

Major Product Releases! New Features!

Releases for BRIDGEWare® products were recently or about to be sent out! Pontis 4.5, Pontis 5.1 and Virtis/Opis Release 6.3 include exciting new features. Some of the things to look out for:



- ◊ Web-based viewing, editing and reporting of bridge data
- ◊ Plug-in support for reports developed in either Crystal Reports or InfoMaker reports migrated from earlier versions of Pontis over the web
- ◊ New features for authoring bridge lists and filters over the web
- ◊ Enhanced features for defining security roles and bridge-level access groups
- ◊ Support for newer versions of Oracle; Microsoft SQL Server; and Microsoft Windows desktop and server operating systems
- ◊ Support for localization of screen labels and microhelp
- ◊ Functionality for determining long-term budget requirements to meet specified performance targets
- ◊ Support for linking multimedia documents (e.g., photos, sketches, and/or other documents) to bridges and bridge inspections
- ◊ Bridge inspection module.



- ◊ The addition of a new AASHTO LFR/ASR Engine with the Standard Specifications, 17th Edition. Includes detailed specification check reports.
- ◊ Selection of MBE specification edition (1st Edition through 2nd Edition)
- ◊ Upgraded LFR for floor trusses to include detailed specification check reports
- ◊ Support for Windows 7
- ◊ Support for three new cross sections for floor trusses
- ◊ Rating of corrugated metal decking
- ◊ Numerous User Group requested enhancements



- ◊ Opis Superstructure follows the same release schedule as Virtis and shares much of the same functionality, though focused on Load and Resistance Factor Design (LRFD)
- ◊ Selection of LRFD specification edition (4th Edition 2008 Interims through 5th Edition 2010 Interims)
- ◊ Shear stirrup design tool for prestress concrete beams

See the following pages for more information and a 'sneak peak' at some of these features!

Greetings from the BRIDGEWare® Task Force (BWTF)! There is a lot of excitement in the BWTF right now, and I welcome the opportunity to share the reasons for our excitement.

On the Pontis side, we have welcomed InspectTech as our developer for the new Element Inspection Module, which will incorporate the recently approved 2010 AASHTO Guide Manual for Element Level Inspection. We anticipate this module (Pontis version 5.1.2) will be available in July 2011. InspectTech will also be assisting us with Pontis support beginning July 1, 2011.

On the Virtis/Opis side, with the release of Version 6.2 in September 2010, we have completed our commitment to developing our own LRFD/LRFR analysis engine capable of analyzing all our current structure material types. With the 6.3 release anticipated for July 2011, we will include LFD/LFR analysis as well. This will allow users to continue to use the Virtis/Opis product with its own analysis engine while the Wyoming DOT begins to distribute their BRASS analysis engine as a third party product.

As is often the case, the BWTF continues to see changes in personnel as many opportunities face our talented group. Jim Ramsey is currently filling the role of BRIDGEWare® Project Manager (formerly held by Wendy Gagnier) until a replacement can be found. Beckie Curtis (Michigan DOT) and Paul Jensen (Montana DOT) have left their respective DOT's for new opportunities. The BWTF wishes Beckie and Paul the best of luck in their new endeavors and thanks them profusely for their service. In the past year, we also have had the pleasure of welcoming Mr. Joshua Sletten and Mr. Amjad

Waheed to the BWTF. Josh is a Structures Design Manager for the Utah DOT, while Amjad is an Assistant Administrator (Load Ratings and Bridge Management) for the Ohio DOT. We look forward to utilizing their professional expertise in the coming years.

With the many changes facing the BRIDGEWare® products, there are many opportunities for users to be more involved. The most important involvement is attending the products' User Group Training meetings, which are announced elsewhere in this newsletter. These meetings are great opportunities for training on the latest features, offering input in the direction of the products and to interact with other state agencies. There are also always openings on the products' Technical Advisory Groups (TAGs), which allow users to test the products and offer input on the development of the products, as well as other technical issues that often aid the Task Force. Finally, we occasionally have openings on the Task Force as well. Please look for these opportunities to participate, and if you can spare some time that ultimately helps the product, as well as your agency's implementation of the product, contact any member of the Task Force to see how you can participate!

