



PRESAGIS
| MAKE IT REAL

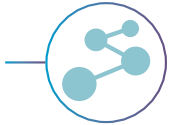
VISUALIZATION **VEGA PRIME**

ENHANCE. VISUALIZE. IMMERSE

| **Vega Prime** is a comprehensive visualization toolkit that gives integrators and simulation developers everything they need to exceed expectations

Vega Prime is a comprehensive visualization toolkit that not only lets you create and deploy game-quality visuals and electro-optical sensor views for simulations, but allows you to scale and extend the application to achieve high-density scenes across wide geographic areas in real-time.

BENEFITS



ADD, MODIFY, AND EXTEND FEATURES

Flexible architecture lets you stay current with the market's new demands and innovations.



MAINTAIN AND REUSE CONTENT ACROSS SYSTEMS

Platform independence lets you develop on one platform and deploy on another.



DESIGNED FOR TRAINING AND SIMULATION

From marine and coastal to land and air, supports true-to-life visuals with country-sized databases.



FAST, REAL-TIME PERFORMANCE

Smart resource and GPU management lets you avoid bottlenecks and diagnose problems to deliver 60Hz deterministic performance.



PRESAGIS M&S SUITE

Integration within the Presagis M&S Suite means uninterrupted workflow and collaboration in the creation of databases; from terrain and models, to simulation and visualization.

HOW VEGA PRIME HELPS

Providing an extremely flexible 3D visualization environment, Vega Prime's modular environment lets developers add or modify features, and seamlessly connect, interoperate and synchronize across systems.

Reach unprecedented levels of realism using dynamic shadows, high-resolution detail, sophisticated atmospheric models, 3D clouds, natural vegetation, and realistic night scenes with many active light sources.

Vega Prime is ideally suited for the efficient rendering of very large, high-resolution areas - from out-of-the-window content to highly realistic sensor views when combined with Ondulus-family sensors.

USEFUL TOOLS

\ LARGE AREA DATABASE MANAGEMENT

Used for efficient paging and rendering of very large areas of high-resolution content.

\ ADVANCED RENDERING

Screen Space Ambient Occlusion (SSAO) approximates the computer graphics ambient occlusion effect at runtime. Fully customizable shader pipeline provides game-quality results.

\ OTW

Support for loading, paging, and rendering of out-the-window scene content.

VEGA PRIME FEATURES

\ SPECIAL EFFECTS

Lets you 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
- Debris
- Enhanced rotor wash and downwash
- Laser output camera effects
- Missile trails

Special effects are configurable and customizable to suit application requirements.

\ MARINE

Realistically simulate fully dynamic 3D ocean surfaces, as well as ocean vessel characteristics and effects, and shallow water behavior. User-defined wave spectrum adds complexity and realism to the water's surface.

\ DYNAMIC LIGHTING AND SHADOWS

Cloud shadows and dynamic self-shadowing of entities and objects are supported in the visual scene.

\ ATMOSPHERIC MODELS

Sophisticated atmospheric scattering and illumination models provide dynamic, high-quality visuals with no modification or updates required.

\ 3D CLOUDS

Define and render unique, true 3D clouds to achieve ultra-realistic visuals. Choose from preconfigured cloud types, or create your own using a cloud creator interface complete with storm cells. Fully configurable, and supports integration into multi-channel, cross-platform, and sensor applications.

\ VEGETATION

Integration with SpeedTree and SpeedGrass, provides the ability to render realistic vegetation, foliage, and ground cover.

\ NIGHT SCENES

Render realistic night scenes with dynamic lighting, real ephemeris model as well as accurate stars and planets.

\ DEFERRED RENDERING

Render many light sources in night scenes efficiently. For example, attach headlights to moving vehicles and cast lights on the scene from runway and street lights.

\ PLATFORM-INDEPENDENT API

Develop your application on one platform and deploy to other platforms without modifying any code. Rapid prototyping and modification of parameters within an application. See changes and updates immediately. No need to recompile or restart the application.

\ MODULAR AND EXTENDABLE

Vega Prime plug-in architecture enables you to keep up with innovation and new market demands. Wide Range of Formats: Natively uses the OGC CDB standard to dramatically improve the maintainability and reusability of your content across systems. Also supported are OpenFlight, MetaFlight, and TerraPage database formats.

\ PROTOCOL SUPPORT

Native support for CIGI, DIS, and HLA ensures seamless connectivity to other standards-based systems.

FEATURE	VEGA PRIME	VEGA PRIME PRO
Active Preview	X	X
DIS/HLA/CIGI	X	X
Database Editor	X	X
Scenario Editor	X	X
Runtime Environment	X	X
OGC CDB Support	X	X
Scene Graph	X	X
Runtime System Control	X	X
Special Effects		X
FxBlade		X
Rotor Wash		X
Lasers		X
Light Lobes		X
Missile Trails		X
Particles + Dust		X
Camera Effects		X
Large Area Database Manager	X	X
LynX Prime	X	X
Wave Generator		X
Multiple Ocean Types		X
Ship Motion		X
Marine Effects		X
SpeedTree		X
SpeedGrass		X
MetaFlight Utility		X
DDS Generation Utility		X
VSB Generation		X
Grass Scatter Tool		X
Virtual Textures		X

MARINE

Included with Vega Prime Pro, Marine allows users to add realistic, dynamic water surfaces powered by GPU acceleration.

Marine provides all the necessary effects for immersive simulations of ocean, lake, and river surfaces and the vessels that interact with them. Vega Prime offers users a very wide range of parameters and effects.

Realistically simulate fully dynamic marine surfaces, as well as ocean vessel characteristics and effects, and shallow water behavior. Selectable and user-defined wave spectrums add complexity and realism to the water's surface.

DI-GUY FOR VEGA PRIME

DI-Guy is an optional module for adding lifelike human characters to real-time visual simulations. DI-Guy characters look realistic, respond to simple high-level commands, and move around the environment.

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UK + 44 (0) 1793 441447

CANADA +1 514 341 3874 FRANCE +33 1 30 70 50 00

ITALY +39 02 46712 231

USA - Orlando +1 407 380 7229

