A Report for

State of Texas,

Department of Information Resources

Expenditure and Facilities Assessment, Validation and Analysis

23 March 2005

Engagement: 220786841

Gartner

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Executive Summary

1.0 Executive Summary

In an attempt to achieve additional IT cost savings through data center and network consolidation, the Legislative Budget Board (LBB) tasked the Texas Department of Information Resources (DIR) with coordinating the collection and reconciliation of information from State agencies regarding expenditures and facilities utilization.

The LBB established a March 31, 2005 suspense date for the report and directed that it address the following key issues:

1. Identify relevant operational details of each independently managed data center
2. Identify the operational baseline costs of state agency data center services that are managed independent of the state data center system.
3. Determine the magnitude of savings that will be realized through increased data center consolidation.

At the end of 2004, DIR engaged Gartner Consulting to validate available data, collect additional agency information, benchmark the costs and services associated with data center and wide area network (WAN) operations at the 24 largest state agencies and quantify any potential savings related to consolidating these two functions across multiple agencies included in the assessment. This report provides the findings and analysis of this effort.

The primary findings and additional benefits follow in summary format, followed by Gartner's recommendations for DIR.

1.1 Key Findings

Net Consolidation Savings (transition costs included):	
■ Projected FY2006/2007 savings	$ 3.5 M
■ Projected cumulative savings by FY2010	$ 60.0 M
■ Projected cumulative savings by FY2014	$ 163.9 M
Ongoing Data Center Costs (transition costs excluded):	
■ Current annual costs	$ 130.8 M
■ Projected annual costs after consolidation	$ -101.2 M
■ **Projected annual savings**	**$ 29.6 M**
Data Center Facilities:	
■ Projected space required in consolidated data centers	112,188 SF
■ Current - consolidated data center space (State Data Centers)	-55,342 SF
■ **Additional consolidated data center space required**	**56,846 SF**
■ Total data center space (State Data Centers & 24 agencies)	299,565 SF
■ Projected space required after data center consolidation	-112,188 SF
■ **Projected data center space to be reclaimed**	**187,377 SF**
Data Center Staff:	
■ Current State FTE Headcount	583 FTE
■ **Projected State FTE Headcount Retained (FY2007)**	**15 FTE**

In addition to the cost, facilities and staff findings reported, there are additional benefits to the State associated with this initiative. These additional benefits are more qualitative in nature and are a byproduct of the recommended consolidation:

- Fully leverages the agency review process to maximize the use of federal funds for Data Center functions.
- Benefits all agencies through economies of scale.
- Improves service levels and accountability.
- Standardizes practices, processes, tools and skills.
- Provides flexibility of skills and resources to meet changing needs.
- Amortizes migration and consolidation costs over time.
- Increases usage and leverage of shared infrastructure.

1.2 Recommendations

In the detailed report, Gartner makes the following key recommendations based on evaluation criteria.

- The State should pursue an aggressive data center consolidation across all agencies in order to capture the savings and other benefits identified above and in the detailed Gartner report. DIR should work with the Legislature and the Governor's office to obtain the additional statutory authority required to enable the success of data center consolidation efforts over the next biennium.
- The State should adopt a goal of reducing the number of data centers from its current number of more than thirty (30) to two (2). Additionally, DIR should conduct a competitive procurement process to select a single world-class outsource vendor to operate these facilities on behalf of the State and ensure that the expected primary findings and additional benefits are realized. In order to maximize their return on investment, the State may want to reassess plans to incorporate additional agencies into the State Data Center prior to this competitive procurement process.
- The State should commence this competitive procurement process within the next three months to be able to issue their Request for Proposal (RFP) by January 2006.

2.0 Summary Report

2.1 Background

Over the past decade many large organizations, including several large states, have significantly consolidated their IT infrastructures and related support functions. Though difficult to achieve, these consolidations have delivered major benefits in the area of reduced costs, more consistent and higher service levels and improved IT risk management. The State of Texas recognized this opportunity in the mid-1990's when it established state-wide data centers in San Angelo and Austin and outsourced the operation of these centers to a leading IT services provider. Unfortunately, over the past decade, Texas has experienced limited success in consolidating the management of data center services. Efforts by the Department of Information Resources (DIR) to accelerate the achievement of data center consolidation savings have been hampered by three major factors:

- A piecemeal, agency-by-agency approach which makes it difficult for the State Data Centers to achieve anticipated economies of scale.
- The ability of individual agencies to resist or delay consolidation efforts or, failing this, to establish requirements which limit the State Data Centers' ability to efficiently consolidate and share infrastructure and support functions among agencies.
- An outsource contract which does not provide required cost transparency and outside benchmarking or price validation.

Figure 1. 2005 Consolidated vs. Not Consolidated Data Center Spend

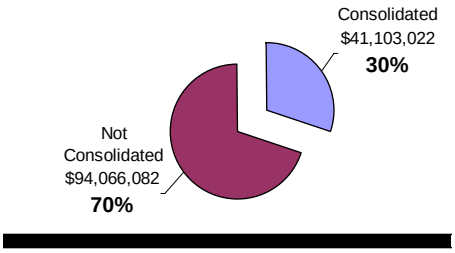


Figure 2. Agencies Included in the Data Center Study

1	CPA	Comptroller of Public Accounts
2	DADS	Department of Aging and Disability Services
3	DARS	Department of Assistive and Rehabilitative Services
4	DFPS	Department of Family and Protective Services
5	DIR	Department of Information Resources
6	DPS	Department of Public Safety
7	DSHS	Department of State Health Services
8	HHSC	Health and Human Services Commission
9	OAG	Office of the Attorney General
10	RRC	Railroad Commission of Texas
11	SOS	Secretary of State
12	TABC	Texas Alcoholic Beverage Commission
13	TCEQ	Texas Commission on Environmental Quality
14	TDA	Texas Department of Agriculture
15	TDCJ	Texas Department of Criminal Justice
16	TDI	Texas Department of Insurance
17	TEA	Texas Education Agency
18	THECB	Texas Higher Education Coordinating Board
19	TPWD	Texas Parks and Wildlife Department
20	TSLAC	Texas State Library and Archives Commission
21	TWC	Texas Workforce Commission
22	TWCC	Texas Workers Compensation Commission
23	TxDOT	Department of Transportation
24	TYC	Texas Youth Commission

In fiscal year 2005, the 24 agencies targeted by this study (Figure 2) will spend approximately $135.2 million providing data center services. Only 30% of this cost ($41 million) is managed in a consolidated manner within the state data center system (Figure 1). After nearly 10 years of effort, there remains a significant opportunity to achieve additional savings from further consolidation.

