

KISTERS Australia News

December 2004

Contents

Contents.....	1
Introduction	1
Kisters Australia News	2
Product Strategy	2
Staff News.....	2
Australian Kisters Users Group.....	3
TimeStudio News	4
Hydstra News.....	5
Soda Developments.....	7
Client Services News	8
Modelling Case Study	8
Technical Stuff	9
Seasons Greetings	10
Contact Information.....	10

Introduction

As 2004 draws to a close we look back and reflect on the changes that have occurred. For the staff of Hydstra Pty Ltd [now Kisters Pty Ltd] it has been a very challenging and interesting year as we integrated with our new parent company, Kisters AG, from Germany.

Effective from the 11th August 2004 Hydstra Pty Ltd operates under the name Kisters Pty Ltd to align the company's name with that of its parent company, Kisters A.G.

The year from a development and support aspect is highlighted in this newsletter, and as you will discover it has been a very full and productive year. The "behind the scenes" activities have seen the majority of Australian staff travelling to Aachen Germany to participate in product development, training, and forward business planning strategies. Staff from Germany also travelled "down under" to participate in similar activities in Australia. Over the past twelve months many of our clients have met with both myself and Kisters Management Group representatives, including Klaus Kisters, Michael Natschke,

and Jürgen Stein.

The integration from a business aspect immediately uncovered benefits with greater marketing power, a truly international prospective, and a sharing of resources. Besides the amalgamation of the former Hydstra Company and Kisters AG we also undertook the establishment of Kisters North America [KNA], formerly Hydstra America, which was operated through Australia. KNA is an entity in its own right and forms part of the Kisters Group. KNA is managed by Stan Malinky and support is undertaken by Dylan Evans. Rand Willard heads the marketing and sales effort and the office is maintained by Megan O'Rourke and Patti Faubion.

Being part of a global company offers many challenges, both culturally and technically, and although our German language skills have not improved our management of time zone differences definitely have.

2005 is shaping up to be a big year for Kisters Pty Ltd as the telemetry and web modules become available to existing clients, the migration of TimeStudio and WISKI moves forward, and further progress is made on TSM2004. We will endeavour to keep all clients informed on the progress of various projects.

In closing the staff at Kisters Pty Ltd would like to wish you all the season's greetings and we look forward to your continued support.

Bill Steen
General Manager
Kisters Pty Ltd



Kisters Australia News

Organisational Name Change

In January of this year Hydstra Pty Ltd became part of the KISTERS Group. We decided to change the name of the Australian entity from Hydstra Pty Ltd to Kisters Pty Ltd, to better reflect the new corporate identity. To avoid confusion we have retained the name Hydstra for the old HYDSYS product, and reverted to TimeStudio for the Tasmanian product. Hopefully we are now in a situation where we can talk about the company and its products with minimal confusion. The two principal software offerings are Wiski and Hydstra.

There was some nostalgic sentiment to revert to HYDSYS instead of Hydstra, but we would then have to use HYDRON in the USA because of prior usage problems there, so in the interest of having one name worldwide for that product we decided to stick with Hydstra.

The US operation is now run from a separate company Kisters North America.

All Australian invoicing is carried out using the Kisters Pty Ltd name from our Canberra office. Please ensure that all payments are made to Kisters Pty Ltd using the banking details provided on your latest invoice. Direct payments made to incorrect bank accounts create difficulty for everyone concerned.

Product Strategy

Kisters is developing a long-term strategy for our product range based on broad principles of interconnectivity, re-usability and open protocols. As part of that strategy we hope to slowly reduce the number of similar but overlapping products. The broad approaches that have been developed so far include:

- The development of TSM, a time-series server product that will eventually be able to underlie all products.
- TimeStudio development will be reduced to support and bug fixing only from the end of this year. We propose to rectify any residual problems with non-2006

compliant logger drivers, and then freeze the system.

