

JAY INSLEE
Governor



STATE OF WASHINGTON

Office of the Chief Information Officer

1500 Jefferson Street SE • Olympia, Washington 98504-1501 • (360) 407-8700

April 25, 2017

TO: The Honorable Jay Inslee, Governor of Washington
The Honorable John Braun, Chair, Senate Ways and Means Committee
The Honorable Kevin Ranker, Ranking Minority Member, Senate Ways & Means Committee
The Honorable Timm Ormsby, Chair, House Appropriations Committee
The Honorable Bruce Chandler, Ranking Minority Member, House Appropriations Committee

FROM: Michael Cockrill
State Chief Information Officer

A handwritten signature in blue ink, appearing to read "Michael Cockrill".

SUBJECT: STATE DATA CENTER PLAN – April 2017 Update

Per RCW 43.105.375, the Office of the Chief Information Officer (OCIO) has updated the State Data Center (SDC) Plan. This updated plan highlights the accomplishments and progress since July 2013, including completion of the migration into the new State Data Center from Office Building 2, and contains the potential uses evaluated by the OCIO in partnership with the Office of Financial Management and Department of Enterprise Services for available data hall space.

OCIO is currently tracking and managing broader consolidation efforts statewide. Future updates will be captured in ongoing OCIO reporting processes, and related revenue reporting will be included in Washington Technology Solutions (the Consolidated Technology Services agency) reporting processes.

Please contact Rob St. John, Deputy Director of the Office of the Chief Information Officer at (360) 407-9150 or at rob.st.john@ocio.wa.gov with any questions or for additional information.

Attachment

cc: The Honorable Mark Miloscia, Chair, Senate State Government Committee
The Honorable Sam Hunt, Ranking Minority Member, Senate State Government Committee
The Honorable Zack Hudgins, Chair, House State Government, Elections and Information Technology Committee
The Honorable John Koster, Ranking Minority Member, House State Government, Elections and Information Technology Committee
James Mackison, House Appropriations Committee
Danny Masterson, Senate Ways and Means Committee
David Schumacher, Director, Office of Financial Management

2017

Washington State Data Center Update



WA · Office of the
Chief Information Officer

Table of Contents

Executive Summary	2
2015 Statewide Migration into the New State Data Center	3
Current Data Center Operations	3
OCIO Oversight & Migration Planning	4
Migration Schedule	4
Statewide Migration Costs	6
The Effects of Technology Advances on Physical Space Requirements.....	7
Ongoing Efforts to Fill Unused Space	8
Data Center Operation Costs.....	9
Appendix A - Co-Location Provider Cost Comparison.....	15

Table of Figures

Figure 1. Planned Migrations from Agency Facilities (Cloud or SDC)	5
Figure 2. To Be Planned Agency Migrations (Cloud or SDC)	6
Figure 3. FY 17-21 Projected Gap between Data Center Revenues and Expenditures	10
Figure 4. Data Center Revenue and Expenditure Scenarios	11
Figure 5. FY 2016 Data Center Expenditures	12
Figure 6. State Data Center Expenditures at Operational Capacity.....	13

Executive Summary

Per RCW 43.105.375, the Office of the Chief Information Officer (OCIO) is required to develop a business plan and migration schedule for moving existing and new agency servers into the State Data Center (SDC). This 2017 State Data Center Plan provides an update on current agency migration activities, reports on how the OCIO is continuing to manage agency data center consolidation activities, and demonstrates progress made since July 2013 (when the OCIO last provided the legislature with an [updated State Data Center Plan](#)).

After the SDC at 1500 Jefferson in Olympia was completed, the legislature required agencies, per [RCW 43.105.375](#) (formerly RCW 43.41A.150), to migrate data computing systems and equipment into the new SDC. The state's first priority was moving those agencies located in the existing forty-year-old Office Building 2 (OB2) data center. The state's Consolidated Technology Services (CTS) provider, known as Washington Technology Solutions (WaTech), worked with the agencies in OB2 to plan the migration. In addition to the migration strategy, the plan made clear the state's long-term intent to consolidate remaining agency data center locations into the SDC, expand private cloud offerings, and investigate tenancy for unused space.

The OCIO is working closely with agencies to consolidate all co-location and other hosting operations into the new SDC. Updated state technology policy (see [Policy 184 – Data Center Investments](#)) require agencies to develop plans to move all physical application and data servers and related equipment from any agency facility to the SDC. Local area networks, file and print servers, call center systems and equipment necessary to support local office building operations are excluded. The policy notes migrations are to be completed by the target deadline of June 30, 2019, unless agencies obtain a waiver to allow for additional transition time. This policy applies to physical IT assets only and is not intended to preclude agencies from moving applications to the state's private cloud or to public cloud services.

As virtual technology continues to evolve and with accelerated migration to cloud-based services, demand for physical data center space and associated power requirements are projected to decrease. Though future data center space requirements may be smaller, the state will continue to require a modern, reliable, and secure centralized data facility. Planning for an upgrade to the State Data Center should begin in the next seven years. Currently, unused physical space will support

STATE DATA CENTER CONSOLIDATION CHECKLIST

2013

- Complete OB2 Migration Plan and begin migration from OB2.

2015

- Complete migration from OB2 to State Data Center and decommission OB2.

2016

- Update technology policies to clarify placement of physical compute equipment.
- Plan and begin migration of agency compute operations to the State Data Center.

