

ERDAS Tools for Online Sharing of Geospatial Knowledge and Workflows

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ABSTRACT:

ERDAS Inc. is using e-learning and e-collaboration technologies in 2 ways:

- a) For regular communication and knowledge sharing with its worldwide customers and
- b) As commercial-off-the-shelf products (ERDAS TITAN product suite) for building instant and secure Geodata sharing and collaboration platforms.

Since mid 2008, ERDAS offers regular, free, interactive and workflow-oriented webinars to its global customers and the Geospatial community. These 1-hour events are interactive sessions based on Cisco WebEx technology, which allow various forms of interactions between presenters and the audience. ERDAS also provides a comprehensive archive of these webinars for users to access on-demand from www.erdas.com.

ERDAS TITAN is a powerful geospatial data sharing infrastructure that enables users to publish their “top drawer” data to anyone else across the network, without shipping gigabytes of data in a bandwidth intensive manner. The ability to quickly discover and visualize what collaborators within a community of interest are doing is critical for an organization to be nimble and address issues in a time dominant and secure manner. ERDAS TITAN provides a 3D virtual globe, which allows users to create content and data mash_ups that can be quickly published and viewed by others.

1. INTRODUCTION

Traditional e-learning can be regarded as online training courses that enable attendees to subscribe, read and perform their lessons and ultimately pass an exam. This is one way how e-learning can be seen.

Yet learning is also informing yourself. Information about new features from a software company for example. The way individuals inform themselves has changed quickly since the revolution of the Internet age, enabling users to utilize the latest technologies instantaneously.

A modern company providing tools to author, manage, connect and deliver geospatial information also uses the latest technologies to deliver the information on their products, as well as provide a solution to easily share and work collaboratively with geo information.

ERDAS Inc. is doing just this.

2. WEB TOOLS

For ERDAS Inc., a company providing geospatial business solutions, it is crucial to provide the latest information about their products to the users. This could be:

- Information about new releases
- Information on latest functions
- “How to use” information
- Examples and use cases
- And many more ...

The Internet makes it possible to provide information that is more complex to users. Herby, new technologies are made available and information transfer is employed.

ERDAS uses the following:

- Webinars,
- Online forums and user groups (Twitter, YouTube, LinkedIn, etc.)
- Webisodes on ERDAS TV
- Blogs
- Traditional Newsletter

All these new ways of sharing information helps to bring ERDAS, its products, and the knowledge of how to use the software to the ERADS user community.

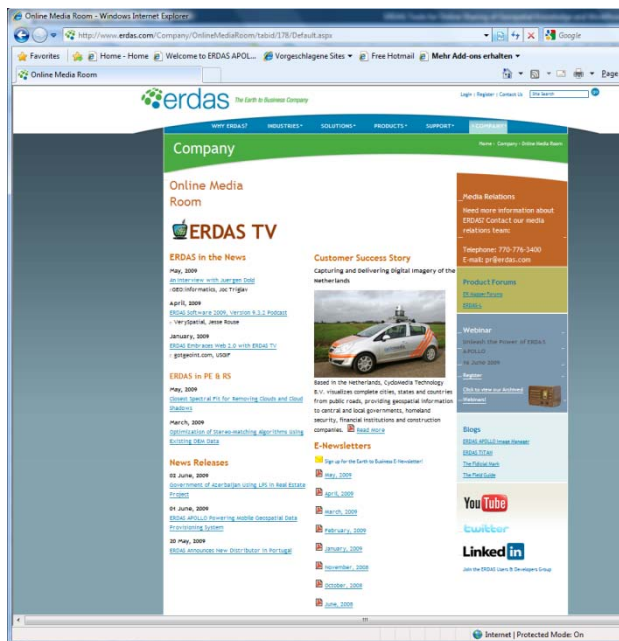
Webinars provide trainings with a two-way communication to a connected group of interested people. Typically, ERDAS uses this medium to inform their users about new functionalities or workflows. The webinars allow us to reach a much wider audience than giving live demos on site.

