

Right Hemisphere® Deep Server™ Selected Features

Summary of Selected Feature for Version 4.0

High Productivity PGM Process Modeling and Management Environment

- Unified workspace incorporating process modelling, server configuration, server management
- Innovative product graphics process modeller
- ENHANCED** - Business rules based graphics data processing
- Easy to use visual process editor for defining, executing, and managing PGM business rules or 'processes' based on graphical operations
- ENHANCED** - Over 200 processing operations are available to design PGM processes

Powerful Product Graphics Processing Operations

- Import and translate over 80 CAD, 2D and 3D graphic formats (See View / Input Formats list below)
- Export to over 40 2D and 3D graphics formats (See Export Format list below)
- 2D Graphics operations for manipulating raster and vector data
- ENHANCED** - 3D Graphics processing operations
- Directory and file operations
- MS SQL Server Database queries
- ENHANCED** - Web Services
- Reading XML File (i.e. - mapping Bill of Materials Metadata with graphics)
- NEW** - Exception reporting
- Program flow operations

Automated Product Graphics Authoring

Accurate CAD and DCC Model Translation

- Import options to control polygonal mesh density for optimal visual quality
- Maintain CAD and DCC 3D hierarchy, materials, and attributes such as part identifiers, assembly structures, call outs
- Translate camera, key frame animations, inverse kinematics, soft-body animations, skin and bones across all major DCC file formats
- NEW** - Translate, structure and display vital CAD Product Manufacturing Information (PMI) data with additional PMI Module to significantly reduce the cost of 2D drawings

3D Graphics Optimization

- NEW** - Best in class, dynamic polygon reduction to reduce file size and preserve shape of objects
- Object instancing for smaller file sizes, faster data transfer and increased real-time performance
- Remove hidden objects which are not visible from the outside of the objects to further reduce file size
- Select and remove small objects dynamically based on the size or polygon count
- Merge and/or remove materials to reduce the number of materials in the 3D scene
- Join equal points for more efficient models in real-time visualization

3D Graphics Repair

- Unify normals for proper orientation to camera
- Invert faces and normals and easily isolate and select backward or front-facing surfaces
- Heal polygonal models, join cracked models and weld vertices while maintaining edge definition

3D Graphics Authoring

- NEW** - Apply real world materials, textures and reflection maps from advanced materials palette to achieve realism
- Set material attributes including diffuse, bump, opacity, reflection, and more from DS processing operations
- NEW** - Apply automated UV texture maps to be created for and applied to 3D models
- NEW** - Bake shadows to texture maps or vertex colors via Realight™ tools to simulate global illumination
- Explode objects and create explode animations automatically

High Quality Line Art Illustrations Authoring and Rendering

- Industry standard vector and raster file formats
- Create illustrations from predefined isometric, diametric, and trimetric views and specify unique views via XML as an input to a process
- Orthographic and perspective camera projection
- ENHANCED** - Bills of Material (BOM) associated with scene parts
- Callouts can be added to a 3D model - when viewed in 3D, these adapt to 3D motion and can be automatically positioned to face the camera
- NEW** - Callout control settings for callout style, label, placement, color and size as parameters to process operation
- NEW** - Callouts generated from 3D scene, selected parts or a list may be externally supplied in XML format

Associatively Update Graphics

- ENHANCED** - Automatically update published linked graphics when the original CAD model changes by updating related assets stored in Deep Server
- ENHANCED** - Extended product graphics association and management capabilities to include other relevant documents such as Microsoft Excel, Word, and more via document hyperlinks
- Send notification emails when PGM assets are updated or processed

Multiple Derivatives on Demand

- NEW** - Preconfigured processes to automatically generate additional lightweight 3D graphical models, technical illustrations, photoreal images, and 3D animations on demand
- NEW** - Processes are extensible via Right Hemisphere Services

Securely Store Product Graphics

- Store 2D and 3D product graphics and lightweight 3D graphical models in a unified repository for later use
- Categorize stored assets using metadata
- Secure access with different levels of user access permissions
- Optional Enterprise Content Management or Digital Asset Management integration

Easily Search Graphics

- Google-like web browser based search
- Explorer style folder and graphical asset navigation
- Free text search of metadata and filenames
- Return results in form of 2D thumbnails with 3D drill-down
- Optionally generate additional derivatives from search results

Flexible Publishing Options For Finished Product Graphics and Documents

- Export to over 40 2D and 3D graphics formats (See Export Format list below)
- Publish and view 2D and animated 3D graphic content for use within Microsoft Office and Adobe Framemaker documents
- Publish and view 2D and animated 3D graphic content within HTML pages
- NEW** - Publish interactive 3D PDF documents with additional PDF Publishing Module
- NEW** - Publish PMI data with additional PMI Module

