

# IntelliCAD Webinar – Do Over

Last week I presented a webinar sponsored by Carlson Software on the topic “Updates and Overview of IntelliCAD 7”. Unfortunately we had some technical difficulties and didn’t get a complete recording to post to the Movies collection on Carlson’s website.

For those who are interested, we will be re-doing the webinar on Thursday, March 29th. By that time we expect to have additional updates and improvements to announce.

Keep an eye on this site to register for the next IntelliCAD webinar

You can register for these future webinars by clicking the link below:

- Tips and Tricks for Setting Points
- Debunking the “Carlson Isn’t Dynamic” Myth
- Carlson Annotation and Labeling

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## New Carlson Build – 120219

Carlson released a new build of their desktop software earlier this week. This includes updates to the IntelliCAD/for AutoCAD versions of Survey, Civil, Hydrology, GIS, Basic Mining, Geology, Underground Mining, Surface Mining, Natural Regrade, Field, Takeoff, Construction and Point Clouds.

To confirm your current build number, go to Help > About Carlson. You’ll see the build number on the top line of the text box.

You can download the latest full version or updates to your current installation here.

If you would like to try out any of the Carlson Software products for 30-days, email me here.

For those anxious to try out the very latest and greatest updates in the testing versions of IntelliCAD 7.1, you can also send me an email to gain access to a new blog, "The Little CAD Engine That Could", administered by Leonid Entov of Carlson Software.

Participation in the testing and access to the blog is by invitation only, so email me and I'll pass along your request.

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## Another Happy Carlson Customer

Here is a great story about another customer of mine, John Prevette with Gooden & Associates out of Hope Mills, NC, and his successful transition from Civil 3d to Carlson Civil Suite.

<http://info.carlsonsw.com/blog-1/bid/121528/Moving-to-Carlson-from-Civil-3D>

And, I know what you're thinking but the answer is "No." Carlson did not pay him to say this – I asked just to make sure! In all seriousness, it's great he was willing to be interviewed and confirm just how great a design tool Carlson is and just how quickly you're able to get up to speed.

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# Feedback from Aaron Hahn, Hahn Engineering & Consulting

I've been a little slack in requesting feedback from my customers over the past year so I was very pleased to receive the following unsolicited feedback from Aaron Hahn this week:

*I purchased the Civil Suite last month and I wanted to thank you for all your pdf tutorials you posted on your site. They have been extremely helpful and they have made the switch from Civil 3D to Carlson quick and easy.*

*I can confidently say, that I prefer this software over Civil 3D already (used Civil 3D for years)! It's faster, has more control, and is generally cleaner than Civil 3D. Clean and simple.*

*Thanks for all your help! Looking forward to getting up to speed on more of your tutorials and webinars ☐*

*Aaron Hahn  
Hahn Engineering & Consulting  
British Columbia, Canada  
Software Purchase – December 2011*

See other testimonials [here](#)

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# Carlson 2012 Updates

You can download the most recent updates to Carlson's 2012 desktop software [HERE](#)

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## End of Year Workshops – Statesville, Asheville, Wilmington and Raleigh NC

We are finally able to announce our end of year workshops for 2011. With the weather problems we encountered last year we decided to hold the events in the western end of North Carolina in November and toward the coast in December.

The cost to attend each event is \$99 and lunch is included. See below for early bird registration details for each event. NC Licensed Surveyors and Engineers will receive 8 PDH credits and all attendees will receive a certificate confirming their attendance. We will have door prizes, software giveaways and **special software or hardware pricing that is available the day of the show only.**

We will be in Statesville on Tuesday, November 15<sup>th</sup> and Asheville on Thursday November 17<sup>th</sup>. Early bird registration is \$89 through September 30<sup>th</sup>.

We will be in Wilmington on Tuesday, December 13<sup>th</sup> and Raleigh on

Thursday December 15<sup>th</sup>. Early bird registration is \$89 through October 31<sup>st</sup>.

You will be able to choose the sessions you wish to attend. This year's sessions include:

- **GIS from A to Z and Responding to GIS-related RFPs**  
presented by Janet Jackson (GIS Janet) of Intersect
- **Overview of Carlson Takeoff & Preparing Machine Control Data**  
presented by Todd Carlson of Carlson Software
- **Intro to SurvNet & Least Squares**  
presented by Donnie Stallings, the original developer of the product
- **CAD Standards Roundtable & Discussion**  
presented by Jennifer DiBona, That CAD Girl
- **CAD Tips & Tricks** and hints for sharing data with others  
presented by Jennifer DiBona, That CAD Girl
- **Overview of Carlson Software 2012** (Survey, Civil, Hydro, GIS, Point Clouds)  
presented by Scott Griffin of Carlson Software
- **Field to Finish with Carlson Survey & SurvCE and the Surveyor+ GPS System**  
presented by Butch Herter of Carlson Software and Jeremy Taylor
- **Preview of future Carlson hardware**  
presented by Butch Herter of Carlson Software and Jeremy Taylor
- **Road Design and Site Design with Carlson Civil & Hydrology**  
presented by Scott Griffin of Carlson Software

Note that all classes are not scheduled at all events and locations. See each workshop announcement for specifics. Seats are limited so register online, call 919.417.8351 or email us to

register.

