Information Technology Services Action Plan

Presentation to the Customer Review Panel

March 12, 2014

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Background

SPU provides a broad spectrum of IT services, such as:

- Business system development
- Project and portfolio management
- Utility and City GIS applications development
- End user support in 30+ locations
- System integration
- Application upgrade and maintenance
- Cyber and physical security monitoring
- *And many more services…IT entails much more than desktop computer and office software*

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Background

SPU business reliance on information technology is substantial and always growing:

- SPU sends/receives about 2 million emails & appointments / month
- IT service desk receives 1600+ requests/month
- IT maintains/enhances 166 production applications
- IT supports 30 remote sites and 100s of video security cameras
- SPU has 325 virtual servers on 50 physical devices
- SPU utilizes approximately 2000 PCs and laptops and 140 printers
- SPU GIS user growth (6 in1991 / 45-2004 / 280-2014)
- IT handled over 30,000 Utility Locate “call before you dig” requests in 2013
- SPU currently has 250 terabytes of storage & growing approximately 30% each year

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Background Continued

Information technology needs are different for the *lines of business*. Examples of LOB-specific technology:

- Drinking Water: water transmission system control & planning, water quality testing, reservoir security, hydraulic modeling, work management
- Drainage/Wastewater: drainage billing, storm water runoff monitoring, pipe inspection TV, infrastructure mapping, tools to meet/monitor Consent Decree requirements
- Solid Waste: collection contractor work monitoring, transfer station billing and security, hazardous gas detection, field inspections

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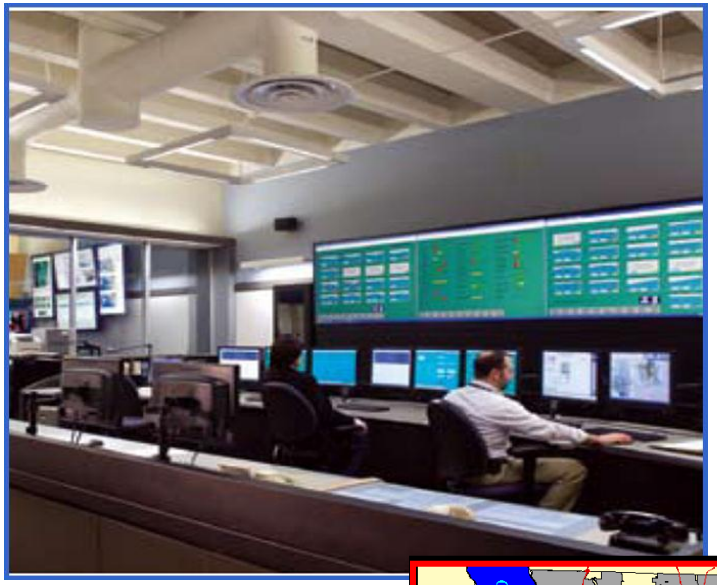
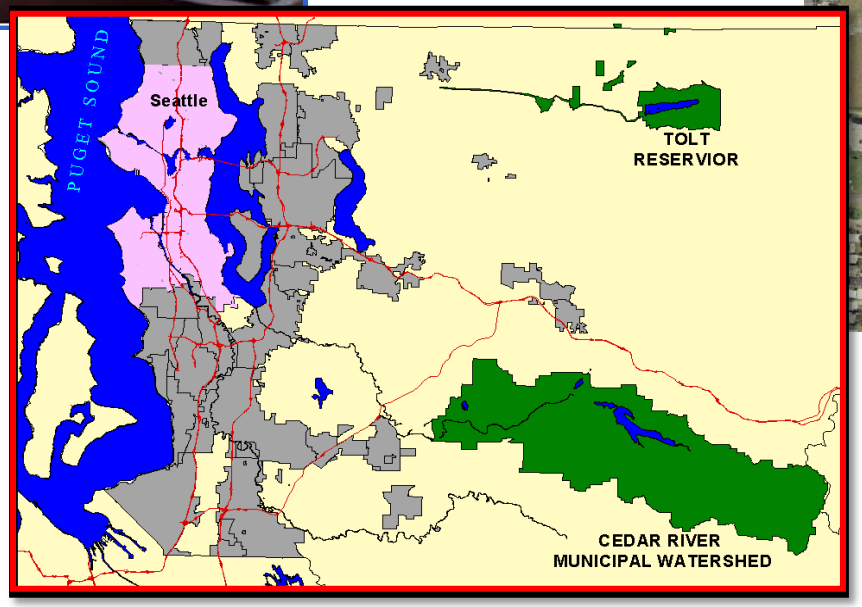


Computers provide real time field information in the Operations Response Center.

