



# A deep dive in what's new for developers in CQ 5.4 from Adobe

Presented jointly by:

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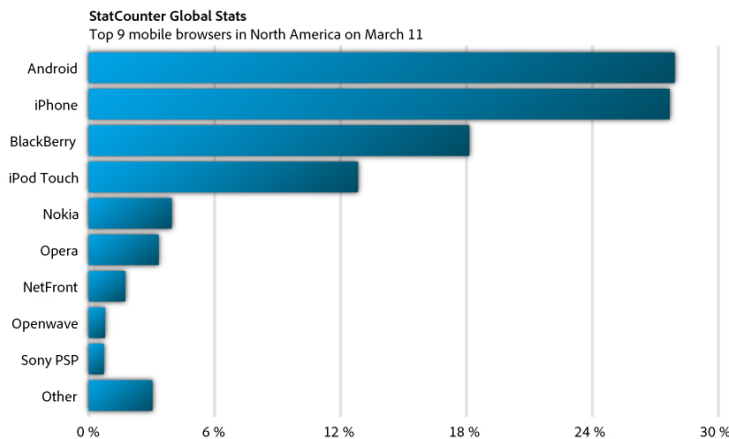
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Thousands of devices access today's networks, all with varying capabilities. Because most people don't often update their software, developers must render websites so that they work on any mobile device, managing differences in screen size, image size, JavaScripts, and cascading style sheets (CSS). Screen size can be resolved with design changes, but other features require detection to mitigate the differences. To stay on top of it all, developers need a platform that can quickly and efficiently detect and adapt to the variety of mobile device browsers and capabilities.

We are facing:

- Five major browsers
- Rare software updates – still, for most devices

Web Experience Management (WEM) from Adobe, formerly known as CQ5.4, is a customer experience solution under the new Adobe Digital Enterprise Platform. Throughout this guide, we'll update what is referred to as CQ5.4 in the accompanying webcast to the Web Experience Management (WEM) solution.



Developers need an infrastructure that can quickly and efficiently detect and adapt to the variety of mobile devices accessing content today.

CQ 5.4 Web Content Management (WCM) has these capabilities. CQ 5.4 is a robust and integrated web experience management platform for improving customer-facing web experiences by creating, analyzing, and optimizing site content, marketing campaigns, and targeted user experiences across channels. With CQ 5.4, your marketing organization becomes more agile via a highly productive, fun to use, community-oriented authoring environment..

This guide is for developers and software architects with advanced experience in CQ5 who want to take a deeper dive into the new capabilities of the CQ 5.4 release. It describes the mobile features and LiveCopy enhancements. It also explores the enhanced client libraries feature, which has been extended for site template developers, and new developments in HTML5 and video transcoding. In addition, this guide discusses how you can integrate CQ 5.4 with applications in the Adobe® Online Marketing Suite, powered by Omniture®.

## What's new in CQ 5.4

- Mobile Device Capability API
- Mobile Device Groups configuration and redirect filter
- Reading IMAP/POP3 accounts with Polling Importer
- ClientLibs for websites
- Video transcoding with FFmpeg with configurable profiles
- HTML5 video component
- Extended Workflow API (Java & REST)
- Configurable roll-out configuration for LiveCopy
- Background Tasks API
- Replication to static files
- Reporting Framework
- Workflow-based reverse replication
- Rendition and Proxy Asset API
- Wildcard ACLs
- User Activity Stream API
- Content Sync Framework
- Apple Push Notification service
- jQuery & jQuery Mobile UI Toolkit
- Updated ExtJS 3.1.1 UI Toolkit
- Cookie-based authentication (Token-auth)
- Workflow-based Form Actions
- User Profile Self-service Form Actions
- Forum component
- Workflow-based UGC moderation
- Enhanced portlet to run CQ5 in Portal Server
- Improved SQL2 query engine
- Better streaming over HTTP for assets
- Link externalizer service
- API to implement mailing gateways
- Vault-moving nodes with RCP mode
- Extensible Clickstream Cloud
- Events Tracking API for SiteCatalyst

CQ 5.4 offers a number of benefits to developers and software architects.

### Standards-based, modern, modular architecture

CQ 5.4 is built on open standards and an open source core based on Apache Jackrabbit (JSR283-compliant content repository), Sling (RESTful web application framework), Felix (OSGi-compliant Java™ application framework), Pluto (JSR286-compliant portlet container), and Shindig (OpenSocial-compliant gadget container). With support for lightweight scripting (JavaScript and ActionScript™) via the JSR223 scripting standard, CQ 5.4 enables IT to develop standardized developer skill sets and rapidly deliver new market-leading initiatives at lower cost.

### Rapid, agile web development

The CQ 5.4 browser-based development environment, CRXDE Lite, enables fast, agile development of site templates and web components that marketing can use to create new web experiences. For Java developers, CQ 5.4 provides comprehensive Eclipse™ support with native Subversion® (SVN) integration, application build, and deployment support.

