

# KISTERS Australia News

August 2010

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## From The GM's Desk

*By Bill Steen, General Manager, Kisters Pty Ltd*

Kisters is pleased to introduce another new staff member, Sholto Maud. Some of you will already know Sholto from various industry meetings as he was previously with Melbourne Water.

The 2010 Kisters User Group meeting is approaching very fast. There have been some misunderstandings in regards to registrations. The Kisters User Group registrations are totally independent of the AHA conference. You need to register separately to attend this years User Group meeting. Your AHA registration does not cover the User Group meeting.

There have been a lot of new features and improvements to Hydstra over the past 12 months especially with data transfer [WDTF], changes to the underlying directory structures, Version 10 release, document links within Hydstra and more.

We look forward to seeing you in Perth in October.

## 2010 User Groups

*By Peter Heweston*

The Australian Kisters User Group meeting will be held in Perth on Tuesday 19 October 2010 at the Burswood Casino, the day before the start of the three day AHA conference at the same location. Please note that separate registration is required for the Kisters User Group, it is not included in the AHA registration. You can find the KUG registration form at:

<http://hydstra.kisters.com.au/Registration%20Form%20Australia%202010.pdf> or you can register and pay online at

<https://www.conferenceonline.com/index.cfm?page=booking&object=conference&id=15384&categorykey=288E57B2-9AEA-4A29-B107-34C8D4AA5D39&clear=1>.

For AHA conference registration see <http://www.aha.net.au/events/aha-2010-conference/registration/>.

In the US we will be running a one day Hydstra User Group meeting in Ventura, California on Mon Sep 13 and a training day on Tue Sep 14. Attendance at the Hydstra User Group meeting on the Monday is free, thanks to the generosity of the folks at the Ventura County Watershed Protection District. The fee for the Tuesday training day is \$500. The training day will cover topics specifically requested by users. On the Thursday and Friday of that week we are holding a full Kisters User Group meeting in Orlando Florida on Sep 16 and 17. For more information and registration see [http://www.kistersnews.com/english/html/NA\\_Events\\_index.html](http://www.kistersnews.com/english/html/NA_Events_index.html).

## Hydstra Installations

*By Peter Heweston*

In July Dylan Evans and Peter Heweston spent three weeks in California installing additional Hydstra systems for Southern California Edison. During that time we installed Hydstra at Kernville and Bishop, and then gave a training course at Big Creek.

The trip was most enjoyable thanks in no small part to the friendly staff we worked with along the way, as well as the amazing scenery in that part of the world. How many places apart from Bishop can be 107° in the shade (42°C) while providing views of snow tipped mountains a short distance away?

One issue that has influenced Hydstra deployment in the utility market in the USA is the North American Electric Reliability Council's Critical Infrastructure Protection program (NERC/CIP). This program aims to protect the security of the electricity grid against a variety of physical and cyber attacks. For the first time ever I have seen a locked enclosure with card-swipe access designed to protect a PC running Hydstra scheduled tasks! As part of the upgrades required by NERC/CIP all telemetry protocols must be encrypted, physical access to infrastructure controlled, and much more. I believe we will see much more interest in security in the next few years, particularly regarding data acquisition. In the past the worst crime we encountered was the odd dead carp intentionally lodged under a Dethridge wheel. In the modern electronic age the risks are much more pervasive.

On a lighter note, on the last weekend of our trip we had to go from Bishop to Shaver Lake, which involved driving over Tioga Pass (9945ft) and down into Yosemite National Park. This must be some of the most spectacular scenery in the USA.



