

KISTERS Australia News

March 2009

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From The GM's Desk

By Bill Steen

2009 has started as frantically as 2008 has left us. The HYDSTRA team is currently working on new installations, development / support and consulting. Busy times ahead.

I recently returned from Germany after attending the annual Kisters Group management meetings. Attending were Kisters representatives from Germany, UK, Spain, China, France, Australia, and the USA. These meetings provide a forum to discuss the environmental industry with global inputs from each country represented. Given what is happening in Australia in respect to water [water quality / groundwater / irrigation etc] it was interesting to hear of similar undertakings in other global regions. Given the world financial climate it is pleasing to see globally that projects in the water and environmental industry are still moving forward and the demand for Kisters products is increasing.

In February Peter Heweston, Trevor Magnusson, Damian Skinner and Mike Cook [iQuest] attended the Kisters Global Technical Workshop in Aachen. Similar to the management meetings except the focus is purely technically driven with the major system architects, developers and technical project managers attending.

WISKI and HYDSTRA are facing almost the same requirements from their core users. Throughout the world the emphasis of HYDSTRA and WISKI is not necessarily a simple "archive only" solution. Kisters' products are becoming more and more

used in operational solutions (such as Network Operations, Flood Warning & Forecasting). With a greater emphasis on failover requirements, increased demand for automation and the integration into complex IT environments are the common trends.

On the home front the Kisters annual user group meeting will be held in New Zealand on the 6th May in Auckland and the Australian user group meeting will be held on the 12th & 13th of August.

Hope to see you there,

Bill Steen

General Manager
Kisters Pty Ltd

Tethys Meeting in Aachen

By Peter Heweston

Every year Kisters brings technical developers together in Aachen to discuss future directions and assess progress. This year Peter Heweston, Trevor Magnusson and Damian Skinner for Kisters Pty Ltd travelled to Aachen to participate, joining with Mike Cook from iQuest and many of our German colleagues for a week of workshops. The discussions ranged over topics as diverse as the time-series engine, web publication, log files, alarms, telemetry, scripting and much more.

The meeting coincided with the Carnival season in Aachen, a traditional period of celebration and silliness in which we participated enthusiastically whenever possible.

The weather was a far cry from the 35+ degree days we had been experiencing prior to departure, and the snow made a somewhat refreshing if snappy change from the heat.



Mike and Trevor



Lamplight Tour of Aachen

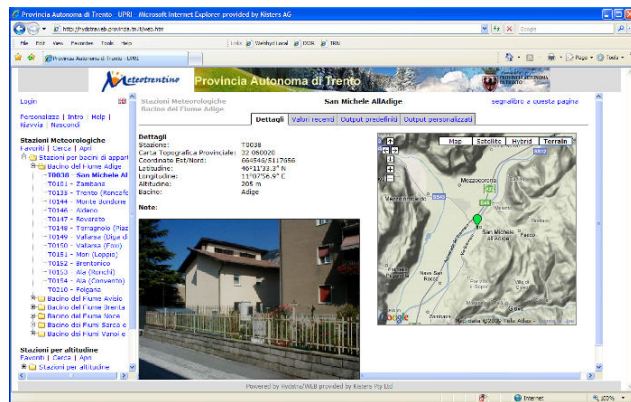
Hydstra/Web in Trento

By Peter Heweston

We recently installed Hydstra/SVR and Hydstra/WEB at Meteo Trentino in Italy. The agency has just installed a new telemetry system and data is flowing from many sites every 15 minutes. The data is mainly of a meteorological nature, including rainfall, wind and snow. The elevation of the sites ranges from a few hundred meters to over 3000 meters above sea level.

You can look at their provisional web site at

<http://hydstraweb.provincia.tn.it/web.htm>



Super Flexible File Synchroniser

As part of setting up the web site at Trento we needed a tool to synchronise a full Hydstra system through the firewall to the web server. After battling unsuccessfully with RSYNC, a free public domain tool, we turned to Super Flexible File Synchroniser (\$US59.90). This is a dream product if you have file synchronisation needs. It has a great GUI, runs as a service, and can use a variety of transport mechanisms. Whatever you need, it does, and more! www.superflexible.com.

Hydstra/WEB Browser Support

It is an unfortunate by-product of the proliferation of incompatible browsers that web programmers need to explicitly code in support for each browser, and it is non-trivial to support new browsers. Hydstra/Web presently supports IE6, IE7 and Firefox 3. We will support additional browsers once they acquire significant market share.

