

aspen WebModels™

A solution that enables knowledge to be fully leveraged into the innovation and engineering workflow process for optimal use across the enterprise and beyond.

An XML-based interface to Aspen Plus® that enables the publishing of pre-configured models securely on the Web to facilitate knowledge deployment and consistent, model-based business decisions.

The Challenge: Fully utilizing knowledge in increasingly complex environments

The Internet has radically changed the way that process industries communicate and conduct business. As the process industries undergo major changes through reorganization, acquisition and consolidation, companies are challenged to build a competitive advantage by retaining, leveraging and sharing knowledge and expertise across the enterprise. They are forced to conduct engineering studies faster with higher quality and reliability—typically while utilizing minimal experimental data and reduced numbers of process engineers. The integration of business workflows across business disciplines demands the use of sophisticated technologies by relatively untrained users. More people are involved in the decision-making process, including business management, marketing, financial and technical experts. Additional companies and partners are contributing to projects/products and the complexity is continually growing. There are many more alternatives to be screened, scoped, analyzed and reviewed before making final decisions.

The ability to disseminate technology to customers, partners and colleagues in a secure manner that protects proprietary expertise and intellectual property is critical in a knowledge-based economy. Business at the speed of the Internet requires:

- Instantaneous access to accurate plant data and knowledge
- Fast identification of opportunities and fast generation and assessment of engineering alternatives
- Accelerated return-on-investment and time-to-benefit from new technology

The Opportunity: Increase the value of knowledge by securely extending access across the enterprise and beyond

There is an opportunity to promote the usage of models for consistent business decisions or technology support across the entire asset optimization workflow process, throughout the enterprise and beyond with partners. By leveraging corporate process modeling knowledge, companies can respond faster to the need for new and customized products, new processes and improvements to existing processes. They can get products and processes to market faster, using less capital. High-fidelity models become available to a much wider user community without the need for expensive end user training. Collaboration becomes more efficient. Engineering studies are faster, with higher quality and reliability.

Opportunities also exist to share technology with partner companies or outside organizations, by giving access to specific variables of process models without exposing proprietary expertise. This facilitates training and gives technical support to technology licensees while protecting intellectual property.

The Solution: Encapsulating knowledge in models enhances productivity and profitability

Aspen WebModels enables companies to leverage knowledge across the asset optimization workflow throughout the enterprise and beyond, to include partners, licensees and customers. Creating and capturing knowledge in the form of models allows data to be reused across the business. Aspen WebModels facilitates reuse of these high-fidelity models by untrained users. Simulation models that were primarily the domain of design engineers now become available to business analysts and operations engineers, with solutions rapidly configured to meet their business needs.

A corporation can now define standard models that can be instantly deployed throughout the extended enterprise. Users can access these models from anywhere with complete security utilizing an Internet-connected browser. The model author develops and maintains the model, while many other users derive benefits from its value.

The use of Aspen WebModels substantially reduces the cost of ownership of using pre-configured models. Client deployment costs and user training costs are low and there are minimal requirements for client computers.

Aspen WebModels provides a way to bring tens of thousands of legacy Aspen Plus (AspenTech's process simulation solution) models forward into the Internet age. Companies have made substantial investments over the past two decades capturing their core intellectual property in the form of engineering models. Aspen WebModels enables users to unlock further value from these legacy models by making them available to a broader audience for business- and process-related decision-making.

Product Description

Aspen WebModels enables enterprise wide deployment of simulation models on the Internet or on a corporate intranet. The deployment of simulation models is role-based and makes full use of the role-based user paradigm in Aspen Framework™ (AspenTech's integration infrastructure for enterprise wide business process solutions). Users are able to log onto a Web client and browse a library of publicly or privately deployed models. Users are also able to select and run models that have been pre-configured by a model author.

