GISSA -KZN
Geo - Information Society of South Africa

Dear GISSA Members

In this edition, I would like to introduce and discuss the topic of Raster Imaging Processing or RIP software. RIP is "the hardware and/or software that translates data from PostScript and other high-level languages into dots or pixels in a printer or imagesetter".[1]

So what?

Ok, so why are RIPs important to the GIS and Remote Sensing community? Well from my own experience there are several benefits of RIP software:

- They produce consistently high quality prints efficiently. (Ever had a case of "what you see" differing from what the printer produces?)
- RIP software allows one to plot files that would otherwise be too large for the printer memory to handle. This is especially true when printing maps with a satellite image backdrop. A Landsat image backdrop can produce a plot file hundreds of Megabytes in size, depending on the page dimensions and area of image plotted.
- RIP software transfers the number crunching load from the plotter to the RIP server or computer. This allows for more efficient use of your plotter, which now just prints while the server processes, queues and prioritizes the print jobs. This is very important in production type environments.
- Certain RIP software can also be used to account for the documents and maps printed. Many organizations use RIP software to account for the printer utilization, which is then used to bill the internal departments for the use of the printing services. Typical information captured by the RIP will include:
  - Who printed a drawing
  - The name of the plot file
  - How many pages were printed, date and time of job
  - How many colours were used
  - The page size
  - The paper settings that were selected (e.g. satin gloss (very expensive) vs draft bond (cheap))
  - Any ink reduction settings that were applied
- The colour of maps printed using RIP software will closely resemble those produced by publishers. This is not always the case when producing maps or documents on a local DeskJet printer using standard printer drivers.
- Many of the RIP packages create Adobe PostScript Level 1 to 3 files. What this means is that if you have the Adobe Distiller ®, you can create quality .pdf maps or documents.
- Certain RIP packages will also allow you to export PostScript files to a number of different image formats (.jpg, .tif, .bmp etc.) with excellent results.

What RIPs are out there?

I risk being shot out of the water for favouring one RIP software over another so I will mention a few that I have used or come across, and will discuss the one I use at present.

There are many RIP packages in the market. ESRI, who seem to have the lion's share of GIS software in KZN, produce several versions of an extension called ArcPress for the

1: Source: www.adobe.com/products/postscript/glossary.html, Accessed 23 August 2005.

various products ArcView, ArcGIS and ArcInfo Workstation.

I have used the ArcView 3x ArcPress extension extensively and can recommend it. When this extension is activated, it creates an Encapsulated PostScript (.eps) file of the active Layout (or map being created). It then allows this .eps file to be rasterized to a number of different graphic (e.g. .jpg or .bmp) and printer formats (e.g. pcl3, plc5, hprtl, etc.).

There are many software companies that provide RIP support for the ENCAD product line (http://www.encad.com/Support/RIP-Support/index.asp). A few years ago I saw the Encad RIP product in action at Hirt & Carter Group in Umgeni Business Park, Durban and received favourable comments on its performance and versatility.

Since we purchased a HP large format plotter, I have been using the ZEH RIP. The ZEH is more than a RIP and includes the administration tools to record information about all jobs. ZEH is extremely comprehensive and allows for maps to be printed as easily as File, Print or as complicated as setting elements such as the

- dithering[2] mode
- saturation
- gamma
- ink reduction
- plot file compression

It is extremely robust and reliable. However it takes a while to learn and understand – particularly if you are interested in fine-tuning the job for a specific reason. Very much like ESRI software, ZEH is modularized and includes a number of extensions and image conversion programs, each sold separately. ZEH can be found on the web and in my opinion, their site and online product documentation is hard to find and does not do their quality product justice.

Upcoming GIS/Remote Sensing Events

Event	Place	Date
Africa GIS Conference	CSIR ICC, Tshwane (Pretoria)	31 Oct to 4 Nov 2005

CUTTING EDGE OF SPACE CONFERENCE ON 5 OCTOBER AT THE OLD MUTUAL-MTN SCIENCE CENTRE IN UMHLANGA, KZN

Background

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Department:
Trade and Industry
REPUBLIC OF SOUTH AFRICA

science & technology
Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA

South Africa is in the process of establishing a South African Space Agency that aims to foster growth in our space industry, inspiring research and development in areas such as Science, Technology, Engineering and Maths (STEM) as well as stimulating the teaching and learning of these disciplines. The Department of Science and Technology (DST), as part of its many Frontier Science programmes, has a programme on Space Science to facilitate this process.