IT supports the Drinking Water Line of Business including Watershed Management, Transmission Systems, the Water Quality Lab and security at in-city reservoirs.



Geographic Information Systems depict service areas and spatial relationships

High accuracy digital orthophotography is used for many, operational and planning purposes

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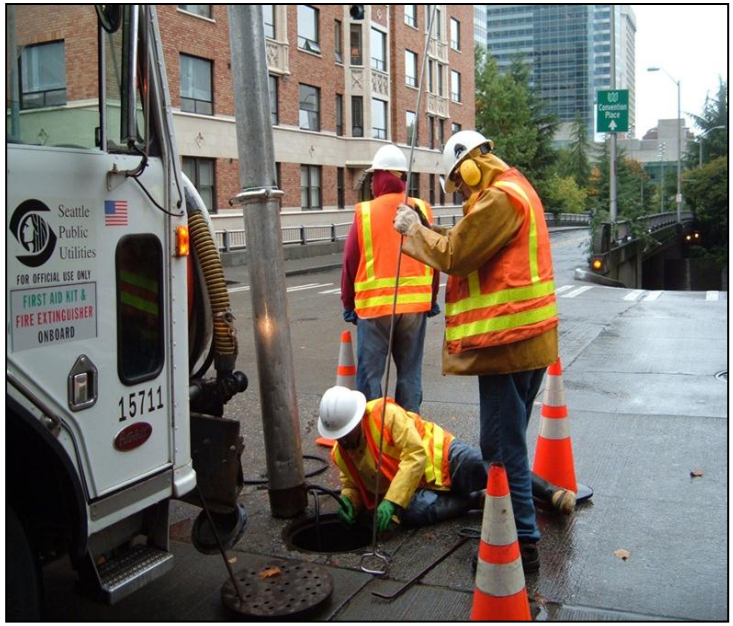
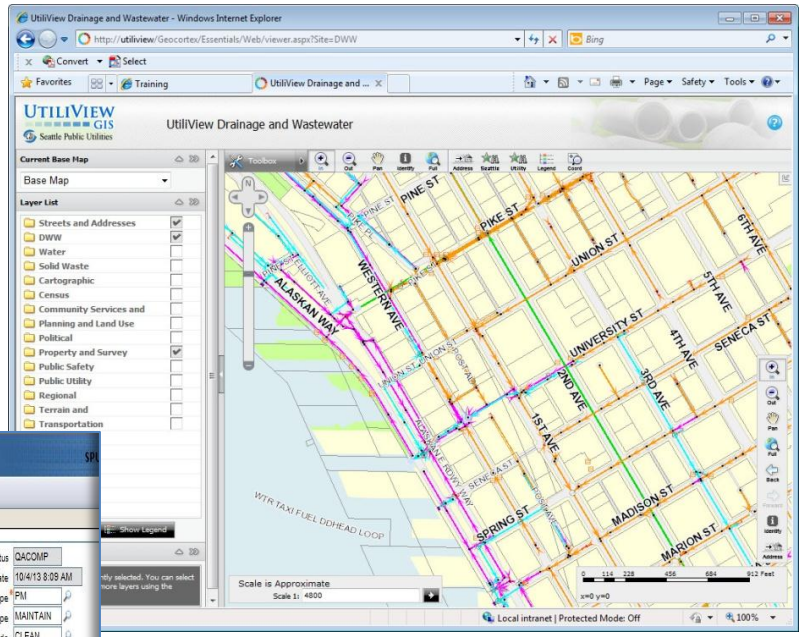
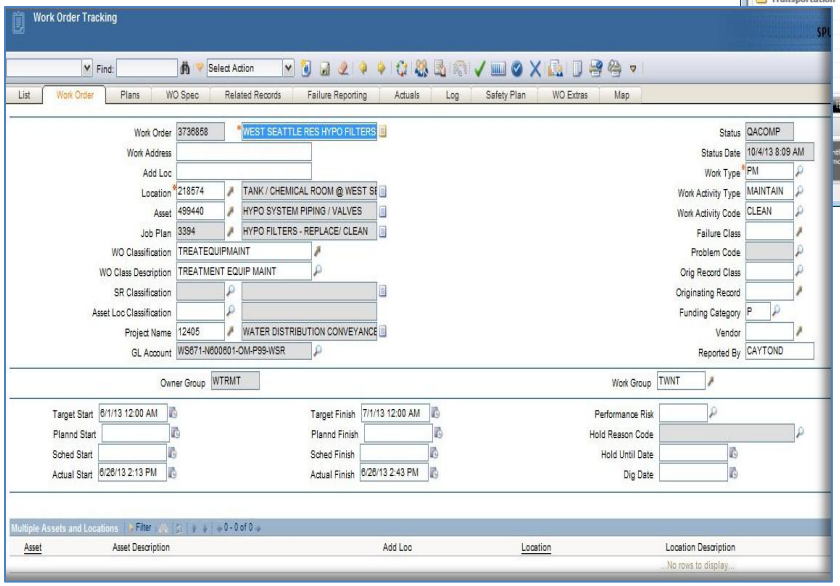


