

VEGA PRIME

DEVELOP AND DEPLOY 3D SIMULATION APPLICATIONS

VEGA PRIME BENEFITS

A flexible 3D visualization environment

Enhance the functionality available in Vega Prime to add, extend, or modify capabilities and to customize the development environment.

Support for a wide range of applications

Vega Prime's modular development environment allows you to add additional capabilities to improve the richness of your visuals and make them more realistic and engaging.

Connect and interwork without restrictions

Native support for CIGI, DIS, and all flavors of HLA across Presagis' simulation and visualization portfolio ensures connectivity to other standards-based systems.

Consistent real-time performance

With better system resources utilization, improved data management, and more effective diagnostic tools for identifying bottlenecks, Vega Primes delivers 60 Hz deterministic performance.

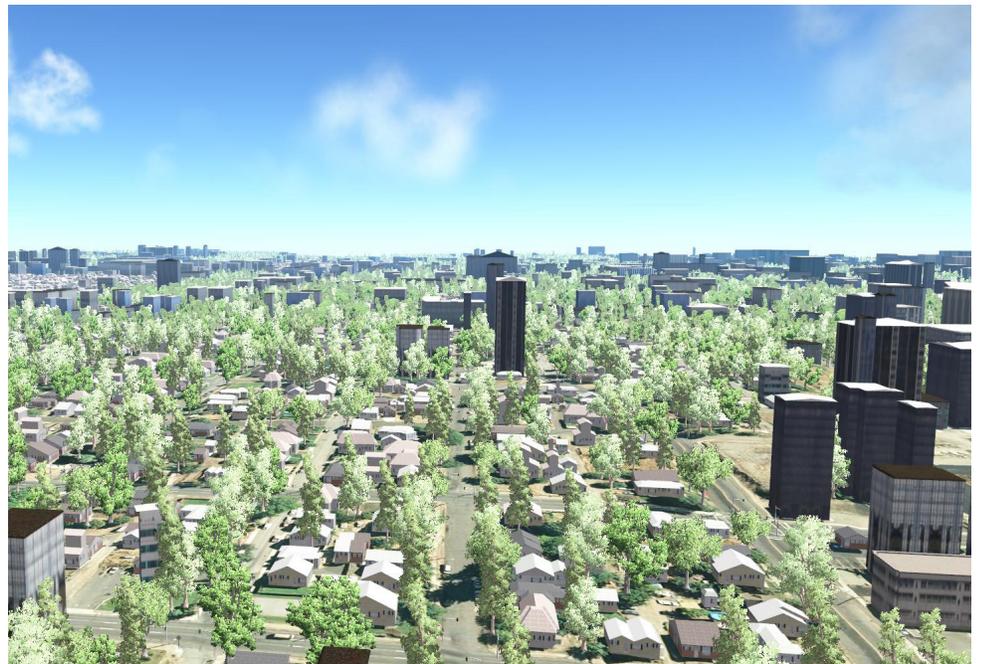
Synchronize and reuse across multiple runtime systems

Native support for a common database environment for all systems, including visualization and simulation systems, as well as other subsystems dramatically improves the maintainability and reusability of content.

An integrated development workflow for time savings

Vega prime is a core component of Presagis' integrated suite of modeling and simulation software tools, M&S Suite includes content creation, simulation, visualization, and human-machine-interface (HMI) overlays.

COMPLETE 3D VISUALIZATION SOFTWARE DEVELOPMENT TOOLKIT



Today, simulation developers and visualization specialists are challenged with creating and deploying simulation applications with a high level of visual realism and accuracy in order to produce immersive environments. These applications need to be delivered at optimal performance levels in order to achieve positive simulation results.

Presagis Vega Prime is a complete 3D visualization software development toolkit for the creation and deployment of accurate and visually-rich simulation applications. Its extendable and scalable architecture enables you to tailor your application according to the complexity of your requirements and achieve high density scenes over wide geographic areas in real-time.

VEGA PRIME FEATURES

- Large area database management for efficient paging and rendering of very large areas and areas of high resolution content.
- Support for the loading, paging, and rendering of Out-The-Window (OTW) scene content.
- The platform-independent API allows you to develop your application on one platform and deploy to other platforms with modifying any code.
- A user interface that enables the rapid prototyping and modification of parameters within an application. You can see changes and updates immediately, without having to recompile or restart the application.
- Support for CDB, OpenFlight, MetaFlight, and TerraPage database formats.