In an attempt to quantify potential IT related cost savings, the LBB tasked DIR with coordinating the collection and reconciliation of information from State agencies regarding IT expenditures and facilities utilization. The Legislative Budget Board (LBB) established a March 31, 2005 suspense date for the report and directed that it address the following key issues:

1. Identify the relevant operational details of each independently managed data center.
2. Identify the operational baseline costs of state agency data center services that are managed independent of the State Data Center system.
3. Determine the magnitude of savings that will be realized through increased data center consolidation.
4. Provide a full estimate of resources needed to implement the strategy and action including the cost of equipment and professional services.

In the past 12 months, both the LBB and DIR have published detailed reports which describe data center consolidation opportunities and project the order of magnitude of the potential savings. The DIR report was based on the State Information Technology Asset Report (SITAR), an extensive and detailed survey of the State's information technology assets, which was conducted in 2004. At the end of 2004, DIR engaged Gartner Consulting (Gartner) to validate the data in the SITAR repository, benchmark the costs and services associated with data center and WAN operations at the 24 largest state agencies and quantify any potential savings related to consolidating these two functions. Figure 3 describes the specific agency WAN's that were included in the study. This report is the output of the Gartner project.

Figure 3. Agency WAN's included in Study

	Agencies		Networks
1	TxDOT	Texas Department of Transportation	1 Agency Network
2	DPS	Department of Public Safety	2 AFIS 3 CLE/DEM 4 TLETS
3	CPA	Comptroller of Public Accounts	5 Agency Network
4	TWC	Texas Workforce Commission	6 Agency Network
5	TDCJ	Texas Department of Criminal Justice	7 Agency Network
6	OAG	Office of the Attorney General	8 Agency Network 9 CPS Network
7	TCEQ	Texas Commission on Environmental Quality	10 Agency Network
8	TPWD	Texas Parks and Wildlife Department	11 Agency Network
9	RRC	Railroad Commission of Texas	12 Agency Network
10	TDA	Texas Department of Agriculture	13 Agency Network
11	TABC	Texas Alcoholic Beverage Commission	14 Agency Network
12	CSEC	Texas Commission on State Emergency Communications	15 Poison Control Network 9-1-1 Network
13	DIR	Department of Information Resources	16 HHSC WAN Austin CapNet Statewide WAN Tex-AN Contract

2.2 Project Approach

Gartner was selected to assist DIR with the execution of this project. Gartner provided the State with an objective way to rapidly collect, normalize and validate cost and workload information from each agency. Once collected, the agency data could then be benchmarked against similar sized organizations in Gartner's IT Measurement Database. Gartner's database contains hundreds of data points across the broadest range of public and private organizations. Using the information in the database, Gartner is able to estimate potential savings by comparing data collected from the 24 participating Texas agencies with the data of similar organizations in the database. Gartner refers to these similar organizations as "peers".

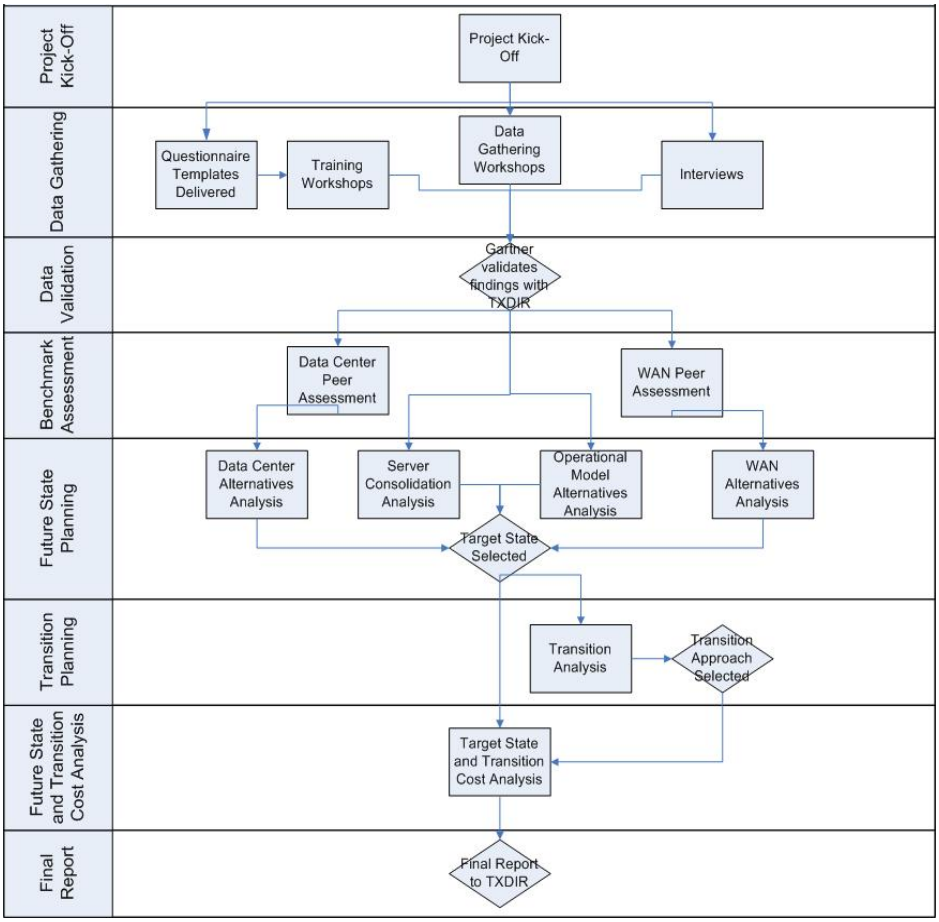
In January 2005, a combined Gartner and DIR team worked with representatives from each of the participating agencies to gather costs, workload, staffing and service level information. The resulting data was validated, normalized and input into Gartner's standardized benchmark model. The data in these models was then compared to similar data from other public and private sector, in-sourced and outsourced organizations that had similar workloads and service level characteristics. To select meaningful peers for the final comparison to the future consolidated State of Texas environment, the Gartner team worked with DIR and