IT supports the Drainage and Wastewater Line of Business with work management, computer mapping and modeling, data, and applications.





Crews rely on IT tools to prioritize and guide their work in the field.

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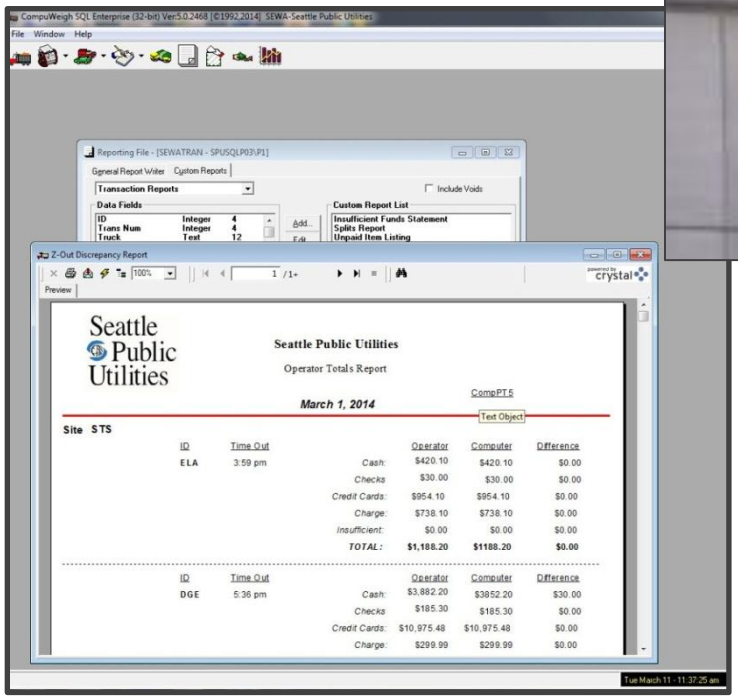
New South Transfer Station

IT supports the **Solid Waste Line of Business** at the transfer stations with scale house billing systems, security equipment, and performance reporting/analysis tools.

Video cameras provide continuous live data feeds and a visual record of transfer station (and other) activities

On screen tracking and reporting of scale house sales and transactions



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Background Continued

SPU *branches* have specialized IT needs too.

- Field Ops: mobile work management, radios, field operations mapping system, underground utility locates, emergency management
- Project Delivery: computer aided design, construction contract management, land survey crews, engineering plans and records management, project management
- Customer Service: Contact Center communication technologies, interactive web applications, water availability certificates, new taps, and development services, inspections, billing

SPU also utilizes and supports citywide systems:

- Finance/Accounting, Human Resources, Payroll, Email, GIS/CADD, Data Center, SPU and City WEB

