

## **SDC Status: March 06, 2012**

- Completing SDC Project re-scope
  - OB2 cooling demand is 125% of capacity
  - Phased plan will reduce demand by 25% - 30% over 18 months
  - 10 sub-projects, mostly funded with SDC construction savings (bond funds)
- Working with WSP to plan initial move to SDC
  - Planning and feasibility for implementing initial set of hardware in the SDC
  - Address physical security requirements
- Doug Hieronymus (Data Center Facilities Manager), meeting with other data center managers and their teams:
  - Cal Smith (DOT); Cliff Schiller (L&I); Tom Wallace (WSP); Mace Maciejewski (ECY); Bill Norris (DOH); (to be scheduled) Doug Hoffer (DOC)
  - Setting up tours of SDC
  - Plans to initiate a Data Center forum to share best practices
- **Next Steps: Review re-scoped SDC plan with Bharat on 03/08/2012**

## SDC Project Re-Scope

SDC Sub-Projects (priority order)	Notes
<p>1. <b>SDC Operational Readiness - Facilities.</b> Scope includes:</p> <ul style="list-style-type: none"> <li>a. Manage the facilities program including vendors.</li> <li>b. Procure and install base data center facilities including physical security infrastructure.</li> <li>c. Develop and implement SDC operational policies and procedures.</li> <li>d. Certify and audit to ensure operational readiness.</li> </ul>	Pre-requisite for every project that follows.
<p>2. <b>SDC Operational Readiness – Network Core.</b> Scope includes:</p> <ul style="list-style-type: none"> <li>a. Procure and install base network infrastructure in SDC (partial data hall 1 only).</li> <li>b. Procure and refresh obsolete and unserviceable network switches in OB2 that cannot be moved to SDC in the near term.</li> <li>c. Certify and audit to ensure operational readiness.</li> </ul>	Pre-requisite for everything that follows, with possible exception of WSP. IF no shared network services are used, WSP could be installed once #1 is complete.
<p>3. <b>Secure the SDC infrastructure and services.</b> Scope includes:</p> <ul style="list-style-type: none"> <li>a. Procure equipment to refresh/replace obsolete security hardware and software.</li> <li>b. Install new security equipment (e.g. firewall) in the SDC.</li> <li>c. Training for security staff on new equipment</li> </ul>	Must be installed prior to any network connected hosts or other shared services.
<p>4. <b>SDC Storage Optimization.</b> Scope includes:</p> <ul style="list-style-type: none"> <li>a. Develop strategy, requirements, and architecture for storage services.</li> <li>b. Procure and implement storage platform.</li> <li>c. Define and implement operational policies, procedures, and rates.</li> </ul>	Most efficient to install prior to mainframes moving in #6.
<p>5. <b>CTS Cloud Utility Service.</b> Scope includes:</p> <ul style="list-style-type: none"> <li>a. Develop strategy, requirements, and architecture for cloud computing utility, in alignment with CIO strategic IT plan.</li> <li>b. Procure service and install equipment in SDC to support CTS managed hosting services and self-service virtual server provisioning for customer agencies.</li> <li>c. Implements secure multi-tenant computing services including hypervisor firewalls.</li> <li>d. Define and implement operational policies, procedures, and rates.</li> </ul>	<p>Pre-requisite for #6 because CTS virtual servers will be migrated to cloud service instead of refreshing hardware.</p> <p>This approach saves about \$2M in bond funds, which has been used to fund other SDC projects.</p>
<p>6. <b>OB2 Data Center Risk Mitigation - Phase 1.</b> Scope includes:</p> <ul style="list-style-type: none"> <li>a. Move equipment out of OB2 to relieve power and cooling capacity problems – identify logical groupings of equipment to replace and/or move to the SDC.</li> <li>b. Procure equipment to refresh/replace obsolete equipment.</li> <li>c. Install new equipment in SDC, migrate current services off</li> </ul>	Bulk of the effort to relieve over-burdened cooling systems in OB2. Includes mainframe moves and virtual server migrations.

<p>old equipment, shutdown and surplus obsolete equipment.</p> <p>d. Move serviceable equipment from OB2 to SDC as required and appropriate to maintain services and reduce risk.</p>	
<p><b>7. Virtual Tape Disaster Recovery.</b> Scope includes:</p> <p>a. Procure additional VTL equipment and install in SDC.</p> <p>b. Eliminate tape backup system for mainframe disaster recovery, resulting in \$400,000 annual cost avoidance.</p> <p>c. Prevent mainframe downtime during move, reduce risk of mainframe outages from fiber cuts between buildings, and reduce potential bandwidth bottleneck and degradation of mission-critical systems.</p> <p>d. Significantly reduce time to recover the mainframes in a disaster by move existing VTL from OB2 to current mainframe DR site (SunGard).</p> <p>e. Streamline, update and test mainframe disaster recovery procedures.</p> <p>f. Decommission existing mainframe tape management system (SL8500).</p>	<p>This is a highly desirable project. Saves money, reduces risk to mainframe operations, improves system performance, and reduces time to recover in a disaster</p> <p>If done, it must be completed prior to mainframes moving in #6.</p>
<p><b>8. Migrate WSP to the SDC.</b> Scope includes:</p> <p>a. Develop strategy, requirements, architecture, and project plan to implement WSP systems in the SDC.</p> <p>b. Procure and implement facilities, network, and compute infrastructure in the SDC as required to support WSP systems.</p> <p>c. Define and implement operational policies, procedures, and rates.</p>	<p>If necessary, could be started after #1 Facilities is complete.</p> <p>WSP is planning a multi-year migration. It is unlikely that a large SDC equipment purchase will be required in FY13. Bulk of migration likely to be a FY14-15 project.</p>
<p><b>9. OB2 Data Center Risk Mitigation - Phase 2.</b> Scope includes:</p> <p>a. Move additional CTS services from OB2 to SDC to further reduce risk from over-burdened cooling system and obsolete equipment.</p>	<p>Move the bulk of CTS remaining equipment, further reducing risk to OB2. Anticipated to be a FY14-15 project.</p>
<p><b>10. OB2 Data Center Optimization.</b> Scope includes:</p> <p>a. Reconfigure OB2 east data hall to improve air flow, e.g. move enclosures to vacated space, move under floor cables to overhead trays.</p> <p>b. Potentially consolidate equipment from west to east data hall, move a/c units from west hall and shutdown unused areas.</p>	<p>Probably an FY2015 activity. Could save money by consolidating in east data hall and shutting down west data hall.</p>