The online forums extend the more commonly used online newsletter allowing direct feedback from the group.

ERDAS TV brings real demos and explanations about the company, the work at ERDAS (inside look into the engineers development room) and of course information on the software products itself, about their usage and new features to the consumers.

For the major product lines, the product managers have setup blogs to inform the user community about features of interest. This could be something like tips & tricks to use the software, or even the publication of an ERDAS spatial model that can be used in ERDAS IMAGINE.

The blogs and all the other online information sources are available at one centralized location on the ERDAS website, within the online media room.



<http://www.erdas.com/Company/OnlineMediaRoom/tabid/178/Default.aspx>

2.1 Webinars, in more detail

The webinars will be described in a bit more detail, as it will show how easy it is to give and attend a live and online, remotely connected presentation or training session.

To attend an ERDAS Webinar, a user simply needs a computer and an Internet connection. The presenter will need an account at an online meeting service like CISCO

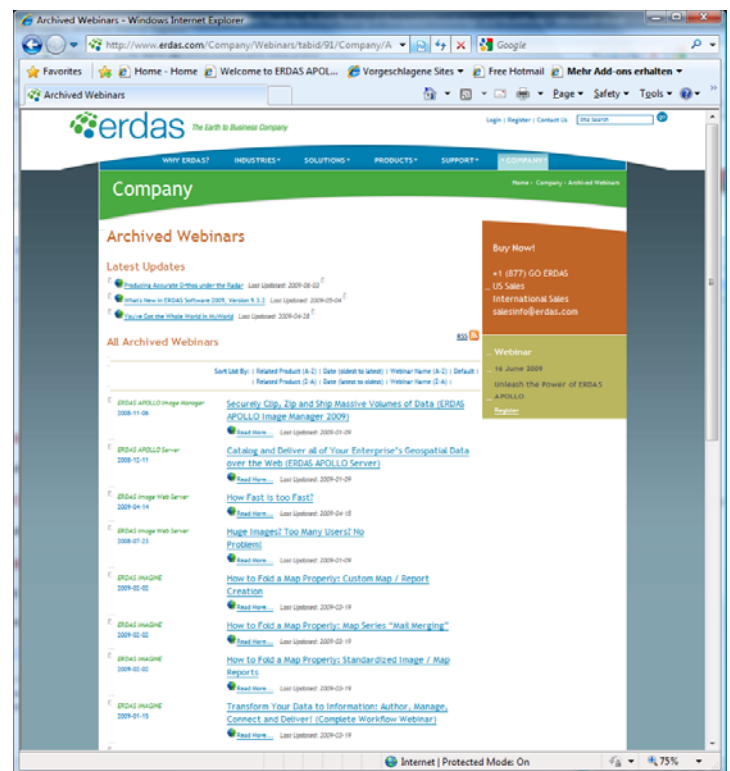
WebEx, which ERDAS is using. Cisco WebEx combines real-time desktop sharing with phone conferencing.

The host can setup an online meeting very easily in just a few minutes. He can define if a password to access the online meeting is required or if it is a public meeting. An email can be sent automatically to the invited attendees.

The attendee can just follow the link on the invitation to get to the registration site for that meeting. A registration is optional and can be defined by the host of the meeting. Contact details can for example be requested and stored to be able to address the attendees later on. After registration, the attendee just clicks on the "join the meeting" button to be placed directly in the meeting.

Depending on the settings, the host selected for voice transmittal, a notice with the details of the phone conference to be used or an integrated Voice Over IP (VOIP) option will be shown. After the user makes his choice, his name appears in the participant list along with a symbol, showing if he is using the phone line, the VOIP or if he/she is on mute.

Of course, there is an option for the host to record the session. Those that could not attend the webinar have a chance to access the recording later. ERDAS records all of its webinars. This archive can also be accessed from the ERDAS main web site.