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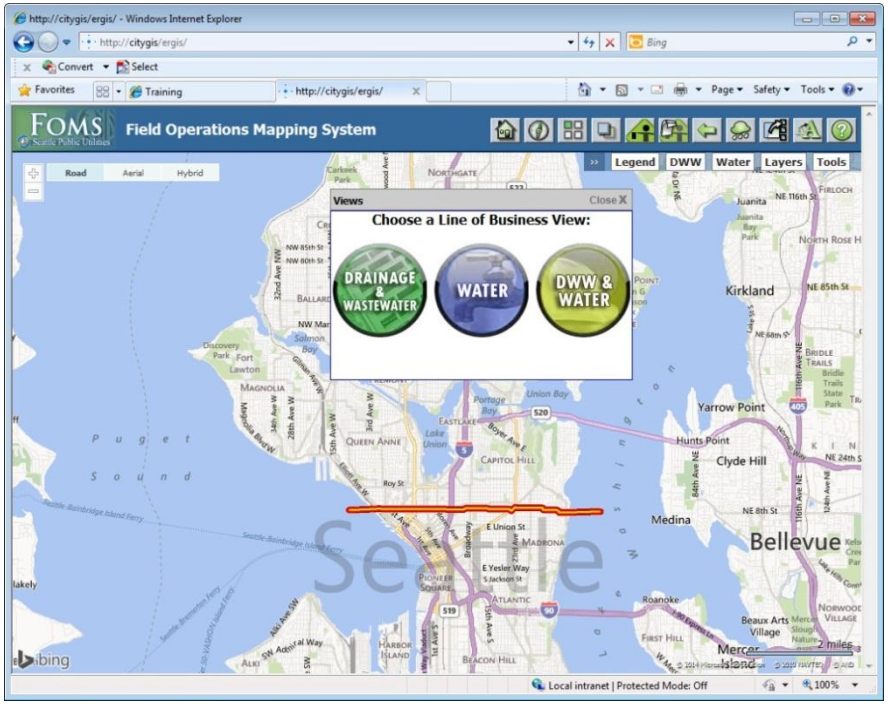
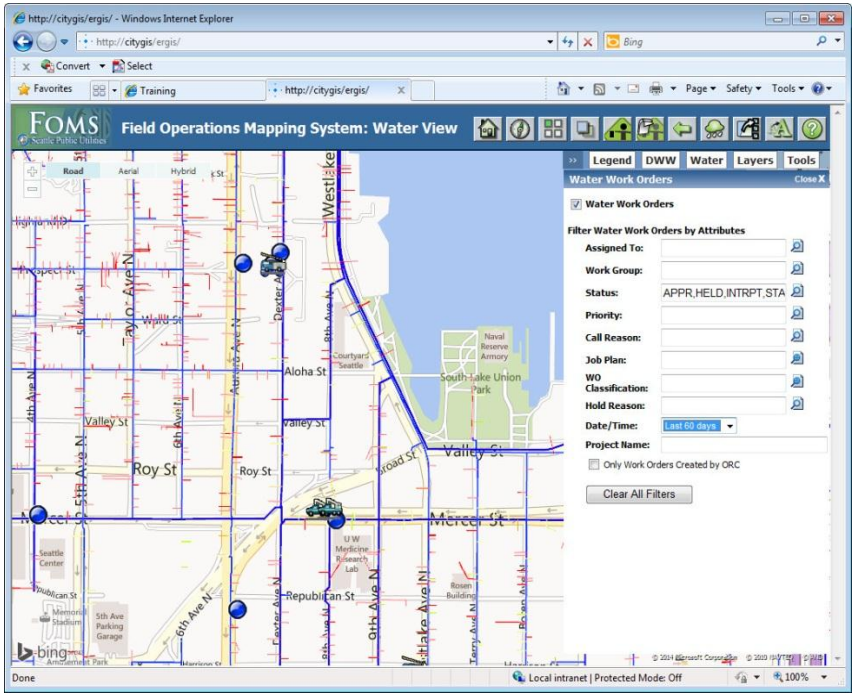
Field Operations and Maintenance Branch





Field Operations Mapping System

FOMS is a critical system used by Water and DWW crews, first responders and emergency management teams to manage daily and unplanned work in the field.