*Kern River at Kernville*



*Bishop*



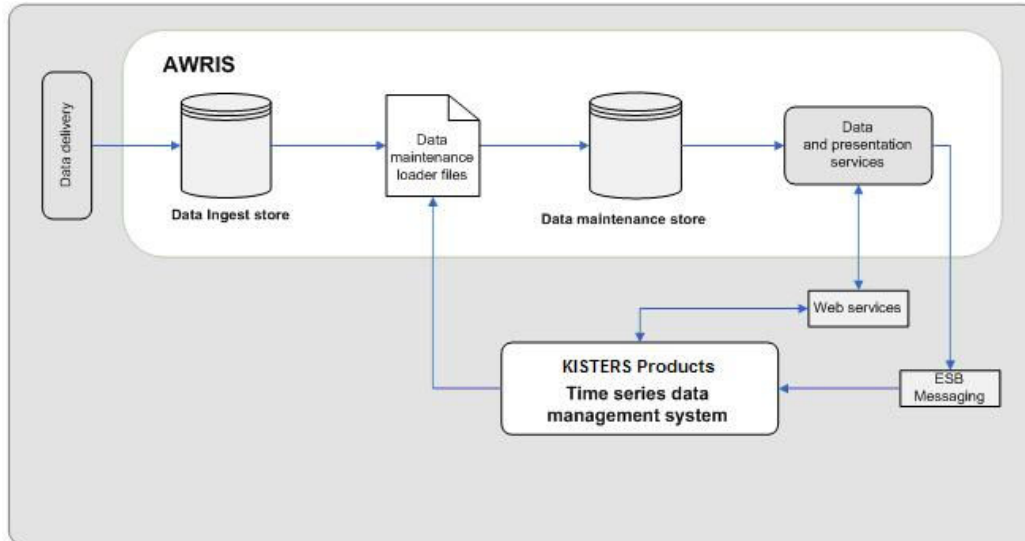
*Ellery Lake, Yosemite*



*Half Dome, Yosemite*

## Kisters Awarded BOM Contract

The Bureau of Meteorology recently awarded their Time Series Data Management System (TSDMS) contract to Kisters Pty Ltd. The TSDMS contract was for the procurement of a commercial off the shelf time series data management system, and the successful Kisters proposal included both Hydstra and TSM technologies. The contract will make Kisters technologies available to the Bureau of Meteorology for the completion of time series data management, data quality assurance and data analysis functions across a broad range of data types provided to the Bureau under the Water Regulations 2008. The Kisters products will be used to provide access to raw, aggregated and derived data. The products will also provide rapid scanning and inspection of time series data as well as the inspection, validation and creation of rating table relationships.



Interaction between AWRIS and the TSDMS (KISTERS)

## Hydstra and Water Data Transfer Format

Water Data Transfer Format (WDTF) is an XML format designed by the BOM to facilitate data interchange within Australia. At present all Hydstra users are using HYBOMEXP to transfer data to BOM, but HYBOMEXP pre-dates the development of WDTF, and it uses CSV and XML protocols designed by us. Kisters Pty Ltd have completed the development of a new program HYWDTF\_OUT that will support the export of all Hydstra data in Water Data Transfer Format (WDTF). HYWDTF\_OUT will be released as a patch to Hydstra 10.2, and will be distributed with 10.3 and beyond. The project has been funded by the NSW Office of Water using BOM funds from the Modernisation and Extension of Hydrologic Monitoring Systems Program. HYWDTF\_OUT will export TS, WQ and GW data from Hydstra in the appropriate WDTF formats, as well as sites, gaugings, ratings and sections.

HYBOMEXP will continue to be supported for the indefinite future, and in fact the BOM has requested that users do not start using HYWDTF\_OUT until they are requested to change by BOM. *Please continue to use HYBOMEXP until notified by BOM.*

We plan to offer a one day training course on WDTF and HYWDTF\_OUT later this year, well before anyone will be asked to go live with it. The timing and location of the course will be announced closer to the time.

As another part of the project we have developed an Excel spreadsheet and supporting tools that can be used to export WDTF data to BOM from Excel, provided the data can be loaded or pasted into Excel in the correct format. This system is intended to be made available by the BOM to small non-Hydstra users as a free standalone product, but it is also distributed with Hydstra 10.2 as HYXL2BOM. HYXL2BOM is limited to only time-series and water quality data at present.

During the development of these tools we built a powerful set of Perl objects for generating WDTF. In principle there is no reason why we could not develop custom scripts using these tools to pick up data from non-Hydstra databases and send it to BOM. Contact us if you want to explore this option further.

## Hydstra and SQL Databases

Kisters Pty Ltd are working on the release of support in Hydstra for tables in SQL Server, Oracle and PostgreSQL. The first official release will be for Microsoft SQL Server in Hydstra V10.2, with PostgreSQL and Oracle following later if and when demand is confirmed.

There will be a significant cost for upgrading to the SQL Server version of Hydstra, please contact us for pricing information. Also please contact us if you have views on whether you would prefer to see PostgreSQL or Oracle support released next.

You will need to have the appropriate database software already installed on a server of appropriate size with enough licences to support your user community. It is worth noting that PostgreSQL is open source, and hence free, while SQL Server and Oracle can get quite expensive.

If you are considering investigating the SQL Server version of Hydstra, our strong recommendation is that you first upgrade to Hydstra V10 over Foxpro, then install a test server running the SQL Server version, and only go live with SQL Server when you have satisfied yourself that it all works. Don't confound the V10 upgrade with the SQL Server upgrade, do them in order.

There will be hardly any look and feel differences under SQL Server, and all existing tools will continue to work, including HYMANAGE, HYDBUTIL, etc. There are simple HYDBUTIL tools to migrate tables between Foxpro and SQL Server and back again. In terms of performance, we expect some things like complex filters to be much faster, particularly on huge tables like WREHOUSE. On the other hand operations that involve writing or updating large numbers of records (like HYDBUTIL APPEND for example) may well be very much slower, as the ADO drivers we use are limited in their throughput.

