Special Offer from Esri for Carlson IntelliCAD Users

February 3, 2012
Since the focus of my class and of the NC Surveyors Show as a whole is GIS, I thought it made sense to bump the information about the free copy of Esri software to the top…

Those currently using Carlson with IntelliCAD are eligible for a new "GIS Starter Kit" from ESRI. The Kit includes:

- ArcGIS ArcView desktop software
- A copy of the book *A to Z GIS: An Illustrated Dictionary of Geographic Information Systems*
- A copy of *GIS Tutorial: Workbook for ArcView 9*, Third Edition
- A 10% discount for the ESRI Survey & Engineering GIS Summit ($325 – standard registration price)

To take advantage of the offer, call 1-800-GIS-XPRT (1-800-447-9778) and request the **Carlson-IntelliCAD GIS Starter Kit** and **please have your Carlson Serial Number available**.

You can read more about ESRI's commitment to survey and engineering services by visiting http://www.ESRI.com/engineering.

Picks and Clicks: The Key to Standardizing Annotation in CAD Files

February 3, 2012

This article originally appeared in the June 2011 issue of Professional Surveyor magazine.

Part 1

The issue of CAD standards has long been one of my pet

projects when working with clients. It’s the universal problem, as folks from every office confess that CAD standardization is either “non-existent” or, at least, “could be better.”

In my experience, the single most-intimidating aspect to developing a CAD standard is deciding how to standardize annotation in order to accommodate the multiple scale factors used in a typical plan set. Other types of sheets surveyors and civil engineers may have to produce are:

- a cover sheet (at 1:1 or no scale),
- one or more project or phase site plan sheet (at 1:50, 1:100, 1:500, 1:1000, etc.),
- plan and profile sheets (at 1:30, 1:50, etc.), and
- detail sheets (at 1:1 or no scale).

It’s not an easy issue to resolve, and CAD programs seem to vary from bad to worse in their ability to manage multiple scales within a single CAD file.

Some of the information provided here is very basic, but in my experience even long-time CAD users struggle a bit with the “under-the-hood” details about annotation sizing. So,

that being said, where should you start?

Determine the Plotted Size, Plotted Height, Plotted Distance … of Everything

The most important first step when developing a CAD standard for annotation is to determine the desired plotted size of annotation entities. And, when we discuss annotation, we must remember that this encompasses more than just text; it also means linetype patterns and dimension styles.

Here are several sample questions to ask when developing a CAD standard for annotation:

- When plotted, what is the height (in inches) of the text displaying:

– the project title in the title block?

– the road name?

– contour labels?

– property line bearings and distances?

- When plotted, how far off the property line (in inches)

should the bearing and distance label be placed?
- When plotted, what is the distance (in inches) between labels along a contour?
- When plotted, what is the length (in inches) of the arrowheads at the end of dimension objects?
- When plotted, what is the distance (in inches) that the extension line extends beyond the dimension line?
- When plotted, what is the length (in inches) of the dashes and gaps in the linetype used to show existing contours?

Overwhelmed yet? Don’t be. Once you commit to the size or height of a few entities, the rest come fairly easily just because you know that you want one entity a little smaller or a little bigger than another.

The remainder of this column covers the issue of standardizing text sizes in your CAD files. Future columns will cover the other questions relating to linetypes and dimension styles in much more detail.

Standardizing Text Sizes and Placement

Although text height can be set to any desired value, the most commonly used height for plotted text in civil/survey drawings is 0.08”. There are several other standard text styles (corresponding to the height of the plotted text), known as “Leroy,” that have been adopted from the days of hand and technical lettering. Even though the “Leroy” text style usually has a Simplex font, the naming convention is widely accepted to describe text of a specific height regardless of its font. For instance, L80 text refers to a Leroy style text that plots 0.08” high; L100 is Leroy with a plot height of 0.10”; and L200 is Leroy with a plot height of 0.20”. Other standard heights and style names are shown in **figure 1**.

Plotted Height	Leroy Name
0.040”	L40
0.050”	L50
0.060”	L60
0.080”	L80
0.100”	L100
0.120”	L120
0.140”	L140
0.175”	L175
0.200”	L200
0.240”	L240
0.290”	L290
0.350”	L350
0.425”	L425
0.500”	L500

Figure 1

L80, or text that plots 0.08” high, is generally used for basic text such as bearings and distances, contour labels, and notes. For more prominent text such as road names or parcel numbers an L150, or text plotting 0.15”, may be used.

You may be saying, “Yeah, that’s great and all, but when I enter text it asks me for the height of the text to be placed in the drawing, not its plotted height.” If you use the generic commands for placing text, that is true. However, most civil/survey programs have specialized commands for labeling that also take into account a horizontal scale that you specify independently for each drawing.