- TimeStudio users will be offered an upgrade path to a suitable Kisters product. Scheduler users will be offered a path to Soda, the Kisters telemetry product.
- As discussed at this year's AKUG meeting at the Gold Coast, support for TimeStudio is currently scheduled to cease on 1 Jan 2007.
- TimeStudio Modelling will be retained as a strategic modelling product and enhanced to run over Wiski. It can already read and write Hydstra data directly.
- We have committed to providing Soda drivers for all loggers that Scheduler already supported, and the task is well on the way.
- Support for Hydstra will continue for the foreseeable future.
- Hydstra integration with some Kisters products such as Soda and Wiski Web has already been completed, and integration work will no doubt continue.

Staff News

Chris Misson, the principal architect of TimeStudio has moved on after close to 20 years of dedicated service to Hydro Tasmania, Hydstra Pty Ltd and Kisters Pty Ltd. His commitment to TimeStudio during the last 20 years has been outstanding, and we wish Chris well in his future endeavours.



We reported in the last newsletter that Michael Natschke was planning to move to Australia to head up the Kisters operation in Australia. Unfortunately Michael has not been able to make the move for family reasons, so he will remain based in Germany but will travel to Australia on a regular basis. He is project manager for the TimeStudio/Wiski integration, he will assist in Australian Wiski installations, and he will liaise between Australia and Germany on technical and



management issues.

Bill Steen has been appointed General Manager of Kisters Pty Ltd in Australia. Bill has been with HYDSYS, Hydstra and Kisters since 1999.

Ben Bildstein will be moving from the Hobart office to the Canberra office early on 2005. Ben is a developer and of late has been developing logger drivers for Soda.

Gabrielle Evans has left the company after many years of service. Gabrielle started with HYDSYS Pty Ltd in the late 1980s and ran the accounting and commercial side of the business for many years. Without her dedicated hard work HYDSYS would not have been the financially secure business it remained for so many years. We wish Gabrielle all the best.



Debbie Cockburn has been managing the accounting and invoicing functions, and helping with support. Debbie is expecting a baby early in the New Year, and plans to be away for 3 or 4 months. We wish her and baby well and look forward to her return.

Peter Taylor from our Hobart office will be spending some months working from our Spanish office next year, supporting TimeStudio integration while sharpening up his Spanish language skills prior to returning home via Latin America.

Dirk Oberhauser, principal architect of Wiski, is spending three months in Hobart working with TimeStudio developers on the integration of TimeStudio and Wiski, and becoming familiar internal workings of TimeStudio. He is also finding some spare time on weekends to take family outings in the Tasmanian countryside.

As part of our product integration there is regular movement of staff between Germany and Australia. Most Australian staff have visited Aachen, and a regular stream of Aachen staff have been to Hobart and Canberra.

Australian Kisters Users Group

This year we held Australian Kisters Users

Group (AKUG) meeting in conjunction with the Australian Hydrographers Association conference at the Gold Coast, in Queensland. The AHA conference ran for two days in July, and we added a third day. The conference and Users Group meeting were well attended, with over 70 representatives from the Hydstra user community in Australia, New Zealand and Papua New Guinea in attendance.

During the AKUG sessions Klaus Kisters presented proposed development and migration plans, as outlined above, and discussed the future directions for the company. Jurgen Stein talked about TSM2004, the proposed new time-series server. Bill Steen presented Soda, the Kisters telemetry product, and addressed the integration of TimeStudio Scheduler capabilities into Soda. Peter Heweston presented his usual sessions on 'What's New in Hydstra' and 'Computer Industry Trends'. Peter Taylor outlined recent developments in TimeStudio.

The combination of AHA conference and AKUG seems to work well. It gives vendors an opportunity to display new wares and interact with the hydrographic community, and provides an ideal opportunity for people to get together. We plan to continue holding every second AKUG meeting in conjunction with the AHA conference, so the next combined meeting will be 2006. In 2005 we plan to hold a 2 day AKUG in Canberra, probably around July/August. We will let you know once dates have been finalised.



Debbie Cockburn at the Kisters stand

TimeStudio News

TimeStudio Version 4.2 release

The next release of TimeStudio (version 4.2) is a consolidation release; this is the final TimeStudio release prior to TimeStudio being placed in caretaker mode. All Kisters funded research and development on the TimeStudio product will cease 31 December 2004.