representatives from key agencies to develop a model that describes what a future consolidated Texas data center infrastructure might look like in general terms (e.g. number, location, size and type of data centers facilities, sourcing strategy, number of servers, maturity of operational processes, etc.). By comparing the combined workloads of the targeted 24 agencies to a set of consolidated peers that have the same characteristics as the future consolidated environment, Gartner is able to approximate the State's consolidated data center operating costs.

In addition to estimating future consolidated operating costs, the Gartner team also developed a high level transition plan, which includes estimates of technology acquisition, construction, labor and other costs required to migrate from the current data center environments at the 24 studied agencies to the future consolidated environment.

The team then summarized the future consolidated state operating costs and transition costs into a 10 year financial model and used this data to project future cash flows. Comparing these cash flow projections with those from the current unconsolidated environment yields the estimated savings from the consolidation effort. Figure 4 provides a graphical view of Gartner's overall project approach.

Figure 4. Gartner Project Approach



2.3 Data Center- Baseline Environment

The State currently operates many agency specific wide area networks and data centers. Gartner analyzed 16 networks from 13 specific agencies and data centers environments for the targeted 24 agencies. The 2005 spend of analyzed data centers is $135.2 million. For the wide area networks, this figure is $57 million.

Taken together, the analyzed data centers comprise a complex IT environment consisting of 18 mainframes, 2774 servers and 554 terabytes of on-line storage. This environment is supported by 620 full time personnel (including contractors) and is reported to occupy 299,565 square feet of raised floor and office space. The IBM mainframe continues to be the predominant platform in the data centers analyzed, accounting for approximately 45% of total spending.

Figure 5. Data Center Workload/Costs by Agency

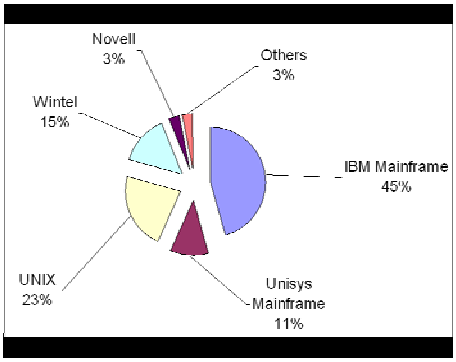


Table 1. Baseline Environment Summary

Key Data Center Attributes	
Agencies Served	24
Data Centers	23
IBM Mainframe Computers	17
Unisys Mainframes	1
Mainframe Processing Power (MIPS)	7,300
Unix Servers	598
Wintel and Novell Servers	2,163
Mini-Computers (AS400/Bull/Other)	13
Data Storage Installed (Terabytes)	554
Average Storage Utilization	48%
State FTEs Providing Data Center Support	583
Contractor Providing Data Center Support	37
Total Data Center Support Personnel	620
Total Raised Floor Space (sq. ft.)	202,560
Raised Floor Conditioned For Computers (sq ft)	184,023
Condtion Raised Floor Computer Space Utilization	59%
Total Office Space Used to Support Data Centers	97,005
Total Space Occupied by Data Centers	299,565
Spend on Data Center Operations	$130.8 million
Estimated Annual Cost of Total Data Center Space	$4.4 million
Total Spend on Data Center Operations and Space	135.2 million
Key WAN Attributes	
Agencies Served	13
Separate Networks	16
Sites	4,431
Connected Devices	130,730
Network Operations Centers	15
WAN Support Personnel	124
Total Annual Spend	$57 million

This figure rises to 56% when the Unisys mainframe is included. Wintel (Microsoft Windows running on an Intel based hardware platform) and UNIX platforms account for 38% of the costs. The spend in these areas is also the fastest growing as most new systems are targeted at one or both of these platforms. Novell, AS400, Bull and other legacy platforms account for the remainder of the data center cost. Spending on these platforms is expected to decline over time.

Data center spending is not spread equally amongst the agencies studied by the Gartner team. The 5 Health and Human Services Commission agencies (HHSC, DSHS, DFPS, DARS and DADS) account for 27% of the total spending.

Taken together, the 10 largest agencies account for 78% of the costs. Besides the HHSC agencies, these are the Department of Public Safety (DPS),

Comptroller of Public Accounts (CPA), Office of the Attorney General (OAG), Department of Criminal Justice (TDCJ) and the Texas Workforce Commission (TWC). Any consolidation effort that seeks to deliver meaningful savings by achieving economies of scale and spreading them state-wide to all agencies will have to include the large agencies.

An examination of total data center costs by the type or category of expense incurred reveals that existing outsourcing contract costs make up the largest percentage of spending followed by personnel costs, which together with contractor costs, account for 30% of the total spend and almost 40% of the non-outsourced spend. Facility costs are a modest 3.25% reflecting the relative low cost of state office facilities and the fact that in many cases the agencies are not able to associate all of the facilities' costs which they incur from TBPC (power, security, build out, rent, etc.) directly to their data centers.