SQL Server will allow external access to non-time-series data such as SITE, SAMPLES, RESULTS etc, but that access MUST be limited to read-only access, as direct database access bypasses all the complex business rules that Hydstra enforces (such as regional constraints, user level checking, range checks, relational integrity checks etc). Of course SQL Server offers interesting future possibilities in terms of rollback, replication and other industrial-strength processes that Foxpro will never be able to achieve.

Time series data will continue to be stored in binary Hydstra time-series files, and not inside the database. However we do have plans for a 'product' database table that could be loaded with fixed time-step computed daily data, where the storage requirements are not so high.

## SQL Access to Time Series Data

Neither Hydstra nor Wiski allows direct access to times series data via SQL. Users are explicitly forbidden from querying TSM tables directly, and Hydstra data is not stored in SQL format anyway. Both systems could be configured in a variety of ways to update a separate time-series table of computed products, but you need to be intelligent about what you put there, as time-series data in SQL tables can get very large quickly.

TSM provides a SQL front-end via the scripting agent, and Hydstra has a TSPROD table which it is intended will be populated by an update script, though the script has not yet been developed.

It is possible to purchase a third-party ODBC development tool that could allow an ODBC driver to be developed for a non-SQL data source such as Hydstra. If there is sufficient interest we can certainly look at what is involved, but it would likely be a significant project and would of necessity involve a cost to users.

In the shorter term we are pressing ahead with the development of a SOAP server for Hydstra that would lie alongside Hydstra/WEB and serve Hydstra data to other processes inside or outside the firewall. Stay tuned for more news.

## Hydstra and HYDLL

HYDLL is a Hydstra tool that allows external software like Excel, Perl and other user applications to access Hydstra data. HYDLL uses COM technology to communicate between Hydstra and the user, and COM requires that the COM provider be registered in the computer's registry. In recent years access to the registry has been made increasingly difficult by Microsoft and system administrators due to security concerns, and HYDLL registration often presents one of the major annoyances of installing Hydstra.

As a result of this increasing pressure we have developed HYDLLP in Hydstra V10, which is a true DLL that



can be loaded at run time into any program, and which does not require registration. We have converted all delivered Hydstra Perl programs to use HYDLLP, so the only reason you might still want to HYDLL in V10 is if you have local Perl programs that haven't been updated, or if you are accessing Hydstra from other programming languages like Excel, C, or VB.

Updating local Perl programs is usually simple. In your Perl you will find statements of the form:

```
use HydDll;  
...  
my $dll=HydDll->new()
```

All you need to do is add 'p' to these two locations (and any other HydDll->new calls)

```
use HydDllp;  
...  
my $dll=HydDllp->new()
```

If you are calling HYDLL from other languages it is somewhat more challenging to use HYDLLP as the calling sequences, types of parameters etc have changed. We provide an example spreadsheet *USING HYDLLP IN EXCEL.XLS* in `\hyd\sys\perl\examples`.

HYXPLORE attempts to register HYDLL each time it starts, and in a relatively relaxed environment that leads to good behaviours such as the correct DLL always being registered even if you switch between development and test systems. However in a highly constrained environment you may not be allowed to register the DLL every time, and for situation that we provide a new flag:

```
hyxplore /noregdll
```

If you are running multiple Hydstra systems (for example a test and a production system) you have to ensure that the correct HYDLL is registered for the system you are presently using - you must not use the HYDLL from a different system.

A further complication arises as computing moves to the 64 bit world. Windows 7 for example can be purchased as a 32 bit or 64 bit version (I personally would recommend staying with 32 bit for desktops and laptops for another year or so). The 32 bit Hydstra V10 applications run fine under 64 bit Windows but you need to take additional care registering the DLL. (*Note that V9 does NOT run on a 64 bit PC*). If you want the system administrator to do a one-off deployment of the DLL, on 32 bit windows you simply run

```
regsvr32 h:\hydstra\prod\hyd\sys\run\hyd11.dll
```

and the job is done. On 64 bit Windows it gets a little more complicated, in that there are two copies of REGSVR32 - a 32 bit version and a 64 bit version (one does wonder why the 64 bit version wasn't called REGSVR64 - but it isn't). On a 64 bit system, 32 bit processes run in a kind of 32 bit emulator called WOW64, which stands for *Windows on 64 bit Windows*, and in the `%systemroot%\syswow64` directory (`c:\windows\syswow64`) you will find 32 bit versions of all system utilities. Hence to register HYDLL on a 64 bit system you need to run the 32 bit version of REGSVR32, which can be found in the `%systemroot%\syswow64` directory:

```
%systemroot%\syswow64\regsvr32 h:\hydstra\prod\hyd\sys\run\hyd11.dll
```

Clear?