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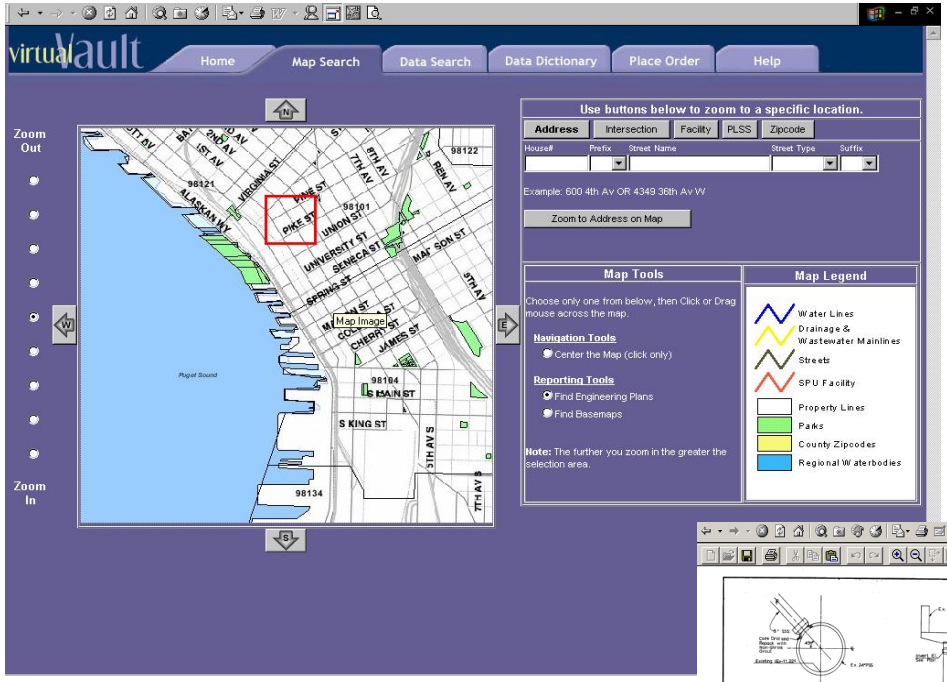
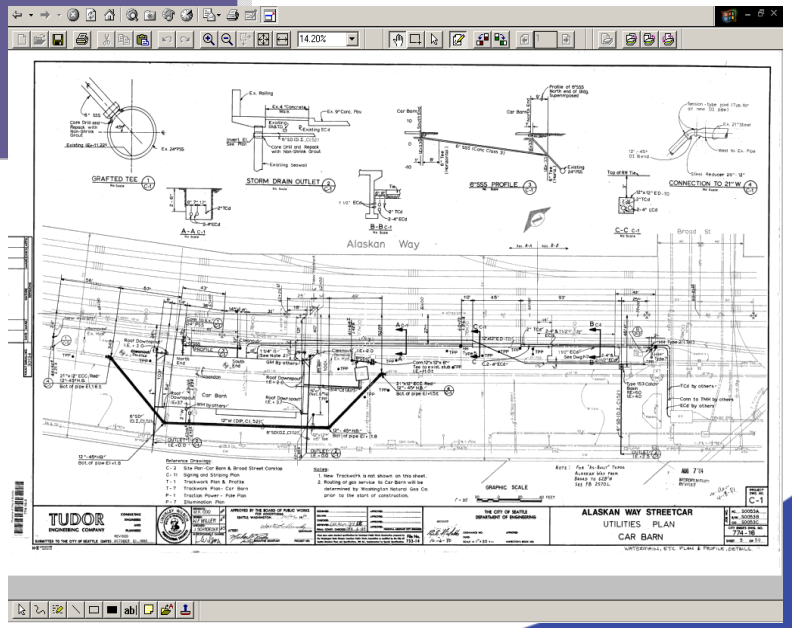
Project Delivery Branch





The Virtual Vault is an automated, searchable, geographically indexed repository of SPU's construction plans and survey records