On behalf of the BRIDGEWare® Task Force, I'd like to thank you for your support of BRIDGEWare®! We continue to strive to develop products that help your agency do its work better.

Tim Armbrecht – Illinois DOT
BRIDGEWare® Task Force Chairman

Pontis Update

The Task Force is working on a significant number of activities related to the implementation of the improved bridge management system modeling in Pontis 5.2.

New Elements

With the adoption of the new AASHTO Bridge Element Inspection Manual, one of the major milestones necessary for the implementation of Pontis 5.2 has been completed. The BRIDGEWare® Task Force has been actively working to support the implementation of these new elements on several fronts. The Task Force, working with the AASHTO SCOBs Executive Committee, received funding to develop a software utility that will assist agencies with the “migration” of existing elements information into the new bridge elements. The goal of this “Migrator” software tool is to minimize the impact of the conversion to the new elements. The Migrator software is being developed by Allen R. Marshall LLC, and is expected to be available in early June. The Migrator software is anticipated to be available from AASHTO for free and is not reliant on other AASHTO software products.

Contractor

The BRIDGEWare® Task Force awarded a contract to InspectTech in early February to modify Pontis to utilize the new element set. The Pontis 5.1.2 effort also includes a new data import export capability that will support the

relationship with the Migrator utility. InspectTech has been working hard to deliver Pontis 5.1.2 in July of 2011. Pontis 5.1.2 is being designed to display the legacy elements with full update capabilities of the new elements to ensure a smooth transition to utilizing the new Bridge Element Inspection Manual.

Pontis 5.2

As Pontis 5.1.2 approaches the testing phase, the BRIDGEWare® Task Force and InspectTech are at work developing a workplan for fiscal year 2011/12 that will begin to realize the improved modeling made possible by the improved new element inspection data and the incorporation of the multi-objective optimization concepts. The 2011/12 work plan represents the launch of Pontis 5.2 development.

All of the noted activities are being under taken with a long term vision of improving the Pontis Bridge Management System to have a more intuitive and seamless integration into the business practices of transportation agencies by extending the decision making tools available to bridge managers.

Mike Johnson
BRIDGEWare® Vice Chair

Pontis Support Center Changes

The Pontis support center will soon be transitioning from Baker to the new Pontis contractor, InspectTech. The online support center will continue in its existing JIRA software format and interface. The hosting and all content need to be moved to a new server. Steps will be taken to make this process as smooth as possible. Users familiar with the existing website should notice no changes in functionality. However, during the transition process, which will begin in mid to late June, there likely will be days when the online support software is unavailable due to the move to new servers. During this time users should utilize the existing support center phone support for any needs.

The full transition of the support center website will be completed by July 1st. Users will be able to access the new Pontis Projects page with links to the new support center website and support contact information at:
<http://www.inspecttech.com/pontis> .



Virtis Culvert

A few years ago, the Task Force inquired about the cost to incorporate a culvert analysis module into Virtis/Opis (V/O). The BRIDGEWare® Task Force had considered a couple of options at the time along with a joint development effort with the Wisconsin Department of Transportation (WisDOT). WisDOT was interested in using key components of V/O for their development of a new culvert design and rating program. Specifically, WisDOT’s interest was to incorporate the finite element engine, and the LRFD spec-check module in their development. The Task Force was interested in adding the WisDOT culvert module into V/O. Both parties agreed that this joint development effort would be beneficial for both AASHTO member agencies supporting V/O and WisDOT.

When implemented, the WisDOT Culvert will be included as an analysis engine in Virtis/Opis. The culvert add-on will increase the number of bridges Virtis/Opis will rate. While WisDOT’s original intent was to provide the culvert module with design capabilities, by pooling their resources the BRIDGEWare® Task Force and WisDOT can now provide the user community an assimilated WisDOT culvert module that will be able to provide both design and rating capabilities (when the AASHTO specification for culverts is available) with both standard and non-standard gage live loads.

Look forward to this anticipated capability being added to V/O in the 2012 release.