## Hydstra Product News

### Hydstra Version 10 Status

The current release of Hydstra is version 10.02.02.

The main enhancement in 10.02.02 is full support for metadata tables in SQL Server (I.e. all the data that you presently store in Foxpro can in 10.02 be stored in SQL Server instead. There is a cost associating with upgrading to SQL/Server.

The upgrade from version 9 to version 10 may require some care for larger users, particularly those with lots of custom scripts. Read the V10 Help file from the release CD for more information.

Please notify us when you go live with V10, as it is important that we keep accurate records of which version everyone is running.

### New FTP Server

We have switched the Hydstra FTP site from Germany to the USA, which has doubled the throughput on large file transfers. HYHELPME on Hydstra 10 automatically sends the data to the US site. We will provide

you with new login details by email as and when you need to use the new FTP site.

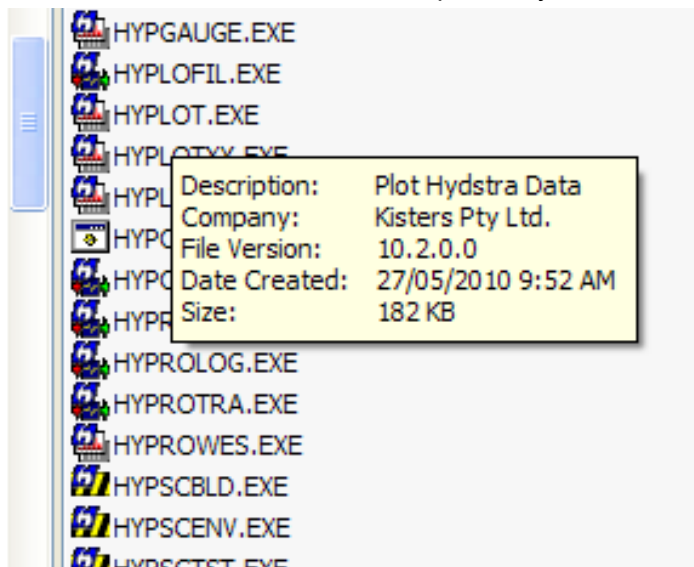
### Hydstra Patches

We have started to make more routine the provision of Hydstra patches on the US Kisters FTP site. The patches will be saved with a name of the form `hydstra.10.01.02.20091207.zip`, which encodes the version, release, patch and date. We plan to develop an automated patch installer some time soon, in the meantime the patching needs to be a manual process - we recommend using Beyond Compare to simplify the process. Don't forget to back up your system and throw everybody off before applying patches.

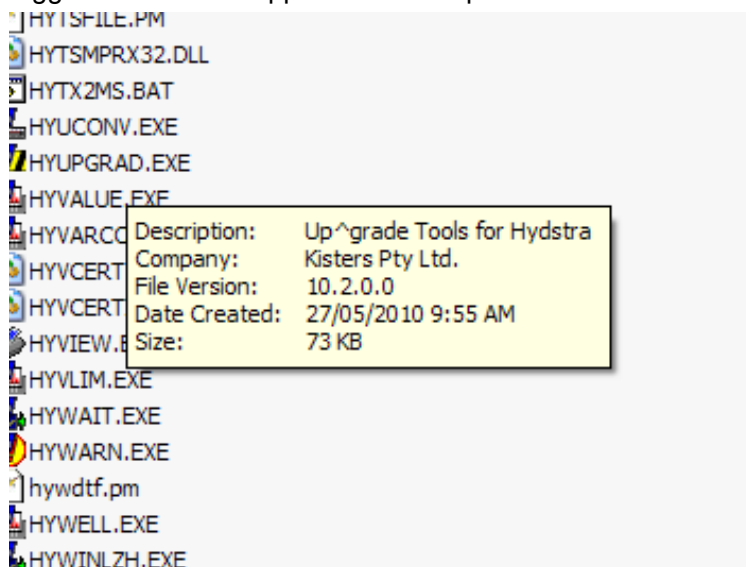
We recommend that you rename the old version of any file you patch with the current date and time, hence rename `hyplot.exe` to `hyplot.exe.20100630123000`, then copy across the new version.

