

NWIS Status for ITAC---talking points

NWIS 4.3

- *Time attributes to the Water Quality System (problem uncovered with 4.1)
<http://ok.water.usgs.gov/nawqa/phoenix/www/utc.html>
- Revisions needed for NWIS-RT
- Many Critical Bug fixes for ADAPS; UV-editing turned back-on in Hydra; and two new quality assurance programs available
 - data_qa_summary which Scans Computed UVs for threshold flags, missing periods and flat periods.
 - Dcp_performance_rpt: Scans DCP performance parameters for values outside standard limits
- Several critical bug fixes in both GWSI and QWData
- Release notes will be available at:
http://wwwnwis.er.usgs.gov/IT/NWIS4_3/release_notes_4_3.html
- Cyber Seminars on What's New are available for ADAPS and QWData
- WAT_MOVE ready for release with 4.3
- Beta Installations scheduled for late February in Maryland, Arizona, Pennsylvania, and Miami, FL
- General Release in March
- Installations will require about 4-8 hours downtime depending on the size of the NWIS database

SWUDS 4.2

- Beta version installed in Georgia and Maryland
- Beta version will be installed in North Dakota in March
- General release is expected in early FY04 due to finding constraints for training
- The Maryland Water Use expert, an active user of the old SWUDS system is very pleased with the usability and flexibility of the new system

NWIS RT

- Pilot is over and was very successful – the NWIS-RT server provide backup processing and transmission to NWISWeb for a total of 55 days ...see final schedule at: http://wwwnwis.er.usgs.gov/rt_mirror/pilot_status.htm#Web-status
- Upcoming Cyber Seminar will be March/April
- Limited testing with 4.2 indicates success – but minor modifications needed to NWIS tables (will be in NWIS4.3). The ADAPS 4.2/4.3 relational structure and “triggers” for referential integrity added additional complexity to the replication. (Complications arise from replication of surrogate keys since editing is allowed on the NWIS-RT systems). WA and MT are replicating but they are not sending data to the web except when needed. AK will be added shortly. WA has been instrumental/conscientious testing NWIS-RT at 4.2 and we hope they continue.
- What will NWIS-RT require?
 - Ingres patch for District NWIS servers and NWIS-RT servers
 - NWIS 4.3
 - NWISWeb revisions to work with multiple districts on one NWIS-RT machine
- What is left to do?

- Determine which districts go on which RT server (Gail has a first draft)
- Develop guidelines for remote access when district is incommunicado
- Develop installation instructions
- Develop disaster recovery plans
- Develop plan to handle NWIS upgrades
- Update schema.script to maintain replicator tables

NWISWeb

- NWISWeb has been modified, tested and is ready for the deployment of NWIS 4.3; includes bug fixes for nw_edit
- Web application critical bug fixes applied regularly to National system
- Next QW Refresh May-July (FY02 data)
- Frequent network outages/changes occurring in Reston have been causing support issues for districts and web team. The NWISWeb team is working on a new, more reliable and secure means of transferring the data from the NWIS hosts to the national servers. (See first bullet under NatWeb components)
- Development for NatWeb Components
 - NWISWeb has been exploring and prototyping methods of “hardening” the transfer of data from the NWIS servers to NatWeb since October. After testing/evaluating 4 different methods and their implementation risks (during conference calls and a meeting in Portland), the NWISWeb, NatWeb, and NWIS/NWIS-RT teams have reached consensus to use rsync to move data from the District NWIS' to the NWISWeb/NatWeb system. This method will provide automatic failover through a doubly redundant routing path to move data from the 48 NWIS' to the NWISWeb/NatWeb servers. [Operational prototypes are nearing completion and *should* be available for initial full-system load and fail over testing by Feb 15.]
 - Redesign of the NWISWeb NWIS-side directory structure to support NWIS-RT: The NWISWeb team has developed a new directory structure for the NWIS-side software to meet 3 requirements 1) move out from under /usr/opt/nwis, 2) move all directories that get written to by automated processes out from under /usr/opt, and 3) allow a single host to simultaneously provide real-time backup data for multiple (virtual) NWIS'. [We anticipate that a prototype of the revised system will be ready for initial testing by Feb 21.]
 - NWISWeb “USA” Real-time mirrored web servers
 - MySQL replication from HQ master to CA prototype successful
 - NWISWeb “USA” application will be based on the district NWISWeb web server version. No testing yet...
- Sniff_spikes utility, the email you love to hate=NWIS teams/UGs are considering expanding it for selected real-time QW constituents, GW levels and Reservoir levels

NWIS Getting-off-the-Treadmill (GOT) Tasks

<http://wwwnwis.er.usgs.gov/BUDGET/FY03/Future.Tasks.List03.pdf>

1. High Priority Practices to improve
 - Negotiation, decision-making and cross-discipline coordination (NWIS TIG formed)
 - Communication strategies

- Resource planning and projections (Capital Planning and Investment Control)
- Documentation of critical modules and processes
- Staff development and mentoring
- Software development and maintenance processes
- User group roles and practices
- Security plans and documents
- Coordination with business partners (EPA, NWS)

2. Future Architecture Planning

3. Pilot Projects/Investigations

- Cooperative Technical Assistance with Hydstra America, Inc to investigate Graphical User interface for rating and shift development. Gaining experience partnering with COTS providers, learning about their graphical development and assisting NWIS in visioning for a more “component-based” architecture.
- Peakflow and End-of-year summary replacement program using UML/OO design and Java
- Initial efforts for loading hydrologic data collected as part of a site visit. Review and refinement of USGS XML schema, design/document with UML, OO design and Java. This project will demonstrate OS/platform “independence” .
- Oracle Evaluation – Overall Database “EA” Plan/Strategy with technical assessment of costs/benefits/opportunities/concerns and schedule needed to migrate to Oracle. (Port; Migration...)