

# Solbox Image Optimizer

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# 1. Contents

## 1.1. Solbox Image Optimizer

The scale of image services has grown rapidly, the user experience has diversified from PCs to mobile devices, and optimizations according to user device environment, such as resolution, layout, and data size have become necessary. In the case of image conversion through the pre-processing system in the past, there are numerous management issues such as converted images, conversion scheduling, and data storage management. Dynamic image conversion is becoming a new standard in the market to minimize management resources and optimize functionality.

Solbox real-time Image Optimizer service allow for content providers to convert many different types of images into desired forms through size and attribute conversion according to their service requirements. Content providers can also change the original image to suit the layout by changing the URL in real-time to the desired shape, such as resize and crop, without pre-processing the original image, and reduce the overall transmission amount by reducing the file size without deterioration.

Currently, this supports different image formats such as JPEG, PNG, BMP, GIF (including animated GIF), TIFF, WebP, PDF, and SVG.

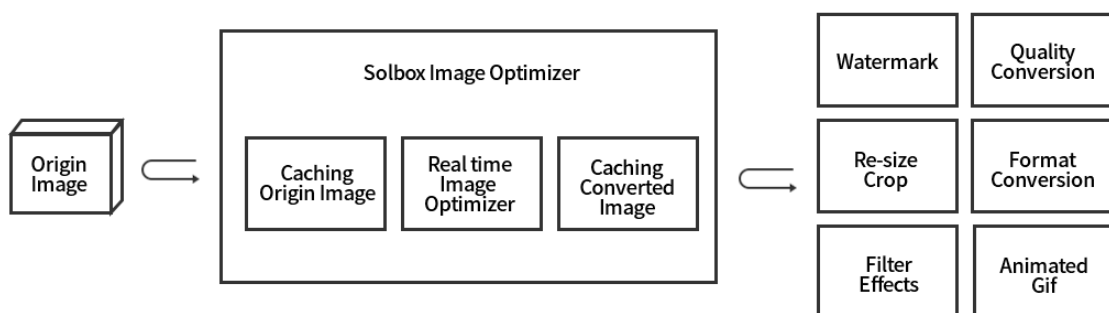


Figure 1 ) Solbox Image Optimizer (DIMS) Configuration Diagram

## 2. Benefit

- When requesting an image, it automatically converts the original image to provide multiple images using a URL without changing the source.
- All these changes are processed on CDN Edge, so it doesn't repeat the request for the same image.
- Supports image caching(saving) for the converted images to avoid the request for the same image processing

## 3. Key Features

### 3.1. Key Features

- Image Conversion
- Size Conversion
- Watermark
- Filter Effect
- Format Conversion
- Animation Transformation
- Converted Image Preview

## 3.2. Detailed Features

Width	w	Specify the width in pixels
Height	h	Specify the height in pixels
Pixel Ratio	dpr	Pixel Ratio (for css and dpr conversion)
Size Fit	fit	Adjust image size for change
Background Color	cbg	Specify the background color when using "fit=contain"
No Size Enlargement	we	If the original is smaller than the target size, it will not be enlarged.
Sort	A	Image alignment when using "fit=cover" or "fit=contain"
Cropping	Crop	Cutting images based on position and size
Cutting Images after Resizing	precrop	Cutting images after resizing
Cutting Image Edge	trim	Erase all edges with similar colors in the top left pixel
Cutting Shapes	mask	Crop an image to the specified shape
Mask Edge Trim	mtrim	Trim after mask
Mask Background Color	mbg	Change background color after mask
Flip Vertically	flip	Flip images vertically
Flip Horizontally	flop	Flip images horizontally
Rotation by Angle	ro	Rotate image by specified angle
Specify ro Background	rbg	Specify the margin background color for the images rotated with "ro"
Specify the Background Color	bg	Specify the margin background color of the image
Blurred	blur	Add blur effect
Contrast	con	Add contrast effect
Filter Effect	filt	Add filters (e.g. greyscale, sepia, duotone, negate)
Luminance	gam	Luminance Change
Fight Filter	mod	Brightness, Saturation and Hue Conversion

Saturation	sat	Saturation Conversion
Hue	hue	Hue conversion
Sharpness	sharp	Adjust image sharpness by adjusting the L value in LAB
Hue	Tint	Change color tone with saturation while keeping luminance
Width	w	Specify the width in pixels
Height	h	Specify the height in pixels
Pixel Ratio	dpr	Pixel Ratio (for css and dpr conversion)
Size Fit	fit	Adjust image size for change
Background Color	cbg	Specify the background color when using "fit=contain"
No Size Enlargement	we	If the original is smaller than the target size, it will not be enlarged.

## 4. Applications

- Online shopping malls, open markets, and newspapers that needs frequent change of images
- Mobile services such as dedicated mobile applications that are sensitive to image resolution or file size
- Media services comes with thumbnail creation (e.g. pop-up windows and previews)
- Limited-service environment that needs to reduce client resource consumption, such as rendering, network, etc.