2019

- Complete migration of next wave of agency compute operations to the State Data Center (There are 16 agencies with firm plans to migrate all or remaining equipment before June 30, 2019).

2021+

- Complete migration of remaining agency compute operations to the State Data Center.

multiple data center life cycles and will eliminate the need for future capital investment. Investments in technology and infrastructure still will be required to upgrade and maintain the State Data Center.

2015 Statewide Migration into the New State Data Center

In June 2015, the state successfully completed migration from the outdated OB2 facility to the new SDC. This was a notable achievement. State agency and WaTech staff worked together to swiftly relocate all equipment, data and applications without disrupting state government services. Due to the high level of effort and collaboration, the plan to migrate to the SDC and decommission OB2 was accelerated by three years in order to save \$3 million annually in power costs and an estimated \$30.8 million in necessary operational upgrades to OB2 fire suppression, electrical and mechanical systems.

Current Data Center Operations

The SDC supports services for state, local and federal agencies, tribes, and public-benefit nonprofits, and ensures the state's critical data and applications are accessible, available and secure.

A centrally-managed data center program enables agencies to focus on delivering their business, rather than on managing information technology. As the number of agencies participating in the State Data Center program increases, so does the efficiency of Washington State government.

The flagship SDC facility is located in Olympia's Jefferson Building, which achieved a Platinum LEED rating and current energy performance rating exceeds that required by the Efficiency First Act. The resilience and recovery SDC site is located in Quincy.

More than simply a building that houses equipment, the SDC is a dynamic working environment made up of people and processes, as well as technology. The highly-skilled professionals who staff the SDC have expertise in information technology, physical security, critical environments, and data center space management.

Since 2011, when the statute was written, cloud computing has significantly matured. The state now offers a private cloud service (housed within the SDC) and also support services for agencies to use public cloud services. A full list of SDC service offerings is available online: <http://watech.wa.gov/service-catalog-categories/hosting>.

Cloud services create new opportunities for the state to consolidate and move to more efficient and secure solutions. In lieu of migrating physical servers to the SDC, for example, a number of agencies are evaluating or planning migrations to the state's private cloud or to public cloud providers. Agencies may also consider solution options located in external cloud environments, such as Software as a Service (SaaS).

STATE DATA CENTER STRATEGIC TECHNOLOGY

State government now operates one of the premier data center programs in Washington.

The new SDC ensures critical data and applications are accessible, available and secure.

Security and critical environmental components—surveillance, access control systems, backup generators, uninterruptable power supplies, air conditioning, cooling systems, and other critical support equipment—are monitored 24/7.

In December 2016, the Technology Services Board approved an updated state technology policy to reflect the new service options and consolidation opportunities, as well as to accelerate agency migration efforts. [Policy 184 – Data Center Investments](#) requires agencies to locate all physical servers and related equipment in the State Data Center or move the function to the state’s private cloud or a public cloud service. Locally operated agency equipment rooms must only be used to support local office building operations, print rooms, file share, on-site client configurations, call centers and telecommunication closets. All servers and related equipment at local agency sites are prohibited after the June 2019 migration deadline, unless a waiver is granted. The OCIO has the authority in statute to grant waivers.

OCIO Oversight & Migration Planning

[RCW 43.105.375](#) requires agencies to migrate all existing servers into the SDC (as well as locate all new servers within the SDC). The statute directs the OCIO to work with agencies to develop principles and timelines for migrating, and the consolidation, as discussed in the 2013 plan update, should be done in a “manner that makes the most business sense.”

In August 2016, the OCIO required each agency submit an inventory of remaining locally operated facilities. More than 70 agencies identified over 90 locations containing servers and related equipment. Per Policy 184, agencies were asked in the inventories to identify all physical compute equipment, including volume and locations. Locations identified in the inventories will need to migrate to the SDC (which now includes the Quincy resilience and recovery location) or to the state’s private cloud or a public cloud provider.

The inventories identified agency trigger points, expected migration timelines, and milestones associated with the movement of equipment out of their locations and helped OCIO better understand agency technology and space requirements.

Although the OCIO set a target migration deadline of June 30, 2019, the inventories challenged the feasibility of all agencies meeting the June 2019 target. Due to the complexity, size, and operations of some agency compute equipment, the statewide migration is expected to last at least through 2021.

The remaining consolidation efforts are being managed through the waiver process. A “waiver” serves as the agency’s plan and commitment to migrate, and ensures agencies are in compliance with state policies. Though agencies are required to migrate, waivers allow agencies to negotiate additional time to develop their migration strategy, based on agency circumstance, and weigh the schedule against other agency priorities.

Per the statute, the waiver process conditionally allows agencies to migrate out of their facility in a way that minimizes impact to their business. If an agency, for example, requires a server be located outside the consolidated service offerings or needs a timeline extension beyond June 30, 2019, that agency must submit written justification citing service or performance challenges as part of the waiver process.

