

# KISTERS Australia News

October 2008

## Contents

|                                   |   |
|-----------------------------------|---|
| Contents .....                    | 1 |
| From The GM's Desk .....          | 1 |
| 2008 User Group Meetings .....    | 2 |
| SADC-HYCOS Hydstra Training ..... | 2 |
| 2009 User Group Meetings .....    | 3 |
| Data Export to BOM .....          | 3 |
| Hydstra Product News .....        | 3 |
| Managing Open Files .....         | 4 |
| Staff News .....                  | 5 |
| Contact Information .....         | 5 |

## From The GM's Desk

*By Bill Steen*

The 2008 User Group held in Canberra was one of the biggest to date, with nearly 90 participants attended the one day meeting. Besides the normal updates on what is happening in the Hydstra world there were important discussions on the changes in Version 10 and how they will lead into Version 11. Version 10 will see the move towards alphanumeric variables and sub-variables plus improved support for Oracle, PostgreSQL and SQL Server.

The Bureau of Meteorology's requirements for agencies to transfer data was also a very hot topic and Kisters have been working to provide both an import and export tool for agencies to run to make this task easier. HYXMLEXP was demonstrated as the tool to export data to BOM whilst BOMIMP will handle data importing at BOM.

There has also been a lot of interest generated both in Australia and globally with the newly developed Hydstra Web Module.

I was fortunate to be able to attend the Kisters North America [KNA] user group meeting in San Diego, which gave me the opportunity to present a paper on what is happening within the Australian water industry and to catch up with some good friends. It was interesting that the American and Canadian staffing issues are nearly identical on a much larger scale to that of Australia and New Zealand. An aging workforce and educational requirements seem to be issues everyone is facing globally. The USGS alone acknowledges that 40%

of their technicians will retire within 4-5 years representing between 300 and 400 staff.

One of the presenters at the KNA user group was Mario Castaneda from the GateWay Community College based in Phoenix. The GateWay College offers a Hydrologic Technician course and is recognised as the USGS National Training Center providing qualified Technicians to the USGS. [<http://environment.gatewaycc.edu/Programs/HydrologicTechnician/>]. Their course covers all the subject matter that is currently being upgraded for the Australian Cert 4 but includes a compulsory 480 hours of Internship [hands on practical] before graduation.

Similar to Australia they have difficulty in promoting Hydrography / Hydrologic Technician as a career and their enrolment numbers are low yet the demand is high. The USGS take the graduates as soon as they finish leaving other agencies searching for staff elsewhere.

Prior to attending the US user group meeting we undertook some work with the SADC HYCOS Phase 2 project [see separate article in this newsletter]. It was a real educational process for the Kisters staff as we learnt of the hardships and hurdles the water agencies face in maintaining their water resource networks. Although at times we feel we are hard done by, reality bites when you see that Zimbabwe's official inflation rate is surging past 231,000,000% and their currency has a "use by date" stamped on their notes! For perhaps the only time in my life, I was briefly a billionaire.



*A few Australia cents*

## 2008 User Group Meetings

The 2008 Kisters User Group meeting was held in conjunction with the AHA meeting at the Rydges Lakeside Hotel in Canberra. Congratulations to the AHA for their best ever conference. At the user group meeting Kisters Pty Ltd presented various aspects of Hydstra Version 10, which will be a significant upgrade providing major new features.



*Conference session*



*Trevor Magnusson (Kisters) and Paul Sheahan (BOM)*

The US user Group meeting was held in San Diego at the Bahia Resort Hotel in San Diego a few days later. What a glorious conference venue the Bahia is! And congratulations to the Kisters North America staff for a well organised and successful event. The US meeting followed the now-traditional format of a combined meeting on the first day, and breakout into separate Wiski and Hydstra sessions on the second. At the Hydstra day a number of users presented papers on intelligent use of HYAUDIT and HYMAILER for monitoring and alerting users to a range of events.



*Lunch at the Bahia*



*US conference session*

The presentations from both the Australian and US User Group meetings can be found on the Kisters web site at

<http://www.kisters.de/english/0/3E89EDCCA9B34579C12574B1000EA54E!Open>

## SADC-HYCOS Hydstra Training

In September Bill Steen, Damian Skinner and Peter Heweston from Kisters Pty Ltd spent two weeks in Johannesburg providing training to two groups of representatives from countries in the Southern African Development Community (SADC). Under the aegis of the SADC-HYCOS Phase 2 project, Hydstra licences and training have been provided to all SADC countries.