2 Dithering definition: To approximate a color that is not part of the current palette by combining pixels of different colors close to each other. Viewed from a distance, it gives the effect of the desired color, but viewed closely, the dots are visible. Source: www.blooberry.com/indexdot/misc/glossary.htm, Accessed 23 August 2005.

In establishing this Space Agency, South Africa has adopted a multi-pronged approach through collaborations with government departments such as the Department of Trade and Industry, Department of Communications, and Department of Education.

The establishment of the Agency will be followed by education, research and development programmes in Space Science. These will play a significant role in advancing the technical and scientific education of our nation, and empowering secondary and tertiary educators to take full advantage of the excitement that space science offers to stimulate learners and students' interest in pursuing further qualification at a graduate and post-graduate level, as well as careers in the field.

STEM education of the highest quality is therefore essential for the accomplishment of South Africa's Space Science mission. The academic engagement of students and educators in all facets of aeronautics and space exploration provides skill development and the application of STEM to real world aerospace challenges, thereby grooming the next generation of South African mathematicians, scientists and engineers.

World Space Week 2005

Every year during October a week is set aside to celebrate World Space Week. Countries throughout the world participate and are responsible for their own programmes. In South Africa we have a full programme of activities to cultivate interest in and enthusiasm about the possibilities Space Science offer.

How you can get involved

One component of our Space Science activities is a series of Cutting Edge of Space conferences to be held in Pretoria, Durban and Cape Town. A group of international experts in the field of space science from NASA, the European Space Agency, the British National Space Centre and the George Washington University will speak at these conferences.

We have pleasure in inviting you to attend the Cutting Edge of Space conference on 5 October 2005 at the Old Mutual-MTN ScienCentre in the Gateway Shopping Centre in Umhlanga. To ensure your seat, please RSVP with Collette Vosloo at collette@saasta.ac.za or fax: (012) 320-7803 by 12h00 on 30 September 2005. The conference will be held from 09:00 until 16:30.

More about the programme

The following topics will form part of the programme and time will be given for discussion and networking. A final programme will be made available closer to the time.

- Space and Education
- The role of CEOS in Education and Capacity Building for the uses of space to support societal needs.
- Space policy and the impact of space on society.
- Educating space professionals.
- Education activities of the European Space Agency / ESRIN.
- Overview of the South African Space Arena.
- The CSIR Satellite Applications Centre: Facilities, services and training programmes.

We look forward to your participation at the conference as part of the team that propels STEM education to new heights through South Africa's Space Science programme!

Some interesting news articles brought to you by Susan Smith the editor of GISCafé. (September 12 - 16, 2005.)

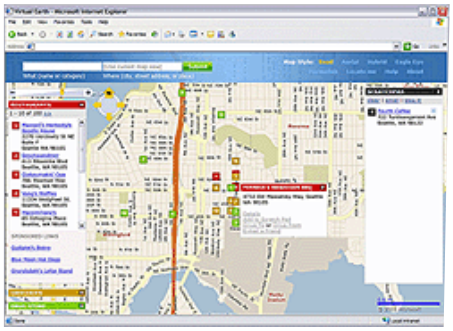
API for Virtual Earth, New Release of MapPoint Web Service Aim to Get More Eyes on Search Engines by Susan Smith

Developers have been awaiting the day when Microsoft would make available APIs for both MSN Virtual Earth and MapPoint Web Service 4.0. That day has now arrived, following closely on the heels of announcements of new developer tools for both Google Earth and GoogleMaps.

Next week at MSN's Developer Conference, new tools will be released that will allow developers to include MSN Virtual Earth and MapPoint Web Service 4.0 capabilities in their commercial applications.

MSN Virtual Earth

"Since the launch of the Virtual Earth beta in June, we've received tremendous response both from consumers as well as developers who want to include the Virtual Earth functionality in their applications," explained Trina Seinfeld, lead product manager of the MapPoint Business Group. "They want to be able to include the aerial imagery, the pan and zoom and tiling of maps, and the geographic local search capabilities - the what/where boxes, that allow people to search for specific things in a certain geography. So developers were clamoring to have access to those for their applications." In June, an API was made available to developers, but it only included the map control for the aerial imagery and maps and was only available for non-commercial use.



"From within MSN, we have our web search API that we make available for non- commercial, an API for MSN Messenger, and we have Virtual Earth API which is really designed to include new map styles and functions in applications," Seinfeld noted. "The release is an update to the API that also includes the local search capabilities - the what/where boxes - and we're extending the terms of use so developers can actually use the API for commercial applications, completely free of cost."