Significant bug corrections, customer funded enhancements and support for TimeStudio will continue until 31st of December 2006. It is expected that TimeStudio customers will migrate to the enhanced WISKI product with the new TimeStudio style reporting module and modelling. TimeStudio telemetry customers have a migration path via the SODA product line.

TimeStudio customers should budget for staff training in WISKI and SODA, for data migration assistance and for conversion of any custom applications that interface to TimeStudio. As each organization's requirements will be different please contact our support staff for estimates for budgeting purposes. Note that a detailed TimeStudio usage and data holding survey will be required to provide accurate estimates.

TimeStudio Version 4.2 enhancements and bug fixes

TimeStudio Version 4.2 includes a number of customer funded enhancements and bug fixes including:

TimeStudio 2006 Bug

A design decision made in the early eighties to internally represent and store date and times as an unsigned 32 bit integer prevents Version 4.1.x.x TimeStudio telemetry from handling dates and times beyond 06:28:14 on the 7th Feb 2006. This deficiency was corrected in the core TimeStudio application some years ago with release Version 4.0; however the problem still exists with all released TimeStudio telemetry drivers, the telemetry framework (scheduler) and the hydrol35 dll. The V4.2 consolidation release has been in beta testing for sometime however the decision to delay the release to include the corrected telemetry drivers and framework was made following concern

expressed by a number of clients.

Customers using the Hydrol35 DLL in custom applications should convert them to use TimeStudio.dll before data past the 2006 cut-off date needs processing. The conversion is fairly straightforward.

Customers using 3.x versions of TimeStudio/Hydrol should plan to upgrade to TimeStudio Version 4.2 well before February 2006 data needs processing.

Multi Variate Time Series Editor (MVTSE)

- Ability to edit and save time series loaded into a session from multi-column text files
- Direct access to gaugings from the session work area
- Additional security features
- Addition of 'notes' associated with edit sessions, allowing descriptions, comments, links etc to be added and saved along with an edit session.

TimeStudio Telemetry

- 2006 bug correction
- Better prioritizing
- Upgrade of filtering of scheduler display output
- Improved management of "Protocol connection reports busy" issue (more efficient queuing and less messages)
- More detailed error Messages.
- Improved access to Retry Delay
- Lost data points in type 5 data on Unidata loggers
- RRDL3 dialup alarm handling
- Poll now/status change of loggers using wizard bar

TimeStudio Scripts

Parameterising of scripts now includes customizable descriptions on loading.

Plotting

- Font change on plots for axis
- Line width visual selector
- Comments plotting
- Plotting of now time line
- Conditional auto-ranging on plots

Forms

- Named filters
- Allows for configurable queries to be setup and stored in database for easy retrieval of important relational data
- Duplicate button added to form bar
- View button added to view contents of text files

Auto Close of Open Archives

TimeStudio monitors opens time series archives and warns after set period of time and eventually forces close.

Modelling

- Step model can now be triggered using the F10 key
- Model background can now display static images (eg map)

TimeStudio WISKI Integration

Work is proceeding on integrating major TimeStudio features into Wiski to smooth the transition from TimeStudio to Wiski. The project is called TWI, and will be proceeding until 2007.

TimeStudio reporting

TimeStudio is being converted into the WRM (WISKI Reporting Module). This allows the full reporting suite from TimeStudio to be used with existing WISKI systems. Reports are now functioning over WISKI time series without the ability to use ratings or conversions. Legacy identifier support has been implemented in WRM to allow TimeStudio users familiar access to their data.

TimeStudio Modelling

Modelling is being adapted in a similar fashion to TimeStudio reporting to run over a WISKI database. The first stages of this development are complete with ability to run models over WISKI time series now available without 'on the fly' ratings or conversions.

TimeStudio Data Migration

The TimeStudio migration tool to convert TimeStudio data into WISKI is well underway and test systems have already been set-up internally with migrated data.

Next Steps

The next stages of integration include ratings, conversions, virtual time series and the TimeStudio scripting environment.

