

# Shared Hosted Data Center Phase I Establish Presence

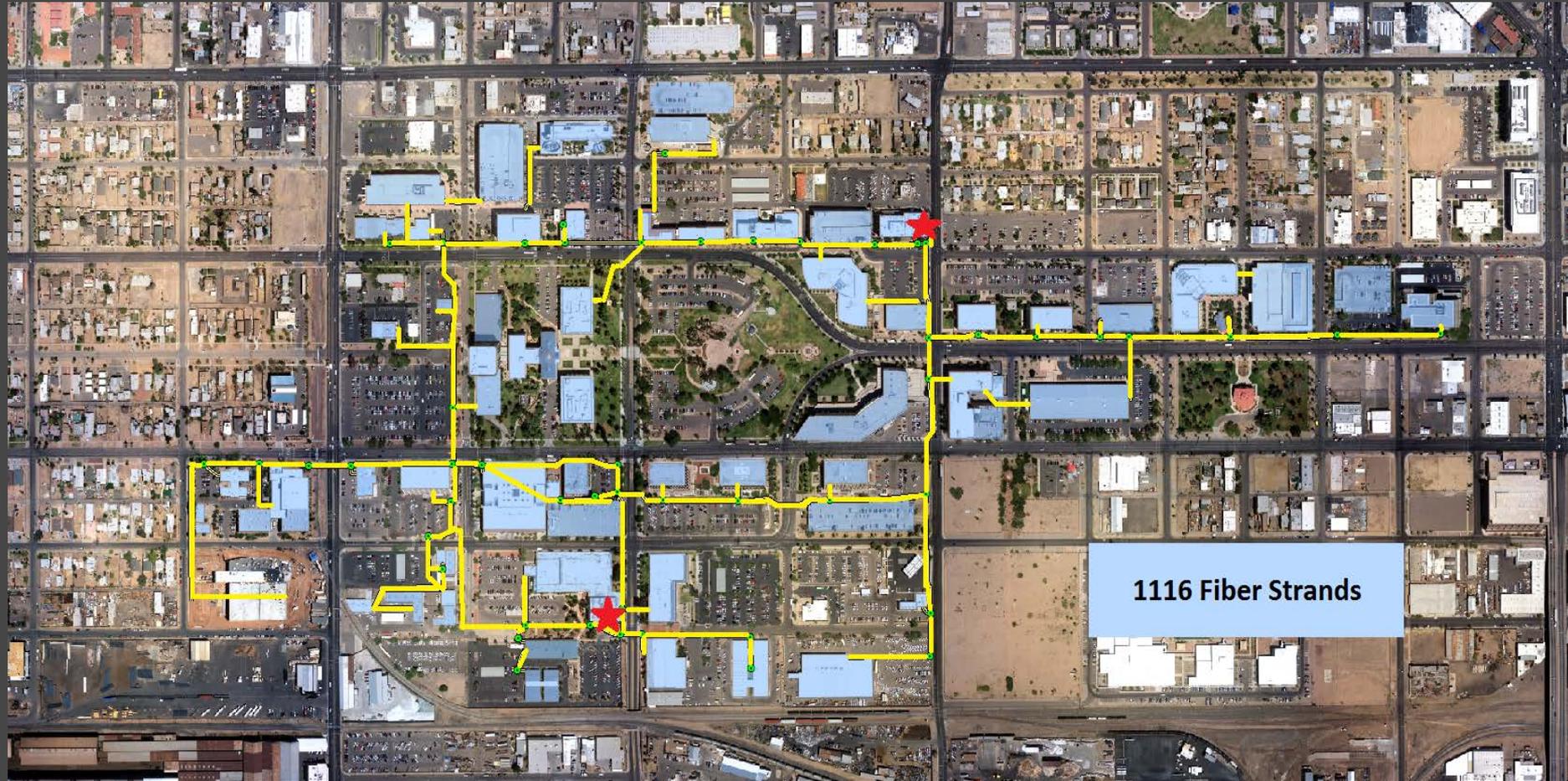
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# Business Problem

- State Data Center (SDC) Aging Facility not Sustainable.
- There are more than 140 State entities that leverage the SDC's infrastructure, services, and capabilities for mission-critical services.
- The current facility is considered one of two major points of entrance and exit of IT services into the State owned fiber/copper networks.
- Abandonment of State owned Fiber will result in extensive carrier cost for service delivery to each facility.
- Over 35 facilities and 11,000 users are on the Capitol Mall, including the Governor's Tower.

# CAPITOL MALL INFRASTRUCTURE



# Requirement

- *Shared Hosted Data Center(HDC) must:*
  - Be minimum a Tier 3 as defined by Telecommunications Industry Association(TIA)-942: Data Center Standards.
  - Large enough for expansion of State agencies footprint
  - Have both white (raised floor) space and Modular space
  - Meet all state & federal security requirements
- *Technology solution must:*
  - Provide redundancy by design
  - Allow leveraging and extending of State owned Fiber
  - Allow multi agency service hand off via equipment specifications

# Recommended Solution

- ❑ Lease space at I/O Data Center
- ❑ Lease 4 strands of Commercial Fiber
- ❑ Fiber Splicing at the Capitol Mall
- ❑ Acquire and Deploy Dense Wavelength Division Multiplexing (DWDM) to connect Capitol Mall to I/O via leased Fiber
- ❑ Acquire and Deploy Data Center switching Infrastructure

# Benefits

## *Service Enhancement*

- Leverage a Tier III Datacenter physical security and environment

## *Problem Avoidance*

- Reduce major IT system outage due to environmental issues, i.e. electrical or building cooling systems