The countries represented at the training included Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Of these, South Africa and Namibia were already Hydstra users.

The training was carried out at the Africa Sky guest house in Johannesburg, which provided comfortable accommodation and an excellent training facility. My only complaint was the excessive poundage I gained from the three tasty meals we were treated to every day!



Special thanks to Stefan van Biljon, Eileen Hugo and Andy Sambo from the SADC-HYCOS Project Management Unit for their assistance in making the whole project possible.



*Week 1 students*



*Week 2 students*

## 2009 User Group Meetings

The Australian Kisters Users Group meeting next year (2009) will be held in Canberra on August 12 and 13. 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!

## HYBOMEXP - Data Export to BOM

Some of you will have already been using HYXMLEXP, a Hydstra tool for exporting data to the Bureau of Meteorology. We have issued version two, renamed to HYBOMEXP, and implemented many enhancements and changes. Most Hydstra users in Australia will need to start using HYBOMEXP over the forthcoming months, in order to meet your obligations under the Water Act 2007. If you have not heard from us already and you need a copy please contact

support@hydstra.com and we will email it to you and put you on a mailing list to keep you informed of developments. We need to maintain a current register of all HYBOMEXP users, as things are moving quickly.

Time Studio users should contact BOM directly, as a Time Studio exporter has been developed for BOM. Please contact Paul Sheahan, 02 6232 3525, p.sheahan@bom.gov.au.

## Hydstra Product News

### *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 Under Way*

We have made good progress on Hydstra V10, which will likely be a while yet in the making and a major upgrade when it finally arrives. Issues we have finalised already for inclusion in V10 include:

- Consolidating all DBF tables to a single path (DBFPATH). This will impact any scripts that assume RATEPATH is in a certain 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.
- Made some 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, plan for a period of in-house testing before V10 is released, during which time you will check that all your local scripts and processes continue to operate as expected.

### **Notepad++ Text Editor**

We have recently been using a free text editor that meets all our requirements, and which we can wholeheartedly recommend to anybody.

Notepad++ is amazingly powerful - you'll find it at <http://notepad-plus.sourceforge.net/uk/site.htm>.

Amongst the things it can do are:

- Show line numbers (important for Perl errors)
- Use colour to show syntax highlighting for many languages (including Perl, of course)
- Show matching brackets, braces etc
- Save a backup with a different extension in a backup directory every time you save the file.
- Delete columns of text
- Define and run macros
- Use regular expressions for search and replace
- And, as they say, much much more

### **TimeStudio Release**

The current release version of TimeStudio is 4.2.0.8. We have delivered a 4.2.0.8 CD to all registered TimeStudio users. Any further patches will be delivered via the Kisters FTP site. All registered TimeStudio users have been sent instructions on how to log in to the FTP site.

### **0.0 Is Not A Valid Time**

Occasionally you may encounter an error from Hydstra of the form "0.0 is not a valid time". This somewhat cryptic error comes from deep down in the Delphi date handling routines, and comes about because Delphi has encountered a bad date in a database table. The bad date may be an invalid date, like 31 Feb, or it might be completely corrupted data with random characters in the date field. In either case you need to find and fix the problem. HYDBBROW might be of assistance in browsing suspect tables. HYDBUTIL CHECK might show the problem. If all else fails, resort to a backup.

### **Perl Book for Geeks**

We have recently discovered a book on Perl that should be on the desk of any serious Perl programmer. The book is *Perl Best Practices* by Damian Conway, published by O'Reilly. We plan to make it our standard for Perl programming style going forwards, and over time rework our libraries to conform to his suggestions. Even if you don't agree with all of his proposals you will find it one of the most literate and well written books on Perl to be published in many years.

If you get really enthusiastic you can submit your

Perl to a web page (<http://perlcritic.com/>) which checks it for conformance to the standards described in the book. Alain Remont has managed to get one of our programs to pass level 3 (harsh), but it will be a while yet before we can achieve 4 (cruel) or 5 (brutal).

