

Hands-on Sessions, Classical Trainings and Other Study Forms BE Conference 2007 All About Innov

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The Bentley BE Conference 2007 was held in the state where Bentley was founded: California. For the first time this event took place in the west of the United States, but this was of no influence to the number of visitors. About 2,000 people found their way to the Convention Center in Los Angeles.

By Lambert-Jan Koops

The keynote at the first day of the conference was all about innovation. According to CEO Greg Bentley this is an aspect not only of importance to the participants of the BE Conference, but also to Bentley Systems. "This generation needs to undertake different infrastructural tasks. Because of the growth in world population and steadily increasing environmental problems changes need to take place. The problem however is that there is a shortage of well educated designers. One option is having these people work more hours, but this clearly is not the best solution. It would be better to increase productivity per person, a solution in which the software of Bentley Systems can play a role."

Greg Bentley used a simple graph to indicate why increase in productivity is an important subject for most Bentley users. Not the amount of work per hour was shown, which has in fact increased, but the commercial proceeds per working hour. Whereas in other industries this kind of proceeds has almost been doubled since 1990, its level remained the same or even went down when looking at architects and civil engineers. According to Bentley's CEO this can only be improved if changes take place in three areas. First of all architects and engineers need to make fully use of the software, naturally by following courses. Besides this compatibility and exchange within the software need to be

maximised. The third aspect is innovation, bringing about solutions that can aid the user in working more effectively.

Cooperation and Exchange

Senior VP Bhupinder Singh went further into the topic of the keynote by Greg Bentley. He informed the audience about ProjectWise Navigator, developed by Bentley Systems. This product is capable of collecting all sorts of 2D, 3D and accompanying data and will become available via a Bentley Select update released in May. Flythroughs and walk-throughs are viewing options that ProjectWise Navigator offers for studying models. The software also enables detection of collisions and errors in the model and the analysis of alterations.

For optimum communication Bentley Systems releases a free version of the product with limited functionality and aimed at viewing. This way there is no need for third parties in a project to obtain the complete software. Another point of attention was ProjectWise Passport. By using this Passport an end user can use a random version of the ProjectWise part anywhere in the world.

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Bentley Electric XM

Bentley released its comprehensive engineering design solution to advance GIS for electric utilities. The solution includes two new products: Bentley Electric XM and Bentley Expert Designer XM. Bentley's solution for electric utilities supports new levels of efficiency in managing electric distribution networks throughout the plan, design, build and operate lifecycle. Enabled with configurable business workflows, the solution helps integrate mapping, facilities management, and design with work management and asset management workflows. Users can optimize designs, specify all materials and labour required to complete work requests, and have flexibility in managing labour and materials costs, all in the context of defined

business processes.

Bentley Electric XM delivers core mapping, network documentation, facility mapping, and facility management functions. In addition, it provides feature placement, editing, and viewing, supports directional network trace and highlight, validates feature placement against configurable business rules, and enables simple service delivery. Bentley Expert Designer XM extends Bentley Electric XM to add intelligent and optimized design and integrated estimating. It features rapid rules-based placement of facilities, provides an interactive catalog with drag and drop placement, automatically assigns compatible units (standard materials and labour), and facilitates design version and cost comparisons.

Design with Attributes

Logically there was also a keynote by Keith Bentley. He claimed that the DGN file is getting more important. According to the CTO of Bentley Systems the relation between attributes and the graphic display is changing. A designer used to start with the attributes to add the graphic display later on. Nowadays it is more common to first have the design (sketch) ready which is afterwards provided with attributes. As a consequence more and more data are connected to one single project. Because an increasing amount of detail information is available the files are getting bigger and bigger. A DGN the size of a gigabyte is no longer an exception and the number of models that a single file can contain can amount to a couple of thousands. This is the reason why currently Bentley Systems focuses on supporting the 64 bit platform. At the moment MicroStation is still a 32 bit program functioning properly on a 64 bit platform, but unable to make use of the benefits speed is bringing about. Besides this Bentley Systems is exploiting the possibility of using Distributed DGN's making optimum use of the double processors present in the next generation PCs. Bentley Systems will develop extra functions for publishing models, such as 3D animations. For this reason Bentley's CTO advised the audience to pay special attention to the performance of the graphics card instead of only looking at processor speed.

And the Winners Are...