For instance, in Carlson Software or Civil 3D, you can specify program defaults so that bearing and distance labels always have a plotted height of 0.08”. Then, as each new drawing is started, you set its horizontal scale. For a drawing with a horizontal scale set to 1”=50’, the bearing and distance labels will be placed in the drawing at a height of 4.0’ (0.08 x 50 = 4.0). For a drawing with a horizontal scale set to 1”=100’, the bearing and distance labels will be placed in the drawing at a height of 8.0’ (0.08 x 100 = 8.0). The plotted height never changes.

Consider what a written standard for annotation would look like if we did not base the standard on the plotted size but on the actual drawing size of text…

- In all 50-scale drawings, bearing and distance labels

shall be placed in the drawing at 4.0’ high.
- In all 100-scale drawings, bearing and distance labels shall be placed in the drawing 8.0’ high.
- In all 50-scale drawings, all property corner labels shall be placed in the drawing 3.0’ high.
- In all 100-scale drawings, all property corner labels shall be placed in the drawing 6.0’ high.
- Unless otherwise specified, all other text in a 50-scale drawing shall be placed in the drawing 4.0’ high.
- Unless otherwise specified, all other text in a 100-scale drawing shall be placed in the drawing 8.0’ high.

Now, with the understanding that all annotation sizes must be scaled by the horizontal scale, we can simply say:

- All road names shall be L150.
- All property corner labels shall be L60.
- Unless otherwise specified, all other text shall be L80.

As you can see, because the text sizes refer to a plotted height, it makes the writing of CAD standards for annotation remarkably easier.



Figure 2

It is also important to note that, when placing text in a drawing, parameters other than text height can be adjusted to get the desired look. One of these parameters is the distance a label is placed above or below the line it labels. **Figure 2** shows a clip of the Annotate Defaults dialog box in Carlson Survey 2011.

The text height is specified using the "Text Size Scaler" value, and the distance that text is offset from the line it labels is specified by the "Text Offset Scaler." Both of these values are "plotted" distances in inches. You can also see the horizontal scale setting for the drawing. Once plotted, text placed using these settings will be 0.08" high, and it will be positioned 0.04" off the line. A good rule of thumb is to set the offset value at one half the text height.

Another example of an annotation standard that can be associated with a plotted distance is how far apart to place elevation labels along a contour. Rather than specifying that contour labels are "300' apart in a 50-scale drawing" or

“600’ in a 100-scale drawing,” your standard should state that: On the plotted sheet, contour labels shall be shown at 6” intervals along each index contour.

I hope this information has provided a good kick-start toward your CAD standardization goals and helps get you thinking in plot sizes rather than drawing sizes. As noted above, future columns will focus on other supposed standardization nightmares such as dimension styles and will also touch on some specifics of the different CAD programs. Please don’t hesitate to contact me if you have questions. I hope your summer is off to a great start!

This article originally appeared in the June 2011 issue of Professional Surveyor magazine.

Picks and Clicks: Conquer

That CAD Girl

Problem Drawings

February 3, 2012

This article originally appeared in the February 2011 issue of Professional Surveyor magazine.

While working with IntelliCAD, AutoCAD, or any other AutoCAD-based programs, we've all encountered the proverbial drawing from "you-know-where" that seems to drive us crazy from start to finish. Here I offer several tips to help you identify problems and conquer your problem drawings. I've listed these tips in the order I would apply them.

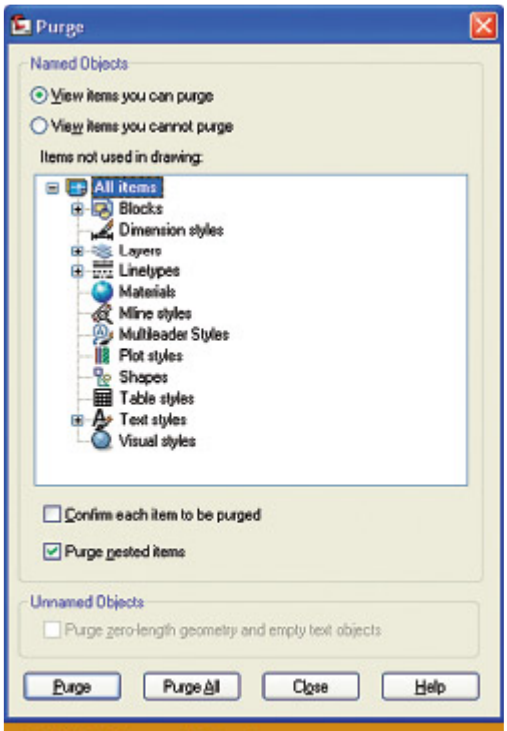


FIGURE 1: Purge dialog box

1 Purge your drawing.

The PURGE command removes any unused layers, linetypes, text styles, shapes (for linetypes and text), and many other items in the drawing.

When you run the purge command once, it will purge those items that are not currently in use and that have no other dependencies. For example, if a particular linetype definition depends on a particular shape, the purge command will delete the linetype definition only on the first pass.