### Program Description Inside Hydstra EXE's

We recently changed the Hydstra build process to put the company name and program description inside the EXE files. This information shows in Explorer if you hover over an EXE file:



One unexpected byproduct of this enhancement is a little known 'feature' of Windows 7 that if the description contains any of the words 'install', 'setup', 'upgrade' or 'configure' the program automatically elevates to Administrator mode, which will stall and prompt for a password. We immediately choked on this feature, and hence we have had to modify some of our descriptions by adding superfluous ^ characters to avoid these trigger words in the application description:



A corollary of this is that if you run SETUP off the Hydstra install CD under Windows 7 it insists on being run in Administrator mode. This is all well and good except that if you are doing a system installation to a networked drive, the network drive may not be visible to the administrator even though you can see it as a user.

The solution to the problem is to start Explorer with a right-click Run As Administrator, then mount the network drive, then run SETUP.

### **New DATASRC.INI setting - LockFileFolder**

Users who restrict write access to Hydstra folders on a user-by-user basis may have noticed that the new V10 Data Sources system require the ability to write lock files to the same folder as the TS files. If your IT department wants to deny write access to HYDPATH for non-data-administrators, this presents a problem, as even reading a file creates a lock. In Hydstra 10.1 and 10.2 (available as a patch) you can now nominate a separate folder for the surrogate lock files, one to which all users have write access. We recommend something like &hyd-dbpath.tslocks. Be sure to make the directory and grant everyone full access to it, even read-only users (since the act of reading a TS file creates a lock which is deleted when the user closes the file).

If you require this facility please download the latest patch rollup from the FTP site and apply it.

### **HYMULTI and Windows 7**

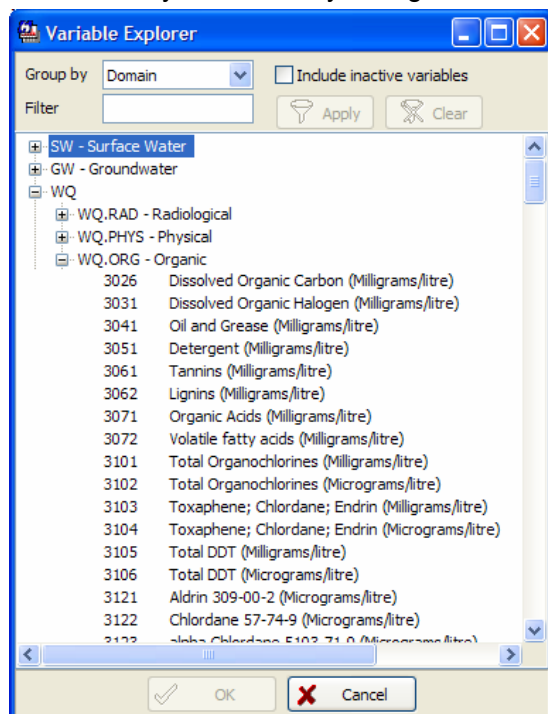
If you run HYMULTI under Windows 7 you will need to Run as Administrator so that it can successfully register the DLL each time you swap systems. If you need to access networked drives in your HYMULTI system you may face the same problem that SETUP does - when running as administrator you may not yet have your network drives mounted. The solution is to set up a simple HYMULTI.BAT job as follow, and then run HYMULTI.BAT as administrator:

```
net use h: \\hydstradrive\hydstrashare  
h:\hyd\sys\run\hymulti.exe h:\hyd\dat\ini\hymulti.ini
```

### **Variable Domains in Hydstra 10**

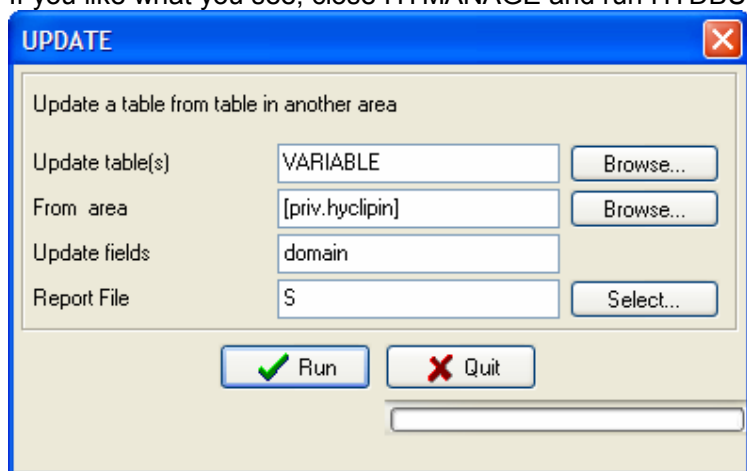
In Hydstra 10 we have introduced the notion of the Domain of a variable, intended to describe whether the variable is a surface water variable, a water quality variable, a groundwater variable, or whatever. In Hydstra 10.2 the domain is quite a wide field, and allows dotted notation, so you can have domains like WQ.CHEM, WQ.PHYS, WQ.BIO etc.

