

# Instart Web Application Performance

Improve the speed, visual quality, and overall experience of your cloud, web, and mobile applications



## Performance is everything

Performance is a critical part of delighting your customers with amazing digital experience. Consumers simply have no patience for slow applications – and the bar for performance gets higher every year. Performance is directly tied to engagement, conversion, search engine rankings, and even net promoter scores. For companies selling online, performance correlates directly with revenue. In short, performance is experience.

The challenge to providing amazing performance is that your applications are increasingly rich in functionality and dynamic, and they change constantly. Your customers are using thousands of different kinds of devices, across wired, wifi and mobile networks and they also change constantly. No company has enough developers to make sure that every consumer on every device is always having an optimized experience with every object on every page of each of your applications. The requirement is for an automated system that learns and adapts and continuously optimizes everything. This is why thousands of leading brands around the world have adopted Instart Web Performance.

## Instart Performance Overview

Instart Web Performance is a core service in Instart's global Digital Experience Cloud. Instart Web Performance automatically and continuously applies many different optimization techniques that dramatically improve the speed of your cloud, web, and mobile applications, improve or maintain the visual quality of your images while reducing their size, and improve your overall digital experience for consumers. These optimizations are applied automatically and are powered by artificial intelligence and machine learning so that no human intervention is required on your part. As a result, our clients typically achieve up to 30 percent faster cloud, web, and mobile application performance.

## Client-Cloud Architecture

Instart deploys a unique client-cloud architecture that powers our automatic optimizations. A small, JavaScript-based container is transparently injected into the browser of every visitor which relays information back to our cloud about the visitor's device and behavior. This client-cloud architecture enables our performance optimizations to learn what resources are actually being consumed by visitors, coordinate 1st and 3rd party resources directly from our cloud, and stitch dynamic and static content together seamlessly.

## HTML Streaming

HTML Streaming automatically and constantly learns which parts of your application's HTML pages are static, and which are changing, or dynamic. The static portions, typically the majority of the HEAD element of your page, are automatically cached at our cloud edge, and sent to the consumer device immediately, even before dynamically-generated content is created by your applications. Instart HTML streaming effectively unblocks the consumers web browser, allowing it to begin loading your static resources without waiting for the remaining dynamic content to become available. Once your dynamic content is ready, Instart HTML streaming automatically stitches together your complete page on the consumer device. The result is dramatically faster page load times, because the browser can begin its work long before your applications have created the complete page. Most brands with dynamic HTML can expect to see 10-40% improvement in the speed of their pages.

## Benefits



**Speed** – Instart's performance features consistently deliver the fastest digital experience – up to 30% faster



**Precision and Automation** – Optimizations are applied automatically and continuously across all applications, objects, pages, devices and connections



**Agility** – Continuously learns and adapts to changes you make to your applications. Simplifies and stream-lines deployment practices, eliminating the need for consulting or professional services, or to manually optimize every time you modify your applications

## JavaScript Streaming

Today's web applications universally leverage JavaScript for advanced functionality, but while a typical application might only reference 10% of the functions included in a JavaScript library, the entire library is normally delivered to the consumer device. Instart JavaScript streaming intelligently delivers just the portions of your JS libraries that your applications actually use, dramatically improving loading speed and performance. Instart JavaScript Streaming monitors real user interactions with your applications, and identifies the functions that are actually being used. In a continuous learning process, optimized JS libraries are created, containing only the necessary code. If a consumer ever happens to request an unexpected bit of code, that code is streamed to their device in real time. Typically, about 90% of the JavaScript functions can be trimmed from an application, greatly improving application performance and reducing the overall network traffic..

## Reliable and Secure

The Instart platform is one of the largest and most reliable globally distributed cloud services in the world, processing more than 60 billion transactions and serving more than 200 million consumers per day. Our cloud runs in premier peering centers around the world, interconnected with all major carriers and cloud service providers, and we maintain SSAE-16 SOC 2 Type II certification, Payment Card Industry (PCI) certification, General Data Protection Regulation (GDPR) and healthcare industry compliance standards. When needed, our dedicated support engineers are available 24/7/365 and are always a single phone call away, with a 30 minute maximum response service level agreement for urgent issues.

## Features



### HTML Streaming

Cache static portions of HTML pages and stitch in dynamic portions after generation by your applications.



### JavaScript Streaming

Truncate unused function calls in JavaScript libraries to reduce page weight & computational overhead.



### Dynamic Caching

Cache unique user-based responses on the edge to prevent extra trips to origin for first-time visitors.



### Global Network Acceleration

Advanced first, middle, and last mile networking protocols to improve performance.



### SmartVision

Advanced computer vision algorithms to understand the actual content of an image and intelligently determine what the maximum compression level can be without impacting the user experience.



### Image Adaptation

Store a single high quality image on the origin and then use our API-based image adaptation service to adjust, crop, and resize images on the fly to deliver the optimal image to every device.

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## About Instart

Instart helps thousands of leading brands around the world deliver a faster, safer, and more profitable digital experience. Our Digital Experience Cloud enables our customers improve the performance, consumer experience, and security of their cloud, web, and mobile applications – resulting in higher revenue and better customer satisfaction. Visit us at [www.instart.com](http://www.instart.com) for more information.