

Speed, Scale, Security: Orchestrating a Great Download Experience

How to optimize the speed, scale, and security of your software delivery workflow to orchestrate the best possible download experience.

WHITE PAPER

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In this whitepaper you will learn:

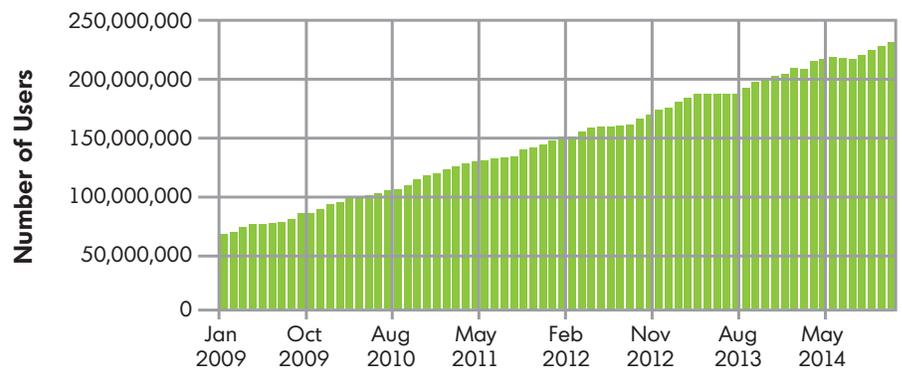
- How to optimize the speed, scale, and security of your software delivery workflow to orchestrate the best possible download experience.

Delivering software is becoming harder every day. Not only do you have to compete in a universe of 15 billion connected devices¹, but also with a growing number of users downloading everything from new applications to virus updates.²

The result is a growing congestion that can undermine your ability to get your application, software patch, or device update to your end users as quickly as possible. And every minute that your users spend trying to download your software is a minute they can't spend using it.

What it ultimately comes down to is latency.

**PCs, Macs, and Androids protected
(receiving regular virus-definition updates)**



And although you may be tempted to think that latency is only about how fast the file gets delivered, the download experience is so much more. Anything that gets in the way of a user accessing your software—the webpage or download portal, your publishing process—can undermine the download experience.

The key to tackling the latency challenge lies in the systems, infrastructure, and processes you use to make your software available. In order to provide your files as quickly and efficiently as possible, you need to optimize how you deliver them to ensure that the entire experience is fast, secure, and globally available.

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Unexpected Sources of Latency

Latency is anything that compromises the speed of delivery, right? But that may be a little short-sighted. Latency is, in fact, anything that makes your users wait. Whether they have to spend an extra ten minutes to download your files or an extra two weeks until they get access to it doesn't matter. Anything in your software delivery workflow that causes users to wait works against your brand. When thinking about how to optimize your workflow, ask yourself questions like:

- Are there areas where our teams can work more efficiently to speed up the timeframe for delivery of user-ready software?
- Can we combine components of our workflow to shorten time-to-market?
- Are we making effective use of cloud services to speed up distribution and file sharing?
- How are we ensuring that our webpages are being delivered quickly so that users can access the software without having to wait unnecessarily?

What Does It Take to Deliver Software?

On the surface, it may seem like delivering software or an update to connected devices is easy. But what does it really take?

- **Storage**—First, you need somewhere to store your software. That may be in the cloud or on a physical hard drive. In most cases, you'll need this to be redundant and distributed so that in the event of a disaster, your software is still available.
- **Origin**—Second, you'll need somewhere from which to actually deliver your files. Because most delivery happens over HTTP, this means you will need a webserver such as Apache or Tomcat that can interpret incoming requests from computers or connected devices and respond back with the appropriate file.
- **Bandwidth**—Third, you'll need bandwidth to support the actual delivery of files from your servers to your end users.
- **Web presence**—Fourth, you need a place to host your software, like a webpage, web portal, or application from which users can request the files.
- **Process**—Lastly, you need a process by which your software moves from development to delivery.

Together, these components comprise your software delivery workflow and directly impact the experience users have with your brand and your organization. Efficient and effective workflows equate to happy customers, while un-optimized and complex workflows can generate unnecessary support calls and angry emails.

Understanding User Expectations

What do users want from your software delivery workflow? What elements do you need to optimize in order to ensure a positive download experience?

