COMMISSION AGENDA

Item No.: 9B
Meeting: 7/15/21

DATE: July 15, 2021

TO: Port Commission

FROM: Mark Miller, IT Director
Sponsor: Eric Johnson, Executive Director

SUBJECT: REQUEST AUTHORIZATION TO PROCEED WITH A COMPETITIVE RFP PROCESS AND IMPLEMENTATION OF A DATA CENTER DISASTER RECOVERY WARM SITE

A. ACTION REQUESTED

Request authorization to proceed with a competitive RFP process and implementation of a Data Center Disaster Recovery Warm Site.

B. BACKGROUND

During the IT Disaster Recovery Plan review in late 2020, it was identified the Port does not have a Data Center Disaster Recovery alternative site. Currently, the Port of Tacoma and NWSA mission critical applications are based in a single data center in downtown Tacoma. While many Port application are in the Cloud, they can only be accessed from the Port facilities via the Tacoma data center internet.

If the Tacoma data center is destroyed due to an earthquake or terror event, the Port of Tacoma and NWSA operations would be disrupted due to no access to critical financial, operations and security systems. In the event of a disaster, it is estimated to take 5-7 months to procure an alternative data center, internet access and hardware and then build out the new data center.

The IT Management team presented this risk and alternatives to the Port of Tacoma and NWSA executives in the February 2021 IT Steering Committee. The IT Steering Committee supported the IT Management recommendation and approved conducting additional planning for a Data Center Disaster Recovery Warm Site.

In Q2, 2021, the IT Team issued an RFI for a Data Center Disaster Recovery Warm Site and received 8 responses. The Data Center Disaster Recovery Warm Site cost estimates were refined based on the 3 Top RFI responses.

C. FINANCIAL SUMMARY

The table below reflects the updated cost estimates based on the RFI responses and budgetary quotes from hardware and software vendors.

	Updated Cost Estimate
One-time Costs (Hardware and Software procurement)	$250,000 (+/- 20%)
Ongoing Annual Costs (Data Center Lease, Power, Network, Hardware and Software Maintenance)	$220,000 (+/- 20%)
Year 1 Investment	$470,000 (+/- 20%)
5-Year Investment	$1,350,000 (+/- 20%)

D. ECONOMIC INVESTMENT / JOB CREATION

Two RFI respondents provide data center co-location facilities outside the Puget Sound Region in Eastern Washington that would result economic benefit for Washington State.

E. ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS

Alternative 1: Current State
Continue to live with current state risk of an earthquake or terror disaster that would impact Port of Tacoma and NWSA operations for 5-7 months

Alternative 2: Establish a Data Center Disaster Recovery Cold Site (Option 1)
Establish a leased data center space, rack, and internet connectivity. This would require 2-4 months to procure equipment and restore applications to enable Port operations.

Alternative 3: Establish a Data Center Disaster Recovery Warm Site (Option 2)
Establish a leased data center space, rack, servers, storage and internet connectivity. This would require 1 - 6 business days restore critical applications to enable Port operations.

Alternative 4: Establish a Data Center Disaster Recovery Hot Site (Option 3)
Establish a leased data center space, rack, servers, storage and internet connectivity with full duplication of critical applications and data. This would require 8-16 hours to restore applications to enable Port operations.

F. NEXT STEPS

Upon authorization initiate a competitive RFP process for a Data Center Disaster Recovery Warm Site and implementing a Data Center Disaster Recovery Warm Site to reduce Port Operational Risk

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Information Technology
Data Center Disaster Recovery Presentation

7/15/2021

Port of Tacoma
People. Partnership. Performance.

Data Center Disaster Recovery

Action Requested:

Request authorization to proceed with a competitive RFP process for a Data Center Disaster Recovery Warm Site contract

Background: Data Center Disaster Recovery

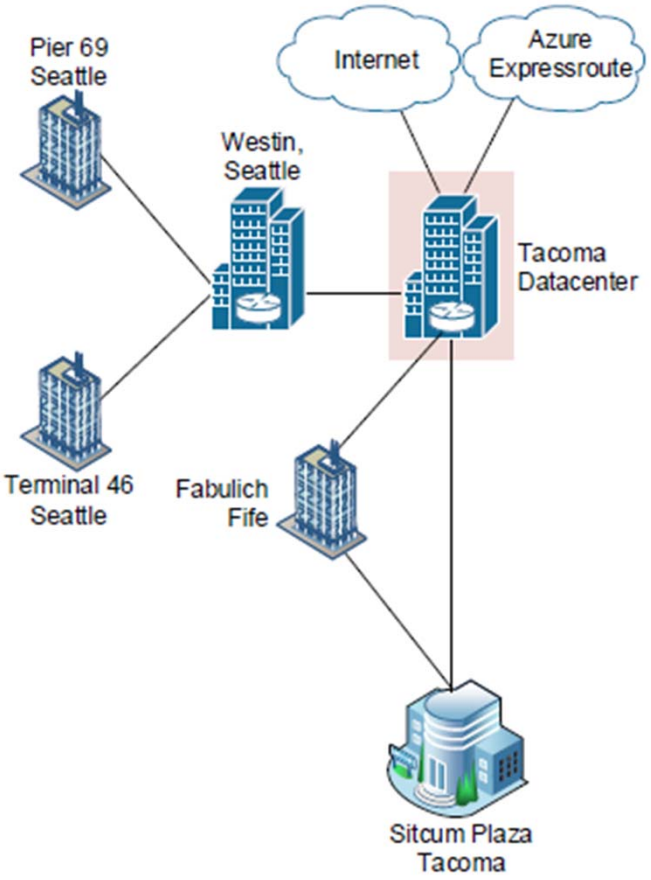
- During the IT Disaster Recovery Plan review, it was identified the Port does not have a Data Center disaster recovery alternative site.
  - Worst case scenario: the Tacoma data center is destroyed due to earthquake or terror event – Cascadia Subduction Zone has been identified as an increased risk
  - Many critical IT services are in the data center (Dynamics GP, Maximo, Bellerophon, GIS, gate controls, RFID, security video)
  - While 50% of IT applications are in the Cloud – there is no alternative internet access

