NEXT GENERATION TECHNOLOGY >

PLUS

HARLEQUIN® HOST RENDERER SDK (v1.3)

COMPREHENSIVE RIP SOLUTIONS FOR DIGITAL PRODUCTION PRESSES AND OTHER HOST-BASED SOLUTIONS

the smarter alternative™
GLOBAL GRAPHICS®

HARLEQUIN PLUS HOST RENDERER SDK (v1.3)

The Harlequin PLUS Host Renderer SDK forms part of a new generation of world-class printing and electronic document technology from Global Graphics®. It provides high performance components with which to build RIP farms for digital production presses and other host-based Page Description Language (PDL) rendering solutions, shortening development cycles and accelerating time to market. The Harlequin PLUS Host Renderer SDK is one of a range of scalable implementation options from Global Graphics that allow OEM partners, such as press manufacturers and software vendors, to deploy native PDL solutions across all their products using a common architecture.

The highly customizable Harlequin PLUS Host Renderer SDK is based on Global Graphics' new Raster Image Processor architecture (RIP), and can be utilized in building a variety of solutions, including:

- As a renderer that can be linked or loaded into an OEM-provided, host-based tool for printing on premium output devices, such as wide- and grand-format printers and digital production presses
- For creation of thumbnails and previews for web-to-print, production print workflow solutions and document and asset management systems, and for placement of partial page files in page design applications.

Implementation options range from a simple rasterization service, providing full frame contone raster, to more sophisticated operation where the RIP performs imposition, watermarking, color management and halftoning and delivers tagged raster for subsequent processing.

THE RIP CORE

All of these uses build on the same RIP core, which features:

- Interpreting paths for PostScript®, PDF and XPS. An OEM may choose to take all three PDLs, or any one or two
- A multi-threaded architecture
- A flexible memory model which enables low-memory operation while making maximum use of larger amounts, if available
- Extensive programmatic configuration language, which permits per-job control and processing
- Extremely flexible control and configuration using code that can be amended or replaced by the OEM as required.
- Built-in font rendering, color management and screening that can be replaced with an OEM's own IP or third-party libraries.
- Extensible and replaceable compression/decompression libraries
- Configurable raster output formats
- Cross-platform support.

HIGHLY CONFIGURABLE RIP CORE

The RIP supports a rich, high-level configuration language for all of a client system's per-job, per-page, per-process and persistent configuration requirements. This includes job control, color management, screening, font handling, image filtering, display list examination and modification. The configuration language includes a callback procedure mechanism which allows a customer to write extensions to the behavior of the client system, in addition to the other C-API-level extension interfaces available in the RIP.

RIP CONFIGURATION

The Harlequin PLUS Host Renderer may be configured using a powerful internal core scripting language, allowing detailed control of almost every aspect of its operation, including color management, screening and font handling.

The SDK includes a PrintTicket device interface for interpreting XPS PrintTicket instructions.

PostScript jobs may make use of the same scripting language, e.g. by inclusion of script fragments in PPD files.

The same scripting language may be used directly by an OEM partner to provide initial configuration and to selectively override controls supplied with individual jobs.

PRODUCTION PRINT FEATURES

As part of the Harlequin PLUS RIP family the Harlequin Host Renderer SDK brings with it a variety of in-RIP features designed for production print. These include:

- **ColorPro**, for accurate color management of all your jobs, in combination with built-in application of calibration tables
- **TrapPro**, a full-featured trapping solution (NEW in v1.2)
- **PDF Retained Raster**, to accelerate printing of variable data jobs that were saved as regular PDF (NEW in v1.2)