Migration Schedule

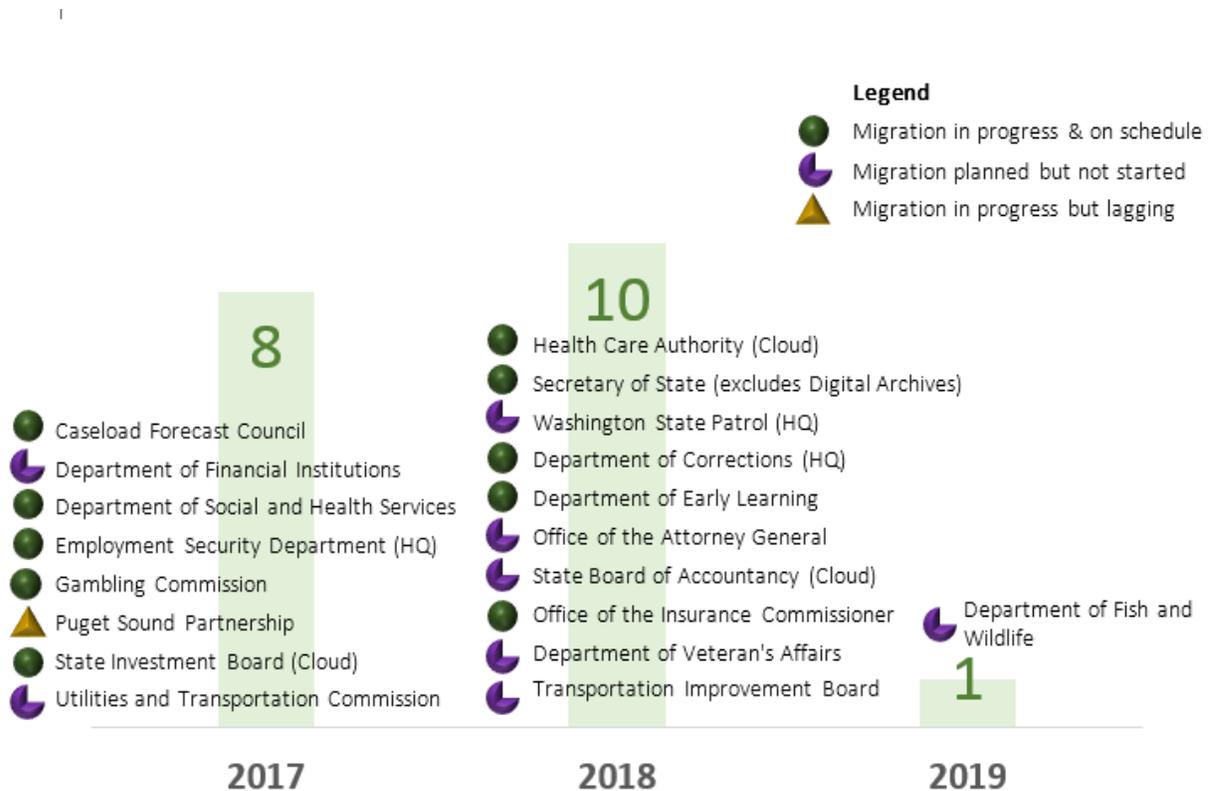
As of December 2016, there are 34 agencies currently using SDC services, and approximately 40 agencies are planning migrations to the SDC or external cloud environments over the next four years. Of

those, most are working with the OCIO to develop migration strategies. The progress of agencies with locally managed equipment is managed and tracked via the waiver process.

The following nineteen agencies have developed firm migration plans and expect to be consolidated into the SDC or moved to external cloud environments by the target deadline of June 30, 2019.

Figure 1 identifies the agencies with planned migrations from agency facilities by June 2019. Completion of these migrations is a condition of approval of existing waivers. Agencies may have equipment at more than one location such as a headquarters building and a backup/recovery site. Waivers are specific to a location. If the migrations happen at different times, an agency will appear more than once.

Figure 1. **Planned Migrations from Agency Facilities (Cloud or SDC)**



Note: Reflects approved waivers and reported status

Figure 2 identifies the agencies who have been granted waivers to allow for the development of migration plans based on agency specific triggers. As a trigger is reached, the agency must submit a migration plan and regularly report status to the OCIO. Agencies may have equipment at more than one location such as a headquarters building and a backup/recovery site. Waivers are specific to a location. The following is a list of agencies with approved planning waivers based on the date the plan is anticipated to be available. By 2018, all agencies will have migration plans identified and tracked via the waiver process.

Note: Reflects the calendar year the migration plan for remaining agency facilities are due based on approved waivers. Migrations may be to either the State Data Center or external cloud location.

Figure 2. To Be Planned Agency Migrations (Cloud or SDC)



Due to the complexity of operations for some agency compute equipment, agency migrations are anticipated to last at least through 2021.

Longer term waivers were approved for agency locations with highly specialized functions or equipment:

- Department of Health’s Public Health Lab through 2020,
- Secretary of State’s Digital Archive through 2021,
- Department of Transportation’s Traffic Management Center through 2021, and
- WaTech’s several core network node sites through 2021.

Statewide Migration Costs

Seven agencies consolidating into the SDC have submitted budget requests this biennium to support their migration efforts.

Funding for migrations happening in the next two years, as well as funding for planning activities required by the larger, more complex migrations are included in these requests.

As agencies complete planning and identify funding gaps, additional consolidation-related decision packages will be submitted as supplemental and biennial budget requests.

These seven agencies requested funding and were included in the Governor’s 2017-19 Budget Proposal:

1. Office of the Attorney General
2. Caseload Forecast Council
3. Department of Health
4. Department of Retirement Systems
5. Department of Revenue
6. Liquor & Cannabis Board
7. Office of the Secretary of State (regular operations)

WaTech also requested an estimated \$1.1 million from FY 2018 through FY2021 required for technology staff resources to coordinate and manage agency migration efforts.