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# What is LandXML?

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

The ability to import and export LandXML data has been around for quite a while, but I still get a lot of curious looks when I mention it in my training classes. So, what is it, and why should you be using it?

## What Is LandXML?

LandXML refers to a file format (.xml) containing data that has been generated from a civil engineering or land surveying software program.

If you're hearing about it for the first time and want to learn more about the uses and acceptance of the LandXML initiative, visit [www.landxml.org](http://www.landxml.org). According to their page LandXML.org in a Nutshell, "... LandXML.org is committed to providing a non-proprietary data standard (LandXML), driven by an industry consortium of partners."

Simply put, the easiest way to convert, transfer, and archive data between Civil 3D, Carlson Software, Land Desktop, Eagle Point, TerraModel, and many other programs is to use the Import from LandXML and Export to LandXML functions available in these programs. Additionally, many machine control systems allow you to import LandXML files. I am most familiar with the Carlson and Autodesk families of civil/survey programs, so most examples in

this article refer to them.

This may not be current by the time you read this article, but the list of members and participating organizations is at [www.landxml.org/org.htm](http://www.landxml.org/org.htm).

## **Why You Should Use It To Transfer Data**

The two key words in the mission statement above are “non-proprietary.” Just as we have multiple proprietary drawing file formats such as .dwg (from Autodesk’s AutoCAD-based programs) and .dgn (from Bentley’s Microstation), the files that store survey and civil data such as points, surfaces, centerlines, and profiles are unique and proprietary to their manufacturer.

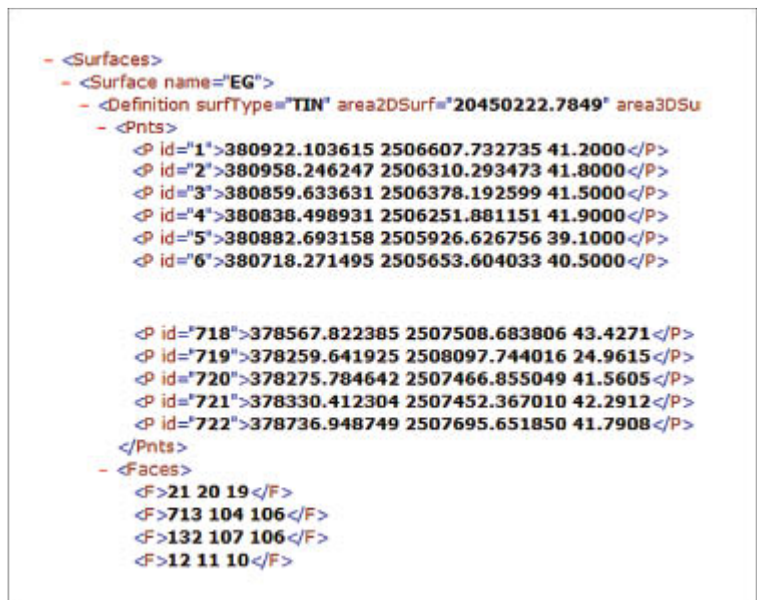
For instance, Civil 3D is the survey/civil product for Autodesk. Points and surfaces created in that program are stored inside the .dwg file. If you have Civil 3D and need to share a surface with a consultant or other team member who owns the same version of Civil 3D, you can just send them the .dwg file and they will have full access to the point and surface data. However, if you have Civil 3D and your consultant uses an earlier version of Civil 3D, Land Desktop, or Carlson Software or needs the surface data for machine control, it will not be as simple as just sharing the .dwg file.

Similarly, surfaces created in Carlson Software are saved in a .tin file and points are stored in a .crd (coordinate) file. Anyone using Carlson Software or SurvCE data collectors can load these files in their native format. But, Civil 3D or other survey/civil programs can’t access them directly.

As you probably already know, when you have to pass this data onto someone using a different program, it’s a nightmare! This is where LandXML is a lifesaver.

I like to explain that you use Land-XML files in the same way you used to rely on .dxf files. It's mostly outdated now, but a .dxf file is a generic drawing file (DXF = Drawing Interchange File) that can be exported from and imported into various CAD programs. Back in the day, AutoCAD wasn't able to read or import Microstation's .dgn files and Microstation wasn't able to read or import AutoCAD .dwg files, but both could export and read .dxf files. To get a Microstation file into AutoCAD, we had to export a .dxf file from Microstation and import it into AutoCAD and vice versa.