- Can the Port afford to be down for approximately 5-7 months following a data center disaster trying to procure an alternative data center, internet access and hardware and then build out the new data center?

Research:

  - Port of Seattle's data center disaster recovery journey
    - Started with data center "Warm" site
    - Now have data center "Hot" site

Current Status



The Current Scenario

- In the event of a total loss of the Tacoma data center the Port does not have a recovery solution
- No alternate recovery site - estimated recovery time is 5 – 7 months
    - Regional competition for resources

Actions Taken

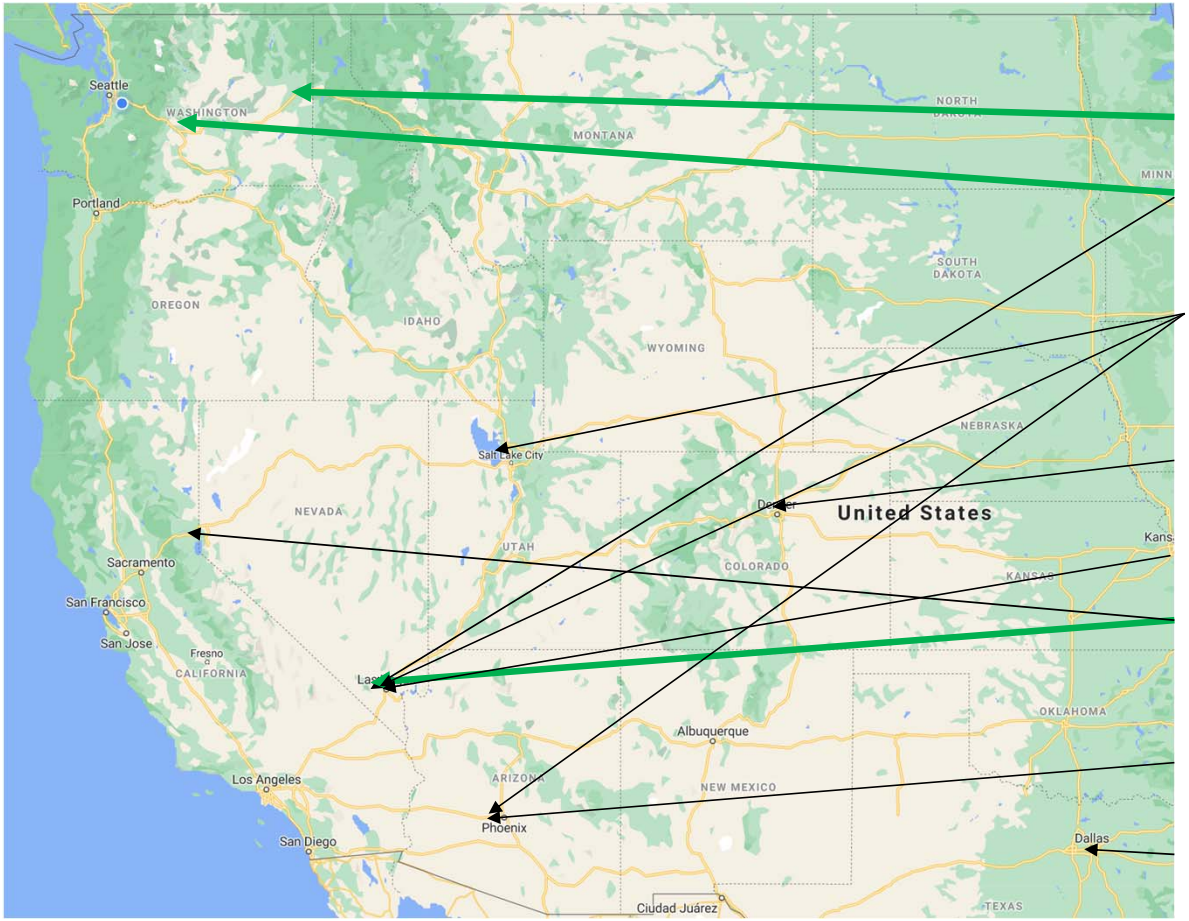
- The IT Management team researched alternatives and presented those alternatives to the Port of Tacoma and NWSA IT Steering Committee in February, 2021