Supported Models

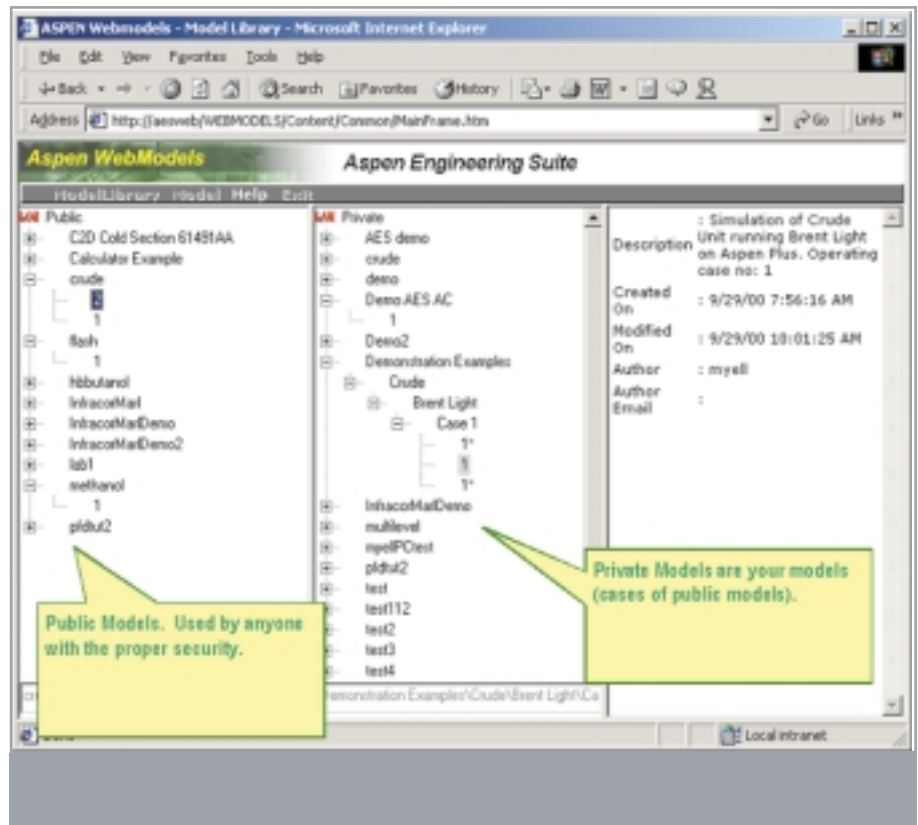
Aspen WebModels is designed to work seamlessly with identical or current versions/releases of Aspen Plus. Future versions of Aspen WebModels will support other AspenTech products.

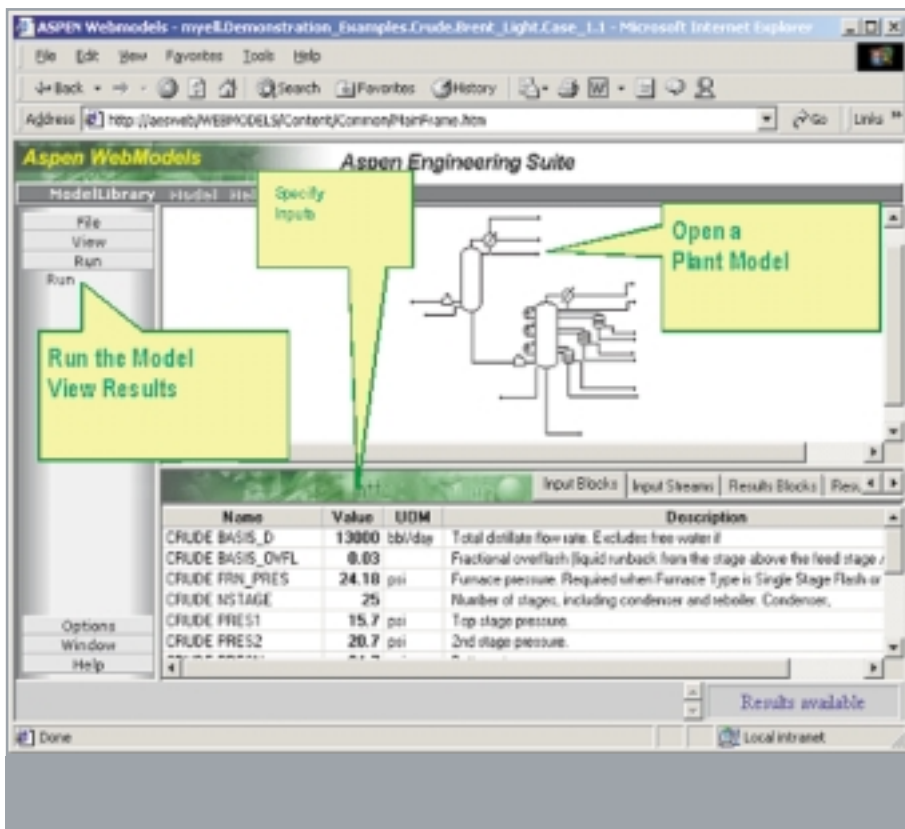
Major Components

Aspen WebModels recognizes three types of users who perform the following functions:

Administrator

- Configures roles
- Configures load balancing for calculation servers
- Manages the enterprise





Author

- Writes models
- Deploys models in Model Library

Web User

- Uses models within roles (e.g., Finance, Operations, Design)

Product Capabilities and Functionality

Aspen WebModels provides users with:

- **Web Publishing:** The ability to write a model in Aspen Plus and deploy the model on the Internet/intranet via Microsoft® IIS Web server and supporting software/hardware
- **Compliance:** Fully compliant with AspenTech XML standards
- **Security:** Fully implemented Windows NT® security to protect access to confidential data/models on the Web servers. This protection is Aspen Framework role-/user-based