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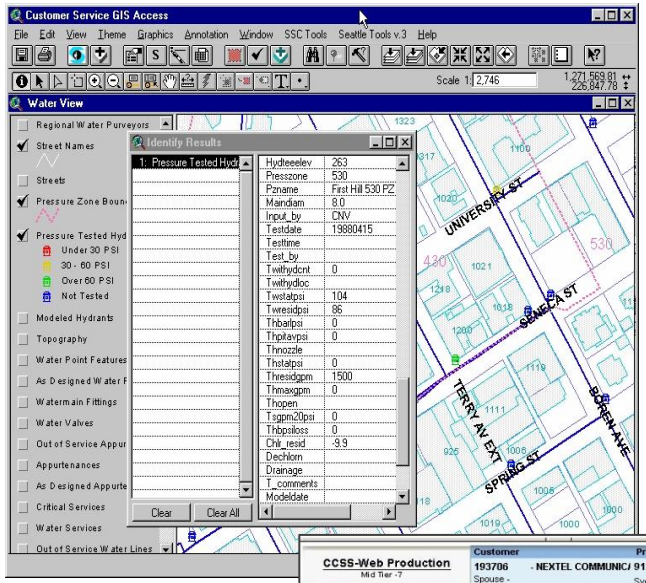
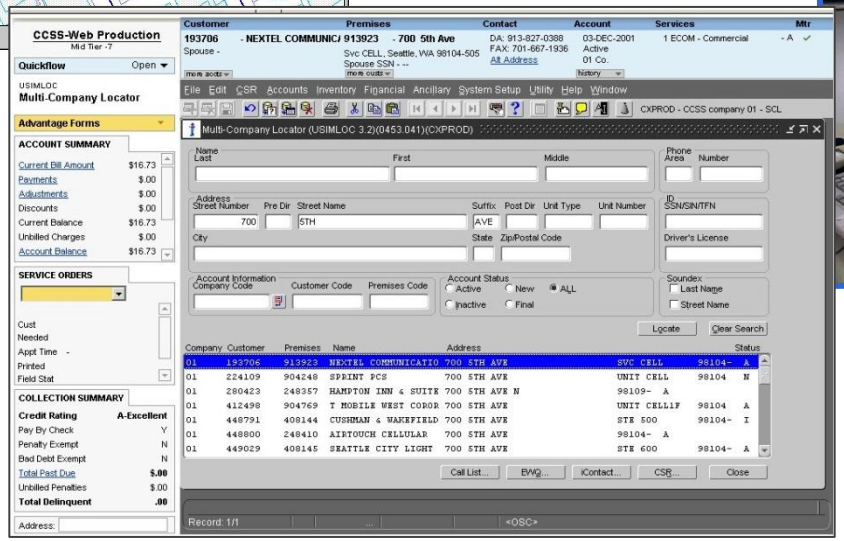
Customer Service Branch



SPU Customer Service Branch Contact Center and Utility Service Teams rely on IT systems for retrieving and delivering accurate information to customers, for internal workforce planning and scheduling, and for quality assurance.

Mapping software is used by agents to quickly locate customers and services



Utility Billing System

On-line tools used by agents boost efficiency and streamline customer experience

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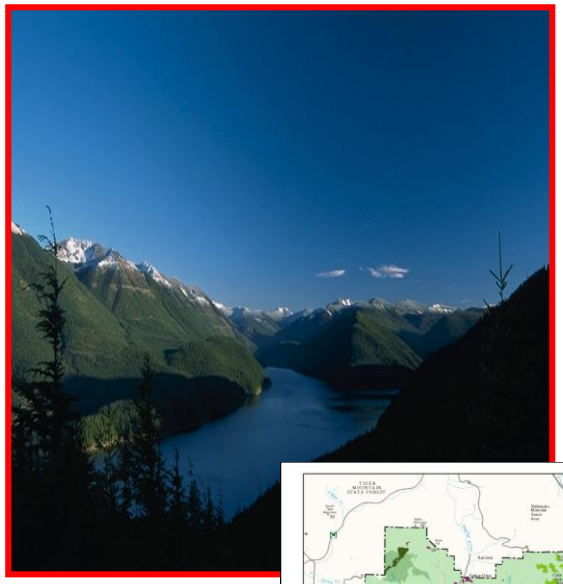
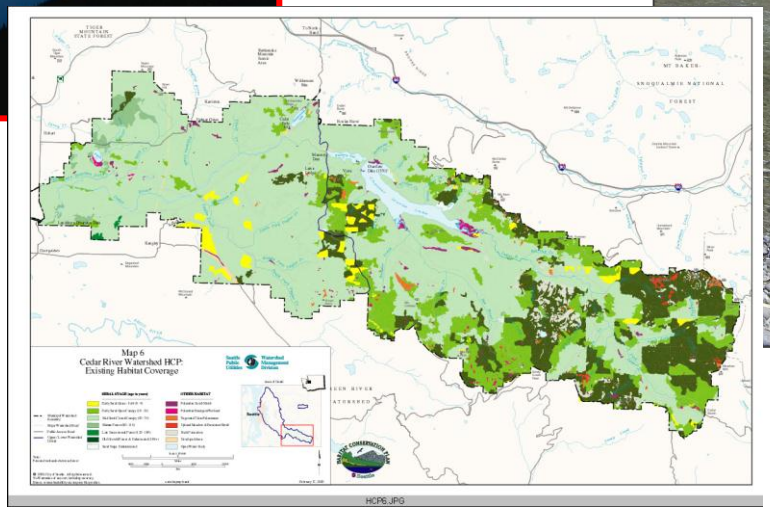
Utility Systems Management Branch