Purging again will now delete the shape because the dependent linetype no longer resides in the drawing. Enabling the option to “Purge nested items” before purging will automatically execute the command repeatedly until all unused and dependent items are gone.

2 Purge remnants of registered applications that have accessed your drawing.

Typing “–PURGE” will execute the command line version of the

purge command. This version includes a few options not available from the purge dialog box.



FIGURE 2

One of the extra options is “Regapps,” which is available only from the command line version of the command. You access it by typing “R” when prompted. This option removes “leftover” data from other programs (registered applications) that have been used to work on the drawing file.

3 Audit the drawing.

The AUDIT command looks for discrepancies between the objects displayed on the screen and the objects’ definitions in the drawing file database. The command then gives you the option of correcting the errors it has found. This command can be executed only while the drawing is open and active.

4 Recover the drawing and all reference

files.

The RECOVER command is a more robust version of the audit command and can be used to open drawings that are so corrupt they cannot be opened otherwise.

Starting the recover command prompts you to browse to and select the problem drawing. If the problem drawing is already open and active, recover will prompt you to save changes before reopening the drawing and starting the recovery process.

For drawings that have attached XREFs (external references), use the RECOVERALL command to open and repair the selected drawing plus all dependent XREFs. Note that errors corrected by the audit are not saved back to the XREFs.

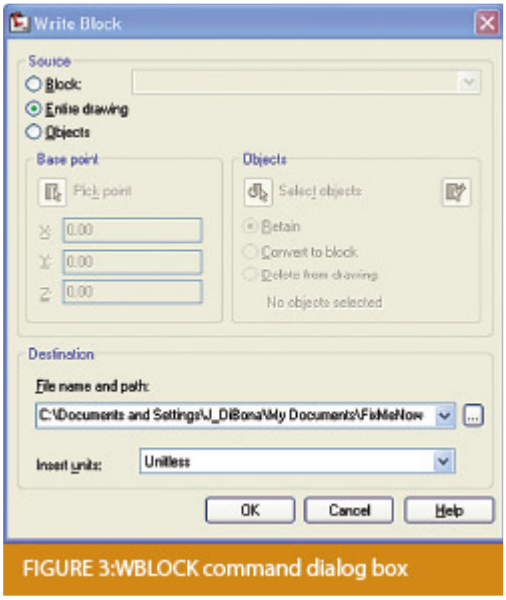


FIGURE 3:WBLOCK command dialog box

5 Block out the drawing contents to a new drawing.

If you suspect a drawing has become corrupt, you can WBLOCK the entire drawing out to another file. After starting the wblock command, set the “Source” option as “Entire Drawing” and provide the location and name for the newly created file.

Note that this command saves only Model Space entities to the new drawing. If needed, use AutoCAD Design Center to transfer

layout tabs.

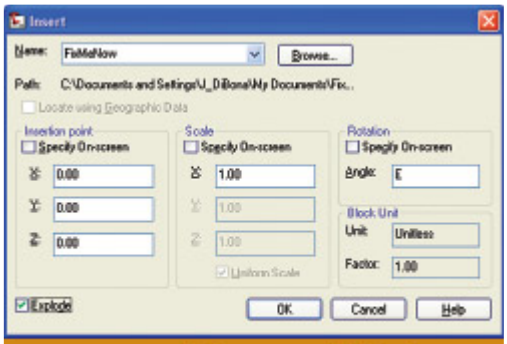


FIGURE 4: Insert Block command dialog box

6 Insert the problem drawing as a block into a new drawing.

Using the same principle as above, you can use the INSERT command to bring the Model Space contents of a problem drawing into another drawing. Doing this will reduce or eliminate corruption in the problem drawing.

Make sure to use 0,0,0 as the insertion point and set the rotation angle and scale appropriately.

As with wblock, this command saves only Model Space entities to the new drawing. If needed, use AutoCAD Design Center to

transfer Layout tabs.

7 Export drawings from vertical programs to AutoCAD.

Autodesk products such as Land Desktop or Civil 3D create program-specific, proprietary entities such as AEC Contours and AEC Point Objects. These proprietary objects can become corrupt or otherwise create problems when being accessed from standard AutoCAD or another program that doesn’t recognize the proprietary entities.

You can enter the -EXPORTTOAUTOCAD command at the command line to create a new drawing file that strips out the proprietary entities and leaves only standard AutoCAD entities. For instance, a Land Desktop or Civil 3D drawing containing AEC Contour entities will result in elevated polylines with text when exported to Autocad. And a Land Desktop or Civil 3D drawing containing AEC Point entities will result in a block with attributes when exported to AutoCAD.

Note that any AEC Objects will obviously lose their

intelligence, but the new drawing can be opened in any version of Autocad.