Archived Webinars Site:

<http://www.erdas.com/Company/Webinars/tabid/91/Company/ArchivedWebinars/tabid/175/Default.aspx>

Another option during the meeting is to chat with other participants or with the host or presenter of the meeting.

Every attendee in the meeting can also be assigned as a presenter and other users can see the application or desktop, the actual presenter is going to share. This is useful if presenters are attending from different locations. This has been the case when ERDAS has presented news on the wide range of products, in which every product manager presents her/his products.

ERDAS is also using the Webex online meeting tools to work collaboratively on support cases with users of ERADS software. Seeing what the user is doing, the error message and actually accessing the remote users desktop and applications speeds up the process of solving the support case. The user is then more satisfied and can get back to processing and extracting information out of his geospatial data.

3. SHARE AND COLLABORATE IN ERDAS TITAN WORLDS

3.1 What is ERDAS TITAN?

Once the user has processed his geospatial data and has extracted additional information, he might be interested to share his information in an easy way with other users, directly from his desktop. Alternatively, he wants to work collaboratively with other users in a 3D geospatial scene by creating a mesh up and share this with other users. All this can be done very easily within ERDAS TITAN, or better in a TITAN network. By sharing this information and working on it in a collaborative environment, ERDAS TITAN can also be seen as a Geospatial “E-learning product”.

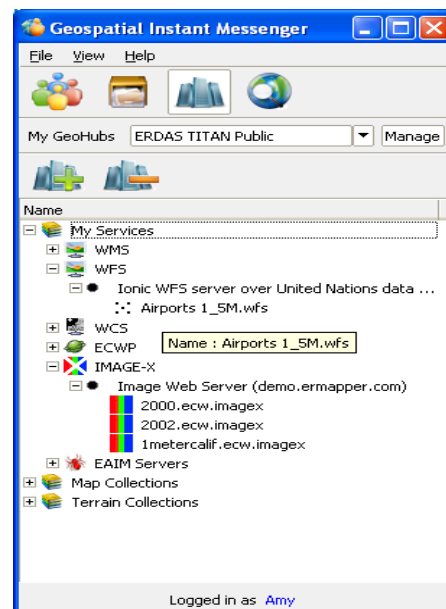
ERDAS TITAN is an innovative scalable, rapidly deployable, data sharing solution that maintains a secure environment and ensures protection of ownership rights. ERDAS TITAN empowers users and communities to share geospatial data, web services and location-based content internal and external to an organization, and to a variety of client applications. All subscribers in the ERDAS TITAN Network communicate and share data through the freely downloadable and distributable ERDAS TITAN Client. The free ERDAS TITAN Network is hosted by ERDAS Inc. and is only used for demos to show the capabilities of such a network.

The Geospatial Instant Messenger (GeoIM) enables users to chat, find, view and ultimately retrieve geospatial data and web services. TITAN enables permission-based publishing of data and content directly from desktops and laptops and ensures digital ownership rights are retained. Through the GeoIM, users publish data for others to access directly. Serving as the communication portal, the GeoIM enables authors and consumers of data to directly interact with one another. By addressing the social aspect of disaster data management, as a possible use case scenario for example, ERDAS TITAN promotes quicker decision making via

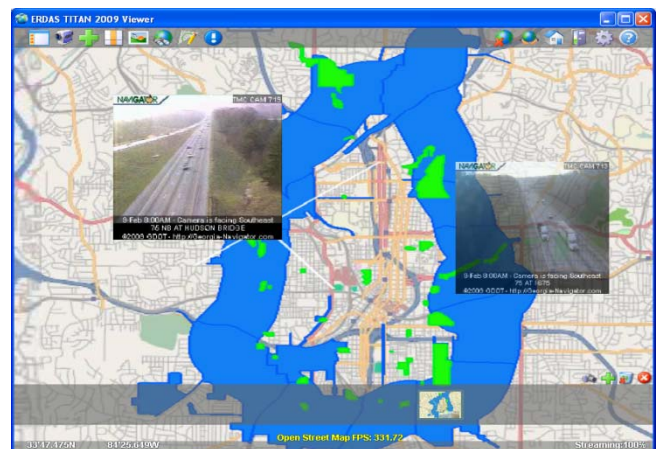
real-time communication and collaborating on projects. Using a 3D virtual globe, users can create data and content mash ups that can be quickly published and viewed by others. Users create a MyWorld, a geographically enabled personal space to upload their data, set permissions, and share content with other users in the network.