The variable dropdown on any parameter screen variable field offers a variable chooser tree, and one view of that tree is by domain, so you might see something like



The actual domains you choose are up to you, and unfortunately you will have to populate them manually - there is no automatic way of divining the domain of your variables. The process we recommend is as follows:

- Back up VAR\*. \* from DBFPATH to somewhere safe, just in case
- Decide on the domain hierarchy you want to use, and register each domain in the VARDOM code list. Be sure to register all levels of a tree, for example WQ and WQ.CHEM.
- Open an empty Excel spreadsheet and type the word *variable* into cell A1, then copy it into the clipboard
- Run HYCLIPIN and choose the Database Export option
- Paste the results back into cell A1 of the spreadsheet
- Use Excel to populate the DOMAIN column. Codes must be in all caps.
- Select the whole contents of the sheet and copy into the clipboard
- Run HYCLIPIN and choose the Database Import option
- Review the contents of [PRIV.HYCLIPIN] in the VARIABLE manage to see if it is OK
- If you like what you see, close HYMANAGE and run HYDBUI UPDATE, as follows:



You should now have a nice variable domain tree that will open up on any variable parameter screen field.

### **HYSTNS in V10**

In Hydstra V10 the revised concept of datasources impacts on some HYSTNS expressions you might wish to use. We have added a few new HYSTNS functions to help you manage data in datasources, and some examples might help understand them:

- DIR(C:\HYD\DAT\HYD\\*.A) returns a list of sites that have archive files, but it will break if you move your system.
- DIR(CONFIG(HYDPATH)\*.A) does the same thing but works even if you move your Hydstra system to another drive
- TSFILES(A) does the same thing even better, but still assumes your archive files have a suffix of '.A'
- TSFILES(DSOURCES(ARCHIVE)) works even when the archive files are not called 'A'.
- TSFILES(B-Z) returns a list of current work files, assuming you haven't changed anything from V9
- TSFILES(DSOURCES(WORK)) does the same without having to know what the work datasources are called
- TSFILES(TELEM) would return a list of sites that had data in the TELEM datasource
- TSFILES(DSOURCES(ARCHIVE,WORK)) will get all your archive and work files in one go, where previously you would have combined two DIR() calls

We suggest you phase out your use of DIR in datasource expressions and replace it with the more generic TSFILES, possibly in conjunction with the DSOURCES function.



## ***HYZIPDIRS Keeps Your Directories Tidy***

Many processes produce files or subdirectories based on date - such as SVRIMP, logging of HYDLOG directories, reporting under PTMPATH\reports etc. HYZIPDIRS allows you to zip up older directories into a single file to reduce the number of small files lying around. This improves disk usage and reduces the time needed to copy systems around. For example:

- HYDLOG files are kept under dbfpath\HYDLOG with various names that start with the date either as YYYYMMDD or YYYYMM.
- SVRIMP files are kept in a location specified in SVRIMP.INI, probably logpath\SVRIMP, in directories of the form YYYYMMDD or YYYYMMDD\_ERRORS.
- REPORTS are kept under ptmpath\REPORTS in dated subdirectories of the form YYYY\MMDD.

HYZIPDIRS allows you to specify how many days to leave unzipped, and it zips up the rest. You will need to schedule HYZIPDIRS to run every night, or else run it manually every day.

## ***Microsoft Strikes Again***

If you are planning to introduce some new Hydstra datasources in V10 it is best to avoid three-character datasources with a suffix of X for the index (for example BOM and BOMX) because the low-level API for returning directory listings gets it wrong for the specific case of three character suffixes with additional trailing letters. Make an empty directory under JUNKPATH and try the following experiment:

```
for %f in (file.a file.ax file.bb file.bbx file.ccc file.cccx file.cccy file.dddd file.ddddx) do dir>%f
```

Now do

```
For %f in (a bb ccc dddd) do dir /b *.*%f
```

You will find that the a, b and d file suffixes all show only one file, but the c suffix files incorrectly show three:

```
file.ccc  
file.cccx  
file.cccy
```

This will lead to all sorts of strange behaviour in scripts, the workbench, and anywhere else that relies on file suffix masks. The bug is not just in the CMD processor, it is in the underlying Windows API that all programs call. We don't know how long this curious 'feature' has been embedded into Windows but it certainly appears in Windows XP and Windows 7. Users with Windows 98 and earlier might like to try the experiment and see if it has always been there.

## **2010 AHA Conference**



### ***Hydrography - Reflection, Refinement, Resurgence***

The Hydrographers Association Conference is held every two years. It is a unique opportunity for hydrographers and industry suppliers to network, learn from each other and promote their products to water industry representatives from all over Australia and the Asia Pacific Region. More specifically, we encourage and anticipate participation from members, leading State and Federal water agencies, water utility providers, hydro power generators, private industry groups and individuals.