Hydstra News

The next release of Hydstra will be version 9.2. It is scheduled for release during the first quarter of 2005. It has been a while since 9.1 was released, so 9.2 has accumulated a collection of interesting new facilities:

HYXMLOUT - Export Hydstra Data to XML

HYXMLOUT allows you to export data from selected tables and time-series to XML. It can report on data that has recently been changed, or on data for a specified period. It can generate derived 'product' traces such as daily mean flows, monthly totals, 15 minute heights, etc. It has already served as the basis for a number of data reporting and data movement projects. If you need to keep other databases in sync with Hydstra (Oracle, SQL Server etc), or need to transfer data to other agencies on a routine basis then HYXMLOUT could well be part of the solution. We have also used it for a project to build a printed catalogue of site data, and to keep a Wiski Web database synchronised with Hydstra.

Contact Client Services if you think HYXMLOUT could be useful to you.

CHAIN variable conversion method

The new VARCON method CHAIN uses a new column in the table called STEPS. This lets you specify multi-step chains of single-step conversions – exactly the sort of thing that you used to do in the VARMAP table. For example the VARCON entry for 100 to 150 consists of "100/140,150", which means convert from 100 to 140 in pass 1, thence to 150 in pass 2. The upgrade process will automatically convert your existing VARMAP chains into corresponding CHAIN entries in VARCON. I don't think anyone will shed a tear for VARMAP...

HYVARCON to Tabulate a Variable Conversion

HYVARCON is a new application that tabulates a variable conversion - a bit like the report part of HYRATAB, except that it doesn't *just* do rating tables. Any variable conversion can be reported at regular

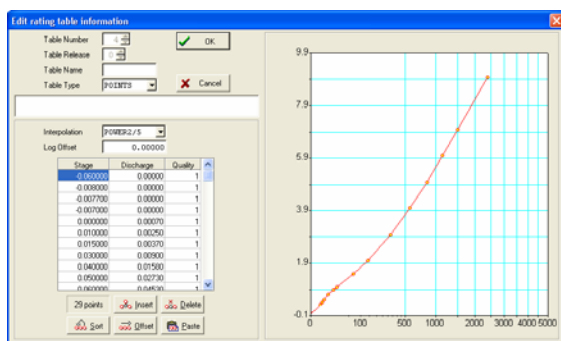
intervals. There is an “across” style report (just like HYRATAB), and also a “down” style report – which can report several variable conversions, one column for each VarTo.

Subvariable Keys in Variable Conversions

SubVar-keyed ratings have been available since V9.0. This feature has now been expanded, so the SUBVARKEY field of the VARCON table can now be used for some more conversion methods: trace-combination methods (ADD, SUBTRACT, MULTIPLY & DIVIDE) and rating-shift methods (TIMESHIFT, STAGESHIFT, COMBINEDSHIFT & SHIFTEDSTAGE). What this means is that you can store data at an upstream and downstream recorder against different subvariables, and then apply different gauge corrections, different rating tables, etc.

HYMANAGE enhancements

Rating tables, cross sections and time tables now have an “Object Editor” dialog, which brings up an easy-to-use data entry grid, along with a graphical image of the object – so you can see the effects of the data values you are typing in. We’re confident these features will make editing rating tables, cross sections and time-tables much easier.



Rating Table Editor in HYMANAGE

The rating table and cross section object editor dialogs also support copy/paste, so if you have rating or section data in a spreadsheet, you can enter it into Hydstra very easily.

There is now a sort-by-column feature in HYMANAGE - When you are in ‘browse’ mode, you can temporarily sort the displayed records by any column by simply clicking on that column’s header. The selected header cell is displayed in red to indicate this, and the temporary order will be reset if you move a “parent” record or perform a sort.