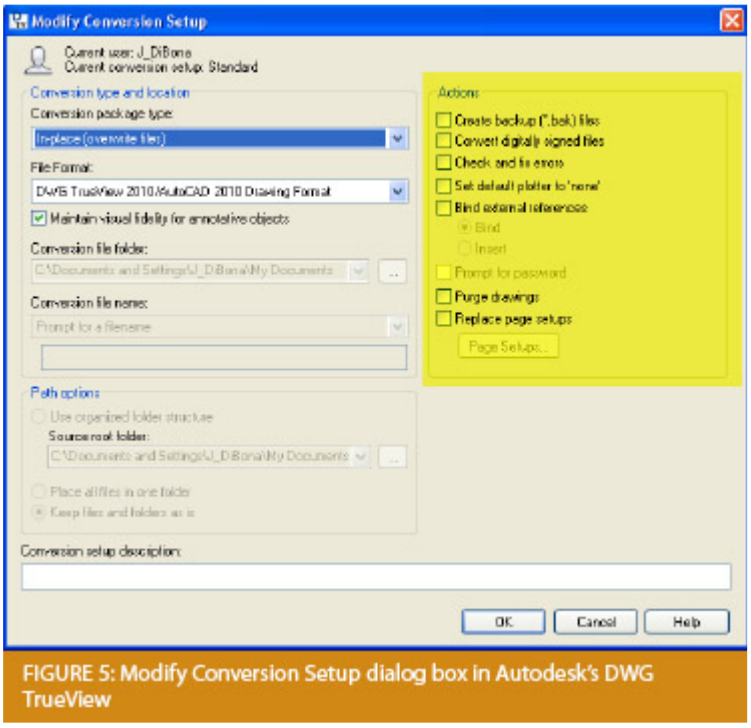


FIGURE 5: Modify Conversion Setup dialog box in Autodesk's DWG TrueView

8 Use DWG TrueView Convert to fix errors and bind XREFs.

DWG TrueView is a free program that you can download from Autodesk's website. It is most valuable for its ability to

convert drawings to earlier versions individually or in bulk. In the Conversion Setup dialog box, you can specify one or more options to clean drawings during the conversion process.

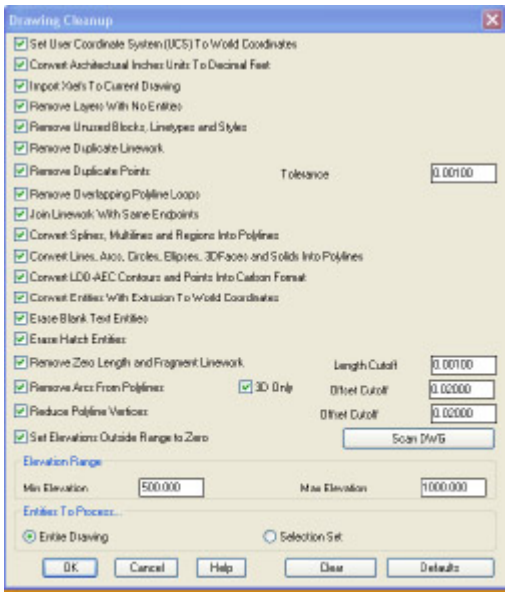


FIGURE 7: Carlson Software Drawing Cleanup dialog box

9 Use the Drawing Cleanup command in AutoCAD Map or Carlson Software.

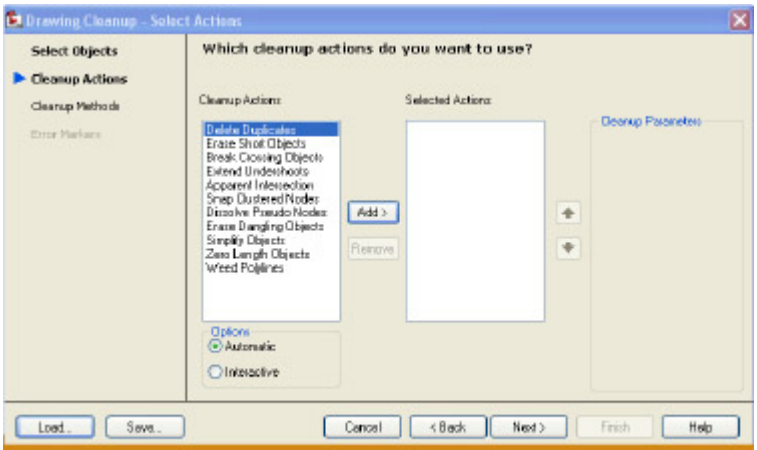


FIGURE 6: AutoCAD Map Drawing Cleanup dialog box

Both AutoCAD Map and Carlson Software provide Drawing Cleanup commands that provide a variety of cleanup tools. In either version, you have the option of performing one or more cleanup tasks on the entire drawing or on only selected entities in the drawing.