The 2010 Conference is to be held at the Burswood Complex in Perth, Western Australia from the 19th to the 22nd of October, with the Kisters day being on the 19th.

The Theme of this year's Conference is Hydrography - Reflection, Refinement, Resurgence. This theme provides the opportunity to showcase projects, exchange experiences and learn about a wide range of subjects related to Hydrography in Australia and from around the World.

As Hydrographers we collect, validate, and manage a wide range of water related parameters. This often involves verifying data in an historical context. In an environment of rapidly changing technology we must not lose sight of hydrography's evolution, so it is important to occasionally step back and reflect on the past. This event provides the opportunity to review where hydrography has come from in order to foster continued

improvement.

Refinement of the profession is currently underway. Training and accountability are being refined with the development of a new Hydrographic Qualification under the Federal Government Vocational Education Training framework and consideration of certification / accreditation for Hydrographers. On the technology front, advances include the adoption of groundbreaking Acoustic Doppler technologies for obtaining Discharge Measurements; enhanced theoretical Ratings using data from aerial surveying; IP telemetry for ready access to data; and ongoing advances in the presentation of information using sophisticated GIS tools. All vastly improving the efficiency of data collection and availability of a growing range of information products.

The need for water related data is undergoing resurgence due to various drivers including Climate Change, the Water Act 2007, Water Accounting, and increasing Environmental Compliance and Social pressures. As Hydrographers we need to face this challenge to not only ensure that the data we collect is accurate and timely, but also relevant to commonly adopted Standards and community values.

## Automating Tasks in Hydstra

All Hydstra jobs can be run from the command line, and it can be a big time-saver to automate many of your routine management and reporting tasks.

If you have Hydstra/SVR you should automate everything through it. The following guidelines for server tasks might be useful:

- All tasks run by the server should be batch jobs residing in INIPATH, and named with a convention such as SVRRUN\_*jobname*.BAT, which keeps them all together and makes clear how they are run.
- Recurrent jobs should be run by defining the jobs using saved jobs from SVRCRON, then loading them using SVRCRONL. This allows you to reload them at any time should the SVRTASKS table need to be cleaned out.
- The jobs set up by SVRCRON should be one-line jobs to call a batch file in INIPATH, for example  
`call &hyd-inipath.svrrun_jobname.bat param1 param2 etc`
- Each server batch job should early on set up the title bar using the TITLE command so that you can tell what the job is doing:  
`title SVRRUN_jobname`
- Long jobs should show progress on the title bar by updating the job steps  
`title SVRRUN_jobname (1/3)`

If you do not have the server you can still automate jobs using the Windows Task Scheduler. We can provide you with a basic skeleton job called AUTOJOB.BAT that you can tailor to suit your own needs.

IN order for AUTOJOB.BAT to be able to run Hydstra tasks the job needs to set up a Hydstra environment, and that usually involves possibly mounting some drives, then setting some path and environment variables. We recommend that you set up a batch job in INIPATH named set\_local\_env.bat. The contents of this batch file for V10 would be as follows:

```
rem Setup standard environment for scheduled tasks
set hydroot=e:\hydstra\prod
set hyconfig.ini=%hydroot%\hyd\hyconfig.ini
set path=%hydroot%\hyd\sys\run;%hydroot%\hyd\sys\perl\bin;%path%
set perl5lib=%hydroot%\hyd\sys\run
set hyconf=abortw;f;utimeout;0
call hyosenv
```

The only thing you need to change for your own environment is the line that sets *hydroot*, everything else is standard. If you need to mount a special Hydstra drive you should do that in the job first, using the *net use* command.

You can then take a copy of AUTOJOB.BAT, put in into INIPATH, and modify it as needed to do whatever you want. You should schedule AUTOJOB to run every hour, and then decide inside the job at which hour and on which day things should be run. You will need to hard-wire the path to set\_local\_env.bat in order to bootstrap everything into a Hydstra environment.