SITE	DATA	COUNT
32300	Hydstra Test Station - Composite data	Hydstra Test Station
32301	Hydstra Test Station - Composite data	Hydstra Test Station
32302	Hydstra Test Station - Composite data	Hydstra Test Station
32303	Hydstra Test Station - Composite data	Hydstra Test Station
32304	Hydstra Test Station - Composite data	Hydstra Test Station
32305	Hydstra Test Station - Composite data	Hydstra Test Station
32306	Hydstra Test Station - Composite data	Hydstra Test Station
32307	Hydstra Test Station - Composite data	Hydstra Test Station
32308	Hydstra Test Station - Composite data	Hydstra Test Station
32309	Hydstra Test Station - Composite data	Hydstra Test Station
32310	Hydstra Test Station - Composite data	Hydstra Test Station
32311	Hydstra Test Station - Composite data	Hydstra Test Station
32312	Hydstra Test Station - Composite data	Hydstra Test Station
32313	Hydstra Test Station - Composite data	Hydstra Test Station
32314	Hydstra Test Station - Composite data	Hydstra Test Station
32315	Hydstra Test Station - Composite data	Hydstra Test Station
32316	Hydstra Test Station - Composite data	Hydstra Test Station
32317	Hydstra Test Station - Composite data	Hydstra Test Station
32318	Hydstra Test Station - Composite data	Hydstra Test Station
32319	Hydstra Test Station - Composite data	Hydstra Test Station
32320	Hydstra Test Station - Composite data	Hydstra Test Station
32321	Hydstra Test Station - Composite data	Hydstra Test Station
32322	Hydstra Test Station - Composite data	Hydstra Test Station
32323	Hydstra Test Station - Composite data	Hydstra Test Station
32324	Hydstra Test Station - Composite data	Hydstra Test Station
32325	Hydstra Test Station - Composite data	Hydstra Test Station
32326	Hydstra Test Station - Composite data	Hydstra Test Station
32327	Hydstra Test Station - Composite data	Hydstra Test Station
32328	Hydstra Test Station - Composite data	Hydstra Test Station
32329	Hydstra Test Station - Composite data	Hydstra Test Station
32330	Hydstra Test Station - Composite data	Hydstra Test Station
32331	Hydstra Test Station - Composite data	Hydstra Test Station
32332	Hydstra Test Station - Composite data	Hydstra Test Station
32333	Hydstra Test Station - Composite data	Hydstra Test Station
32334	Hydstra Test Station - Composite data	Hydstra Test Station
32335	Hydstra Test Station - Composite data	Hydstra Test Station
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32338	Hydstra Test Station - Composite data	Hydstra Test Station
32339	Hydstra Test Station - Composite data	Hydstra Test Station
32340	Hydstra Test Station - Composite data	Hydstra Test Station
32341	Hydstra Test Station - Composite data	Hydstra Test Station
32342	Hydstra Test Station - Composite data	Hydstra Test Station
32343	Hydstra Test Station - Composite data	Hydstra Test Station
32344	Hydstra Test Station - Composite data	Hydstra Test Station
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32346	Hydstra Test Station - Composite data	Hydstra Test Station
32347	Hydstra Test Station - Composite data	Hydstra Test Station
32348	Hydstra Test Station - Composite data	Hydstra Test Station
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32351	Hydstra Test Station - Composite data	Hydstra Test Station
32352	Hydstra Test Station - Composite data	Hydstra Test Station
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32362	Hydstra Test Station - Composite data	Hydstra Test Station
32363	Hydstra Test Station - Composite data	Hydstra Test Station
32364	Hydstra Test Station - Composite data	Hydstra Test Station
32365	Hydstra Test Station - Composite data	Hydstra Test Station
32366	Hydstra Test Station - Composite data	Hydstra Test Station
32367	Hydstra Test Station - Composite data	Hydstra Test Station
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32370	Hydstra Test Station - Composite data	Hydstra Test Station
32371	Hydstra Test Station - Composite data	Hydstra Test Station
32372	Hydstra Test Station - Composite data	Hydstra Test Station
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32378	Hydstra Test Station - Composite data	Hydstra Test Station
32379	Hydstra Test Station - Composite data	Hydstra Test Station
32380	Hydstra Test Station - Composite data	Hydstra Test Station
32381	Hydstra Test Station - Composite data	Hydstra Test Station
32382	Hydstra Test Station - Composite data	Hydstra Test Station
32383	Hydstra Test Station - Composite data	Hydstra Test Station
32384	Hydstra Test Station - Composite data	Hydstra Test Station
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32386	Hydstra Test Station - Composite data	Hydstra Test Station
32387	Hydstra Test Station - Composite data	Hydstra Test Station
32388	Hydstra Test Station - Composite data	Hydstra Test Station
32389	Hydstra Test Station - Composite data	Hydstra Test Station
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32397	Hydstra Test Station - Composite data	Hydstra Test Station
32398	Hydstra Test Station - Composite data	Hydstra Test Station
32399	Hydstra Test Station - Composite data	Hydstra Test Station
32400	Hydstra Test Station - Composite data	Hydstra Test Station