Note: Use these commands with caution and apply cleanup options incrementally to avoid making unwanted changes. Also, I recommend making a backup copy of the active drawing before performing this command.

If you use AutoCAD Map, Land Desktop, or Civil 3D, you can access the Drawing Cleanup command from Map → Tools. In

Carlson Software, access it from the File menu.

10

I've come up with 9 tips that will help you clean up and, maybe, access drawings that have become corrupt. To round out the list and make it an even 10, I'd like to hear from readers to find out what your favorite drawing recovery and cleanup tools are. Please email me at ContactUs@thatcadgirl.com and I'll report in a future column.

This article originally appeared in the February 2011 issue of Professional Surveyor magazine.

What is Carlson up to?

February 3, 2012
This is a good article about Bruce Carlson and where Carlson Software is planning to go in the future…

[Independence All the Way]

Originally posted on **Carlson Connection** by Jennifer Dibona

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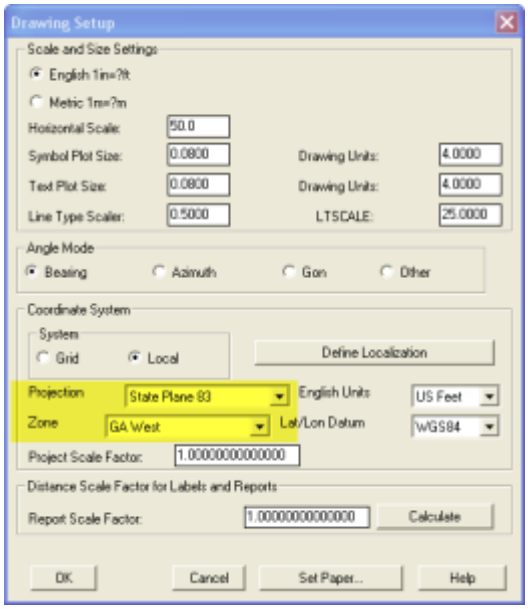
Export IntelliCAD or AutoCAD DWG files to Google Earth

February 3, 2012
I've recently started using a very cool feature in Carlson Software. The bad thing… it was in the 2009 version and I didn't even realize it!

I had no idea exporting our DWG files from IntelliCAD or AutoCAD out to Google Earth was so easy.

1. Download and install Google Earth. You can download it here: http://earth.google.com/
2. Open any one of your project DWG files that has been positioned at its correct state plane coordinate system.

3. In Carlson, go to Settings –> Drawing Setup and then select the correct **Projection** and correct **Zone** for the project site. If you're not sure of the **Projection**, try using "State Plane 83". This will work for most systems.



4. Next, go to File –> Polyline File –> Write Polyline File. When prompted for "Polyline File Format", type "G" for Google. You will be prompted to specify a new filename and save location for a "Google Earth File to Write (.kml)".
5. You will then be prompted to select the entities that are to be exported out to the .kml file and viewed in

Google Earth. After selecting the entities, press Enter. For this exercise, we only want to see the drawing entities in 2D, so press “N” for “No” when prompted to “Use elevation from drawing in Google Earth [Yes/<No>]?”

6. Finally, you are then prompted “Would you like to display the file in Google Earth now [<Yes>/No]?”. Press “Y” for “Yes”. Google Earth should automatically launch and zoom into the project location.

In the example shown below and pointed out with arrows, notice how closely the new roads and designed turn lanes match up to the existing roadway. Also, you can see the designed graded slopes perfectly avoiding the tank that is to be preserved during construction.
Not too shabby…

This feature is available in all of the Carlson Desktop products: Carlson Civil, Survey, Hydrology, Construction and TakeOff.

Look for a future post on bringing Google Earth surface data into Carlson Software. Hint: It’s easy too!

Originally posted on **Carlson Connection** by Jennifer Dibona

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The Kansas City Carlson User Group

February 3, 2012
I'm reflecting on my impressions of the inaugural meeting of the Kansas City Carlson User Group meeting held at the corporate office of Griner & Schmitz on August 20, 2009. About a dozen individuals showed up to form new business relationships with one another and draw on the strengths from their common bond.

The meeting started out with the gracious hospitality of Griner & Schmitz who hosted the event at their corporate headquarters in Kansas City. Complimentary food and beverages were aplenty and the guests quickly found themselves forming or renewing friendships with others in attendance.

After a bit of socializing, the guests were treated to a

sneak peek of Carlson SurvCE 2.5 from Carlson Software South Central Regional Sales Director Aaron Newman. Aaron demonstrated many of the new and powerful features of SurvCE and showed the attendees how to leverage the power of the Carlson Field-to-Finish routines. Throughout the presentation, one of the key benefits of a User Group is that questions posed by one individual benefits the others and attendees are generally willing to share their observations and experiences with others. After Aaron's presentation, I was given the opportunity to demonstrate some of the new features that will be released with Carlson 2010 with particular focus on surveying and the communication of information between the field and the office.