When it comes to software downloads or device updates, users need an experience that is:

- **Fast**—The download happens quickly (both the file and the webpages through which the software is requested).
- **Available**—The user can download the software or update their device no matter where they are, on whatever network.
- **Secure**—The user is assured of the software owner's identity.

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Availability Is More Than Just Scale

Distributed Denial of Service (DDoS) attacks are on the rise; according to some sources, between December 2013 and December 2014, attacks rose by 90%³. And although you may think you would never be the target of such an attack, you could be collateral damage—an attack against someone in the same datacenter as you could make it more difficult for users to reach your website. And what happens then? A flood of support emails and phone calls. You need the peace of mind to know that in the event of a DDoS attack, your software, updates, or firmware are still available for download.

Enabling Fast Downloads (Speed)

Ensuring that your downloads happen quickly can be a challenge. The Internet is rapidly filling up with traffic (like online video) that can interrupt or compromise the speed of your delivery—it can slow down not only your files, but also the webpages through which you make your software accessible.

In order to ensure quick, reliable, and consistent download speeds, you need the available bandwidth to meet for both planned downloads and flash traffic; you also need a way to keep requests from coming all the way back to your origin each time.

What if there was a way to always deliver your software and webpages from a location that was as close to the user as possible with enough bandwidth to handle the largest crowds?

Providing Availability (Scale)

Even if your user-base isn't growing globally, your users are mobile. They are taking their computers, their tablets, and other connected devices with them when they travel around the world.

In order to provide them your software (and to meet their needs for a timely download), your data needs to be located where your users are. That means potentially replicating storage around the globe.

What if there was a way to store your software everywhere your users might be without having to invest in the infrastructure yourself?

Ensuring Identity (Security)

What's the one way to assure your users they aren't downloading your software or device update from an untrusted third party? By encrypting the communication between your server and the end user through HTTPS, you can protect the investment you've made in your content.

But providing HTTPS at scale is difficult, especially if you are managing multiple origin servers in distributed locations.

What if there was a way to deliver your software at scale using HTTPS without having to worry about managing it all yourself?

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Orchestrating Your Workflow

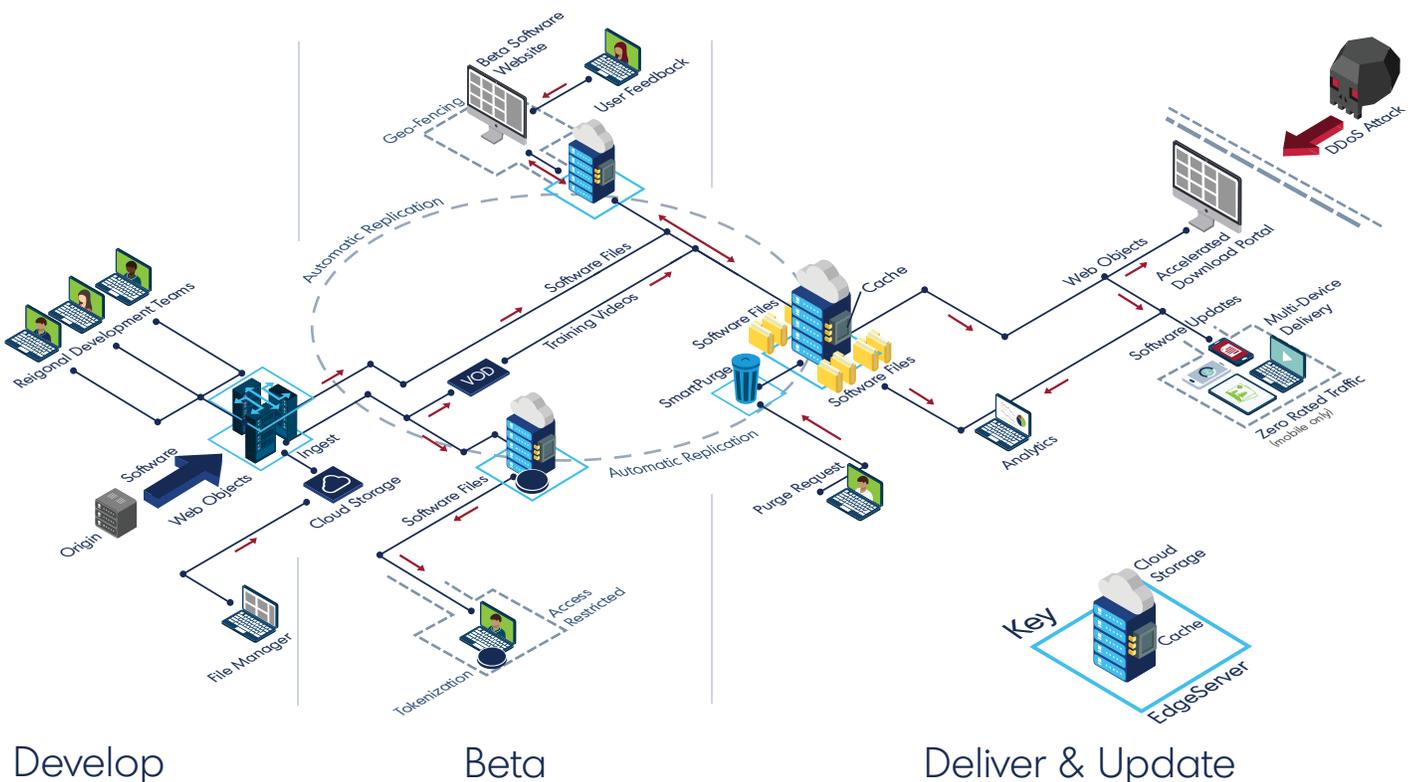
With the Limelight Orchestrate Solution for Software and Device Manufacturers, you can simplify your workflow, maximize resources efficiently, and speed up time-to-market with specially built components designed to help you tackle the challenges of delivering a great download experience:

