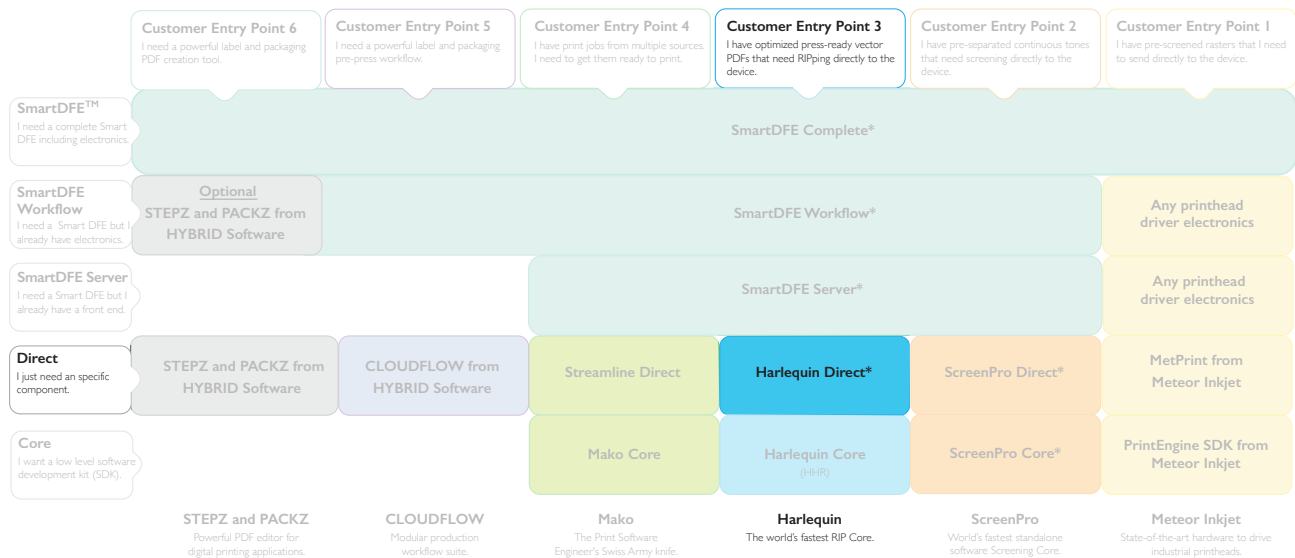




# HARLEQUIN DIRECT™



Are your customers' jobs submitted as print-ready streamlined PDFs? Harlequin Direct gives you everything you need to take print-ready PDFs and then RIP, screen and stream them at maximum physical print speed directly to the head driver electronics.



## Multi-core and multiple PC

Harlequin Direct can be configured in many ways: you can run all colors on a single PC, or one color per PC or group colors across any arrangement of PCs.

The Harlequin Direct pipeline is very configurable, allowing you to tune how many threads each plugin in the pipeline is allowed. In jobs where the RIP is doing all the work, you may want to give it more threads and less to the screener.

Harlequin Direct is cross-platform with Windows 10 IOT and Linux (Ubuntu and CentOS currently supported). Configuring the number of threads allocated to Harlequin Direct can also allow other programs to be run on the PC simultaneously (e.g. drivers for electronics).

## Begin printing instantly

Start printing as soon as you have PDFs. Other solutions require RIPping to huge image stores

ahead of printing to keep up with higher speed and resolution devices. However, RIPping ahead means that you have a delay between receiving the PDF job and beginning to print.

Harlequin Direct can begin printing as soon as the first page has been RIPped. The first page out is practically instant whereas those solutions built on raster stores can wait hours (when the job has millions of pages) before starting to print.