Microsoft and its competitors in this space have been challenged to meet developers' demands for a solution for commercial applications. Although the word "free" comes up repeatedly in this dialogue, there is a cost requirement: Microsoft requires that developers include the what/where box, which is driven by their MSN local search, "so it increases our search traffic which we have been able to monetize with advertisements," said Seinfeld.

Seinfeld summarizes the strategy as "really all about the battle for eyes on search engines. This is the step we're taking to increase the number of people that are using the local search capabilities from MSN."

- In addition to the service being free, businesses have the opportunity to make money by placing advertisements on their sites in a revenue sharing model.

- If developers and businesses do not want to utilize the geographical local search capabilities or advertising, they have the option to sign a contract with Microsoft that

gives them transactions at a low cost and a Service Level Agreement (SLA) for their MSN Virtual Earth-enhanced applications. This is the model used today for MapPoint Web Service

- Additionally, customers can utilize the MapPoint Web Service as their online mapping platform with millions of points of interest, mapping coverage for 27 countries, driving directions, numerous map styles, an SLA for enterprise reliability, and an extranet for uploading custom information.

In addition to the APIs, Microsoft has just launched a Developer Contest for the Virtual Earth API in the hopes of stimulating creative development of applications.

For more on MSN Virtual Earth see GISWeekly, June 6, 2005.

Acquisitions/Alliances/Agreements

Autodesk, Inc. announced it will provide integrated geospatial solutions with Oracle to enable customers to maximize operational efficiencies, based on a wealth of location and structural data. Autodesk will work with Oracle to market solutions in strategic markets such as government, utilities, telecommunications and transportation. The combined solutions, which include Autodesk geospatial software and Oracle database and spatial technology, offer customers the ability to create, manage, and share geographic information system (GIS) and computer automated design (CAD) data throughout the organization in a single, open, standards-based environment without costly additional investment or expertise in proprietary software and systems.

“For many organizations, the process of creating useful spatial information and maps involves the time-consuming process of requesting information, then transferring or translating it from one system or format to another,” said David Sonnen, Consultant to IDC for Spatial Information Management. “The combination of Autodesk and Oracle technology will help their customers save time and will enable broad spatial data sharing across the customer’s organization.”

Autodesk and Oracle infrastructure solutions are available immediately. For more information, contact Autodesk at Email Contact.

GEOSPATIAL companies use Katrina to extend market share!

Intergraph Corporation announced it is working with local, state and federal relief

agencies in responding to Hurricane Katrina’s devastation by way of providing technical assistance and monetary aid in support of the relief, recovery and rebuilding efforts on the U.S. Gulf Coast.

Intergraph will donate $50,000 to the American Red Cross and has also established an employee-matching fund for up to an additional $50,000 to be donated to the American Red Cross. The company is also currently working to establish an “Intergraph Charitable Foundation,” which will initially focus on providing assistance to the emergency first-responder community

engaged in relief and rebuilding efforts.

Bentley Systems, Incorporated announced that its contribution to the rebuilding after Katrina will be to "provide special assistance to architectural, engineering, and construction (AEC) firms that have been displaced by Hurricane Katrina or are contributing to rebuilding efforts in the Gulf Coast region."

What this means is that Bentley plans to make available for free whatever Bentley design software AEC firms might need to get back to work. Bentley also makes this offer to other organizations who are helping to restore infrastructure along the Gulf Coast.

The software, which includes MicroStation, and 60-day renewable licenses are available for immediate download. All that's required is the completion of a simple registration process. For details, go to the Bentley website.

Dynamix Corp., an SBA HubZone Certified Small Disadvantaged Business that specializes in providing bio/environmental, Information Technology, and GIS services to federal government entities, has sent an eight person team to New Orleans in support of Hurricane Katrina cleanup. Dynamix has been contracted by Bio-Cleaning Services of America to support the restoration of New Orleans.

Galileo Group, Inc. and Forest One, Inc. have partnered to provide assistance to government agencies and private companies attempting to recover from Hurricane Katrina. The partnership offers rapid response mapping, remote sensing and GIS services to assist with the recovery efforts. Both companies are proven providers of specialized airborne data and remote sensing services for the Department of Defense (DoD), other government agencies, and commercial clients.

Please feel free to e-mail me any news that may be of interest to our GISSA-KZN members.

No spam please!