AKAMAI & RESPONSIVE IMAGES

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Akamai Intro

- The first & leading CDN
  - Much more than just a CDN today…
  - Serves 20-30% of Web Traffic
  - Used primarily by big websites
- Core Value Propositions: Acceleration & Offload
  - Common value prop: Driving app/business logic
  - Current Focus: Situational Performance
- Touches Responsive Images in 4 ways
  - Smart Delivery
  - Front-End Optimization
  - Image Converter
  - Adaptive Image Compression

Smart Image Delivery

- Detect device capabilities on Edge
  - Custom UA patterns (regex driven)
  - Edge Device Characterization (WURFL-based device fields)
  - Custom detection (e.g. Accept Header negotiation)
- Identify App Logic
  - Cookies
  - Query parameters
- Make delivery decisions
  - Origin, path, downstream cache headers, cache TTL…

WebP Delivery & Akamai

WebP Path Modification Add Rule... ▾

WebP Delivery

Criteria

Match All ▾

IF

Path ▾   matches one of ▾

/images/* ✕

AND

Request Header ▾   Accept   is one of ▾   *image/webp*

Add Match

Behaviors Add Behavior...

Origin Base Path

Base Path /webp/

Downstream Cacheability

Behavior   Allow caching ▾

Cache Lifetime   (Default) Lesser of remaining edge cache lifetime and origin header ▾

Send Headers   Send both Cache-Control and Expires ▾

Mark as Private ☑

Define paths that may return WebP Images

Accept Header Negotiation (UA Matching Just as Easy)

(Near) Future: Use Device Characteristic

Device Characteristics ▾   is_webp_supported ▾   True ▾

Changes path to /webp/images/… (also updates cache key)
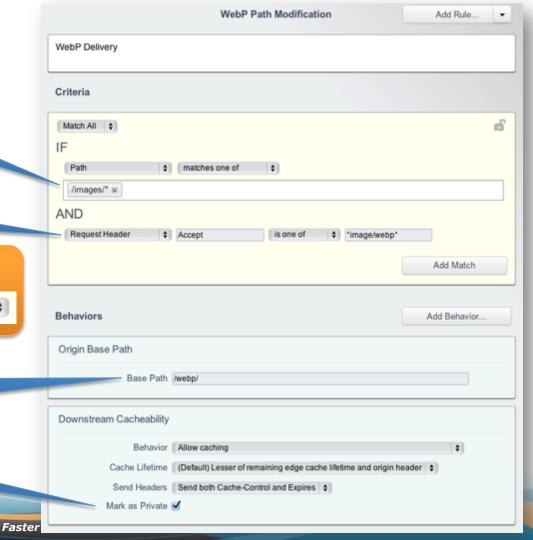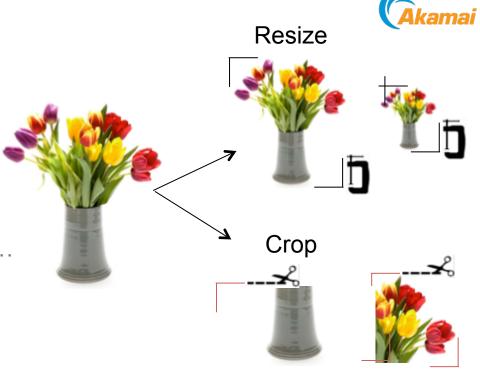
Mark downstream cache as private

Faster

Image Converter

- Image Manipulation API
- Akamai's distributed Image Server Farm
- Various Transformations
  - Resize, Crop, Change Quality…
- Currently in Beta
  - To be launched in October
- Supports Art Direction

Resize

Crop

`<img src="/img/123.jpg?resize=320:100" />`

Front-End Optimization

- Accelerate pages through rewriting of HTML & resources
  - Dozens of different optimizations
- Includes Responsive Images optimization
  - Uses origin image as the basis (ideally Retina if available)
  - Creates N versions of each image for increasing resolutions
  - Rounds up current resolution (including DPR) to closest version
- Uses JavaScript to load images
  - Loads images while page is loading
  - Injects DNS prefetch tags to supporting browsers
  - Optionally loads images on-demand (only when visible)
  - Optionally uses a low-quality image placeholder before full image

Adaptive Image Compression (AIC)

Original Image | Network Conditions | Adapted Image

Original Image
Quality: 100%
Size: 60KB

Network Conditions
Excellent
Average
Poor

Adapted Image
Throughput: High
Size: 82 KB (Q: 90)

Throughput: Med
Size: 20KB (Q: 40)

Throughput: Low
Size: 13KB (Q: 20)

Faster Forward™

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