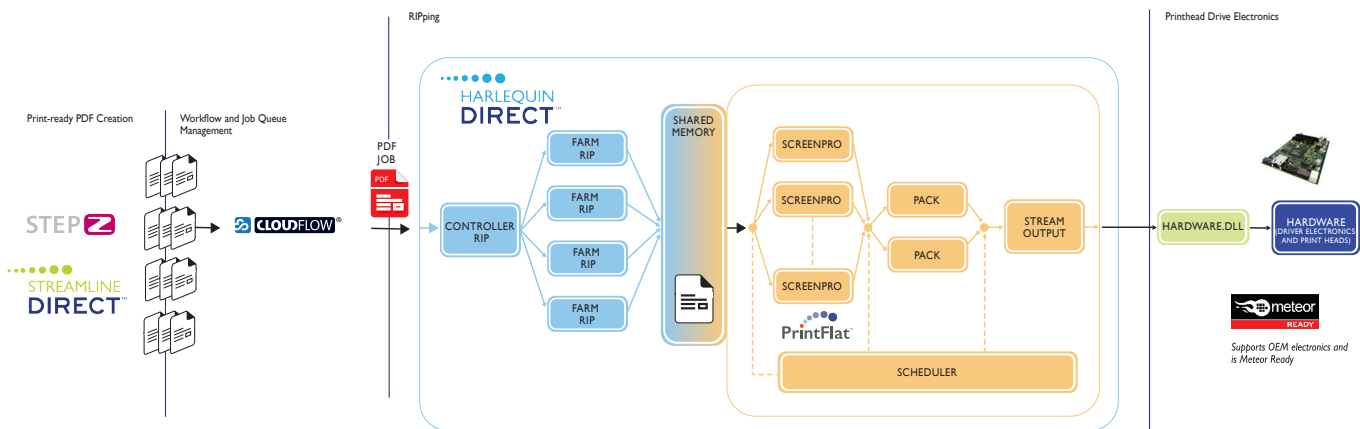
## Get to market rapidly

Developing a solution like Harlequin Direct with Global Graphics Software core components is possible and a number of our customers are in the market with those solutions now. However, it's a large investment and requires the help of a very experienced software development team. If your business is building and selling printers you may not want to get into software development or have the experience to set up the kind of team

required. Even if you have the team, it would take many months, if not years, to replicate the capabilities of Harlequin Direct. In a few short months with Harlequin Direct and our BreakThrough services you could be in the market with a solution that can tackle any market you want to enter.

## Integration with any workflow and electronics

Whilst we can drive Meteor Inkjet electronics out-of-the-box, Harlequin Direct has been designed to drive any electronics. We have already built plugins for a number of other industry-standard electronics. Our Technical Services team can link to new hardware very quickly and it typically requires a 20-Day BreakThrough service. Our BreakThrough projects are recoverable against licenses as soon as you start shipping and are therefore effectively free.



## Global Graphics technologies

**Harlequin ColorPro™** offers in-RIP color management for accurate, consistent and predictable color reproduction for a wide range of workflows. It provides full support for industry standard ICC profiles, including v4 and DeviceLink profiles, so you can chain multiple transforms together for optimal management of all color on your press.

**Harlequin VariData™** greatly accelerates the printing of zoned variable data jobs that were saved either as PDF/VT or as regular PDF. The variable data zones can contain text, barcodes and images. The content outside of the variable data zones is static and can be RIPped once whilst the data in the variable data zones is RIPped for every page.

**PrintFlat™** is our award-winning technology that corrects digital inkjet quality issues like head-to-head density variations and inkjet head smile. These attributes result in banding on the

printed output which is very difficult to correct for in hardware (e.g. by tuning voltages).

## When used with Meteor electronics

**Meteor NozzleFix™** provides nozzle-out compensation for single-pass or scanning systems to eliminate single pixel streaks from clogged or failed nozzles. Deviated or missing nozzles are identified to the Meteor datapath and switched off while nearby nozzles apply compensating fluid in the same or different color planes resulting in seamless correction.

## Additional benefits

**Smart Print Controller (SPC)** is an example front end for Harlequin Direct supplied as both a pre-built Microsoft Windows version and C# source code. The SPC is a press operator user interface that connects to one or more Harlequin Directs and manages the submission of jobs. It also demonstrates how to control and get status information back from multiple Harlequin Directs.

**Direct Benchmark** is available to answer questions such as: What PC specification do I need to drive my printer at full rated speed? Is the specification of the PC within our existing system good enough? It works by running a series of standard and customer jobs through a tuning cycle to obtain achievable line speeds for a target PC, which can be compared to a database of results for other specifications or used to predict performance using a wider database (PassMark).

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Sign up to evaluate  
[info@globalgraphics.com](mailto:info@globalgraphics.com)

[www.globalgraphics.com](http://www.globalgraphics.com)

**Global Graphics Software Inc.**  
 5996 Clark Center Avenue  
 Sarasota, FL 34238  
 United States of America  
 Tel: +1 (941)925-1303

**Global Graphics Software Ltd**  
 Building 2030  
 Camboume Business Park  
 Camboume, Cambridge  
 CB23 6DW UK  
 Tel: +44 (0)1954 283100

**Global Graphics KK**  
 610 AIOS Nagatacho Bldg.  
 2-17-17 Nagatacho, Chiyoda-ku,  
 Tokyo 100-0014  
 Japan  
 Tel: +81-3-6273-3740