- **Reliability:** Fault tolerance to protect data in the Aspen WebModels Enterprise Objects database in the event of a connection interruption or client crash, so that edits and data are not lost
- **System Integrity:** Fault detection for calculation servers' problems to prevent badly written models from being rerun so they don't sequentially bring down the enterprise system. Aspen WebModels ensures faulty models are reset by a system administrator before they can be run again on the system

Administration Tools

Aspen WebModels provides users with:

- The ability to configure an enterprise deployment system to run pre-configured Aspen Plus models across the Internet/intranet
- The ability to reconfigure the calculation servers dynamically while the enterprise system is running
- Dynamic information updates on system performance, job queue status, system status and user status

Author Tools

Aspen WebModels provides users with the ability to customize the set Aspen Plus variables that are exposed to the user based on role. Users can expose all the model variables or only a subset of key variables that the end user may change.

WebModels features include:

- Dragging and dropping of variables to be deployed to the Web client
- Configuration of Web client menus
- Configuration of flowsheet drawings, including hierarchical flowsheets
- The ability to delete/modify public or private models
- The ability to publish privately tested models

- The ability to publish a model and expose a restricted set of variables while protecting proprietary expertise and intellectual property

Web Client

Aspen WebModels provides users with:

- A model library manager that allows rapid navigation of the model library, together with selection of a model
- The ability to rapidly edit deployed variables, run the model and get the exposed results. A hierarchical grid is used for interaction with deployed variables. This grid has full sorting and arranging capabilities, together with facilities to cut and paste into other Windows® applications
- A facility to save the model within the Aspen WebModels Enterprise Objects database (if the service is exposed by the model author)
- Visualization and interaction with Aspen Plus flowsheets
- Reporting capabilities
- Automatic updating of client Aspen WebModels components from the Web server

Our Promise

Aspen WebModels helps companies like yours:

- Increase operating margins, by combining the process knowledge captured in plant models with the planning objectives of the enterprise to execute plans within optimized operating parameters
- Maximize returns on capital investments, by using analysis tools and powerful simulation tools linked with cost databases to determine optimal plant designs and capacity increases
- Reduce time to market, by providing best-in-class integrated technology
- Increase engineering productivity by 30 percent or more, by facilitating seamless data transfer and model reuse throughout the innovation and engineering workflow process
- Leverage knowledge management to stay ahead of competition, by providing knowledge capture and technology reuse across the enterprise
- Protect intellectual capital, by deploying sophisticated models to all types of users that capture the intellectual value yet protect the intellectual property

Why AspenTech?

AspenTech is the only supplier of real-time value chain management solutions and a process industry veteran with exclusive focus on the process industry for over two decades.

We have deployed solutions for 46 of the 50 largest chemical companies, 23 of the 25 largest refining companies and 18 of the 20 largest pharmaceutical companies. This experience assures customers that our Aspen ProfitAdvantage™ solution, developed in partnership with the world's leading companies, is a time-tested, best-in-class solution that provides a payback period of months, not years.

The Aspen ProfitAdvantage solution provides your company with a competitive advantage by optimizing business processes between the value chain components of demand, supply, production, assets and value chain design, while linking strategic vendors, trading partners and customers.

Hardware and Software Systems Requirements

Server

Aspen WebModels requires the prior installation of a number of AspenTech products:

- Aspen Framework v2.2
- One or more installations of Aspen Plus

The following additional software is also required:

- Microsoft® IIS Web Server 4.0 or later
- Microsoft® SQL Server™ 7.0
- Microsoft® Visual SourceSafe® 6.0 or later

Web Client

The client computers require an installation of Microsoft® Internet Explorer 5.0 or later running in a Windows NT®4.0 (SP6a), or Windows® 2000 (SP2) environment and connection to the Internet or corporate intranet by 56K modem or LAN

Author

The model author requires:

- A Wintel version of Aspen Plus installed on the author computer
- Microsoft® SQL client
- Aspen Framework's Enterprise Objects

Web Server, Calculation Server and Author Computer

For multiple instances of Aspen Plus running on the same calculation server, additional RAM, larger hard disk sizes and multi-processor CPUs will be required

- Intel® Pentium® III CPU, 500MHz or faster
- 128-256MB RAM; Servers require 256MB (512MB – 1GB for large plant models and databases)
- Up to 2GB of hard disk space depending on number of AES products (this includes 150MB of files installed to your system drive)
- Super VGA monitor with 1024 x 768 resolution; 256 colors
- Mouse or other pointing device and CD-ROM (available for installation)
- Aspen License Manager 3.0 (requires a network adapter)
- Windows NT® 4.0. or NT server 4.0 (SPa6) and Microsoft® Internet Explorer 5.0 or higher or Windows® 2000 or 2000 server, (SP2)
- Windows NT® Option pack 4.0
- Microsoft® SQL Server™ 7.0
- Microsoft® Visual Studio 6.0



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