2009 Kisters User Group

The 2009 Australian Kisters Users Group meeting will be held in Canberra on August 11 and 12. The US meeting will be held in San Diego on August 17 and 18. Put the date in your diary and start begging for travel funds - with a recession looming funds may be tight soon!

User Presentations

Given we will have two days for each meeting we are particularly keen for you to present papers on issues that interest you. Please contact us in the first instance with suggestions for topics you might like to present - anything relating to Hydstra, hydrology, equipment or computing that is interesting to the audience will be welcome.

We are particularly interested in hearing about your field visit practices, with respect to instrument management, station visits, PDA usage, barcode scanners etc.

Some prompts to get you thinking:

- Telemetry and SCADA
- Loggers and field equipment
- Instrument management
- Site visits
- Document and image management

Perl Training Courses

Using Perl with Hydstra

On 18-22 May we will be running a five day training course on 'Using Perl with Hydstra' at our office in Canberra. The course will cover all aspects of integrating Perl into Hydstra, and will cost \$3000 per person. It is aimed at Hydstra administrators who wish to raise their skill levels in working with Hydstra. The topic list will include:

- Hydstra Perl libraries
- CMD Scripting
- Perl batch jobs
- Perl preprocessors
- Perl postprocessors
- Perl datasources
- HYSCRIPT
- Dealing with databases in Perl
- Dealing with time series in Perl
- Perl and XML
- Perl and MODSYN
- HYPLORE dynamic menus
- OLE Automation

The mandatory pre-requisite for attendance at the Hydstra course will be successful completion of a four-day Programming Perl course run by Perl Training Australia (see below).

You must also be familiar with Hydstra at the system administrator level as we will not be able to teach you Hydstra as part of this course.

Perl Training Australia Course

On May 12-15 we will be running a four day 'Programming Perl' course at our office in Canberra. The course will be given by Perl Training Australia. May 12-15 is the week before our 'Using Perl with Hydstra' course, so you can attend both in succession if you are suitably qualified. You may attend the 'Programming Perl' course with no pre-qualification, and without necessarily attending the subsequent 'Using Perl with Hydstra' course.

The cost for the 4 day 'Programming Perl' course will be \$3000.

Successful completion of this course is a pre-requisite to attending the 'Using Perl with Hydstra' course.

We will probably have more places available on this course than on the Hydstra course, as bookings for the Hydstra course are brisk and places are limited to 8.

The course fees include morning tea, lunch and afternoon tea on training days, plus provision of a course manual. You will need to arrange your own accommodation and travel .

Please send expressions of interest for either course via support@hydstra.com.

8th International Wiski Users Conference

June 16th - 17th 2009, in Colmar, France.

The conference aims to promote contact between the users and KISTERS staff. User sessions and WISKI workshops with live demonstration will keep you informed about current developments and solutions. WISKI projects and case studies will be presented, and user experiences exchanged.

For further information just open our Invitation at http://www.kisters.de/download/pub/WISKI/8IWUC2009/Invitation_8IntWISKIUsersConference2009.pdf

For confirmation of attendance or announcement of an oral presentation, please fill in the Registration Form at http://www.kisters.de/download/pub/WISKI/8IWUC2009/Registration_8IntWISKIUsersConference2009.pdf and click on "send by email".

Colmar is sixty four kilometers south-southwest of Strasbourg, is situated along the Alsatian Wine Route, and considers itself to be the "Capital of Alsatian Wine". See <http://www.ot-colmar.fr/> for more information on Colmar.

2009 NZ HydroTel/Kisters User Group Meeting

The next New Zealand HydroTel /Kisters meeting will be held at the Rendezvous Hotel, Mayoral Drive, Auckland.

The meeting is on Wednesday 6th May 2009, 9.30am registrations for a 10.00am start.

Enquiries to David Richards, iQuest (NZ) Ltd, +647 857 0812 or david.richards@iquest.co.nz

The meeting will discuss HydroTel and iRIS data logger subjects in the morning and Hydstra/WISKI following lunch.

Klaus Kisters, Bill Steen and Peter Heweston will be attending, along with the iQuest crew.

Hydstra Product News

Backup Backup Backup

One of our clients recently suffered a major virus outbreak that infected many of the Hydstra EXEs in RUNPATH. Fortunately they were taking weekly backups to DVD so it wasn't too difficult to restore to a point prior to the infection.

We recommend that everyone takes a weekly backup to CD or DVD for precisely this reason.