The following example AUTOJOB.BAT should give you an idea of how it is done:

```

@echo off
color f0
@if not "%ECHO%"==" " echo on
echo on
cls
title AUTOJOB.BAT
setlocal

@rem set up pause between steps while testing - be sure to remove it before the next scheduled run or it will
lock up
set pause=pause
set pause=

@rem set up correct environment for Hydstra jobs run from outside the menus
call e:\hydstra\prod\hyd\dat\ini\set_local_env.bat
hylogin
@rem Set environment variables with date-related stuff
@rem settime sets DOW,WEEKDAY,DAYNAME,MTHNAME,QUARTER,HOURL,MINUTE,DAY,MONTH,YEAR
@rem e.g.          1  YES    MON    OCT    4      08   12    25   01    2005
call hysettim

@rem set report name based on year and month
set repdir=%ptmpath%reports\%YEAR%\%MONTH%\%DAY%
mkdir %repdir% 2>nul

@rem set up a daily log file of all jobs run from autojob
set report=%repdir%autojob.log.txt
echo. >>%report%

@rem set up some shortcuts to use later on
set LOG=@logit /a %report%

goto begin

@rem subroutine to run each job, check errors, etc
:runjob
set jobdesc=%1
call dequote jobdesc
title %jobname% - %jobdesc%
set jobcommand=%2
call dequote jobcommand
echo. >>%report%

%log% %jobdesc% started -----
%log% About to run %jobcommand%
%pause%
%jobcommand%
if errorlevel 1 %log% *** ERROR - Job failed reporting error level %errorlevel% - HYDSYS.ERR contents follow:
if exist %temppath%hydsys.err (
    echo ***** >>%report%
    type %temppath%hydsys.err >>%report%
    echo ***** >>%report%
)
%log% %jobdesc% ended -----
%pause%
goto :eof

%pause%

:begin
%log% AUTOJOB.BAT Started %YEAR%\%MONTH%\%DAY% %HOUR%:%MINUTE% -----

@rem -----
@rem Run jobs every time AUTOJOB is run
%log% Start routine jobs
%log% End routine jobs

@rem -----
if "%HOUR%"=="01" (
    %log% Start 01:00 jobs
    call :runjob HYPERUPD "hyperupd * A,TELEM %repdir%hyperupd.txt YES"
    call :runjob GAUGUPD "hydbutil gaugupd * %repdir%gaugupd.txt"
    call :runjob HYMKHELP "hymkhelph"
    call :runjob SITELISTS "hydbutil sitelistgrps [archive] all %repdir%hydbutil.txt"
    call :runjob HYAUDIT "hyaudit alltests tsfiles(a) a 1/n-2/n 1/n/n xml no no
hyaudit.xmlsplit.pl(%repdir%hyaudit.txt)"
    call :runjob HYGIENE "hyscript /j=hygiene.hsc no * %repdir%hygiene.htm"
    call :runjob HYCLONE "hyscript /j=hyclone.hsc daily_backup no %repdir%daily_backup.txt"
    call :runjob HYZIPDIRS "hyscript /j=hyzipdirs.hsc . reports 3 no %repdir%hyzipdirs.txt"
    %log% End 01:00 jobs
)

if "%HOUR%%DAY%"=="0201" (
    %log% Start 02:00 jobs on the 1st of the month

```

```

)
%log% End 02:00 jobs on the 1st of the month
)
if "%HOUR%"=="06" (
%log% Start 06:00 jobs
call :runjob HYBOMEXP1 "hyscript /j=hybomexp.hsc daily 0 01/01/1900 change +%replib%hybomexp.txt"
%log% End 06:00 jobs
)
%log% AUTOJOB.BAT Normal termination

```

If you don't feel confident to set up your own scheduled tasks we are happy to come on-site and assist you at our usual consulting rates. If you can provide us with remote access to your system, and sufficient privilege to set up scheduled tasks then we can possibly do it all remotely, with a consequent saving in travel costs.

## Training Courses

We will be running two basic Hydstra courses in Canberra in early September, but sadly we have very few places left at this stage. Email [support@hydstra.com](mailto:support@hydstra.com) for expressions of interest.

We are planning our next round of Hydstra training for later this year, and would welcome expressions of interest on potential topics. Some ideas include:

- Basic Hydstra - using the HYXPLORE, Workbench, HYMANAGE, running reports, extracting data
- Intermediate Hydstra - more advanced Hydstra without going into system administration. Ratings and gaugings, saved jobs, relative dates, HYSTNS expressions, advanced HYMANAGE, etc.
- Advanced Hydstra - HYBATCH, HYAUDIT, job automation
- System administration - managing a Hydstra system
- Hydstra/SVR - configuring and running the Hydstra server.
- Hydstra/MO - performing calculations on time series data with MODSYN, including water balances, dam balances, rainfall runoff models, etc
- Water Data Transfer Format and HYWDTF\_OUT.

If you register interest for a course now you will be guaranteed a place in order of registration should we put a course on.

## Staff News

We are pleased to welcome Sholto Maud to the Kisters team. Sholto has a degree in Environmental Science, and has most recently been working in Melbourne Water in the Hydrology and Flood Warning section, where he had a significant involvement in the management of Hydstra there. He is busy brushing up his Perl skills and will be working in the Client Services area in Kisters on support and project work.



*Sholto Maud*

## Contact Information

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