Table 2. Data Center Costs by Category

Cost Category	FY05 Spend	% of Total
Outsourcing	$41,103,022	30.41%
Personnel	$37,483,429	27.73%
Contractor	$4,000,700	2.96%
Hardware	$23,484,584	17.37%
Software	$23,306,288	17.24%
Facility	$4,397,614	3.25%
Other Non-Personnel	$1,393,467	1.03%
Total	**$135,169,104**	**100%**

Table 3. Data Center Workload/Spend by Agency

Agency	Main-frames	UNIX Servers	Wintel Servers	Novell Servers	Other Servers	FTEs	FY05 Spend ($ millions)
CPA	1	32	195	33		86	$15.6
DPS	1	30	159			54	$8.4
HHSC (Enterprise)	2	146	598	67	9	96	$34.9
OAG	2	28	45	46		51	$11.3
RRC	1	52		15		20	$1.9
SOS		16	13	3		1	$0.3
TABC	1		31			3	$0.6
TCEQ		96	147	95		33	$3.5
TDA		6	31			1	$0.4
TDCJ	2	15	15	3	3	27	$11.5
TDI			35	3		15	$1.4
TEA	1	12	140			26	$5.9
THECB		15	59		1	9	$1.3
TPWD	1	49	46			10	$1.8
TSLAC		20	17			5	$0.4
TWC	3	39	115			98	$20.3
TWCC	1	16	20	42		15	$3.3
TXDOT	1	26	116	25		26	$7.0
TYC	1		49			8	$1.0
Sub-Total	**18**	**598**	**1831**	**332**	**13**	**583**	**$130.8**
Facility Cost							$4.4
Total							$135.2

2.4 Data Center Benchmark Analysis

In conducting the benchmark, Gartner compared the costs and workloads of the in-scope Texas data centers to two sets of peer averages from our IT Measurement database. In the first peer analysis, the costs and service level data for each individual agency data center was matched with similar sized (unconsolidated) peers. The costs associated with each of the matched peers were then aggregated (e.g. added together) and compared to the sum of the costs of the in-scope Texas agency data centers. The purpose of this comparison is to show how the Texas agencies are doing, in aggregate, when compared to other similar sized organizations. In the second comparison, the aggregated data center workload and cost data for Texas agencies was matched to a set of consolidated peers (e.g. single organizations with costs and workloads similar to the total workload and cost of all agency data centers included in the study). The purpose of this comparison is to show how the State of Texas as a whole is doing when compared to organizations which are already consolidated. To make an apples-to-apples comparison, facility costs (rent, lease, occupancy) were excluded from both the State costs and the peer costs from the Gartner database (see Table 4). Table 5 shows how the Texas agency costs compare to unconsolidated and consolidated peer averages.

Revision Note: Missing row restored to Table 3 on April 7, 2005.

Table 4. Operations vs. Facility Cost (in $ millions)

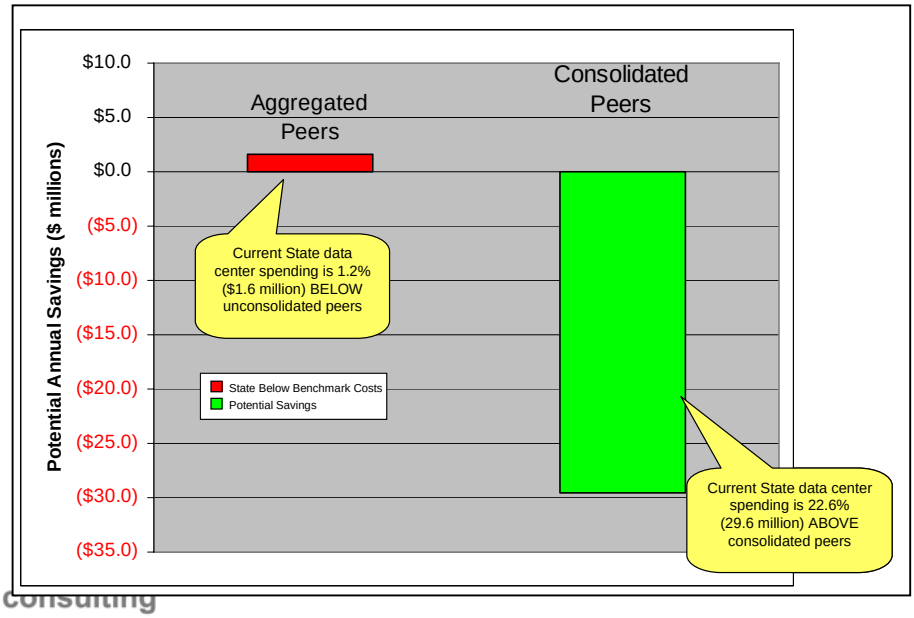
Service Area	TX FY05 Spend
Data Center Operations	$130.8
Facility Costs	$4.3
Total Data Center Costs	$135.1

Table 5. Gartner Benchmark Database Comparison (in $ millions)

Service Area	TX FY05 Spend	Benchmark Comparison	
		Aggregated Peers	Consolidated Peers
Data Center Operations	$130.8	$132.4	$101.2
Variance		$1.6	$ -29.6
% Variance		1.2%	-22.6%

From the data center benchmark peer analysis, Gartner concludes that significant data center consolidation savings opportunities exist. Table 5 illustrates the results of comparing the Texas spend data with the peer groups from the Gartner database. From these comparisons, we can conclude that on an agency by agency basis, the State's costs are marginally lower than the average for unconsolidated peers. This is an indication that in general, the larger agencies have done a reasonable job of optimizing the costs associated with their individual environments. However, when compared to consolidated peers, Texas' costs are approximately 22.6% higher ($29.6 million per year) than those of the consolidated peers. This reflects the duplication of effort among agencies and their inability to achieve optimal economies of scale operating independently. These savings are only indicative of the savings that could be achievable for the State of Texas. Estimating savings that can actually be achieved in the Texas environment requires the creation of a model which describes what the future consolidated Texas environment looks like (number of data centers, sourcing strategy, space requirements, transition costs, and etc.). This modeling exercise is discussed in the Section 2.5 (below).