The Effects of Technology Advances on Physical Space Requirements

The main SDC facility in Olympia’s Jefferson Building is made up of four physical “halls”. Capacity is determined by a combination of available floor space, power, and cooling. Only two of these halls—Halls 1 and 2—are “built-out,” meaning they contain the costly and extensive infrastructure (wiring, cooling, electrical, back-up generators, etc.) required to function as a data center. Halls 3 and 4 were left as bare “shells,” which means they are more like large, unfinished warehouses currently without the infrastructure to support computer systems or staff. The cost to build out these areas as data centers is approximately \$40 million, a significant investment and likely one the state will not have the market to fill as more and more entities are moving to smaller footprints and cloud-based technologies.

Data Hall 1 is operating at full designed capacity and Data Hall 2 is partially filled. Agencies are at various stages in the process of migrating their systems into remaining Hall 2 space. Advances in high density servers and cloud technologies have resulted in a decrease in physical data center space needs. Based on current forecasts, Hall 4 could be repurposed today and Hall 3 could be used for other purposes in the short-term, with the understanding that it may need to be vacated and built out when the infrastructure in Halls 1 and 2 become obsolete and requires replacement.

STATE DATA CENTER BUSINESS BENEFITS

- ☑ 24/7 onsite monitoring
- ☑ Managed by experts in information technology, physical security, critical environments, and space management
- ☑ Industry leading energy-efficiency
- ☑ Secure and controlled access to facility and customer equipment
- ☑ Analytics and authentication
- ☑ Resilient and survivable with backup facility in Eastern Washington
- ☑ Customer assistance with industry and federal compliance audits

Data center technologies will likely continue to require less physical space moving forward, but a central data center facility will still be needed to house key network and security infrastructure, as well as to operate high-performance computing systems and to safeguard the state's most sensitive information.

Ongoing Efforts to Fill Unused Space

Since only one data hall likely will be needed for future SDC upgrade efforts, the state has been evaluating possible short- and long-term uses for the "shell" halls, as well as ways to use remaining capacity in Hall 2. Current agency locations intended to migrate into the SDC still are not predicted to bring Hall 2 up to capacity. As mentioned, the shrinking footprint of physical infrastructure, new cloud options, and virtualization have diminished the state's physical data center capacity requirements.

The state initially contracted with Jones Lang LaSalle (JLL), an international commercial real estate broker with a specialty in data centers, to find tenants to fill available data center capacity in Hall 2, as well as to find tenants to build out and use Halls 3 and 4. Marketing efforts continued for about 18 months with little success. JLL issued a report that described the Northwest data center market as over-saturated. In addition to market issues, other unique barriers exist to filling the available space. These largely center on limits to how the space can be used. They generally fall into three categories: limits related to the way construction of the Jefferson Building was financed, operational and security limitations, and the physical space and location of the facility including limited power availability.

1. Financial Use Limitations

New uses cannot require substantial capital investment by the state, and the method used to finance construction of the Jefferson Building ([63-20 Public/Private Financing](#)) restricts use of the facility to primarily government or non-profit related activity. Only ten percent or less may be used for private-sector (for profit) activity for the whole Jefferson Building complex, including office space and data center facility.

STATE DATA CENTER UNUSED SPACE

Tenancy Opportunities Explored:

- ☑ **Amazon Web Services** considered an extension of the Amazon Seattle data center.
Result: Amazon determined that the distance between Olympia and Seattle was too great to meet their network performance requirements.
- ☑ **Department of Labor and Industries** considered a safety laboratory.
Result: Capital investment judged too great; posed risks to data center operations.
- ☑ **Department of Transportation** considered a traffic monitoring center.
Result: Too costly; too far from major traffic centers; impractical to move staff.
- ☑ **Secretary of State** considered a records archive.
Result: Too costly for storage facility. Many less expensive options exist in the market.
- ☑ **Washington State Patrol** considered an evidence storage facility available to all state jurisdictions.
Result: WSP completed extensive study and cost analysis for a legislative report. Cost was excessive and too little demand from other jurisdictions.
- ☑ **Department of Enterprise Services** considered an office furniture warehouse
Result: Significant traffic in and out of secured entrances, moving large heavy equipment posed risks to data center operations; use of Correctional Industries employees violated SDC security policies and would likely result in federal compliance findings; many less expensive options exist for warehouse space.

Sub-leasable space is limited, and a portion of this space has been leased already to a private food vendor. In addition, any potential sublease is subject to an opinion of nationally recognized bond counsel that the sublease will not adversely affect the tax-exempt status of the lease.

2. Operational and Security Limitations

New uses cannot create excessive risk to working data halls, data center customers or staff, nor pose risks to environmental controls (i.e. power, cooling, and air quality). Safeguarding existing data center customers and operations is a paramount concern.

To that end, tenant improvements to shell Hall 3 cannot preclude its use as the state's primary central data center at a future date and tenants must vacate the space when the state requires it for use as a data center.

Uses must also comply with and coexist with SDC security standards and procedures, and cannot impact the SDC's ability to pass federal and industry compliance audits, such as SOC2, PCI, HIPAA, CJIS, and IRS.

3. Physical Space and Location Limitations

The on-site electrical sub-station has finite capacity, and potential customers can find cheaper power and/or better connectivity via the retail data center magnets in Seattle, Eastern Washington and Oregon. Any tenant would need to install separate electrical and environmental systems and must harden and secure the interior walls adjoining Halls 1 and 2. There are physical limitations such as loading docks and parking to consider. The site is not equipped for large trucks and there is limited parking for staff and customers.