Data Center Disaster Recovery Alternatives Summary

	Current State	Option 1 Cold Site	Option 2 Warm Site	Option 3 Hot Site
Description	No alternative	Leased space with power, rack and Internet connectivity	Leased space with power, rack, servers, storage and Internet connectivity	Leased space with power, rack, servers, storage and Internet connectivity with full duplication of critical applications and data
Recovery Time	5-7 Months	2-4 Months	10-20 Days	8-16 Hours
One-time Cost	$0	$5-10k	$300-$500k	$600-$800k
Ongoing Annual Cost	$0	$120k-$180k	$180k-$300k	$300k-$480k

- IT Management recommended Option 2 – similar approach to Port of Seattle
- In Feb 2021, the Port of Tacoma and NWSA IT Steering Committee approved additional planning for Option 2
- The IT Team issued an RFI for a Data Center Disaster Recovery Warm Site and received 8 responses
- Refined the Data Center Disaster Recovery Warm Site cost estimates based on the 3 Top RFI responses

RFI Datacenter Locations On Map



Top Responders

Spokane – Used by Port of Seattle

Quincy or Las Vegas

Las Vegas, Phoenix or Salt Lake City

Denver

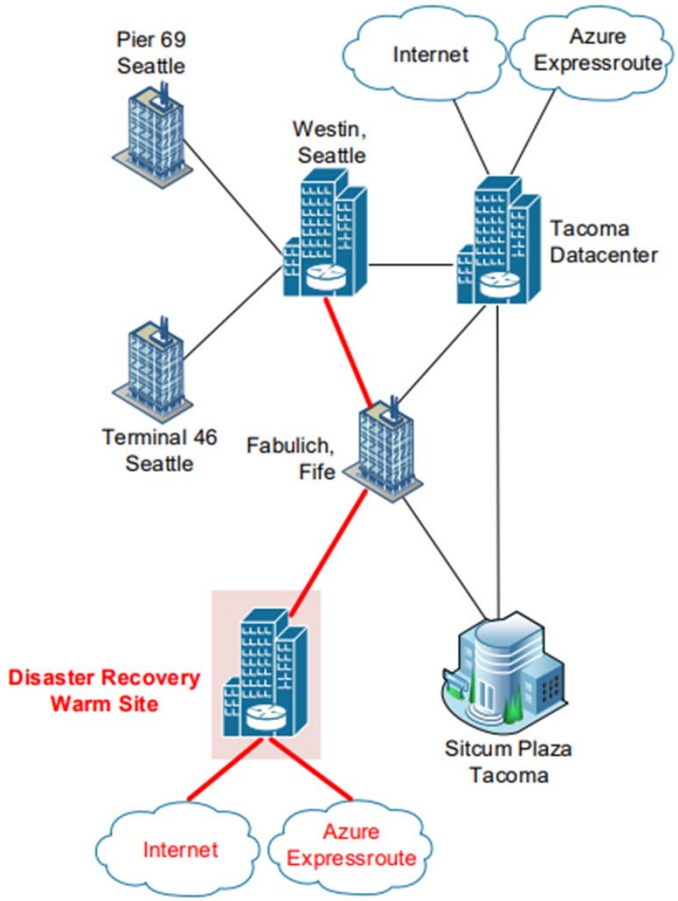
Las Vegas

Reno or Las Vegas

Phoenix

Dallas-Fort Worth

Recommended Solution



Solution Benefits

- Provide the Port/NWSA with a redundant out of Puget Sound region data center
- Provide the Port/NWSA with a redundant internet and Azure access
- Warm Site Data Center provides critical IT infrastructure and business applications to enable Port operations within 1 - 6 business days of loss of the Tacoma Data Center

Refined Investment and Recommendation

- Investment to establish the DR Warm Site racks, build network connectivity and install applications along with annual operating costs.
- Costs would be shared between the Port of Tacoma and NWSA per the annual IT cost share service agreement

	Updated Cost Estimate	Initial 2/17/21 Estimate
One-time Costs (Hardware and Software procurement)	$250,000 (+/- 20%)	$300,000-$500,000
Ongoing Annual Costs (Data Center Lease, Power, Network, Hardware and Software Maintenance)	$220,000 (+/- 20%)	$180,000-$300,000
Year 1 Investment	$470,000 (+/- 20%)	
5-Year Investment	$1,350,000 (+/- 20%)	

Recommendation

- IT Management and Port of Tacoma and NWSA IT Steering Committee recommends proceeding with a competitive RFP process and implementing a Data Center Disaster Recovery Warm Site to reduce Port Operational Risk
- A 2022 IDDP Data Center Disaster Recovery Warm Site OA has been submitted for $500k
- Does the Port of Tacoma Commission approve moving forward with this project?
- If approved the Port will issue an RFP in Q3 with the goal to have the Warm Site available in early Q2 2022