Sorting by column in HYMANAGE

Site List Expressions

ACTIVE() produces a list of sites where the new ACTIVE column in the SITE table is true. This lets you exclude historical sites that are no longer being monitored.

ORGCODE() returns a list of sites registered against a specific orgcode (another column in SITE), which is useful if you are maintaining data for multiple organisations.

REGION() is not new, but since it now exists we no longer need to maintain the REGION groups in the GRPKEYS, GRPVALS and GRPLISTS tables. Since those groups don’t need to be updated anymore, things will run faster for many clients!

OPEN() returns a list of all sites that have no CEASE date in the SITE table, and are thus considered “open”.

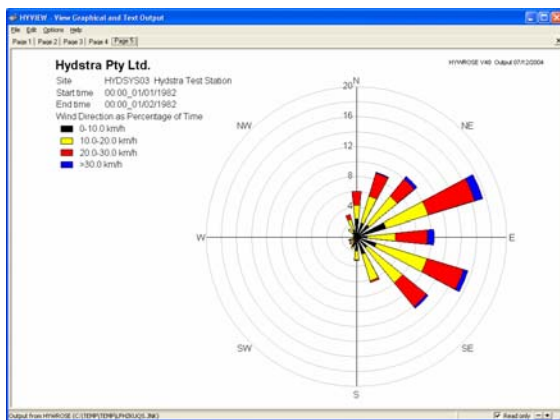
PERLLIST() lets you write a Perl job that creates a site list, and then use it from within a site list expression.

Enhancements to Analysis Applications

HYDAY and HYTAB now both have “Wet Days” summaries, where you control the threshold rainfall total for a day to be considered wet.

HYRINT produces statistical summaries for the events extracted for each duration, and you can also control the decimals and rounding used when printing out values.

HYWROSE has a “composite” wind rose plot, which is like the “percentage of time” plot, except that the “bars” are sub-categorised by velocity range. You can specify the velocity range breakdown in the new HYWROSE.INI file, along with the colours for each range.



New Wind Rose Plot

Reworking HYIMPEXP, getting rid of the GUID columns, rework of JOURNAL

It is fair to say that we have not been entirely happy with the GUID-based date-based transfer system.

The new design enhances the usability of Date Based Transfers (DBT) by reducing the number of journal transactions to feasible limits, at the cost of having to transfer a little more data to head office each time. We also believe that it is safer.

In a date-based transfer, if **any** record in a table with a certain site ID has been modified, then **all** records from that table with that site ID are transferred. This will mean the transfer data size will be larger, but it will also mean that if anything goes wrong (a missed import at the target end, for instance) the next transfer will set things right – as long as the site is still active. This is in contrast to the previous system, where any errors would accumulate.

SVG graphics

SVG (Scalable Vector Graphics) is an XML-based format for storing vector-based graphics (i.e. graphs, traces etc). This format is compatible with web-based output, and is not “locked in” to a specific image size – you can resize the images (within reason) and get good-looking output.

Hydstra plot programs can now output SVG files directly, or you can create them by sending your output to SCR (viewing a WIP file within HYVIEW/HYXPLORE) then choosing the “Save as” menu option.

HYXPLORE and HYVIEW can now view SVG files directly, using an IE plug-in distributed by Adobe.

Mapping

MAPHYD has some new command-line switches:

You can automatically zoom into a specified location – which can be a specified latitude & longitude, a site, or a region.

You can create an image (graphics) file of the specified map and automatically close MAPHYD after writing the file – ideal for creating map images from HYBATCH.

Enhancements to Telemetry viewer:

The graphics of TELVIEW has been reworked to use our WIP graphics engine, and the settings have also been enhanced. These changes make TELVIEW more flexible, and enhance its usefulness as a quasi-realtime telemetry data viewer.