Despite these ongoing use limitation challenges, the state continues to explore new ideas for both repurposing the unused physical space and filling remaining data center capacity in Hall 2. As agencies continue to migrate data center operations into the SDC, available space in Hall 2 continues to decrease.

STATE DATA CENTER UNUSED SPACE Additional Tenancy Ideas To Explore:

- Military Department/Emergency Management Division:** use space as annex of the state Emergency Operations Center for Olympia-based executives to assemble during regional emergencies.
Assessment: This would be especially important in the event of a Cascadia 9.0 event when transportation to Camp Murray could be impractical.
- Sensitive Compartmented Information Facility (SCIF):** use space for a U.S. Government accredited facility where Sensitive Compartmented Information (SCI) can be stored, discussed or electronically processed.
Assessment: There is currently no evidence that a demand exists.

Data Center Operation Costs

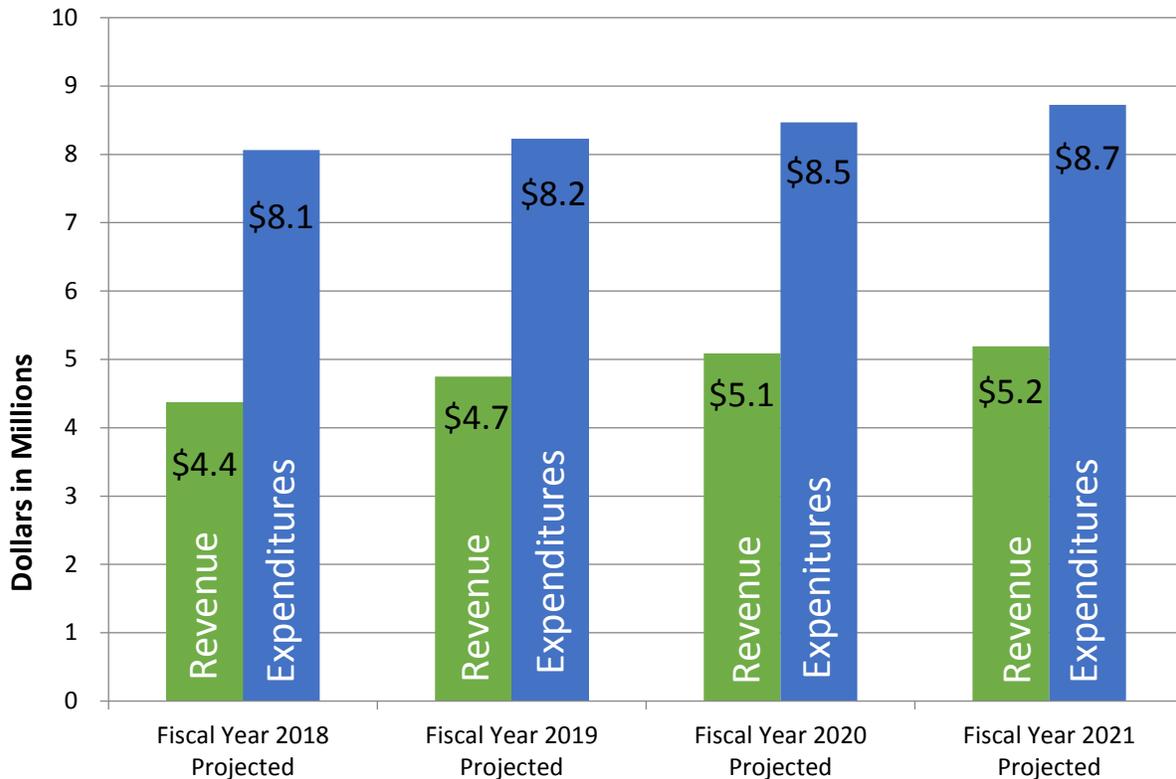
In any scenario, the SDC cannot be cost-recoverable unless rates increase and both data center Halls 1 and 2 are operating at or near operational capacity. Space is available in both halls, and revenue increases due to consolidations have not been sufficient to sustain SDC operation costs. To address this issue, the OCIO directed agencies to identify all locations with physical compute equipment (via the

agency inventories) and required that agencies (via updated statewide technology policies) move all remaining locations into the SDC by June 2019.

This work has helped speed the consolidation efforts, however, even when equipment at all known agency locations is consolidated, the SDC will not be at full operational capacity. This is largely due to previously mentioned technology advances (such as the emergence of the cloud, virtualization and the shrinking size of physical equipment) that have reduced the state’s physical data center space requirements.

A plausible solution would involve expanding the SDC customer model beyond state government (starting with other public-sector customers and moving to the private sector, if necessary and allowable) and developing a sustainable rate strategy that is manageable for customers and more accurately aligns with the cost of operations. Figure 3 displays the projected revenue and expenditures based on known migrations.

Figure 3. FY 18-21 Projected Gap between Data Center Revenues and Expenditures



Note: Revenue projections based on known migrations. Expenditure projections based on cost of operations.

The projected revenue increases shown in Figure 3 reflect planned agency migrations. These are known agency locations (reported in agency inventories) that are planning to migrate into the SDC. Expenditure projections are adjusted for inflation but are based solely on operational costs (primarily power, equipment and staff). Future infrastructure maintenance, refreshes, upgrades and potential increases in power costs are not reflected.

Figure 4 breaks the revenue picture into scenarios showing: **optimistic** as everything known in the migration goes as planned; **moderate** as only half of planned moves forward; **pessimistic** as only a quarter of planned moves forward; and **stop now** at the level of customers currently in the SDC.