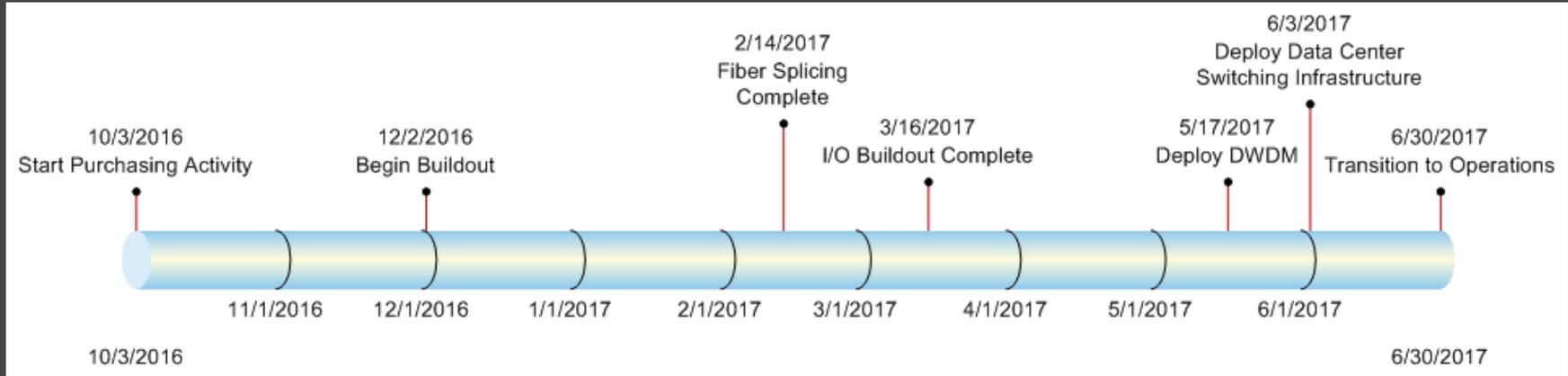
## *Risk Avoidance*

- Moving a critical system out of an aging building

## *Cost Avoidance/Reduction*

- No additional carrier charge by leveraging the DWDM
- Disconnect agencies dedicated carrier connection from the Capitol Mall to I/O and leverage DWDM

# TimeLine



- ✓ An alternate main distribution frame (MDF) has been identified to replace the State Data Center as a new **HUB for State Fiber** (main distribution Frame(MDF)).
- ❑ Installation of conduit and Fiber Splicing for 1116 strand of Fiber into the new MDF need to be completed
- ❑ Identify, validate required space and execute the task order through State Data Center contract at I/O Data Center (referred to as Shared Hosted Data Center (HDC)).
- ❑ Secure 2@ 2 pair of Dark Fiber from commercial carriers to extend state Fiber to a remote Data Center.
- ❑ Acquire managed Dense Wavelength Division Multiplexing (DWDM) equipment to channelize the lease fiber to **match current capacity of the state owned Fiber**
- ❑ Purchase, Configure and install Data Center switching.
- ❑ Purchase, install 1<sup>st</sup> row of Data Center Rack with required connection to start the migration of servers

# Budget

Description	Type	Year 1	Year 2	Year 3	Year 4	Year 5	Extended Cost
Professional & Outside Services	Development	\$28,156	\$0	\$0	\$0	\$0	\$28,156
	Operational	\$0	\$0	\$0	\$0	\$0	\$0
Hardware	Development	\$1,656,008	\$0	\$0	\$0	\$0	\$1,656,008
	Operational	\$0	\$591,251	\$0	\$0	\$0	\$591,251
Software	Development	\$0	\$0	\$0	\$0	\$0	\$0
	Operational	\$0	\$0	\$0	\$0	\$0	\$0
Communications	Development	\$41,051	\$0	\$0	\$0	\$0	\$41,051
	Operational	\$0	\$41,051	\$0	\$0	\$0	\$41,051
Facilities	Development	\$245,583	\$0	\$0	\$0	\$0	\$245,583
	Operational	\$740,850	\$1,481,699	\$1,481,699	\$1,481,699	\$1,481,699	\$6,667,647
Licensing & Maintenance Fees	Development	\$118,956	\$0	\$0	\$0	\$0	\$118,956
	Operational	\$0	\$0	\$0	\$0	\$0	\$0
Other	Development	\$215,028	\$0	\$0	\$0	\$0	\$215,028
	Operational	\$0	\$0	\$0	\$0	\$0	\$0
	<b>Development Cost:</b>	\$2,304,781	\$0	\$0	\$0	\$0	\$2,304,781
	<b>Operational Cost:</b>	\$740,850	\$2,114,001	\$1,481,699	\$1,481,699	\$1,481,699	\$7,299,948
	<b>Total Cost:</b>						\$9,604,729

# ROI on DWDM

The following table illustrates the ROI for implementing the proposed DWDM network infrastructure vs. implementing point-to-point network connections.

Implementation with out DWDM Equipment	Carrier Wavelen gth QTY Impleme nted	Carrier Wavelength Total	Carrier Wavelength Cost Annually	Implementation with DWDM Equipment	Cumulative ROI
Year 1	23	23	\$828,000	\$2,956,255	(\$2,128,255)
Year 2	24	47	\$1,692,000	\$2,128,255	(\$436,255)
Year 3	24	71	\$2,556,000	\$436,255	\$2,119,745
Year 4	9	80	\$2,880,000		\$4,999,745
Year 5	0	80	\$2,880,000	\$0	\$7,879,745
Total 5 Years			\$10,836,000		

Annual Cost Avoidance on 80 Gig of connection after YR 4= \$2,880,000

# QUESTIONS