Figure 6. Data Center Benchmark Comparison



2.5 Data Center Future State Recommendation

Figure 7. Data Center Alternatives

1	30+ agency data centers (status quo)
2	2 state-owned and managed data centers
3	2 state-owned data centers managed by an outsource vendor
4	2 data centers managed by an outsource vendor: 1 state-owned, 1 vendor-owned
5	2 data centers managed by different inhouse or outsource organizations
6	Consolidate all agencies into 3-5 current large agency data centers

The Gartner and DIR team worked with representatives from key agencies to develop a future state model that describes key attributes of the consolidated data center operations to which the State intends to migrate over the next 2-5 years. A set of 6 alternative future scenarios (Figure 7) was identified and evaluated against detailed evaluation criteria.

Based on the results of the evaluation, Gartner recommends that the State focus on Alternatives 3 and 4 which call for two consolidated data centers supported by an outsourced operations staff. The State should aggressively consolidate the myriad of existing agency-specific data centers and server farms into two consolidated multi-agency data centers. These centers should be operated by a world-class outsourcing vendor that has been selected through a highly competitive procurement process. One of the consolidated data centers will be the current State Data Center (SDC) in San Angelo. The other data center could be either Winters/A-DROC (operated as a single center) in Austin or a vendor-owned, Texas-based data center.

Table 6. Recommended Future State Summary

Attributes	Current	Future State
# of Data Centers	30+ spread across the state	2, most likely located in Austin and San Angelo
Raised Floor Computer Room Space	184,023 square feet	67,187 square feet
Office/Non Raised Floor Space	97,005 square feet	45,000 square feet
# of Mainframes	18	3
# of Servers	2774	2382
Operations	Provided by 620 personnel from 23 different agencies and 3 separate outsourcing contracts	Provided by an integrated support organization provided by a world-class IT services provider
Facilities *(space, power, HVAC, security, network*)	Wide range of facilities. More than half do not meet the Uptime Institute's requirements for Tier 1. None fully meet the requirements for Tier 3.	World class facilities that meet or exceed the Uptime Institute's Tier 3 requirements
Support Personnel	Separate support staff for each data center, including separate staffs for existing state-wide data centers	Single staff supporting data center operations state-wide
Operating Hours	Varies significantly. Most 7x24 operational support provided via on-call resources	7x24x365 on-site support for all statewide data center operations
Operational Processes	Different process with different levels of maturity at each data center	Common world class processes across both facilities
Disaster Recovery	Each data center has its own DR contract with SunGuard or IBM recovery services. Multiple backup tape vaulting and archival processes	State data centers back each other from a DR perspective. Critical data at one center backed up and archived at the other.

In our analysis, we assumed that any existing state-owned data center facilities utilized in the future as consolidated state-wide data centers would be upgraded to meet or exceed Gartner and the Uptime Institute's minimum requirements for a Tier 3 data center.

The Gartner team completed a technical analysis of current server inventories provided by the agencies in order to identify potential server consolidation opportunities that could be realized as part of the transition to the future state. In this analysis, Gartner assumed that servers could not be consolidated across and/or shared between agencies. Conservatively, our team estimated that the number of servers and mainframes could be reduced from 2,792 to 2,368 and that this consolidation could be affected as part of the migration to the consolidated data

centers. During the detailed migration planning, the State should look for additional server consolidation opportunities.

A key difference between the current state and the recommended future scenario is the operation of the two consolidated State data centers as an integrated data center system, with common processes, tools and capabilities and a shared support staff. Table 6 highlights other key attributes of the recommended future state.

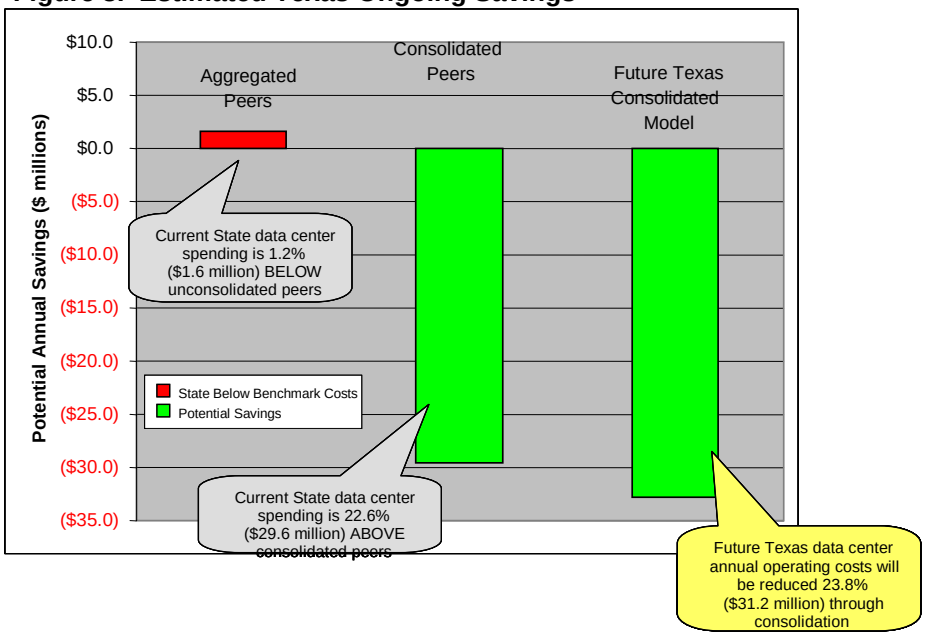
The results of the Gartner benchmark (summarized previously in Section 2.4 of this report) identified potential annual data center operating cost savings of $29.6 million and indicated that the actual savings achievable by the State would depend on what the future Texas consolidated environment looked like and how it was sourced. To estimate the Texas-specific potential savings in an outsourced, consolidate, dual data center environment, Gartner selected a second set of consolidated peers that reflected the "to be" Texas workload in a two data center environment. We then uplifted these costs using standard Gartner adjustments to reflect an outsourced environment.