Figure 4. Data Center Monthly Revenue and Expenditure Scenarios

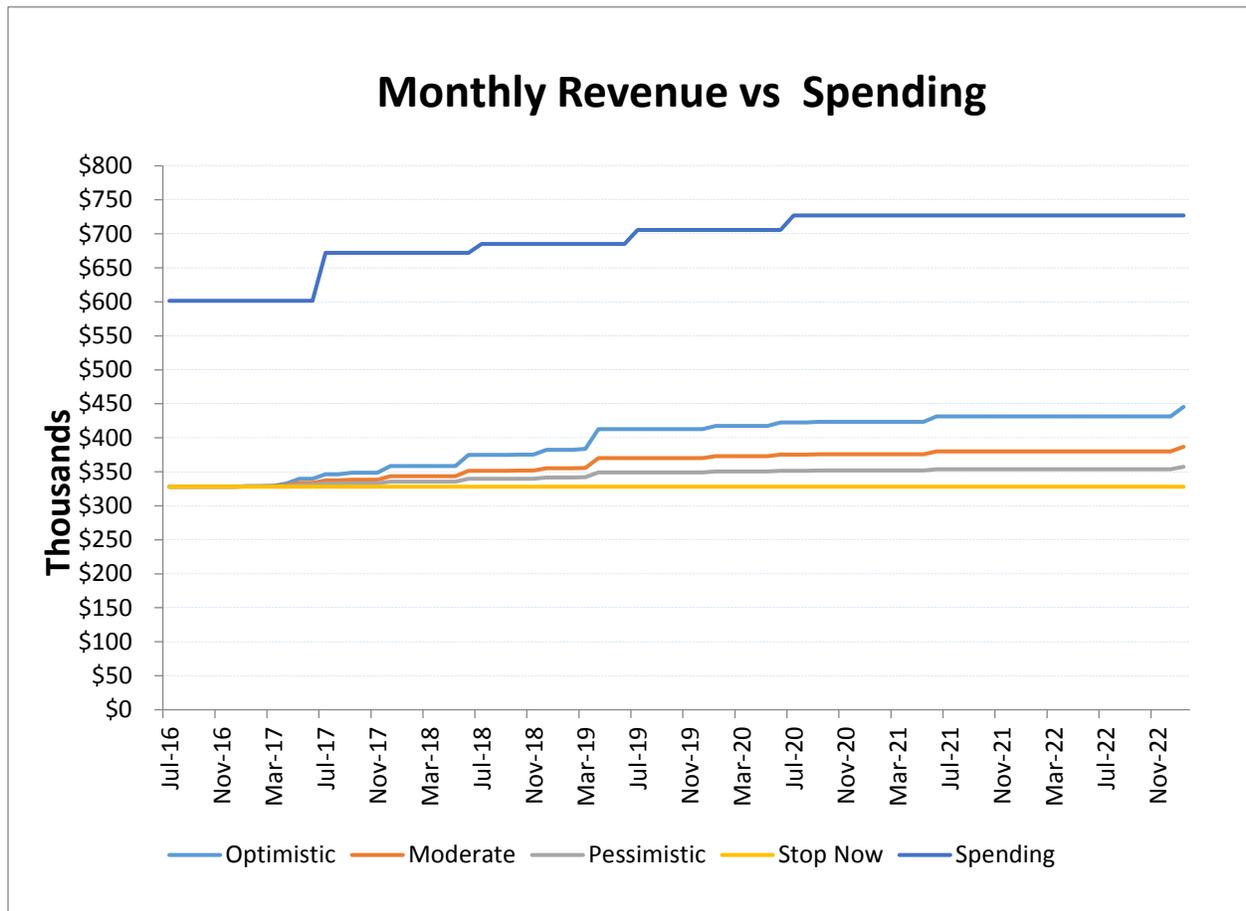
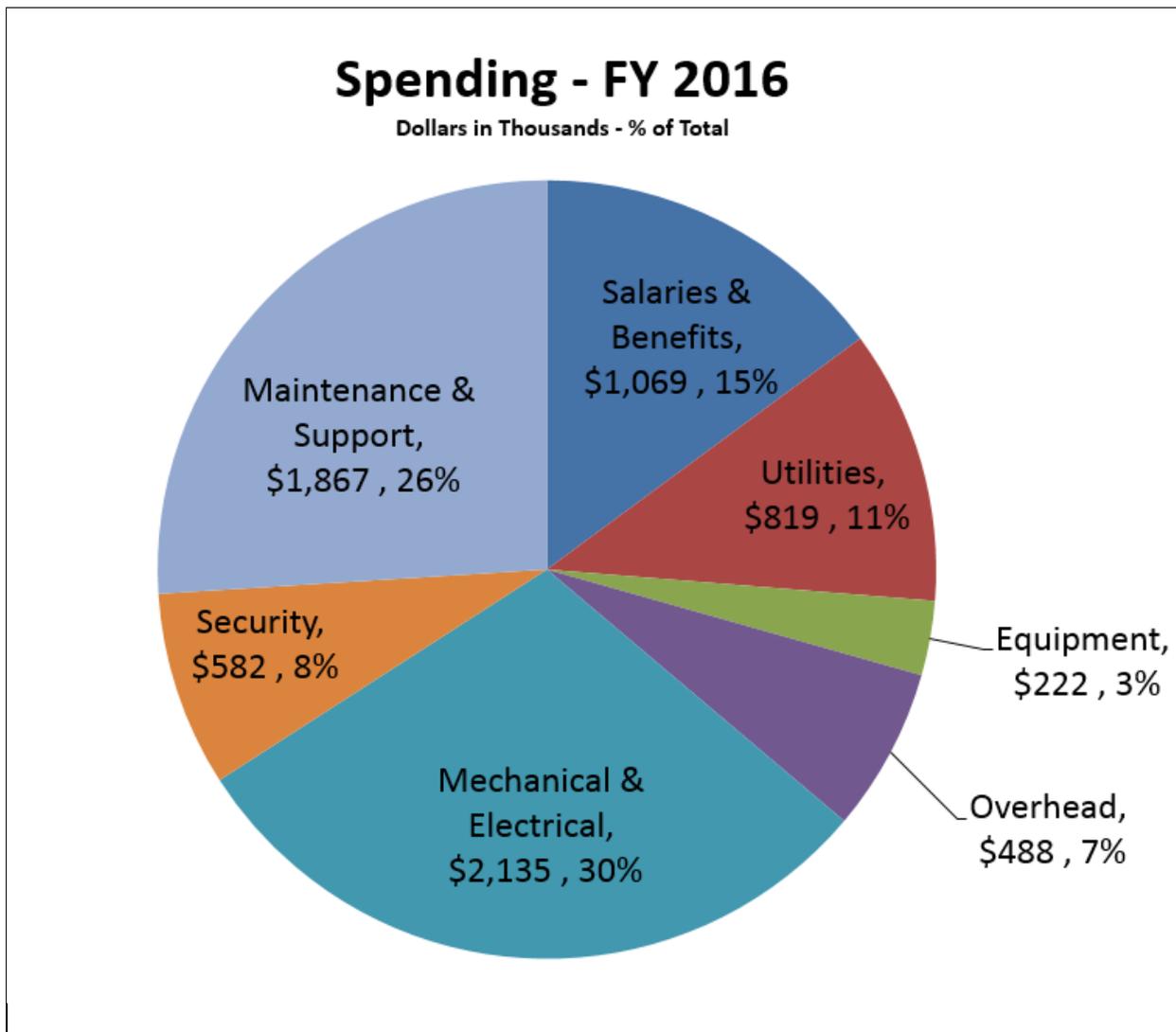