- **Speed**—Deliver your software or device updates on the world's fastest, most reliable CDN, leveraging cache located around the globe to ensure that your files are delivered as close to the end user as possible.
- **Availability**—Get the scale to deliver your software or device update to any number of users anywhere in the world.
- **Security**—With a global HTTPS footprint, dedicated virtual IPs (VIPs and integrated DDoS protection), your users are assured they are downloading software or device updates from you and not an unscrupulous third party.

Powerful Components for the Best Possible Download Experience

The Limelight Orchestrate Solution for Software and Device Manufacturers is a comprehensive, end-to-end, optimized workflow for delivering fast, available, and secure downloads to your end-users throughout the software lifecycle—development, beta, and delivery/update. The workflow combines a number of integrated software and infrastructure components to ensure you can provide the best possible download experience:

Software and Device Manufacturers Industry Architecture



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- **Orchestrate Delivery**—Built on one of the world’s biggest, private content delivery networks (CDN), Orchestrate Delivery is a powerful service that ensures your content is delivered to your audience consistently, reliably, and as fast as possible.
- **Orchestrate Storage**—A distributed origin storage solution, Orchestrate Storage integrates with our global CDN to optimize worldwide delivery and management of media and software content.
- **Orchestrate Performance**—An industry-leading delivery acceleration service, Performance ensures personalized, complex websites and apps are delivered to your users on any device, anywhere, providing near-instant response times to increase views and conversion rates, reduce site abandonment, speed transaction completion, and improve online revenues.
- **Orchestrate Security**—With a global HTTPS footprint, dedicated virtual IPs (VIPs and integrated DDoS protection), your users are assured they are downloading software or device updates from you and not an unscrupulous third party.

Conclusion

Delivering software downloads or device updates is no easy task. Although the components may seem simple, optimizing them is not. In order to orchestrate the best possible download experience for your end users, you need to fine-tune three critical features of your workflow—the speed at which you deliver your software, the availability of your downloads, and the security of your files. To do that by yourself, though, can be a Herculean task and take focus away from what’s important: producing great software. With the Limelight Orchestrate Solution for Software and Device Manufacturers, you get an optimized, cloud-based workflow through which you can ensure that your files are delivered quickly to your users regardless of where they are.

¹ <http://softwarestrategiesblog.com/tag/idc-saas-forecasts/page/2/>

² <https://www.avast.com/en-us/stats>

³ <http://www.welivesecurity.com/2015/01/30/q4-ddos-attacks-90-previous-quarter/>

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