Table 7. Benchmark Comparison Adjusted for Recommended Future State (in $ millions)

		Benchmark Comparison		Future Texas
Service Area	TX FY05 Spend	Aggregated Peers	Consolidated Peers	Consolidated Model
Data Center Operations	$130.8	$132.4	$101.2	$99,6
Variance		$1.6	$ -29.6	$ -31.2
% Variance		1.2%	-22.6%	-23.8%

Based on the new peer selections and these adjustments, Gartner has established a modeled future state cost profile for the data center operations of the 24 analyzed agencies of $99.6 million per year. This represents annual operating cost savings of 23.8% ($31.2 million). Table 7 and Figure 8 illustrate the results of comparing the Texas data center cost data with the Texas future state model. It also shows the peer variances that were previously explained in Section 2.4 of the report.

Figure 8. Estimated Texas Ongoing Savings



2.6 Data Center Transition and Migration

It will take several years of transition, migration and consolidation activities to achieve the operational cost savings previously described in Table 7. During the transition and migration period, there will be significant one-time transition costs that will be incurred by the State directly or indirectly through the outsource vendor. Gartner estimates these costs at $69.4 million, as indicated in Table 8. The majority of these costs will be incurred by the outsourced vendor and amortized over the life of the contract.

Table 8. Data Center Consolidation One-Time Costs

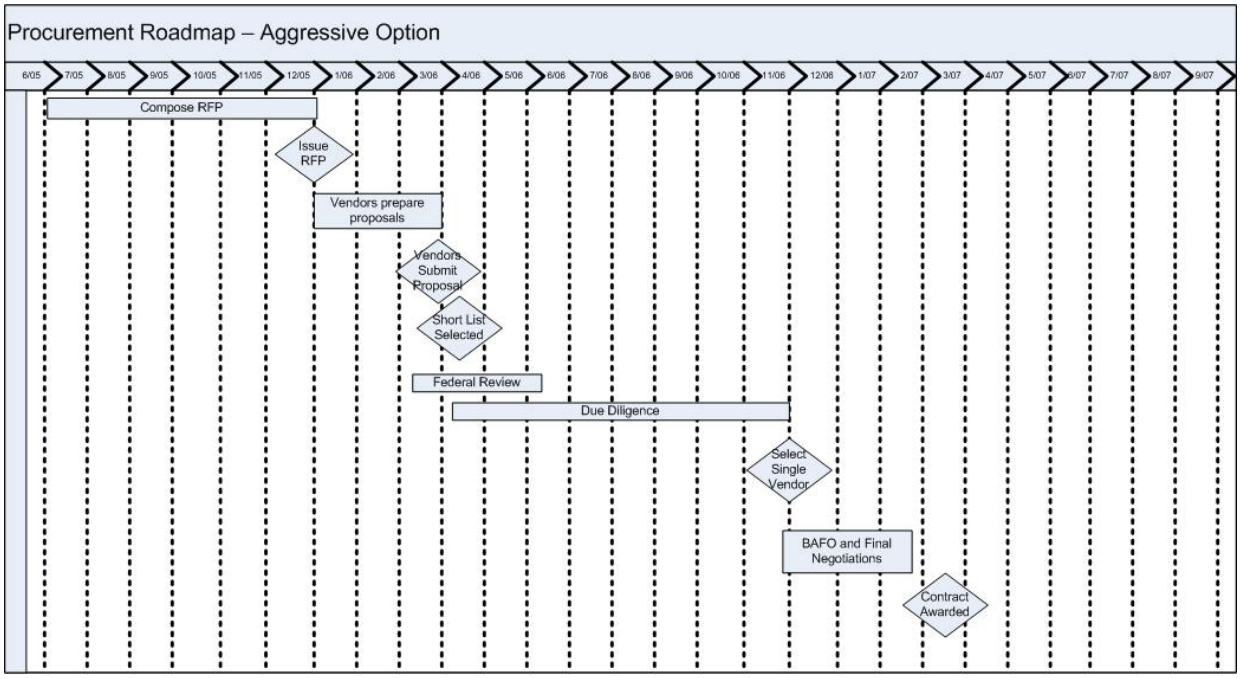
Cost Categories		Amount
Winter Upgrades	$	6,205,440
SDC/A-DROC Upgrades	$	7,748,310
Sub-total: Facilities	**$**	**13,953,750**
Unisys Platform	$	3,000,000
IBM Mainframe	$	12,748,800
Unix Systems	$	11,557,256
Wintel Platforms	$	14,426,481
Novell Servers	$	6,015,250
Other Systems	$	2,304,700
Sub-total: Migration	**$**	**50,052,488**
Transition/Procurement Support	$	4,500,000
Vendor Pricing Benchmarks	$	890,000
Sub-total: Transition	**$**	**5,390,000**
Total One Time Cost	**$**	**69,396,238**

Transition costs are those costs which the State must incur as part of the data center outsourcing procurement process. Transition activities include: RFP development, due diligence, contract negotiation and transition management. These costs are directly incurred by the State. Migration costs are those costs which the outsource vendor incurs as part of the effort to consolidate the State's existing data centers. These costs cover incremental labor, hardware, software and services. They are directly incurred by the vendor and charged to the State over the course of the initial term of the outsourcing contract. Facility costs refer to costs associated with upgrading the existing data center facilities that will continue to be utilized in the future consolidated scenario described in Section 2.5. These costs include construction required to provide the required raised floor and office space as well as upgrades to power, HVAC, fire protection, security and floor systems required for these facilities to meet Gartner and the Uptime Institute's criteria for a Tier 3 data center. These costs could either be incurred directly by the State or incurred by the vendor and charged to the State over the course of the initial term of the contract. For this analysis, Gartner has assumed the latter.