Figure 5 depicts Fiscal Year 2016 spending to give a better understanding of how funds are spent to support the SDC operations.

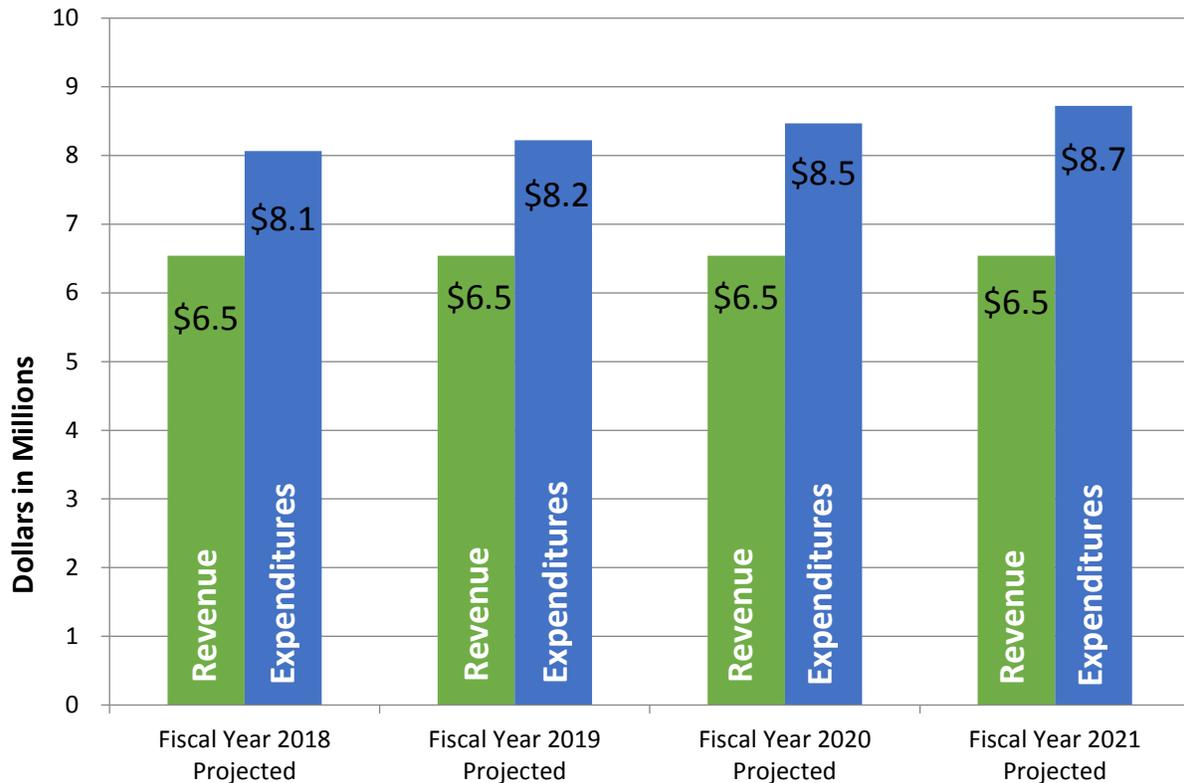
Figure 5. FY 2016 Data Center Expenditures



Note: Dollars are in thousands and reflect the percentage of the total spend within each category.