One of the well-known highlights of the BE Conference is the presentation of the BE

Awards for the most interesting projects by users of Bentley software. Thirty-one projects in the professional portion of the program received BE Awards during the BE Conference in Los Angeles. In the academic portion of the program, BE Awards went to the Educator of the Year and to the top four student designs. The independent panel of BE Awards jurors, which included accomplished Bentley users and distinguished industry experts, selected the winning projects from more than 280 nominations. During his keynote address, Bentley COO Malcolm Walter announced the winners of a special new category of BE Awards – 'Best Return on Innovation' – personally selected this year by Malcolm based on ROI data supplied by each of the nominees. The winners included: Bechtel, Dutch Ministry of Finance, GHAFARI Associates, and Kentucky Transportation Cabinet.

Which Version for Which Application?

Bentley's acquisitions and developments might make it difficult to determine which version of an application works best with a certain version of MicroStation or ProjectWise. To provide insight in the best combinations Bentley Systems is working on a so-called Compatibility Zone on Bentley's website. In due time it will be possible for an end user to enter the version of his platform to see which version of the application is compatible. And vice versa of course. Moreover Bentley Systems wants to offer a service in future whereby the customer needs to register his version of the software only once so that the software developer can take this into account when offering new versions of the software.

Code Name Athens

Most new releases by Bentley Systems are in the area of applications. However lots of work is being done regarding the platform software. Gradually the new version with code name Athens is taking shape. Some of its features are Conceptual Design, Dynamic Views and Geo Coordination.

With Conceptual Design Bentley Systems aims at the user group working with programs like Rhino and SketchUp. Though it will be possible to import the sketch mod-



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els from these packages, the company is aiming at full integration of the sketch process in the design phase.

On platform level Dynamic Views will become available within the software of Bentley Systems. These views offer different displays of the same model. This type of display is already in use in other, competitive packages for architecture and mechanics. But since this capability is also released on platform level it is also available for thematic maps and other geospatially related matters.

Bentley VP Styli Camateros showed the function Geo Coordination. First he told that there are different ways of indicating locations at this planet. There are several Geographic Coordinate Systems that contain coordinates with which a place on earth is determined. As coordinates dots are used on meridians, half circles with starting and finishing point in the Poles, and parallels of latitude which are parallel to the equator. This is a general and not perfect system for the earth. For this reason there are many variations to it. Camateros started counting and discovered over 1,000 projection methods all working in a different way.

To relate these systems Bentley Systems is working on Geo Coordination. This function enables the end user to import and export spatial data from and to WMS, Google and GPS aids after which these data are converted to the desired coordinate system. It is also possible to indicate the spatial location of objects, such as buildings and roads, so that the software fits it in the coordinate system used. This prevents a building being at the right location but facing in the wrong way because it is turned. The demonstration by Camateros

showed flats, houses and other buildings not only in the right location but also correctly positioned in relation to each other.

Geo Coordination is implemented on platform level. This means all applications are compatible without the need for an implementation in each product.

RFID and Remote Video

Bentley Systems is an R&D company and Buddy Cleveland, senior VP Applied Research, showed the activities of the enterprise in this field. Research does not only imply developing new techniques but also integrating existing techniques in areas that are relevant for Bentley Systems. An example is connecting several devices for the real-time determination of geo locations to ProjectWise. Exploiting the possibilities of RFID and remote videos on location are also currently of interest to the R&D department.

By far the most interesting thing to see was the 'digital pen and paper', still under development. The paper of this combination is provided with small dots, so-called microdots. The pen is provided with a reader so that the connected software can exactly determine the location of the pen point. When a digital drawing is printed on paper it is possible to put notes and remarks on it. These notes and remarks are registered by the software and entered in the digital version of the drawing.

Geospatial Developments

At the moment Camateros and his colleagues are in the process of developing Bentley Map. This is the follow-up of Bentley Geographics, which was the first step in the geospatial area,

but in fact nothing more than a toolkit. Bentley Map will probably be released in August and is supposed to be a real application. The databases are upwards compatible so that Geographic users can easily move over to Map. Users who like to develop can make use of Geospatial Extension, equipped with features already present in Bentley Geographics.

It is striking to see that for the development of both products the R&D departments of the Geospatial and Civil group have been merged. This is remarkable since Autodesk, an other big CAD player, decided to put Civil and Building together. According to Bentley's Civil department this has to do with the extent to which the competitive products are used. Bentley's software as such is not particularly meant for developing constructional works and other relatively small-scale objects but more related to the geo side of the story instead of building.

There is another aspect in which the way of developing changes in the world of Bentley. The third party developers will get a different task because of the features that will become available in Bentley's Geospatial suite. Instead of developing functions or building applications they will get local tasks. Not particularly the conversion of languages but adapting the workflow will get full attention. This last aspect is different for every country and demands local knowledge that can be provided by third party developers.

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