To ensure that the State procures the best solution at the optimal price, Gartner recommends that the State plan to engage in a 20-22 month long structured procurement process. The high-level roadmap illustrated in Figure 9 is based on Gartner's proven sourcing methodology. It is designed to ensure a highly competitive process and a speedy, predictable outcome. As part of this process, the State may wish to examine the feasibility and desirability of expanding the scope of the consolidation to include agencies which were not part of the initial consolidation study. A key activity included in the due diligence task in the project time-line is to review agency access to and use of Federal funds for enterprise computing functions. The due diligence activities will include working with various federal government agencies in the appropriate phases of the consolidation initiative and to obtain their approval of portions of the planned consolidation which impact federal funding or programs. Agency concerns on use of specific funds can also be addressed during this review.

As outlined below, the process will result in a contract effective date which coincides roughly with the expiration of the current State Data Center outsourcing agreement with Northrop Grumman Information Services, Inc (NGIS). This will enable the State to bundle the services currently provided by NGIS into an overall data center consolidation procurement. In order to maximize their return on investment, the State may want to reassess plans to incorporate additional agencies into the State Data Center prior to the completion of the competitive procurement process. In making such a decision, the State will need to balance the costs and potential disruption of putting agencies through a second transition against other priorities and objectives.

Figure 9. Procurement Roadmap and Timeline



Following the completion of contract negotiations, our cost model assumes that the winning outsource vendor will take immediate responsibility for and direct operations for each of the individual agency data centers. The vendor will then be accountable for all aspects of migrating the mainframes, servers and other equipment at these centers to one or more of the future consolidated data centers. Gartner's financial analysis assumes that this migration will take approximately 18 months.

2.7 Data Center Consolidation Financial Analysis

In its *2005 Staff Report to the 79th Legislature,* the LBB projected that data center consolidation could result in savings of $18.5 million by 2010. Based on the analysis, described in this report, this estimate appears to be somewhat conservative. Gartner estimates that by consolidating the data centers of the 24 targeted agencies, the State can save $60.0 million by 2010. The anticipated savings over a seven year period (through FY2014) are $163.9 million. These savings are net of all estimated transition, migration and retained organization costs.

The cash flows associated with this savings analysis are summarized below (Table 9)

Table 9. Data Center Cash Flow (in $ millions)

	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	Total
Current Ongoing Costs	130.8	130.8	130.8	130.8	130.8	130.8	130.8	130.8	130.8	130.8	**1,307.7**
Capital Improvements	-	1.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	-	**14.0**
Current Data Center Costs	**130.8**	**131.8**	**132.8**	**132.8**	**132.8**	**132.8**	**132.8**	**132.8**	**131.8**	**130.8**	**1,321.7**
Outsourced Ongoing Cost	130.8	124.2	109.8	99.6	99.6	99.6	99.6	99.6	99.6	99.6	1,062.2
Capital Costs	-	1.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	-	14.0
Retained Organization Costs	-	2.4	3.9	2.4	1.6	1.6	1.6	1.6	1.6	1.6	18.1
Transition/Migration Costs	2.0	5.1	8.4	7.2	7.4	7.2	7.4	7.2	3.8	-	55.4
Space Reclamation	-	-	-	(1.4)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(2.8)	(17.9)
Sale of Assets	-	(6.4)	-	-	-	-	-	-	-	-	(6.4)
Future Data Center Costs	**132.8**	**126.3**	**124.2**	**109.7**	**107.8**	**107.6**	**107.8**	**107.6**	**103.2**	**98.4**	**1,125.4**
Net Saving	**(2.0)**	**5.5**	**8.6**	**23.0**	**25.0**	**25.2**	**25.0**	**25.2**	**28.5**	**32.3**	**196.3**
Cumulative Savings	**(2.0)**	**3.5**	**12.1**	**35.1**	**60.0**	**85.2**	**110.2**	**135.4**	**163.9**	**196.3**	

2.8 WAN: Baseline Environment

The 16 separate wide area networks connect more than 130,000 devices at 4,431 different locations. 124 full time staff support and maintain these networks. In contrast to the data center spending, a large percentage of the total wide area network spending has already been consolidated within DIR. As illustrated in Table 10, approximately 26.5% of the data wide area network spending analyzed by Gartner has already been consolidated under the control of DIR. Any additional consolidation savings will need to come out of the 73.5% of spend ($27.7 million) that remains under the direct control of the agencies.

Table 10. WAN Spending by Agency (in $ millions)

	Agency/Network	FTE's	FY05 Spend ($ millions)	% of Spend
1	CPA	1.4	1.1	2.8%
2	CSEC 911/PCN	0	2.3	6.0%
3	DIR Statewide WAN	10.15	1.4	3.8%
4	DIR HHSC WAN	18.3	7.3	19.3%
5	DIR CapNet MAN	7.85	1.3	3.4%
6	DPS CLETS	32	6.6	17.4%
7	DPS AFIS	1	0.3	0.9%
8	DPS CLE/DEM	0	0.4	1.0%
9	OAG A&LS	1.85	0.2	0.4%
10	OAG C/S	2.92	1.3	3.3%
11	RRC	0	0.1	0.2%
12	TABC	1.8	0.3	0.7%
13	TCEQ	2.9	0.8	2.2%
14	TDA	0.1	0.2	0.4%
15	TDCJ	8.95	3.9	10.3%
16	TPWD	3.68	1.0	2.8%
17	TWC	7.1	2.4	6.3%
18	TXDOT	9	7.0	18.7%
Total Data WAN		**109**	**37.7**	**100.0%**
DIR Tex-AN Contract*		**15**	**20.0**	
Total Voice WAN		**15**	**20.0**	
Total WAN Spend Studied		**124**	**57.7**	

* Includes voice long distance for all agencies

2.9 WAN Benchmark Analysis

In conducting the benchmark, Gartner compared the costs and workloads of the in-scope Texas networks to two sets of peer averages from Gartner's IT Measurement database. In the first peer analysis, the costs and service level data for each individual agency network was matched with similar sized (unconsolidated) peers. The costs associated with each of the matched peers were then aggregated (e.g. added together) and compared to the sum of the costs of the in-scope Texas agency networks. The purpose of this comparison is to show how the Texas agencies are performing, in aggregate, when compared to other similar sized organizations. In the second comparison, the aggregated network workload and cost data for Texas agencies was matched to a set of consolidated peers (e.g. single organizations with costs and workloads similar to the total workload and cost of all agency networks included in the study). The purpose of this comparison is to show how the State of Texas as a whole is performing when compared to organizations which are already consolidated. In Table 11, Gartner shows how the Texas agency costs compare to unconsolidated and consolidated peer averages.

