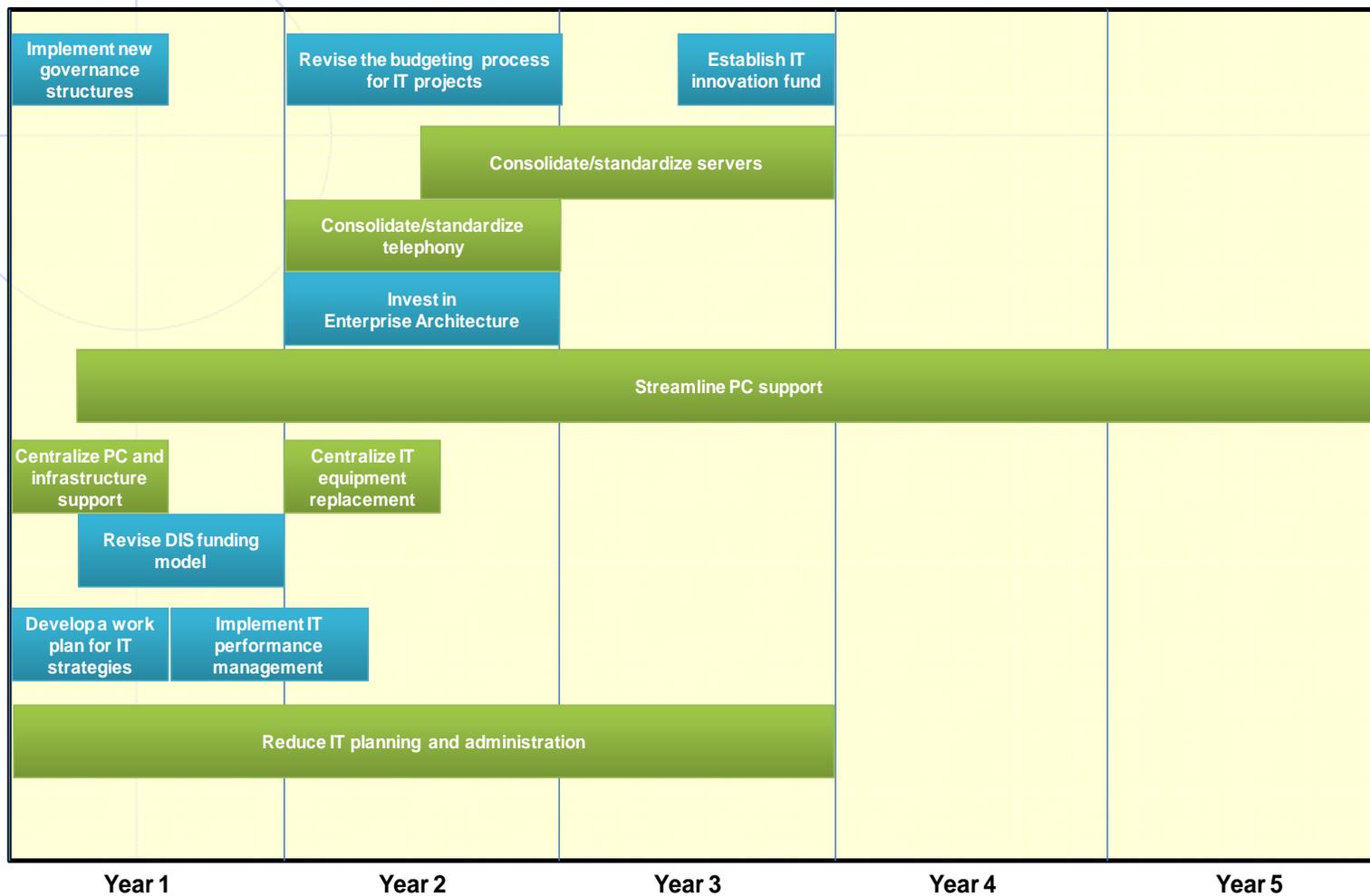
Planning and administration staff stay with agencies, will be quickly reduced

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## Implementation Schedule

The following table translates the IT governance and service delivery recommendations detailed within chapters 2 and 3 into a high level set of implementation activities placed on a five-year timeline.

### Five Year Implementation Schedule



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## Transition Considerations and Next Steps

This represents a strategic document outlining a direction to improve the efficiency and effectiveness of IT on a statewide basis. **Much more work still needs to be done to finalize and operationalize these directions.**

Centralizing PC and infrastructure support is a bold move. For DIS to prepare for this dramatic change, it must become a true service-oriented organization. *Building agency trust and confidence in the ability of DIS to deliver quality IT services represents a must-not-fail mission.*

In consultation with agency customers, DIS will need to revise its service cost model and align it with a new, simplified service catalog centered on utility IT support. To effectively manage PC inventory, DIS must be granted statewide authority over agency PC replacement.

Additionally, many of the recommendations to improve the effectiveness of IT governance will require statutory changes. Each governance body will need to be re-chartered, its membership re-evaluated, and its decision making authority and processes revisited.

All of these changes call for hard choices, commitment, and compassion. To ease the transition, PTI recommends the following critical actions:

- Develop requisite legislation
- Commission a high-level transition task force to oversee implementation
- Establish a project team to carry out the transition
- Implement a communication plan
- Develop a detailed implementation plan
- Implement a formal IT service management program at DIS
- Clearly define, measure, and monitor desired outcomes

As previously indicated, initial investment also will be required to realize recommended strategies. In addition, unless steps are taken, some agencies may bear a disproportionate share of that cost under current cost-recovery mechanisms. The State should ensure there is sufficient funding to support task force activities and address short-term cost recovery shortfalls that some agencies may experience as the transition unfolds.

Chapter 4 outlines these transition considerations in greater detail.

*Building agency trust and confidence in the ability of DIS to deliver quality IT services is a must-not-fail mission.*