Shadows

Cloud shadows and dynamic self-shadowing of entities and objects are supported in the visual scene, as well as Night Vision Goggles (NVG), and Infrared (IR) views.



3D Clouds

Define and render of 3D cloud decks to achieve true-to-life visuals while maintaining the desired frame rate. The 3D cloud deck capability is fully configurable and supports integration into multi-channel, cross-platform, and sensor applications.



Virtual Textures

Virtual texture supports the rendering of high resolution imagery without affecting performance. To customize or enhance the visual effect, bump mapping, user defined shaders, detail texture, and hyper textures are supported.



Hyper Textures

Hyper Textures allow you to enhance the resolution and appearance of ground level imagery in a geo-specific database at runtime, without modifying the original source data.



Environment and Atmospheric Model

A sophisticated atmospheric and illumination model provides high quality visuals with no modification or updates required to the scene content.

APPLICATION-SPECIFIC MODULES

Application-specific modules provide the ability to extend and enhance the functionality within Vega Prime. Add your own functionality, or customize a series of optional modules that have already been integrated into Vega Prime. The modules enable you to develop very efficient applications, without adding any unnecessary overhead.



Vega Prime Effects

Vega Prime Effects provides you with the ability to add pre-defined or custom special effects to improve the realism of real-time 3D applications. This module provides a comprehensive range of effects, including illumination effects, explosions and debris, rotor wash, laser output, camera effects, and other special effects. Special effects are configurable and customizable to suit application requirements.



Vega Prime Sensors

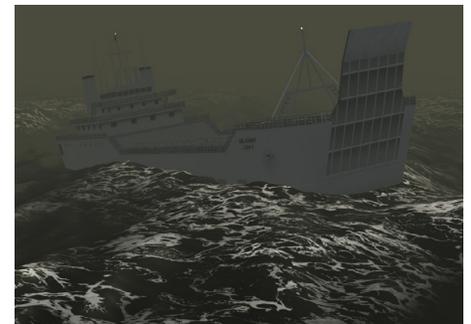
Presagis Sensor Products enable you to generate correlated and accurate infrared (IR) and night vision goggles (NVG) scenes. These modules provide the means to add accurate sensor displays to any visualization application, and are correlated with the out-the-window visual environment.

Vega Prime Multi-channel supports the combination of multiple workstations into a single, synchronized application to drive multiple displays.

DI-Guy, developed by Boston Dynamics, is an add-on module for adding lifelike human characters to real-time visual simulations. DI-Guy characters look realistic, respond to simple high-level commands, and travel about the environment.

Vortex for Vega Prime, from CMLabs, provides a complete physics-based dynamics extension for Vega Prime. It enables simulation developers to incorporate high-fidelity vehicles and objects into simulation environments.

VAPS XT for Simulation enables you to create 2D graphical overlays. Overlays can include Heads-Up displays, vehicle controls, camera controls, menu systems, and utilities.



Vega Prime Marine

The marine module allows you to realistically simulate full dynamic 3D ocean surfaces, as well as ocean vessel characteristics and effects, and shallow water behavior.



SpeedTree for Vega Prime

SpeedTree, from Interactive Data Visualization, Inc., provides the ability to define and render realistic looking vegetation in real-time. You can automatically add a high density of trees and plants, while balancing performance and realism to achieve the desired visual effect.

A SIMPLIFIED WORKFLOW USING A COMMON DATABASE ENVIRONMENT

By internally standardizing on a singular database format, you can more easily exchange and re-use databases between departments and programs, including projects with different client demands and requirements. Since all contributors use the same database, correlation errors are minimized as much as possible and updates are streamlined. In addition, longevity of the database is extended because new data and new features can be added and leveraged by future clients, without impacting the integrity of the current database.

The Presagis M&S Suite utilizes a common database (CDB) format across the modeling & simulation development workflow. CDB is unique in the industry because it is an open format, a runtime format, and a source data repository. It provides a scalable and robust modeling and simulation database structure for the elimination of redundant data, for streamlining the delivery of content, and for the rapid execution of modifications to the database.

AN END-TO-END WORKFLOW DEVELOPMENT SOLUTION

Vega Prime is part of an integrated and comprehensive suite of modeling & simulation software designed to reduce costly integration time and help speed up the application development process. Presagis is committed to the on-going integration of its suite of software tools to deliver a seamless development workflow for the modeling and simulation community.