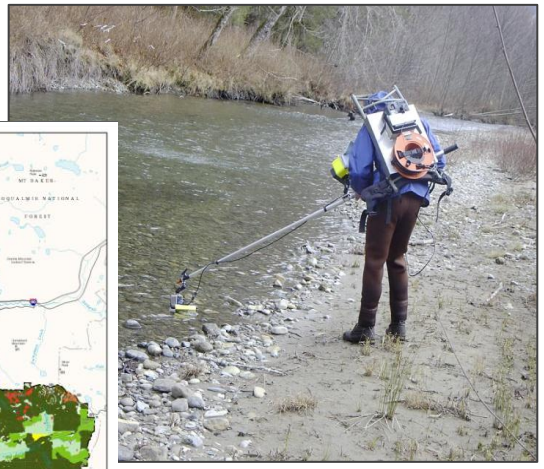
IT systems support watershed operations, utility systems modeling and capacity planning, scientific research including data collection and analysis.



IT provides storage for a vast digital photo library



GIS-generated map in support of Habitat Conservation Plan



Surveying and collecting data about fish populations

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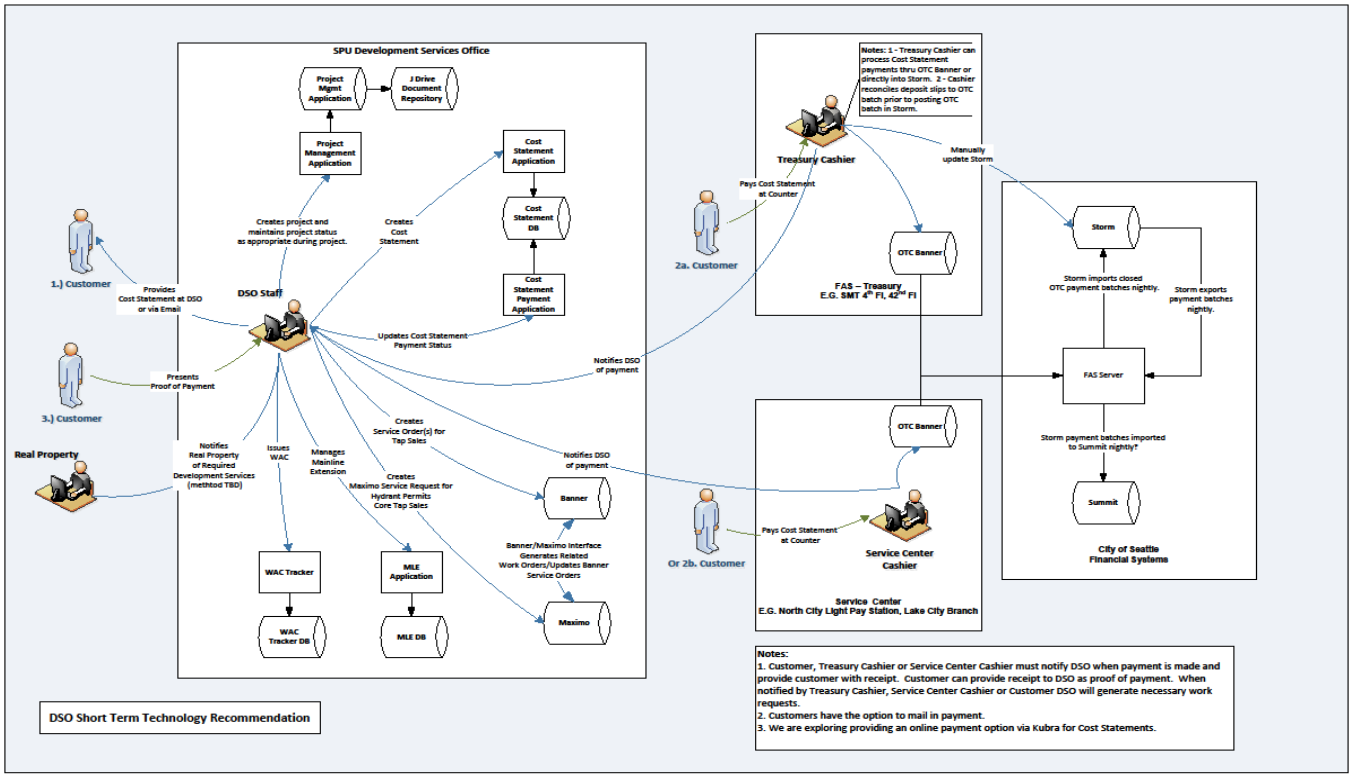
IT isn't just about PCs and Office Software