It was amazing at how quickly the two-hour meeting flew by but it is my opinion the Kansas City Carlson User Group is off to a great start. If you're in the Kansas City area in mid-October for the expected follow-up meeting, consider dropping in for some informational aspects of the products and services offered by Carlson Software. Otherwise, express your interest in forming a Carlson User Group in your region!

Originally posted on **Carlson Connection** by Ladd Nelson

BIM is not GIS

February 3, 2012
As someone quite entrenched in both disciplines (Civil and Architectural), I'll add my 2 cents worth on the BIM vs. GIS subject.

In my opinion, BIM and GIS are both "methodologies" rather than "products". The acronyms each have their own meaning and refer to designing, building, and managing information in a full life-cycle.

Each discipline has its own standards; from CAD standards to design standards (think of AIA vs. AASHTO), but both BIM and GIS rely on correct As-Built data to provide accurate information about their models.

BIM
The National BIM standard states the definition of BIM as:

"*BIM is best thought of as a digital representation of*

physical and functional characteristics of a facility…and a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle; defined as existing from earliest conception to demolition."

Autodesk has taken the BIM acronym that has provided a great deal of success with their Architectural Modelling packages and applied it to their Civil products as well. Their logic appears to be that its a "3D" product, therefore it is a "BIM" product. I believe that it is irresponsible to change terminology to simply advance product sales.

On the Autodesk Web Site, Autodesk lists a number of products as being "BIM" products:

- Revit
- Navisworks
- Design Review
- AutoCAD LT
- + several more

With the acronym meaning *Building Information Modelling* (with *building* being a *verb* **OR** a *noun*), its interesting to see products such as **AutoCAD LT** and **Design Review** being shown on

the list.

Revit
Revit is a Design Tool that allows the storage of certain pieces of information as well as the ability to add custom fields (heating capacity, cooling capacity, etc.) to the actual objects.

Navisworks
Navisworks integrates information from multiple data sources to provide a cohesive collection of information (graphics and data) to analyze things such as clash detection (HVAC duct work clashing with structural components, etc.).

AutoCAD LT
AutoCAD LT is Autodesk’s low-end design package. Apparently, any DWG file creation tool is now a BIM product as well.

Design Review
Design Review is a light-weight DWF viewer and markup tool. While it has been used as a backbone of products such as FMDesktop, its neither a Design tool, nor a Modelling tool.

FMDesktop

Absent from the list is FMDesktop. FMDesktop was one of Autodesk's tools for managing the Building Information and Autodesk just dropped the product (***Note*:** There are dozens of Facilities Managent Products available that provide similar capabilities such as FM:Systems, Archibus, Tririga, Manhattan, Cadapult, Famis, and more).

In the 2006 – 2007 time frame (when Autodesk acquired FMDesktop), Autodesk themselves showed customers Power Point slides regarding BIM. These slides showed where the "Design", "Build", and then "Operate and Manage" processes were performed. FMDesktop was Autodesk's solution to tell the story of the building lifecycle and where the *information* was to be *managed*. These were broken down into 2 sections: The "Data Collection" piece and the FMDesktop piece.

Data Collection incorporated the Design (several disciplines such as Architects, MEP Systems Engineers, and Structural Engineers) as well as the majority of the Build process. The FMDesktop piece overlapped the Build process and then took over for the "Operate and Manage" process.

In my opinion, building that model of information **AND** managing that information is the true test of a "BIM"

solution. There is no 1 product that is a “BIM” product. Its a series of technologies that are incorporated to provide the “information”.

Ultimately, a database component is required to work with the graphical representation of data (which certainly could be referred to as the “Building Model”).

GIS

GIS is BIM’s counterpart whereby Geographic (position on the planet) information is being stored and managed.

Most end users might think of GIS solutions as Google Maps or Google Earth where they can enter an address and out pops a graphic representation of that location or directions on how to get there. The graphic is just the tip of the iceberg. Without the data, the graphic would simply be a pretty picture.

Just as with BIM data, GIS data utilizes design tools to build the graphics and As-Built data and then tools to expand upon the As-Built information.

While there are a number of individual products on the market

to assist in the creation, manipulation and distribution of GIS data, a complete GIS system involves more than 1 product or techonology.

A couple of the common Design Products are: Autodesk Civil 3D and Carlson Civil Suite

AutoCAD Civil 3D
Civil 3D is an object-oriented design tool for Civil Engineering applications. Because the tool is object oriented, the end product is not easily distributable. The data can be transferred to other links in the GIS solution chain by using technologies such as LandXML, but the graphical interaction is lost in this process (i.e. the objects are lost).

Carlson Civil Suite
Carlson's Civil products work with DWG files in an AutoCAD or IntelliCAD DWG format. Because the data is stored as compatible DWG information with external data files, the data is easily transferred to other products in the GIS solution chain.

