MAKO™

Original Format: PDF

The Print Software Engineer's Swiss Army knife, Mako has many 'blades', each one matching a job that you need to get done. Utilizing its unique document object model, Mako's C++ and C# APIs offer control over color, fonts, text, images, vector content, metadata and more, combining precision with performance.

Blade: Conversion

Mako's Document Object Model (DOM) architecture means you can convert in either direction between any of the supported PDLs (see over), taking full advantage of the target format for as rich a conversion as is possible.

Blade: RIPping

Fully integrated is the Jaws RIP, with Mako APIs to access the multi-threaded, fully color-managed rendering engine, producing 8- or 16-bpp rasters that can be halftone or error-diffusion screened.

The combination of these technologies makes it possible to build solutions to handle PDFs before RIPping as a single process, for example to impose or expand for variable data.

Blade: Analysis

Interrogate and edit content with Mako's DOM APIs, consistent across formats and platforms. Employ them to interrogate or change virtually any aspect of a digital document.

With Mako it's easy to report on page size and count, fonts, color spaces, metadata, optional content, bookmarks, annotations, attachments, document structure and more.

Specific APIs tuned for PDF quickly scan for all fonts or spot colors used in a document. Features common to all formats – images, text, fonts, vector art and more – are treated in the same way. You can build solutions to work with any of the supported PDLs, with a minimum of effort.

Blade: Optimization

Mako's DOM architecture automatically gives it an edge when it comes to optimizing content. When writing to PDF for example,

Mako will eliminate duplicate fonts and merge font subsets, reducing file size and improving efficiency of downstream processing. Image compression and downsampling, color conversion, font embedding and more can all be controlled with simple parameters to the PDF output API. Developers can go further to build optimization suited to specific workflows, such as streamlining for variable data applications.

Blade: Creation

Mako's APIs are not just about converting or processing existing documents, they can also be used to create new content from scratch or by using content from multiple sources. Generate new text or vector graphics, load or reference font resources, embed images and apply metadata, directly into the Mako DOM. Then save to the PDL of your choice, knowing that Mako will 'do the right thing' when generating your output, creating optimized PDF, XPS or PCL.

Blade: Cloud app development

Mako's small footprint is suited to containerization for scalable cloud implementations on Amazon Web Services (AWS) or Microsoft Azure. A Mako-based component could be developed to run under Alpine Linux in a Docker container, ideal for building micro-services that can scale out, and scale in as the task demands, making high-speed, high-volume solutions possible.

Blade: Mobile app development

Mako's platform-tuned rendering for iOS and Android takes full advantage of the hardware acceleration of these platforms. Your users can enjoy a fast, fluid document viewing experience no matter which operating system or device they are using.

Blade: Desktop app development

Build Windows applications using Mako to load, visualize, edit, process and save documents. To get you started, a minimally viable product of a PDF viewer/editor is available for you to build your own development on. Use it to build a workflow component or a standalone application. The same approach can be applied to macOS or Linux applications too.

Blade: IoT app development

With Mako's UWP support you can build document generation or processing into your Windows 10 IoT-based device, or use the Raspbian libraries for Raspberry Pi 4-based developments.

Blade: Printer driver development

Leverage Mako's fast and accurate conversion in printer drivers, desktop applications or server-side processes that need to print. Convert to a print stream that can be submitted to an output device:

- PCL5-e or PCL6 (PCL XL)
- PS (PostScript)
- XPS (Windows V4-architecture drivers)
- GDI (Windows V3-architecture drivers)

These conversions are available on all platforms. Use them to print-enable apps running on mobile devices (Android, iOS) or Windows 10 IoT.

Blade: Consolidation

Organizations often discover that they are licensing several libraries and SDKs for processing digital documents because previous developments required a specific capability that wasn't available in what they had already. Over time this can really add up. Now may be the right time to audit your SDK use and consolidate with Mako, which can meet your PDF requirements and those for XPS, PCL5, PCL/XL and PostScript. Use our free Switching Service to help you identify the cost savings that can be made by consolidating with Mako.

Switching Service (free)

With over 30 years of experience supplying core components to the print industry we know that switching suppliers comes with its own challenges. We want to help you move to Mako and get the maximum benefits as quickly as possible. That's why we have put a Switching Service in place. One of our principal software engineers will add Mako into your code, performing the same job as your existing supplier. This represents up to 20 days of a principal software engineer's time to help you switch. Our standard contracts cover you for three years but if you move to a five-year contract we include the Switching Service for free.

Software specifications

Supported PDLs	• PDF, XPS, PostScript, PCL5 and PCL/XL • PDF versions and ISO standards • PDF 1.2, 1.3, 1.4, 15. 1.6, 1.7, 2.0 • PDF/X-1a, PDF/X-4 • PDF/A-1b, PDF/A-2b • Linearised (web-ready) PDF
Supported platforms	• Windows (x86, x64) • Linux (Ubuntu, Mint, Centos, Alpine) • macOS • iOS • Android • Windows UWP
Supported image & vector formats	• EPS • TIFF, PNG, JPEG • SVG, XAML, SKIA
Supported development languages	• C++ • C# • Python
API documentation	api.globalgraphics.com/mako
Developer documentation	developer.globalgraphics.com/display/DEVGGS/Mako+Core

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