WHAT'S NEW IN 1.3

Multi-bit screening

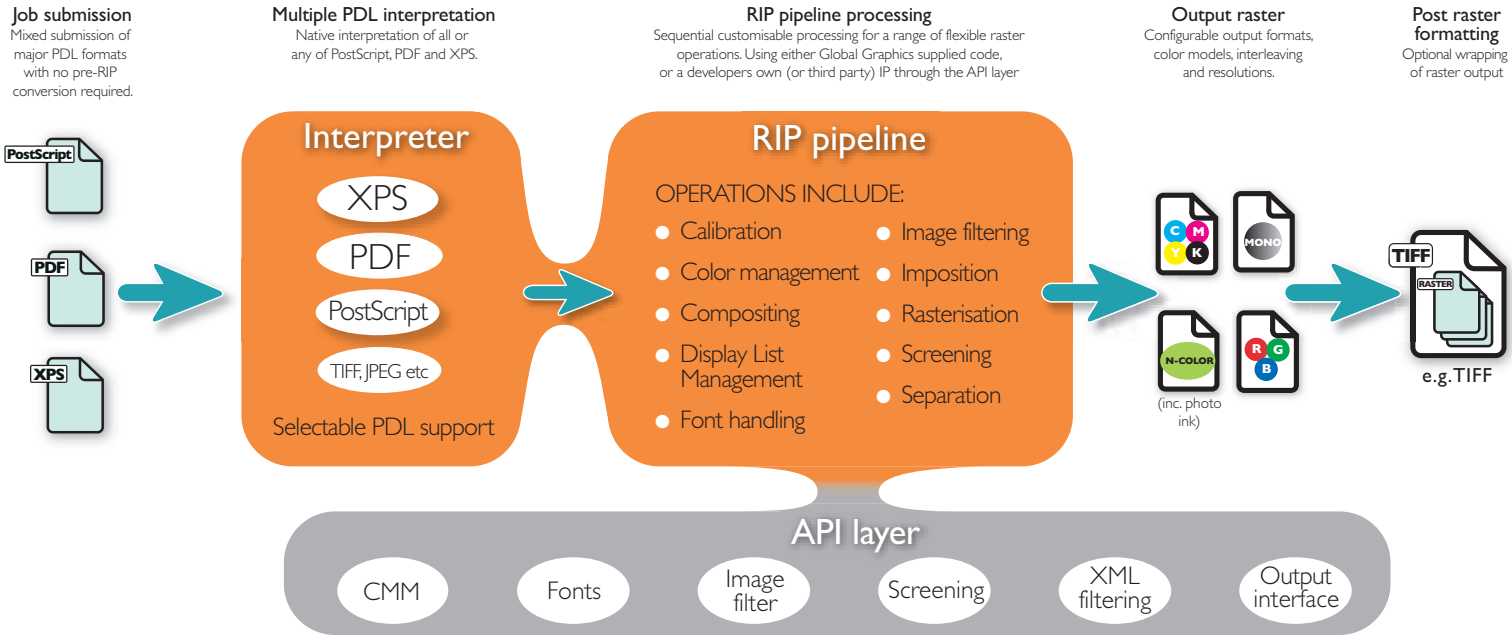
Object based screening

Improved security options for RIP farms

PDF/X-4p, PDF/X-5g, PDF/X-5pg

Adobe-Japan1-6

AN OPEN AND FLEXIBLE MULTI-PDL SYSTEM...



Extensive API support

Integrators can add their own, or third party, code to replace the supplied Global Graphics' functionality, from the type of screening and Color Management used through to the exact raster output required. Example implementations and full documentation are supplied, along with consultancy from our Technical Services team, in order for customers to seamlessly integrate the external code libraries of their choice.
(Examples of commonly used APIs are shown on this diagram)

- **Font emulation**, for when that job just has to be out now, even if required fonts were omitted when the PDF was made
- **Simple imposition**, enabling fast and efficient fully automated creation of simple imposition layouts.

CORE RIP APIs

A rich set of application programming interfaces in the core RIP allows many aspects of its behavior to be tuned and extended as required, including:

- **Compression and decompression codecs**. Integrate and apply your own complete algorithms to maintain consistent use of your IP
- **Image filtering**. Extend the rendering process by the addition of OEM code for specific manipulation of image data such as contrast adjustment, red eye removal, compression, etc. Allows an OEM to leverage some of their unique image handling IP within the RIP
- **Color management**. Replace or complement the sophisticated in-RIP color management engine with any ICC-compliant CMS
- **Screening**. Access Global Graphics' range of powerful and tunable half-tone technology or integrate an OEM's own IP for specific requirements
- **Font interpretation and rendering**. The RIP has support for an extensive range of industry standard font formats and also provides the vendor with the opportunity to replace either the in-RIP font renderer or interpreter, or both, with components of their choice
- **Low memory management**. Control cache management, the optimization and compression of rendered band data and stored image data blocks for low memory situations

WORK WITH THE EXPERTS!

- *Acknowledged experts in technology for the interpretation, rendering and conversion of Page Description Languages, our track record is extensive: native interpretation of PostScript® since 1988, PDF since 1993, and also PCL and XPS*
- *Global Graphics is unique in its ability to offer native PostScript, PDF and XPS solutions using a common architecture across a range of devices from desktop ink-jet printers to high-end digital presses and including solutions to support legacy devices and workflows*
- *We have a long history of providing cross-platform technology and were early to implement cross-platform support for XPS*
- *Our open-architecture, flexible solutions have set the standard for quality and performance in demanding environments*
- *Experts in a full range of print and electronic document technology, our portfolio includes software for document conversion and manipulation, color management, and components for digital workflow*
- *Microsoft drew upon Global Graphics' experience in print and document technology when, in 2003, they chose us to provide consultancy and proof of concept development services for XPS.*

- **Configuration of rendered band storage and delivery.** Define color channels, color depth and interleaving style, compression and job and page level formatting of the output stream as required for later processes.

CROSS-PLATFORM

Global Graphics has a long history of providing cross-platform technology and in the Harlequin PLUS Host Renderer SDK cross-platform support is provided through an OS abstraction framework, allowing deployment in host-based solutions on a wide variety of operating systems.

TIME TO MARKET

The Harlequin PLUS Host Renderer SDK will assist you to deliver your project on time and on budget.