Managing the data developed in the design process is the next

component of the GIS life-cycle. A number of products provide those solutions: ESRI ArcGIS, Vueworks, and Custom Mapguide Solutions.

ESRI ArcGIS
ESRI's shp (shape) and adn (coverage) files are quite possibly the most prevalent GIS specific data files available and are often integrated in GIS solutions. ArcGIS allows GIS solutions to be deployed similar to FM solutions in the BIM world.

Vueworks
Vueworks is an organization that builds GIS and Work Management solutions using the ESRI base applications.

MapGuide
MapGuide is Autodesk's development environment to build GIS applications. It is often used in concert with ESRI, Microstation and Autodesk data files.

GIS Standard
While there is not yet a concensus on a singular GIS standard, there are independent Spatial Data Standards employed by each digester of GIS data. You can view some of

those here:

- Denver Colorodo Spatial Data Standard
- Oregon Spatial Data Standard
- Federal Geographic Data Committee

Both GIS and BIM perform very specific functions in accordance with their own disciplines. While the terminology is often mis-used, they refer to unique information systems; BIM in the structural facility world and GIS in the geographic world.

Originally posted on **Carlson Connection** by Jon Luby

Carlson Webinars – BIM, GIS and CAD Standards

February 3, 2012
Carlson Software recently asked Felicia and me to present webinars on topics we have particular interest in or

specialize in.

Felicia's webinar on BIM, GIS and Carlson Software can be viewed here: BIM, GIS and Carlson Software Webinar

My webinar on CAD Standards can be viewed here: CAD Standards for Carlson Software with AutoCAD or IntelliCAD

Originally posted on **Carlson Connection** by Jennifer Dibona

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Carlson 2010 Sneak Peek

February 3, 2012
The highly anticipated Carlson 2010 release offers clients hundreds of new or improved features from that found in Carlson 2009 and continues Carlson Software's track-record of delivering responsive solutions to client-requested technology needs.

Online Training – Friend or Foe?

February 3, 2012

With the economy what it is and everyone trying to get as much bang for their buck as possible, I'm finding that online training for your CAD software programs is an increasingly popular and cost effective option.

Although this post describes my personal approach and may be different considering your trainer, hopefully it will answer some of your questions about online training and will encourage you to give it a try.

How does it work?

There are several online services that trainers may use for online training. WebEx, GoToMeeting and GoToWebinar are all very commonly used and popular. My preference is GoToMeeting and GoToWebinar as they have a very low footprint on your computer and are simple to use. When first entering an online

meeting, a small installation of the program occurs allowing you to view and interact with the presenter's computer.

GoToMeeting is smaller scale and better for personalized training. GoToWebinar can handle up to 1,000 "attendees" and is typically used for presentation or demonstration to a large group.

Some of the online meeting services are free, but most require a monthly fee. The fee is paid by the organizer who then has the ability to schedule meetings/webinars in advance or "Meet Now" for meetings on the fly. Your organizer will either email you a link to the meeting site or can tell you the link on the phone. Each meeting has a unique "Meeting ID" that you'll enter at the main page.

GoToMeeting is typically used for standard training where more than one person may need to show their screen and/or be given control of the mouse and keyboard. This interaction can take place in a variety of ways. When in a meeting, anyone can be given (and must accept) the "Presenter" role which allows others to view their computer. And, even though the Presenter always has priority, control of the mouse movement and keyboard entry may be granted to others in the meeting.

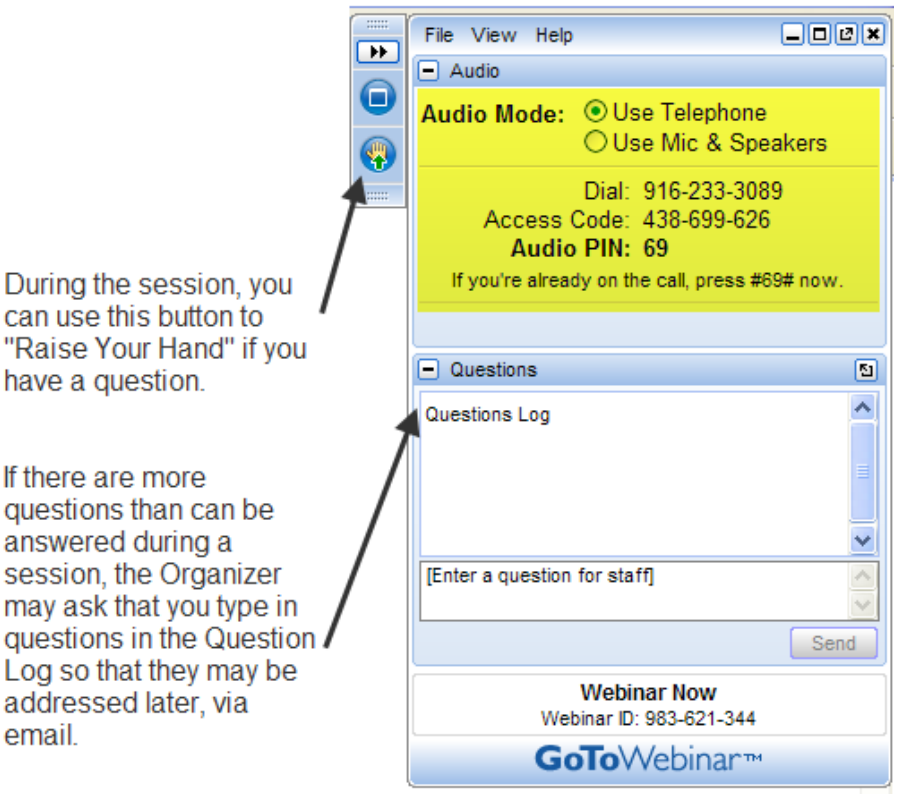
This allows someone else to work on my computer remotely.