Virtis/Opis Top Ten List of Enhancements

Ranking	Incident	Description	Product	Status
1	9359	Point Load Capacity for Pin and Hanger	Virtis	Deferred to Future WP based on TAG discussion
2	9313	Steel channel section for exterior girders	Virtis	Considered for Future WP or for Service Unit Use
3	7688	Truss LL distribution factor	Virtis	Included in 6.3 Work Plan
4	10173	Shear Stirrup Design Wizard for Prestress	Opis	Included in 6.3 Work Plan
5	5987	Copy Columns	Opis	Considered for Future WP or for Service Unit Use
6	8494	Design Aid for Column Steel	Opis	Considered for Future WP or for Service Unit Use
7	3267	Add the ability to copy strand patterns between spans	Both	Considered for Future WP or for Service Considered for Future WP or for Service Unit Use
8	8990	Post Tension Concrete Girder	Both	Large Task - Added to Multi-year Plan
9	7280	Stage 2 uniformly distributed loads in non-composite structures	Virtis	Considered for Future WP or for Service Unit Use
10	8039	Enhancement Request -Cover Plates with Schedule Based input -steel girders	Virtis	Considered for Future WP or for Service Unit Use

W7 and 64-bit

Virtis/Opis 6.3 includes significant technological advances. For nearly a decade, Virtis/Opis has been limited to the Windows XP operating system. Recent development has positioned the software to run within the strict requirements of the Windows 7 operating system, which is gaining in popularity within DOT's. Along with Windows 7, Virtis/Opis now supports Microsoft's latest versions of the .NET framework and SQLServer.



In recent years as the demands on Virtis/Opis increased, so has the software's demand on hardware. Virtis/Opis 6.3 will be the first time AASHTO will release a 64-bit version alongside the 32-bit version of the software. The enhanced memory management features of the 64-bit version will allow the software to run more bridges with more trucks in a single batch run.

Status of Virtis Opus User Group Selected Enhancements

Shear Stirrup Design Wizard for Prestress

Virtis Opus 6.3 has a Shear Stirrup Wizard, which will compute a shear stirrup pattern for Prestressed Concrete Beams, similar to

the Shear Stud Wizard for Steel Girders. The user will be responsible for either selecting an existing stirrup definition or defining the stirrup area. The Design Tool will determine the required spacing and generate a set of stirrup ranges. The tool will use the version of the specification selected on the Member Alternative Window for specification checking. The user will input parameters to control the spacing.

Truss LL distribution factor

The Virtis Truss analysis engine in Virtis/Opis 6.3 will calculate live load distribution factors based on the geometry of the floor-system similar to how girder system live load distribution factors are calculated via the GUI.

Point Load Capacity for Pin and Hanger

To allow additional time to sort out the requirements for this enhancement the BRIDGEWare® Task Force has postponed it until the 6.4 release. The scope of the enhancement has expanded from allowing the user to enter the capacity of a pin and hanger assembly to allowing the user to define LFR, LRFD and LRFR capacities for shear and flexure at a point of interest. Currently the assemblies must be checked independently, and would not be included in automated rating analysis.

AASHTO Engines Update

Beginning July 1, 2011, BRIDGEWare will no longer provide the Wyoming BRASS analysis engines with the Virtis/Opis software. This action will make Virtis/Opis 6.3 the first version of the software that will not include the BRASS analysis engines.

The BRIDGEWare® Task Force directed Michael Baker, Jr. Inc. to enhance the default AASHTO Engines to fill the void in analysis capabilities between the AASHTO and BRASS engines. The AASHTO-owned engines now provide the same capabilities of the various BRASS engines provided in previous versions of the Virtis/Opis software. Development for the newly updated AASHTO engines focused on a strict interpretation of the:

- AASHTO Standard Specifications for Highway Bridges, 17th Edition (LFD/ASD)
- AASHTO LRFD Bridge Design Specifications 4th and 5th Editions through 2010 Interim (LRFD)
- AASHTO Manual for Bridge Evaluation 1st and 2nd Editions and Interims (LFR/ASR/LRFR)

The major analysis features added to the AASHTO engines are:

- Load Factor Rating for steel, reinforced concrete, and prestressed concrete beams
- Load Factor and Allowable Stress Rating for steel floor system and floor line structures
- Allowable Stress Rating for steel and reinforced concrete beams
- Simplified Allowable Stress Rating for non-detailed steel beams imported from BARS

The enhancements to the AASHTO engines, include state-of-the-art bridge specification checking and reporting. Special emphasis was given to enhance the reporting capabilities by consolidating tables and targeting specific reporting of values that will aid in checking hand calculations or will guide bridge designers and raters through their calculations.

