

**PORT OF SEATTLE**  
**MEMORANDUM**

**COMMISSION AGENDA**

<b>Item No.</b>	6d
<b>Date of Meeting</b>	March 9, 2010

**DATE:** February 23, 2010

**TO:** Tay Yoshitani, Chief Executive Officer

**FROM:** Peter Garlock, Chief Information Officer

**SUBJECT:** High Capacity Real-Time Data Storage (CIP #C800397)

**REQUESTED AMOUNT: \$1,200,000**      **SOURCE OF FUNDS: Airport Development Fund 64% and General Fund 36%**

**SALES TAX: \$57,000**

**ACTION REQUESTED:**

Request authorization for the Chief Executive Officer to approve all work and contracts, execute and amend any and all necessary contracts and service directives for the Seattle-Tacoma International Airport (Airport) Data Center SAN (Storage Area Network) Replacement Project in an amount not to exceed \$1,200,000.

**SYNOPSIS:**

This project will consolidate and replace two data storage arrays with a single new high capacity storage array for the Port of Seattle's primary data center located at the Airport. The new array is needed to keep pace with the rapid growth of data storage, and to improve performance and data reliability of the Port's overall data storage environment. This project was included in the 2010 Capital Plan and Plan of Finance.

**BACKGROUND:**

The Port's online data storage has grown 10 fold over the last four years to almost 240 Terabytes. Part of that growth is driven by the many new, and increasingly critical, systems that have been implemented in our consolidated IT infrastructure, including the airport Common Use (CUSE), and the new enterprise Payroll and Benefits system. As a result, the Port's need for high performance, massive capacity, and expandable data storage has increased substantially.

- The amount of data housed on our SAN and the growth of our server virtualization has reached the limit in capacity, performance, and reliability of our current storage infrastructure.

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- Our primary data center located at the airport currently consists of two separate production storage platforms. Both were deployed in 2006 and are overdue to be replaced.
- On October 14<sup>th</sup>, 2009 we experienced our first major data storage outage since its deployment 4 years ago. In addition, the system is at such high capacity that a required software upgrade caused the system to fail because it is so overloaded by our normal operating environment. This resulted in a 6 hour outage while systems were recovered.
- On December 29, 2009 another attempt to update the storage array software failed, causing the array to enter a rebuild state that forced an 11 hour halt to all applications using the array.
- In 2008, a Business Continuity CIP (C800326) for \$1,780,000 was established to provide online data archival and recovery functionality in the event of a systems disaster, and to also increase the capacity of our real-time data storage infrastructure. On June 23, 2009, the Commission authorized \$560,000 under this CIP for the Data Archive functionality. This current SAN replacement request will complete C800326 by expanding the capacity and performance of our storage infrastructure to meet our requirements.

### **PROJECT DESCRIPTION AND SCOPE OF WORK:**

#### ***Project Objectives***

The objective of the proposed project is to design and implement a large scale storage solution that will provide high availability, high performance, and support future growth of the Port's data storage requirements.

#### ***Scope of Work***

- Consolidate and replace the two primary production storage arrays with a new single, high performance, highly available array.
- Provide the necessary network and ancillary components to support this new array.

### **STRATEGIC OBJECTIVES:**

This project supports the following Port strategies:

- *Ensure Airport and Seaport Vitality:* This project directly supports the Port's application infrastructure that is so critical to ensuring Airport and Seaport vitality. Applications such as WebFIDS, Airport Common Use, Marina Management, and hundreds of others are all dependent upon this infrastructure.
- *Be a High Performance Organization:* The performance, reliability, and scalability provided by this solution are vital to delivering the critical applications that the Port and its customers rely on.

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### **FINANCIAL IMPLICATIONS:**

#### **Budget/Authorization Summary:**

Original Budget	\$1,200,000
Budget Transfers	\$0
Revised Budget	\$1,200,000
Previous Authorizations	\$0
Current request for authorization	\$1,200,000
Total Authorizations, including this request	\$1,200,000
Remaining budget to be authorized	\$0

#### **Project Cost Breakdown:**

Hardware and Software Purchases	\$840,000
Contractor Labor / Installation Services	\$110,000
Port ICT Labor	\$50,000
Contingency 20%	\$200,000
<b>Total</b>	<b>\$1,200,000</b>

#### **Source of Funds:**

This project was included in the 2010 capital budget and plan of finance within CIP C800326, Business Continuity. The source of funds is 64% Airport Development Fund and 36% General Fund.

#### **Financial Analysis Summary:**

<b>CIP Category</b>	Replacement/Enhancement
<b>Project Type</b>	Technology
<b>Risk adjusted Discount rate</b>	7.0%
<b>Key risk factors</b>	NA
<b>Project cost for analysis</b>	\$1,200,000
<b>Business Unit (BU)</b>	ICT
<b>Effect on business performance</b>	NA
<b>5 Year IRR/NPV</b>	NA
<b>CPE Impact</b>	NA

### **PROJECT SCHEDULE:**

Commission Approval	March 2010
Design/Development Begins	March 2010
Testing Begins	June 2010
Project Completion	August 2010

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### **RECOMMENDED ACTION:**

*Recommended Solution:* Implement a consolidated, high performance, highly reliable, and highly scalable Storage Array Network. This option will replace the two arrays that we have at our STIA data center with a single array.

### **PREVIOUS COMMISSION ACTION:**

There has been no previous Commission Action on the SAN Replacement Project. However, on June 23, 2009, the Commission authorized \$560,000 under the Business Continuity CIP #C800326 for the Data Archive Project. This current SAN replacement request will complete the Business Continuity CIP #C800326 by expanding the capacity and performance of our storage infrastructure to meet our requirements.