Enterprise Scale PGM Process Management and Execution

Configurable PGM Process Management

- Integrated with MSMQ
- Assignable Deep Server processes to manage message queue requests
- Load and unload processes to and from queues
- ENHANCED** - Server load and performance monitoring
- ENHANCED** - Configurable server and server farms

Performance and Scalability

- ENHANCED** - Designed for data processing performance of extremely large datasets such as a complete automobile or aircraft assembly
- ENHANCED** - Easily configurable in server farm environment to handle large volumes of data processing
- NEW** - Single administrative user interface to view and change processing priorities and for management for entire server farm
- NEW** - Prioritization of processing tasks
- ENHANCED** - Automated load balancing
- NEW** - Centralized processing, monitoring, reporting and management from a master server over the jobs in the farm for more effective load balancing

Fault Tolerance and Critical Systems Recovery

- ENHANCED** - Advanced fault-tolerance, error-detection and recovery capabilities for managing temporary database outage, disk full errors, message queue connection outage, server farm connectivity failure and power outage
- NEW** - Report logging redundancy facilitated through support of multiple loggers to provide alternate logging paths to disk and windows in the event of a database logging failure
- NEW** - Autonomous system health checks for managing server and server farm state

Data Gathering for Reporting and performance Analyses

- ENHANCED** - Data gathered for current state of the servers
- NEW** - Statistical data covering an entire job submitted to Deep Server
- ENHANCED** - Statistical data gathered for an entire server farm

Powerful Security

- Deep Server access is governed through a role based user authentication model (i.e. - administrators, superusers, users, viewers, etc.)
- Common RH Authentication services provider for Deep Server, Deep Server Web, Gateway functionality (Deep Exploration) and SOAP API
- Integration with federated identity management is possible via RH Enterprise Services and Support

Open Integration API

- Extensive SOAP API for client server and portlet integration for .NET, JAVA, and other WebServices
- ENHANCED** - Extensive SOAP API for CAD/PDM, publishing and other application integration

Multiple File Options

View / Import Formats (see complete file import/export details on Right Hemisphere Web site)

- Over 30 2D raster image file formats including PSD, BMP, TIF, GIF, JPG, PNG, and HDR
- Over 50 DCC file formats from leading DCC applications including 3ds max, Lightwave 3D, Cinema 4D, Maya, XSI and more (RH, U3D, MAX, 3DS, LWS, LWO, XSI, C4D, MB, OBJ, X, COB, FLT, and VRML)
- Over 30 CAD file formats from leading CAD vendors including Dassault Systems, Autodesk, PTC, UGS and more (CATPart, CATProduct, Model, ASM, PRT, SLDASM, SLDPRT, IAM, IPT, JT, MF1, XV3, XV0, PAR, DGN, STEP, IGES, DWG, DXF, STL, SAT)
- Vector Illustration file formats including AI, EPS, DXF, CGM, SVG, SWF, and WMF
- Audio file formats including MP3, MP2, WAV, AIFF, SND, MIDI, RMI, AU, and MPA
- Video file formats including AVI, MPEG, M1V, and ASF
- Motion capture file formats including BVH, CSM, C3D, HTR, TRB and TRC
- Text in XML
- Bill Of Materials (BOM) in XML format
- See complete file view, import, and export details on Right Hemisphere Web site

Export Formats (see complete file import/export details on Right Hemisphere Web site)

- 2D raster image file formats including BMP, TIF, JPG, PNG, EXR, PPM, IIF, and TGA
- NEW** - PDF documents including 2D, 3D, text and forms via additional PDF Publishing Module
- ENHANCED** - 3D graphics file formats including RH, U3D, MAX, MB, LWS, LWO, XSI, OBJ 3DS, FLT, GEO, COB, X, and VRML
- Vector illustration file formats including AI, EPS, DXF, CGM, SVG, and SWF
- Video AVI
- Motion capture file formats including BVH, CSM, TRC

Complementary Add On Modules

- CoreCAD Module
- CATIA V4 and CATIA V5 Modules
- Unigraphics Module
- PTC Pro/E Module
- JT Module
- SDRC I-DEAS Module
- Illustration Module
- NEW** - PDF Publishing Module
- NEW** - PMI Module

Standards Based Application Architecture

- Platform framework: .Net, C#, ASP.Net and C++
- Web server: Microsoft Internet Information Server
- Database Repository: Microsoft SQL Server
- Messaging: Microsoft MSMQ
- API: Microsoft ASMX Web Services
- Server and Client Requirements available by request



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