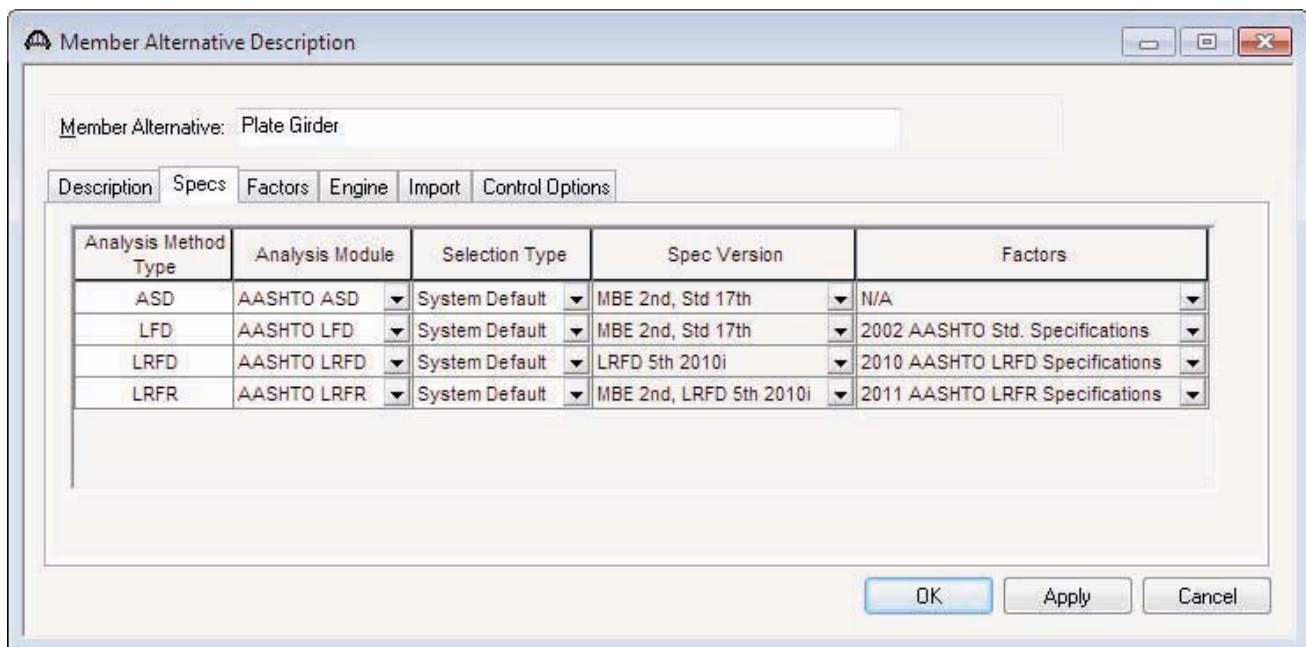
Wyoming DOT will continue to provide BRASS-LFD and BRASS-LRFD for use as third party engines. BRASS capabilities can be restored by the Transportation Agency obtaining a license from Wyoming DOT if they choose to continue to use BRASS from within Virtis/Opis. Wyoming DOT will be responsible for maintaining the software interface between Virtis/Opis and the BRASS software.

Selection of Specification Edition

Each year Virtis/Opis development includes updating the software to the current bridge design specifications. However, state transportation agencies have various needs for using updated AASHTO Bridge Design Specifications. The Task Force directed development to provide the ability for the user to select a specification year or interim desired for their analysis. This unique feature belongs exclusively to Virtis/Opis. Virtis/Opis 6.3 will include specific analysis for:

- AASHTO Manual for Bridge Evaluation First Edition (LFR/ASR/LRFR)
- AASHTO Manual for Bridge Evaluation First Edition, 2010 Interims (LFR/ASR/LRFR)
- AASHTO Manual for Bridge Evaluation Second Edition (LFR/ASR/LRFR)
- AASHTO Standard Specifications for Highway Bridges, 17th Edition (LFD/ASD)
- AASHTO LRFD Bridge Design Specifications 4th Edition, 2008 Interims (LRFD)
- AASHTO LRFD Bridge Design Specifications 4th Edition, 2009 Interims (LRFD)
- AASHTO LRFD Bridge Design Specifications 5th Edition (LRFD)
- AASHTO LRFD Bridge Design Specifications 5th Edition, 2010 Interims (LRFD)