There's a particularly nasty virus called Conficker.C which is due to spring into life on April 1 (no, this is not a hoax). Google for the virus name to find out more, but the basic tips are ensure that Windows Update is running, and that your antivirus is actually running, (because Conficker can turn them off), and make sure you have good backups to hand, just in case.

Microsoft have a web-based scan at <http://onecare.live.com/site/en-us/default.htm> which can detect Conficker.C if you are suspicious of anything.

Current release is Hydstra 9.6.6

The current release of Hydstra is version 9.6.6. It rolls up a lot of changes and enhancements made since the beginning of this year. 9.6 will be the last version 9 release, though we may release more patches if necessary.

The 9.6.6 release is available from the FTP site as a zipped ISO file, please contact us for ftp details if you want to download it. Also please notify us when you go live with 9.6, as it is important that we keep accurate records of which version everyone is running.

You can find a summary of what's new in 9.6 at <http://hydstra.kisters.com.au/>.

Hydstra 10.0.0 Progress

Version 10 development is proceeding well, with an expected release date of mid 2009. Issues we have finalised already in V10 include:

- Consolidating all DBF tables to a single path (DBFPATH). This will impact any scripts that assume RATEPATH or GAUGPATH are in a different location.
- Starting on the move to alphanumeric variables and sub-variables
- Enhancing the notion of datasources, and collapsing suffixes, datasets and datasources together into a single concept.
- Enhancements to the underlying binary time-series file formats to further improve accuracy and round-tripping.
- Improved support for Oracle, PostgreSQL and SQL Server. There will be a cost associated with migrating to a corporate database.

Because we are proposing to implement a number of significant changes, you should plan for a period of in-house testing before V10 is deployed, during which time you should check that all your local scripts and processes operate as expected.

We will probably be offering some sort of V10 migration training closer to the time.

Kisters Statistical Modelling

By Roland Funke, Kisters Aachen

In the context of global change and the increasing frequency of floods producing significant damage, reliable flood forecasts are coming into focus. Early warnings are essential to evaluate potential risks and to carry out preventive measures. Flood forecasts with conceptual hydrological models are on the one hand very complex regarding model configuration and calibration and on the other hand are full of uncertainties stemming from different sources (e.g. parameters, model structure and data).

With the KISTERS Statistical Modelling a promising toolbox for developing data-driven models, forecasts and predictions is now available. It based on extracting and re-using information that is implicitly contained in hydrological data like artificial neural networks (ANN). ANNs are mathematical models that consist of interconnected elements (neurons) that are based on the principles of biological neural networks. These models are trained with historical data which is

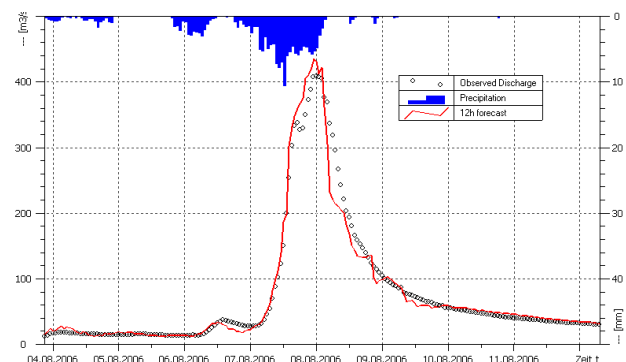
generalized and used to determine the cause-effect relationship underlying the data in a *self consistent manner*. In operation mode the ANN is fed with the observed precipitation and discharge of the last few hours as well as with the predicted precipitation to forecast the discharge for the next few hours.

Although extensive research has been carried out on these techniques since the mid nineties showing promising results, application in practice has been lacking.

Artificial intelligence methods have been successfully used to produce predictions of energy demand within BelVis, our software for the energy market, for some years. KISTERS now will use the advantages of these methods (precision of the forecasts, robustness against data errors) for hydrological problems.

KISTERS Statistical Modeling interfaces with WISKI and HYDSTRA and operates fully automatically on the most current data sets available in both systems.

A feasibility study has been already presented at the HydroPredict 2008 conference in Prague. The basis for the study was flood events recorded by the Hydrographic Service of Lower Austria. The picture shows the discharge predicted with an ANN (red line) compared to the observed discharge (dots). The basis for the forecast was the observed precipitation and discharge for the last 12 hours and the forecast precipitation for the next 12 hours. Model output is the discharge for the next 12 hours. The results exhibit an excellent quality showing that artificial intelligence methods are highly applicable for short-term flood forecasts.



Contact Information

This newsletter is published by Kisters Pty Ltd and edited by Peter Heweston.

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