ERDAS TITAN also translates data on the fly to “view only” formats for consumption into a variety of other desktop, internet and 3D virtual globe applications.

The main two components for the user are the Geospatial Instant Messenger or ERDAS TITAN Client and the ERDAS TITAN Viewer. While the ERDAS TITAN Client acts as the “data bridge” to allow the consumption and publishing from a wide variety of data sources and formats to a wide variety of different clients, the ERDAS TITAN Viewer can be seen as the base tool to build 3-dimensional geographic scenarios and share them with their users for collaborative work.



ERDAS TITAN Geospatial Instant Messenger



ERDAS TITAN Viewer

In combination of our new technologies, ERDAS APOLLO Image Manager and ERDAS TITAN, both are tools for building SDI's and integrating with a Web based GIS into one frame work & dynamic sharing of geospatial information across the network. TITAN users can simultaneously broadcast one search query across multiple ERDAS APOLLO Image Managers, TITAN Network GeoHubs and local data. This can be done either directly from the TITAN Viewer or from the Geospatial Instant Messenger.

By using the TITAN Network, authors or owners of high-quality data can easily and securely supply their information to end users. Data consumers can readily explore data, combine information from disparate sources and view it via the applications of their choice. (Google Earth, Microsoft Virtual Earth and WMS compliant applications)

Components for a provider of an own TITAN Network, would be a TITAN GeoHub and a TITAN Master Server. The ERDAS TITAN GeoHub enables secure, permission-based data distribution for an entire organization. Organizations that employ a TITAN GeoHub and a TITAN Master Server can participate as a community on an own ERDAS TITAN Network. Multiple GeoHubs can exist in a TITAN Network. Users both internal and external to an organization may subscribe to a GeoHub, and a GeoHub Admin establishes individual and group data sharing permissions. The GeoHub is a caching proxy server: it processes requests for data from ERDAS TITAN Clients and acts as a conduit for the data flow between different users. The GeoHub also provides per-user, per-dataset security for all data shared via the GeoHub.

An ERDAS TITAN Master Server is the core of an ERDAS TITAN network solution, and is the master registry and management system. A Master Server allows you to implement a secure, autonomous network.

3.2 Workflow scenario

A possible workflow scenario, in which two or more users work collaboratively on one area of interest with different geospatial content and like that use ERDAS TITAN as a kind of e-learning solution, could be described by the following bullet point list.

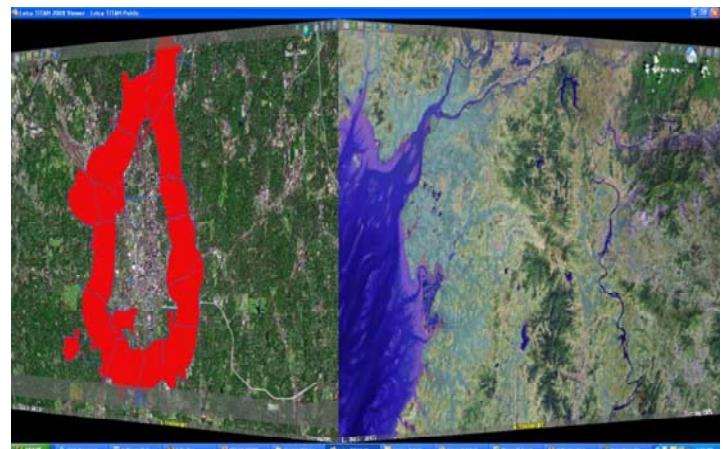
- Build a scene in the area of interest by using several imagery data of different type, format or projection
- Add terrain information to increase the resolution and accuracy of the base SRTM model provided via the ERDAS TITAN Master Server
- Add vector data, KML/KMZ models, define own symbology
- Data can also be consumed from other ERDAS TITAN users, and Web services provided through an ERDAS APOLLO solution or imagery data provided by a uniquely fast ERDAS Image Web Server