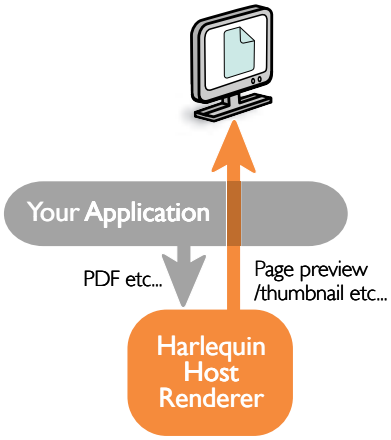
PERFORMANCE

Global Graphics' technology is renowned for its high performance and reliability. The Harlequin PLUS Host Renderer SDK is built on mature technology: it uses a new iteration of the RIP kernel found at the heart of the Harlequin RIP, with significant expansion and optimization. The Harlequin PLUS Host Renderer SDK provides the tools that allow a printer manufacturer or software vendor to engineer competitive differentiation into their solution and achieve superior performance, quality and PDL fidelity.

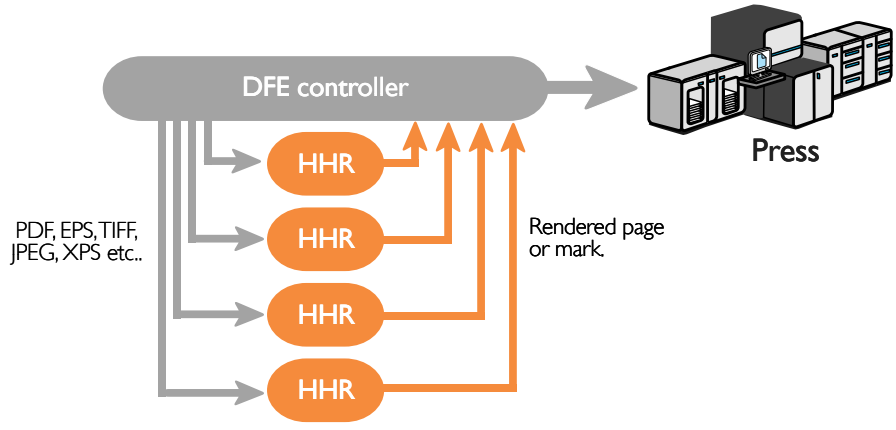
COMPLEMENTARY TECHNOLOGY

The Harlequin PLUS Host Renderer SDK addresses your needs for rendering PostScript, PDF and XPS. Other Global Graphics' technologies are available to convert between Page Description Languages within your workflow solutions or printer drivers.

PREVIEW GENERATION



DIGITAL PRODUCTION PRESS



TECHNICAL SPECIFICATIONS

Native interpretation of:

- PostScript
- PDF
- XPS
- TIFF
- JPEG

Resolutions up to 6000 dpi

Extensive configuration capabilities, accessible from all PDLs

Color

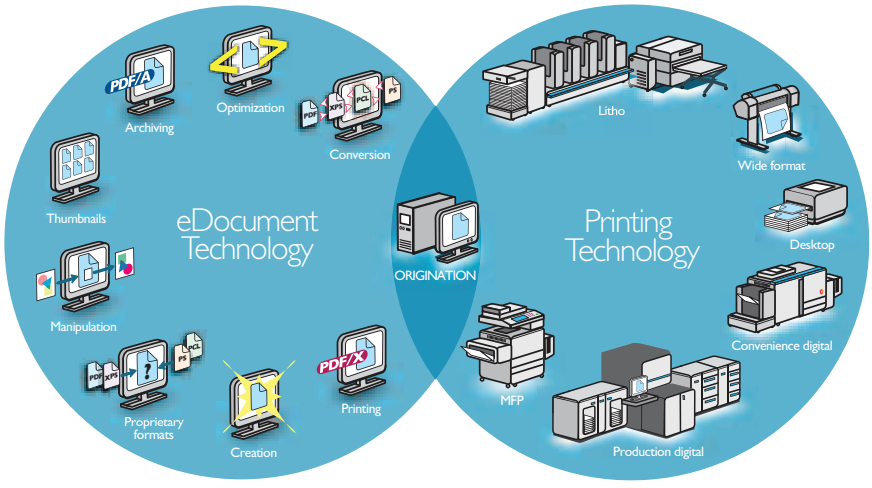
- Mono, CMYK & spot, RGB, RGBK, sRGB, CMY, K & spot output, support for N-color (inc. photo ink) or rendered content description
- Raster depths output: 1, 2, 4, 8 or 16 bits
- Planar, band interleaved, or pixel interleaved output
- Internal Color Management support, (ICC 4.0) or user defined via CMM API
- Output of object map data to inform downstream colour management or screening processes, etc

C and C++ codebase (predominantly ANSI C for ease of porting to all platforms)

- C API for interfacing between layers and core

Cross-platform support through an OS abstraction framework

Market leading performance



PDL SOLUTIONS FROM GLOBAL GRAPHICS

At the heart of some of the world's best-known brands of printing devices and electronic document applications lies technology from Global Graphics. Our next generation printing and eDocument PDL solutions mean both software and hardware vendors only have to support one architecture across their entire product range.

ONE OPEN ARCHITECTURE MANY PDL APPLICATIONS INFINITE OPPORTUNITIES

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December 2009

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