Soda Developments

Soda is the Kisters telemetry product for downloading loggers. Soda is a hardware/software combination based on Linux and standard PC hardware. We are in the process of migrating drivers from TimeStudio Scheduler to Soda, and a range of Australian loggers are already supported, including Campbell, Mace, Mindata, Unidata and Datataker (for some versions of logger hardware and software).

We recently gave a one-day Soda training course to two separate groups of users from a range of Australian agencies. A number of groups have expressed interest in Soda, and trials will be commencing shortly in a couple of agencies.



An Australian SODAcompact

As part of the integration of Soda with Hydstra we have developed a new Hydstra program HYSODA. HYSODA runs permanently, scanning for data files arriving from Soda via FTP. As soon as a file arrives

it is processed into Hydstra and the raw data saved away. Trials show that HYSODA can process a small file every second, so it should be more than up to the task. It can also deal with data arriving out of time order, a situation that has caused difficulty for some earlier telemetry projects of ours.

HYSODA is available for Hydstra versions 8.12, 9.0 and 9.1, and will of course be distributed with all future systems. Its utility is not limited to Soda, as many other telemetry systems could fairly easily be made to deliver data in a similar format to Soda.

To meet our statutory obligations with respect to electrical safety and electromagnetic interference the Kisters telemetry hardware, SODAmuni, SODAcompact and SODAmostrar must meet rules laid down by the Australian Communications Authority. The easiest way to meet these requirements was to assemble SODA hardware based on sub assemblies sourced within Australia. Following suggestions from prospective Australian and European clients SODAcompact is now in a rack mount able case to improve its compatibility with corporate telecommunications infrastructure. To date five Australian SODAcompact machines have been assembled and are undergoing final software and hardware compatibility testing.

Client Services News

Early in 2004 we installed a Hydstra system at the Nevada Irrigation District offices in Grass Valley California. Dylan Evans, Peter Heweston and Peter Taylor carried out the installation, data conversion and training over a two week period.

In May we installed Hydstra in the California Department of Water Resources. Dylan Evans and Peter Heweston carried out the installation and data conversion at the Department's office in Sacramento and a number of regional offices. As part of the installation we developed a reporting program for tidally affected rivers that reported the two daily tidal max and mins if the river was not flood affected.

Dylan Evans installed a Hydstra system at CFS Associates, a consulting firm in Sacramento.

Peter Heweston spent a couple of weeks on site in Geelong consulting with Barwon Water.

Paul Sheahan spent two months in Vietnam this year on two separate trips, assisting in a major Hydstra installation with the Department of Water Resource Management in Hanoi. The installation was part of a larger Australian aid project to assist the Vietnamese government.

Bill Steen travelled twice to Italy to install trial Hydstra installations, in preparation for full installations next year.

Peter Heweston spent some weeks in Africa and Namibia during the year carrying out consulting work.

Late in the year Dylan Evans and Paul Sheahan carried out a Hydstra installation at the Minnesota Department of Natural Resources and the Minnesota Pollution Control Agency. These agencies share a Hydstra installation running over Citrix.

Modelling Case Study

Case Study: Barwon Water, Victoria, Australia

Hydro Tasmania Consulting

Background: Barwon Water is the largest regional urban water authority in Victoria, Australia and provides quality water and sewerage services to a permanent population of 250,000 people across an area of more than 8,100 square kilometres.

Problem: To supply water to its users, Barwon Water manages a complex network of water treatment plants, pipelines, valves, storages and pumps. The short term operation (less than 7 days) of this system, especially in times of high demand and emergency breakdowns, can be complicated and involved. For operators, it can be difficult to comprehend how changes at one point in the system affect the rest of the system. Barwon Water needed a tool to allow operators to quickly examine overall system behaviour for different operation scenarios.

Solution: Hydro Tasmania Consulting developed a water balance model of the water supply system in **Hydstra/MO Network**

Modelling. The model simulates the flows of water through the system on an hourly time step, incorporating all relevant control structures and operating rules. A **User Interface** was custom-made to allow easy operation of the model and to integrate Barwon Water's existing **Hydstra/TS Database**. The software also included the ability to forecast future 7 day demand based on forecast temperature and rainfall.