- Users build 3D interactive presentation spaces (MyWorlds) with geospatial data and location-based content and enable other users to interact in those spaces. The final scene or Mash up local data, data consumed from others, web services, location-based content can also be saved in local scene files. These local scene files can be load back into the Viewer at any time.



AN ERDAS TITAN user MyWorld Mash Up

- By switching worlds in the Viewer, the 3D globe rotates allowing you to interact, navigate and overlay local data in another user's MyWorld. Therefore, a second user can access the "MyWorld" of user A, who just created that one, can change data or add own content.



Switching to another users MyWorld

Like this, ERDAS TITAN allows in an easy and fast way to understand specific scenarios or projects easier. It helps to make decisions more efficient and helps to let remote connected people learn faster by using collaboratively geospatial information of a specific area.

For more information about ERDAS TITAN 2009 and the ERDAS TITAN Network, or to download the free ERDAS TITAN Client, please visit: www.erdas.com/TITAN .

4. CONCLUSION

There are a growing number variety of online media, sharing and collaboration options available that technology companies should utilize. Younger consumers of Internet applications learn fast and quickly adopt “Internet Tools” for sharing information. A wide user base defines a standard. A company that wants to reach the widest spread of information has to use blogs, online communities, video publishing and webinars.

The newest marketing initiative of ERDAS Inc., the ERDAS labs (<http://labs.erdas.com>), even allows the users to communicate back their ideas about, upcoming developments with the potential to influence feature development and implementation in new releases.

ERDAS TITAN is a scalable, rapidly deployable, dynamic data sharing solution, supporting data publishing and delivery into many geospatial applications. TITAN enables the data collector/creator in the field to create data, connect via air card and share data publicly or privately with thousands of other users. Publishing and accessing data with TITAN is much faster than standard, file-transfer modes, and even huge images can be quickly published, viewed and utilized by others. TITAN eliminates wasteful redundancy in data storage; data are streamed and users do not need to download files to view data.

Users consume data from a variety of public and private sources and into a variety of virtual globe, internet and rich client applications. TITAN is a “universal translator” enabling virtually any geospatial data to be published and viewed in a multitude of 2D and 3D geospatial viewers, such as Google Earth, Microsoft Virtual Earth, ERDAS IMAGINE, ArcMap, ArcGIS Explorer, MapInfo, GeoMedia, AutoCad and more.

TITAN enables near “real time” shared viewing of a common operating picture vital to effective communication during an emergency response. Users create their own “mash-ups” instantly with the ease of drag and drop. TITAN also provides a virtual globe experience where users create an interactive 3D presentation space, a ‘MyWorld’, with location-based content and geodata. With the click of a button, a MyWorld can be published to and navigated by other users on the Network. This enables multiple remote users to simultaneously view and understand the same common picture.

5. ABOUT ERDAS INC.

ERDAS – The Earth to Business Company – helps organizations harness the information of the changing earth for greater advantage. ERDAS creates geospatial business systems that transform our earth’s data into business information, enabling individuals, businesses and public agencies to quickly access, manage, process and share that information from anywhere.

Using secure geospatial information, ERDAS solutions improve employee, customer and partner visibility to information, enabling them to respond faster and collaborate better. It also means better decision-making, increased productivity and new revenue streams.

ERDAS is a part of the Hexagon Group, Sweden. For more information about ERDAS or its products and services, please call +1 770 776 3400, toll free +1 866 534 2286, or visit www.erdas.com.