It can be seen that the bridge designer and rater will have control over the specifications based on their state DOT's standards. For state DOTs who are considering moving to the more recent copy of a LRFD specification, they will have the tools to do comparisons between any version of the AASHTO LRFD specification from the 4th Edition (2008 Interims) to the current.



Prestress Concrete Stirrup Design Tool

Virtis Opis 6.3 includes a Shear Stirrup Wizard, which will compute a shear stirrup pattern for Prestressed Concrete Beams, similar to the Shear Stud Wizard for Steel Girders. The user will be responsible for either selecting an existing stirrup definition or defining the stirrup area. The Design Tool will determine the required spacing and generate a set of stirrup ranges from the end of a prestressed concrete beam. The tool will use the version of the specification selected on the Member Alternative Window for specification checking. The user will input parameters to control the spacing.

Enhancement includes:

- A new button has been added to the PS Shear Reinforcement Ranges window to access the wizard dialog.
- Providing a customizable set of Shear Stirrup design rules, assumptions and constraints.
- A new results dialog will present the computed shear stirrup results including required spacing, ranges, and a collection of specifications that were evaluated.
- The wizard will use the shear method selected in the Control Options of the Member Alternative/Definition window.

Project Websites

The Project websites contain additional information about BRIDGEWare® products including access to technical support, general information, downloads, helpful links to other websites including the customer support centers and access to an end user mailing list. The mailing list for each product provides end users an opportunity to subscribe to an e-mail product news service.

BRIDGEWare® product websites:

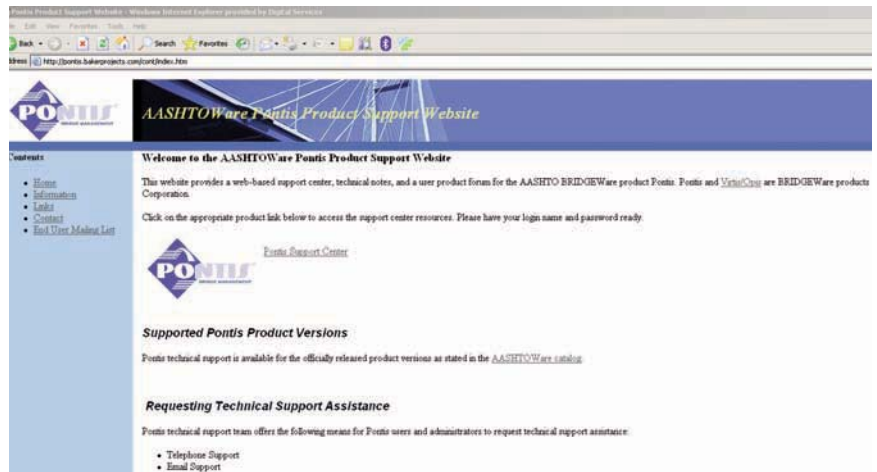
<http://aashto.bakerprojects.com/virtis>

<http://pontis.bakerprojects.com>

– through 6/30/11

<http://inspecttech.com/pontis>

– effective 7/1/11



Strategic Direction Set

Each year, the Task Force reviews and defines strategic directions for the BRIDGEWare® product suite. The long term plan for these products includes:

1. Supporting asset management
2. Enhancing decision support capabilities
3. Support agency business processes for design and preserving the bridge inventory
4. Preserving and expanding the license base
5. Enhancing usability
6. Supporting other related business processes
7. Strengthening product integration
8. Developing product technical architectures
9. Improving the software development process
10. Facilitating third-party development

Planning that is underway for both the near and long term strives to meet these goals.

Upcoming BRIDGEWare® User Group Meetings

Virtis/Opis User Group

August 2-3, 2011

Helena, MT

<http://vobug.org>

Pontis User Group

September 13-14, 2011

Clearwater Beach, FL

<http://www.pontisusergroup.org/>

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