The advantages of a water balance model over traditional hydraulic models is that it is much simpler to setup and maintain, more robust, runs more quickly, and does not requiring data intensive hydraulic parameters such as pipe sizes/roughness and topography.

Hydro Tasmania Consulting offers clients sustainable solutions in environment and catchment management, renewable energy and power engineering. It is our synergistic approach to projects, drawing on the expertise of consultants who specialise in a broad range of technical disciplines, which enable us to provide clients with innovative solutions such as those demonstrated in the Barwon Water Case Study.

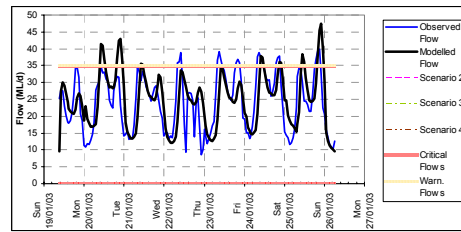
For more information on the Barwon Water Case Study or other modelling solutions please contact:

David Wilson, Catchment Solutions or
Amanda Banks, Environment, Surveys and
GIS solutions

Tel: +61 (3) 6230 5389 or 6230 5528

Fax: +61 (3) 6230 5933

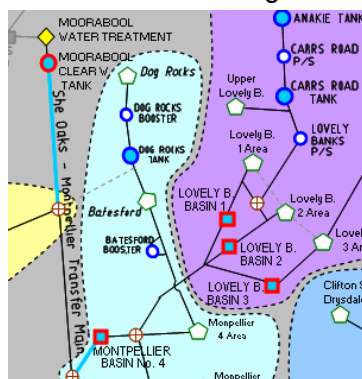
www.hydrotasmaniaconsulting.com.au



Technical Stuff

Skype Voice over IP

Kisters is now a worldwide operation, with all the associated communications costs and problems. We have started using Skype, a free Voice over IP (VOIP) product that allows you to call computer to computer anywhere in the world for free, or computer to phone for very low rates. If you have broadband connections at both end and a \$10 headset and microphone combination, Skype usually gives better than phone-quality calls at zero cost. www.skype.com.



Schematic of a Portion of Water Supply System

Seasons Greetings

As an eventful year draws to a close in Australia we are looking forward to our traditional extended Christmas and New Year holiday period. The Kisters offices in Canberra and Hobart will be closed between Dec 27 and Jan 4. The support inbox will be monitored from time to time over the holiday period, and emergency contact information will be left on our answering machine. The staff at Kisters in Australia wish you and your families an enjoyable holiday break.

Contact Information

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

Homepage: <http://www.hydstra.com>

All support and accounts questions should be directed to support@hydstra.com.

Note that all personal email addresses are at kisters.com.au, but all support email should be copied to support@hydstra.com.

Canberra Office

Unit 4, 24 Mahony Court
Weston ACT 2611

PO Box 3476
Weston Creek ACT 2611
Australia

Phone: +61 2 6288 2302
Fax: +61 2 6288 9061

Support	62882302	support@hydstra.com
Bill Steen	62882756	william.steen@kisters.com.au
Debbie Cockburn	62882024	debbie.cockburn@kisters.com.au
Paul Sheahan	62882356	paul.sheahan@kisters.com.au
Peter Heweston	62882288	peter.heweston@kisters.com.au

Hobart Office

7th Floor, 86 Collins St Hobart TAS 7001

GPO Box 1390
Hobart TAS 7001

Phone: +61 3 6234 8270
Fax: +61 3 6234 6423

Gavan Smith	62348270	gavan.smith@kisters.com.au
Trevor Magnusson	62347805	trevor.magnusson@kisters.com.au
Andrew Pratt	62348270	andrew.pratt@kisters.com.au
Ben Bildstein	62348270	ben.bildstein@kisters.com.au
Peter Taylor	62348270	peter.taylor@kisters.com.au
Will Alderton	62348270	will.alderton@kisters.com.au