The audio portion of the training usually takes place by calling in on a conference call line supplied by GoToMeeting. VOIP (Voice Over Internet Protocol) is also available allowing you to use your computer's speakers and microphone but it is not recommended because of quality.

GoToWebinar is used for larger scale demonstration and presentations and can accommodate up to 1,000 Attendees. Online Webinars are generally structured to have one or more Presenters making the presentation.

Like GoToMeeting, the audio portion of GoToWebinar usually takes place by calling in on a conference call line supplied by GoToWebinar. However, in a Webinar setting, the Attendees are muted automatically by the Presenter so that everyone isn't blessed with the sound of crinkling potato chip bags and elevator music when someone puts the phone on hold. The Presenter has the ability to un-mute one or more Attendees as needed. The audio of all Attendees is managed by the Presenter by having each Attendee enter a unique "Audio PIN" upon arrival.

GoToWebinar has 2 ways to ask and respond to questions from Attendees. The Control Panel has a “Raise Your Hand” button that notifies the Presenter there is a question. Depending on time constraints, the Presenter may decide to un-mute and answer the question during the online session. If there are more questions than can be answered during a session, the Organizer may ask that you type in questions in the “Questions Log” so that they may be addressed at a later time.



Pros and Cons

I've put together what I consider to be the Pros and Cons of online training for CAD Software programs. Please pitch in and offer your comments.

Pros

- Can eliminate travel time and expenses
- Very cost effective option for customized one-on-one training
- Allows for personalized, absolutely customized training because it's normally one on one.
- Can't find a local trainer? No problem. Felicia Provencal can train you from Hawai'i – although you may want to go to her!
- Can be set up within minutes if there is a pressing technical support issue or project that suddenly comes up.
- Can be scheduled in shorter blocks of time – one of the best ways to make sure you retain what you are taught. I like to schedule 2 hours maximum per session.
- Shorter blocks of time allow for easy customization of training topics from one session to the next. If more time is needed on certain features, it's easy to squeeze in another 2 hour session.
- It IS interactive!
- All sessions can be recorded and played back at your convenience for a refresher.

Cons

- Some people are more comfortable sitting beside and working directly with the trainer
- It’s less interactive than hands-on, in person training.
- For hands on training and depending on the material being covered, it may not work as well if you have several folks needing training at one time.
- Requires a high-speed connection and a telephone headset allowing two hands on keyboard. A speakerphone can be used as long as feedback doesn’t become an issue.

Real World Example

I recently worked with a client from out of state. He is a grading contractor who thought he needed Carlson TakeOff training but, after some discussion, realized training in basic CAD (IntelliCAD) needed to come first and then TakeOff training.

The initial proposal was for me to travel there and spend 3-4 days training this client plus a second person (a competitor, in this case) who needed the same training. Both of them decided to give online training a try.

We scheduled online training for every morning one week. I worked with one from 7:30 – 9:30 am and then with the other from 10:30 – 12:30 pm. After the 3rd day, we had covered so much material that one asked to skip the next day so he could work with it himself and apply what he'd learned so far.

We ended up skipping two days. By the time we met again, he'd worked with it enough and become so much more proficient with the basic CAD operation that we were able to fast-forward through the next couple sessions and started working on his current project. Another subsequent session was cancelled because the rain finally stopped!

And then a few days later, he needed to get his project finished and out to bid. So, after our first session one morning, we set up another session at 4:00 that afternoon and worked until almost 7:00 that evening.

Both customers ended up very happy with the amount of material we covered and where they were with the software when we wrapped up our regular training. They still have the video recordings of the training for their reference to go back to when needed. In the end, the cost was almost the exact same as it would have been had I fulfilled the original

proposal but they both learned and retained much more because the training was customized and personalized to their specific jobs.

Originally posted on **Carlson Connection** by Jennifer Dibona