Well-designed, integrated business systems are essential for automating and streamlining complex processes to achieve efficiencies and provide good customer service

This example shows the complexity of Development Services sales transactions and the many disparate systems that support them.



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Problem Statement

Information technology is critical to achieving the SBP's objectives in all focus areas. With demand continuing to grow, the technology environment becoming increasingly complex, and technology costs rising faster than the rate of inflation, the baseline resources are insufficient to meet SPU's business needs.

Industry Benchmark: **IT FTE count as a % of total FTE**

(source: " IT Key Metrics Data 2014: Key Industry Measures: Utilities Analysis: Current Year, *Gartner* 2014)

average for utilities with revenue between $500M – $1B	SPU estimate
8.6% (range is 3.4 - 8.7)	7.4%

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Problem Statement Continued

Known Gaps / Risks:

- Information assets (e.g. data, documents, digital maps) – high quality, well-managed info needs to be easily available for analytics and reporting
- *Sub-optimal* integration for growing number of business systems, hardware, software, products, and platforms
- Mobile workforce solutions (e.g. field inspectors, storm observers)
- Insufficient business analysis and quality assurance/testing for new systems and business applications
- Cyber security and information/data protection
- Software maintenance and licensing costs

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Proposed Action

Optimize SPU's technology systems to support core utility services, in alignment with SBP objectives:

- Develop a six-year Technology Plan, for completion in 2015 to strengthen the alignment between our IT investments and operations and the SBP
  (no funding requested)

- Fund urgent, known IT gaps to achieve necessary business improvements

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Proposed Action Continued

Specific Actions - Fund 6.0 of the following 11.0 positions ($580K) to address the known gaps/risks:

1. 1.0 Data Architect (baseline = 0.0 FTE)
2. 1.0 Sharepoint Administrator (baseline = 0.5 FTE)
3. 2.0 QA Analysts / Testers (baseline = 0.0 FTE)
4. 1.0 Business Analyst (baseline = 1.0 FTE)
5. 1.0 CADD Software Developer (baseline = 0.25 FTE)
6. 2.0 Software Developers for systems integration (baseline = 12 FTEs)
7. 1.0 Systems Integration Technician (baseline = 5.0 FTE)
8. 1.0 Security Technician (baseline = 1.0 FTE)
9. 1.0 Mobile Solutions Technician (baseline = 0.0 FTE)

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Proposed Action Continued

Specific Actions – Software Maintenance:

Annual costs for software maintenance and licensing are growing faster than the rate of inflation:

- Increased use of commercial software packages that require licensing and maintenance contracts
- Growing volume of maintenance contracts (e.g. 2006-26 contracts @ $505K; 2014 – 62 contracts @ $1.4M)
- Built-in price increases higher (e.g. IBM contract allows 10% increases)
- Maintenance contracts with Oracle, IBM (Maximo), COGNOS (Financial systems), Clarity (Enterprise Project Management) and Microsoft (Configuration Manager) make up 55-60% of our software maintenance budget

Action: Provide a $100K annual escalator in the O&M baseline of $1.4M to cover these costs.

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Benefits

In general, technology investments provide employees with the services, tools and information to deliver SPU services more effectively and efficiently. Some specific benefits:

- SPU's asset management practices are enhanced through better information management
- Better integrated technology systems facilitates more efficient business processes, reduces stand-alone applications, and allows for the retirement of obsolete systems
- Use of best practices business analysis and quality assurance techniques improves software quality, usability and flexibility and reduces life-cycle costs
- SharePoint and mobile solutions increase employee productivity by enabling staff to easily access, create, and share information needed to perform their jobs