Though Hall 2 is not expected to be operating at capacity even after consolidation is complete, the urgency to migrate agency locations into the SDC remains. WaTech is working closely with agencies to move their operations into the SDC as quickly as possible, which will marginally narrow the gap between SDC revenues and expenditures. If both Hall 1 and 2 were filled to capacity, there would still be a gap between projected revenue and expenditures at the current rate structure as reflected in Figure 6. Expenditure projections are adjusted for inflation but are based solely on operational costs (primarily power, equipment and staff). Future infrastructure maintenance, refreshes, upgrades and potential increases in power costs are not reflected. To ready Hall 3 and 4 will take substantial investment.

Figure 6. State Data Center Expenditures at Operational Capacity



Note: Reflects revenue if Hall 1 and 2 are at operational capacity

Although use restrictions associated with facility financing limit options to bring occupants from outside the public sector, work to fill available space with suitable occupants continues with potential public sector prospects such as cities, counties and school districts within the state.

In addition to the challenges of filling the SDC, rates are also a factor in cost recovery. The established rates for SDC hosting services (co-location and managed) have remained unchanged since the initial migration out of the OB2 facility and have not kept pace with comparable private market rates based on staff research of available data (See Appendix A). Private market rates tend to be higher but with fewer included services. For example, in the private market, migration support is not included in the base price. While this provides excellent value to state agencies, the result is that revenues are not expected to recover projected expenditures into the future. In order for the SDC to be cost recoverable once agency consolidations are complete, current projections show rates would need to increase by 26%.

The state will continue to require a data center. Many systems require physical servers, and for some agencies, emerging technologies are not always the best (or even possible) solutions. Though physical data center space requirements will likely continue to shrink, as with any critical technology, future

investments will be required to maintain and upgrade the SDC. Unused physical space in Hall 3 will support multiple data center life cycles and will eliminate the need for future capital investment, but planning for an upgrade to the SDC should begin in the next seven years.

Appendix A - Co-Location Provider Cost Comparison

Co-Location Pricing Comparison

Comparison is based on an analysis of typical colocation providers operating in the Pacific Northwest retail colocation market. Providers listed operate top-tier facilities with capabilities comparable to the WaTech State Data Center, i.e. concurrently maintainable, purpose-built data centers with redundant power, heating/cooling and network infrastructures.

Key

*	One Time Fee
**	Based on 120VAC
#	Secondary Data Center (QDC) Remote Hands Rate: \$150/\$300

Feature	WaTech State Data Center (SDC)	Company "A"	Company "B"
42 RU Fill-Size Enclosure	\$1000 per month (42RU)	\$1800 per month (40RU)	\$1010 per month (40RU)
5kW Power Budget	Included	Included (5.4kW)	Included (5.4kW)
Additional Power Budget**	\$200 per month per 2.5kW	\$200 per month per 2.4kW	\$180 per month per 1.8kW
Enclosure Setup Fee *	Included	\$3000	\$1250
Internal Network Cabling	Included	Variable Fee	\$150 per hour plus materials
1 st Network Connection (100Mb)	Included (Allocated agencies) \$125 per month w/\$250 setup fee (Non-Allocated)	Included	\$300 per month w/\$90 setup fee
Additional Network Connection (100Mb)	Included (Allocated agencies) \$125 per month w/\$250 setup (Non-Allocated)	\$500 per month w/\$100 setup	\$300 per month w/\$90 setup
1Gb Network Connection	Included (Allocated agencies) \$125 per month w/\$250 setup (Non-Allocated)	\$800 per month w/\$800 setup	Data not available
Data Transfer	Included	\$1.50/GB per month	\$3/GB per month
Migration & Project Management Services	Included	Third party only @ \$300-\$1000 per server	Third party only @ \$300-\$1000 per server
Remote Hands	# \$85 per hour (8 to 5) \$150 per hour (after normal business hours)	Varies (\$250 per month per server or per incident)	\$250 per hour (8 to 5) \$500 per hour (after normal business hours)
Office Workspace	Included (first come first served)	N/A	N/A
Small Item Storage	Included (based on availability)	N/A	N/A
Secondary Data Center w/ core network failover, connected via redundant 10 Gb MPLS	Included (similar colocation rates apply)	Varies	Varies

Example Configuration: A customer purchases a single 5kW enclosure and installs 16 servers and 1 network switch into the enclosure. They also order 2 network connections from the switch to the network core. The customer plans to transfer 500 GB of data each month over the network. The installation includes enclosure setup and migration of the servers and switch into the enclosure.

Customer Configuration	WaTech Rate	Company "A" Rate	Company "B" Rate
1 Enclosure – 5kW	\$1,000	\$1,800	\$1,010
16 Servers & 1 Network Switch	Customer Provided	Customer Provided	Customer Provided
2 1Gb Network Connections	\$250	\$500	\$600
500Gb of data transfer	Included	\$750	\$1,500
Setup Fees	\$500	\$3,800	\$2,050
Migration Services	Included	\$5,100 (Conservative)	\$5,100 (Conservative)
One Time Charges	\$500	\$8,900	\$7,150
Total 1 st Month Charge	\$1,750	\$11,950	\$10,260
Recurring Monthly Charge	\$1,250	\$3,050	\$3,110