## **Managing Open Files**

### **Introduction**

System administrators are often troubled by files being held open on a server or PC. Common symptoms include:

- Inability to replace a program or library because it is in use.
- Inability to detach a removable drive
- Problems with ROBOCOPY failing to copy a file
- Inability to back up a file because it is in use

It is worth understanding the basics of file locking, particularly as they relate to networked drives. A good explanation of the subject can be found at [http://en.wikipedia.org/wiki/File\\_locking](http://en.wikipedia.org/wiki/File_locking), but the basics are:

- An EXE, DLL or BPL file is locked when it is executed by a user, and unlocked when the user terminates the job.
- Data files are locked in a variety of ways under the control of the user – allow read, deny read, allow write, deny write, etc. For example a database table can be written to by different users concurrently, whereas a HYDBUTIL REINDEX will require exclusive read to complete.
- File locks should be released when the application terminates, but may remain locked if a catastrophic program or computer failure occurs, for example a 'Blue Screen of Death' or a power failure.
- All file locks held by a user on a network drive are released when that user logs on again to that network. A simple log off and log on is often sufficient to release mystery locks.
- Conversely it is possible for a user to disconnect the LAN cable from a laptop without logging off, and take his computer on holidays leaving files locked on the server for the duration of his absence.

A variety of tools are available to discover and release file locks. This article discusses some of the tools and techniques.

It is worth noting at the outset that **you cannot determine who has a file locked from a workstation**, you have to run the following commands on the server box itself. If you don't have access to your servers you will have to ask your IT group to do it for you. Rebooting the server is a blunt instrument approach to the problem.

### **Process Explorer**

Microsoft has made available a useful GUI tool for exploring running processes, including open files. You can download the tool for free at:

<http://technet.microsoft.com/en-us/sysinternals/bb896653.aspx>

We recommend using Process Explorer as your first port of call for exploring locked file problems.

### **OPENFILES Command in Windows XP and Later**

Microsoft provides the command line tool OPENFILES which will list all files opened for sharing on a server.

OPENFILES

### **Net File**

Microsoft also provides the command line tool NET FILE which lists all shared files on a server:

NET FILE

The NET command also permits you to release file locks.

## **Staff News**

### **Alain Remont Starts in Client Services**

We are pleased to welcome Alain Remont to our Canberra office. Alain brings a wealth of IT experience to Kisters, including experience in Perl application development.



## **Contact Information**

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

Homepage: <http://www.kisters.com.au>

All support and accounts questions should be

directed to [support@hydstra.com](mailto:support@hydstra.com).

All personal Hydstra email addresses are of the form [firstname.lastname@kisters.com.au](mailto:firstname.lastname@kisters.com.au), but all general emails should be addressed to [support@hydstra.com](mailto:support@hydstra.com).

### **Canberra**

Unit 4A, 24 Mahony Court  
Weston ACT 2611

PO Box 3476  
Weston Creek ACT 2611, Australia

Phone +61 2 6288 2302, Fax +61 2 6288 9061,  
Email [support@hydstra.com](mailto:support@hydstra.com)

### **Hobart**

Level 4, 2 Kirksway Place,  
Battery Point, Tas 7004

GPO Box 1390  
Hobart, Tas. 7001

Phone +61 3 6224 8252, Fax +61 3 6224 8414

### **Sacramento**

7777 Greenback Lane, suite 209  
Citrus Heights, CA 95610

Phone: +1 916 723 1441, Fax: +1 916 723 1626

### **Aachen**

Charlottenburger Allee 5  
52068 Aachen, Nordrhein-Westfalen, Germany  
Phone +49 241 9671-0, Fax +49 241 9671-555

### **France**

KISTERS France SAS  
11Bd de la République  
78400 Chatou  
Telefon: +33 1 30 71 62 54

### **Spain**

C / Gabilondo N°15 Principal  
E-47007 Valladolid, Spain  
Phone +34 983-228134, Fax +34 983-276876

### **Shanghai**

Fushan Road 450, 10F  
Pudong New Area  
200122 Shanghai  
China

### **iQuest (NZ) Ltd**

PO Box 15 169  
Dinsdale  
Hamilton 3243 New Zealand

Core Facilities Building  
Waikato Innovation Park  
Ruakura Lane  
Hamilton 3214 New Zealand

Phone +64 7 857 0812 (DDI), Fax +64 7 857 0811,  
Mobile +64 21 489 617