When you export your civil/survey data to an .xml file, it can be opened and read like a text file. Specifically, an .xml file is an .html file that is best viewed through a web browser such as Internet Explorer or Firefox. For instance, when a surface model (TIN) is exported to an .xml file, the X, Y, Z



The image shows a snippet of an XML file representing a surface model. The root element is <Surfaces>. Inside, there is a <Surface name="EG"> element. Within this surface, there is a <Definition surfType="TIN" area2DSurf="20450222.7849" area3DSu...> element. This definition contains a <Pnts> (points) section with six points, each with an id attribute and three numerical values representing X, Y, and Z coordinates. For example, point 1 has coordinates 380922.103615, 2506607.732735, and 41.2000. Below the points, there is a <Faces> section with four faces, each defined by three point IDs. For example, face 21 is defined by points 104, 106, and 132.

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- <Surfaces>
- <Surface name="EG">
- <Definition surfType="TIN" area2DSurf="20450222.7849" area3DSu...
- <Pnts>
  <P id="1">380922.103615 2506607.732735 41.2000</P>
  <P id="2">380958.246247 2506310.293473 41.8000</P>
  <P id="3">380859.633631 2506378.192599 41.5000</P>
  <P id="4">380838.498931 2506251.881151 41.9000</P>
  <P id="5">380882.693158 2505926.626756 39.1000</P>
  <P id="6">380718.271495 2505653.604033 40.5000</P>

  <P id="718">378567.822385 2507508.683806 43.4271</P>
  <P id="719">378259.641925 2508097.744016 24.9615</P>
  <P id="720">378275.784642 2507466.855049 41.5605</P>
  <P id="721">378330.412304 2507452.367010 42.2912</P>
  <P id="722">378736.948749 2507695.651850 41.7908</P>
</Pnts>
- <Faces>
  <F>21 20 19</F>
  <F>713 104 106</F>
  <F>132 107 106</F>
  <F>12 11 10</F>
```

values of each point on the TIN are assigned a number, and then each "face" (triangle) of the TIN is defined by specifying the three corners (**Figure 1**).

Another benefit of using LandXML to transfer project data is that you can be selective in choosing what project data to include in your .xml file. For instance, in the course of a design project, you may create an existing ground surface, a proposed ground surface for phase one of your project, and a proposed ground surface for phase two. You may have a consultant who needs only your proposed ground surfaces. When you export the .xml file, you have the ability to select only those



surfaces that you'd like to add to the file; it's not necessary to export them all.

## **For Project Archiving**

We've all become accustomed to saving archive copies of our drawing files for various purposes, but saving the corresponding project data such as points, point groups, surfaces, centerlines, and profiles is often overlooked. Retrieving the drawing file (.dwg or .dgn) may allow you to recover the linework that represents contours or a profile, but the underlying "surface" is lost unless the project data was also archived.

When archiving your projects at completion or even at submittal time, it is not enough to simply save a copy of the drawing file(s) for the project; you must also save a copy of the project data. At a minimum, the archive should contain the project data in its native format. In the case of Civil 3D, saving your project data in its native format means saving a copy of all .dwg files that store points, surfaces, or other data relating to your project. Saving this project data in its native format is sometimes the easiest method, but it can also create a problem with file storage because the files can become enormous.

This won't be a surprise, but even if you archive your project data in its native format, I recommend that you consider additional archiving in .xml format. This is the case whether you need to save a progress, submittal, or final archive of your data. No one knows what kind of data files we'll be using 10 or 20 years down the road, so saving your data in such a generic, text-based format such as .xml files allows for easier retrieval regardless of when you need it.

Note that, like archiving in native format, archiving to an .xml

file can also produce very large files. I still believe using the .xml format is advantageous because of the generic nature of the data and having the ability to pick and choose the data you need to archive.

I hope you've gotten some clarification on this fantastic tool we've all had for years but many of us have not taken advantage of. If you have questions, please don't hesitate to follow up.

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

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## **Upcoming Regional Training Classes – Columbus OH, Raleigh NC, Atlanta and Baltimore**

After many requests to hold training classes in different areas of the country, I've finally managed to schedule a few dates. The classes are 8 hours of hands-on training and seats are limited. Registration deadlines and pre-requisites vary for each class – Click the link below for the class announcement.

Classes include Intro to Survey, Surface Modeling, Least Squares/SurvNet, Quantity Takeoffs and Drawing Prep for Surface Modeling among others.

Call 919.417.8351 or [ContactUs@thatcadgirl.com](mailto:ContactUs@thatcadgirl.com) to register.

- May 2-3 – Columbus, Ohio
- May 16-18 – Raleigh, North Carolina

- May 23-25 – Atlanta, Georgia
  - June 1-2 – Raleigh, North Carolina
  - June 14-16 – Baltimore, Maryland
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## What is Carlson up to?

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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## Carlson Software Manuals

Looking for Carlson Software manuals? Prior to the 2010 release, Carlson included printed manuals with your purchase and, in addition, the manuals have always been available to print for yourself from the Help files.

With the 2010 release, Carlson “opened” a storefront on the self-publishing site called Lulu.com. You can order 2009 and 2010 Carlson Software manuals here <http://stores.lulu.com/carlsonsw>.

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