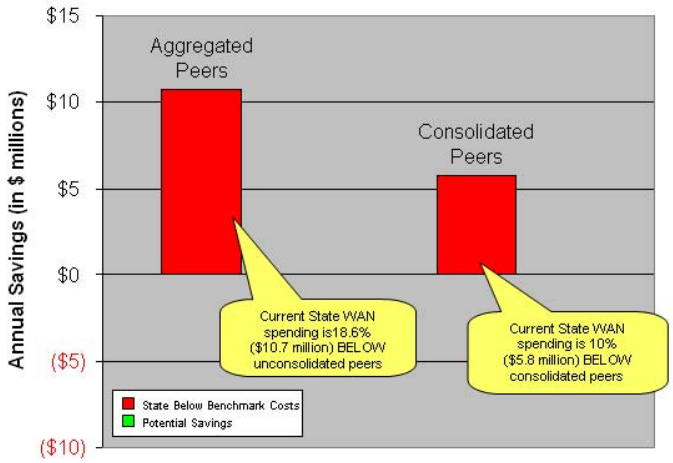
From the wide area network benchmark peer analysis, Gartner concludes that only marginal potential consolidation costs savings exist. Based on the data provided, the individual agencies appear to be operating well below the costs of the unconsolidated peers selected from our database and somewhat below the consolidated peers. These findings reflect the fact that DIR has done a good job of leveraging state-wide telecommunications spending through the TEX-AN 2000 contract vehicle and that the individual agencies have done a reasonable job of optimizing the number of personnel required to manage and support their individual networks.

Table 11. WAN Benchmark Peer Comparison (in $ millions)

Service Area	TX FY05 Spend	Aggregated Peers	Consolidated Peers
WAN Operations	$57.7	$68.4	$63.4
Variance		$10.7	$ 5.8
% Variance		18.6%	10.0%

In addition to the benchmarking, the Gartner team performed a bottom-up consolidation analysis to validate the hypothesis that personnel costs could be reduced by consolidating wide area network operations groups supporting the 16 networks into a single organization. Our analysis concluded that this could result in a reduction of 25-30 FTEs and an annual cost savings of $2.5-3 million.

Figure 10. Potential WAN Savings



2.10 WAN Future State Recommendation

The Gartner and DIR team worked with representatives of the key agencies to develop a future state model that describes key attributes of a future consolidated state-wide wide area network. A set of 5 alternative future scenarios were identified and evaluated against a robust set of screening and evaluation criteria.

Table 12. WAN Alternatives Considered

1	Separate agency network utilizing Tex-AN contract (status quo)
2	Consolidate control over telecommunication spend in DIR
3	Consolidate agency WAN operational groups into DIR
4	Consolidate agencies onto a common state-wide converged IP WAN
5	Consolidate agency WAN, LAN and voice networks onto a converged IP infrastrucutre

Based on this evaluation, Gartner recommends that DIR continue pursuing Alternative 4 (Table 12) by leveraging the work currently being done to provide integrated voice and data network (VOIP) connectivity in support of HHSC's Integrated Eligibility and Enrollment (IEE) initiative as the foundation of a future state-wide multi-agency converged IP WAN. However, it will be some time before a single, converged statewide IP network can be achieved. In the near term, Gartner also recommends that DIR pursue

Alternative 2 by obtaining direct control over the State's telecommunications spending to increase leverage of telecommunications vendors in the future. Based on the benchmark analysis summarized in Section 2.9, it appears that there are few savings to be realized in the WAN areas. However, in addition to the benchmarking, the Gartner team performed a bottom-up analysis to validate a DIR hypothesis that personnel costs could be reduced by consolidating wide area network operations' groups supporting the 16 networks into a single organization. Our analysis concluded that this could result in a reduction of 25-30 FTEs and an annual cost savings of $2.5-3 million. As this represents less than 5% of the total WAN spend and has the potential to be both controversial and disruptive, Gartner does not recommend that the State pursue these savings as a separate initiative. Gartner also validated the existence of additional telecommunications contract savings that can be realized when the TEX-AN contract is extended. These savings were not quantified or claimed as they are part of an ongoing contract process outside of the consolidation effort.

Although Gartner did not perform detailed network related benchmarking outside of the WAN area, a general review of costs and staffing associated with supporting agency LAN and voice networks by our subject matter experts showed that there is a potential for significant savings by consolidating agency WAN, LAN and Voice operations into a centralized function and migrating the state away from separate agency voice and data networks toward a single, converged state-wide IP network. Achieving this vision would involve logically combining the existing agency WAN networks, significant LAN upgrades at each site and migrating legacy PBX environments over time to IP telephony enabled solutions. At this time, Gartner does not believe that the savings from a WAN only operations group consolidation (Alternative 3) are compelling enough to justify the effort and management commitment that such an effort would require. In the near term, DIR should concentrate its attention and resources on the data center consolidation project and important network improvement initiatives currently underway to support HHSC.

Gartner recommends that DIR pursue WAN operational consolidation only on an agency-by-agency basis, reflecting agency specific requirements and business cases. In order to be positioned to achieve WAN operational and telecommunications contract savings in the future, Gartner recommends that DIR seek broader statutory authority over WAN operations and agency telecommunications spending. Gartner also recommends that DIR launch a separate initiative to benchmark the wider agency data and voice network environments in order to develop a strategy and business case for overall network consolidation and optimization (Alternative 5) to be presented to the next Legislature for consideration.

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