### Performance optimization

Built-in instrumentation aids IT developers in identifying and correcting any performance bottlenecks in content delivery. IT developers can access charts that summarize overall page generation times, including a bar chart to identify the contribution of each component on a web page to overall load performance.

### 24x7 operational support

CQ 5.4 delivers true enterprise-class support for mission-critical Web 2.0 sites. IT developers can update web content, entire websites, and even server-side application components—all without having to rotate, take down, and restart servers. CQ 5.4 zero downtime support also enables full online hot-backup and hot-join clustering for sites with heavy traffic, minimizing the impact on the site visitor experience. In addition, CQ 5.4 provides full disaster recovery capabilities from backup images, enabling IT to rebuild entire server machines with simple point-and-click ease within minutes.

### On-demand scalability


Robust horizontal scalability ensures that IT can meet site performance goals as new marketing initiatives drive increases in site traffic. Native clustering supports and enables IT developers to quickly add new nodes in the runtime environment, hot-join them to an existing cluster, and have new servers automatically configured and operational in just a few minutes.

## Cloud-ready for development, test, and production

CQ 5.4 provides native support for Amazon Web Services (AWS) EC2 and S3 for elastic computing and storage. Leveraging AWS, IT developers can accelerate web development and testing by avoiding costly, time-consuming server provisioning processes. To support new marketing campaigns and peak traffic loads (both anticipated and unanticipated), CQ 5.4 enables IT to leverage the Amazon Cloud for low-cost, near real-time scalability requirements while avoiding the costs and timelines associated with increasing capacity in an on-premise data center.

## Web application lifecycle management and online sharing

With the CQ 5.4 Package Share service, IT developers can centrally host shared application components or entire websites for easy download and utilization on any CQ5 server, whether on a developer's workstation, an on-premise or cloud-hosted development, or a production server.

 Which of these CQ 5.4 features would most benefit you?

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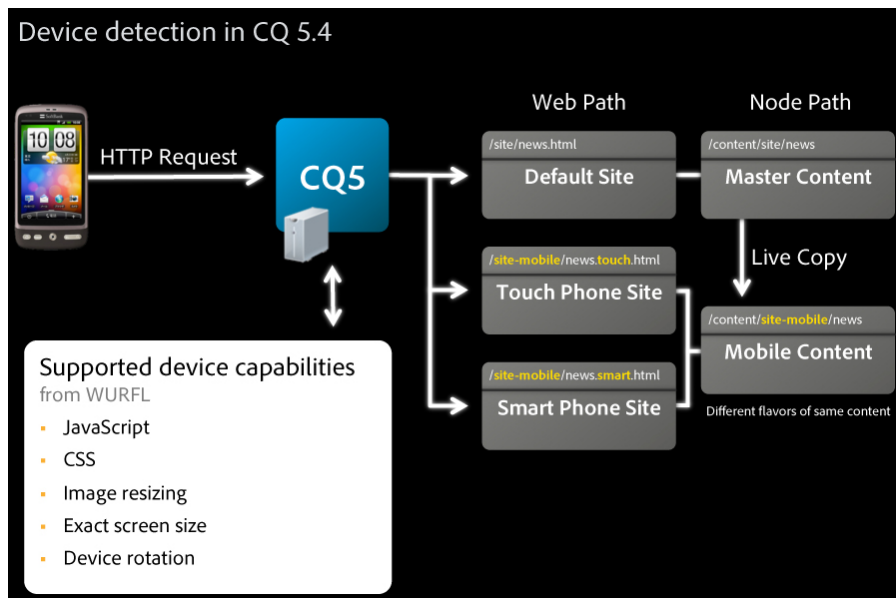
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## The wonders of WURFL



CQ5 takes the guesswork out of configuring content for devices, because it essentially does the work for you.

CQ 5.4 incorporates WURFL, a database that catalogs the configurations of just about every single mobile device in existence. WURFL, used by Facebook and many other sites, is free and open source software, so you can readily look up the details of thousands of devices. WURFL is frequently updated, so you can rely on its configurations being current.

When a visitor sends a request from an "as yet unknown device" to a server, CQ 5.4 pulls information from WURFL and matches the capabilities to high-level device groups that measure the device's screen size, scripts, and other details. Based on that information, CQ 5.4 redirects the device to the master content or to a mobile content version of the page, depending on how the site owner has configured the site.

You can use the LiveCopy feature to reuse content between the experiences targeted for desktop browsers and mobile devices. LiveCopy provides relationships between pages that use the same content and allows the editor to extend and override content. For example, you can adapt content by shortening titles or changing the order of the content on the page.

Here's the step-by-step process:

- From the welcome screen, go to Websites and open a page in the Mobile site for editing.
- Using a visual menu at the top of the page, you can see what your site will look like on various mobile devices. You can populate this menu with all devices or just the ones that interest you.
- In the Tools section, you can look at a mapping configuration, which shows you what the mobile device browser supports. The console gives you three default device groups that you can organize by the number of capabilities, type of device, brand, or any other designation. You can also add groups.

## Improve page-load speed in browsers with client libraries

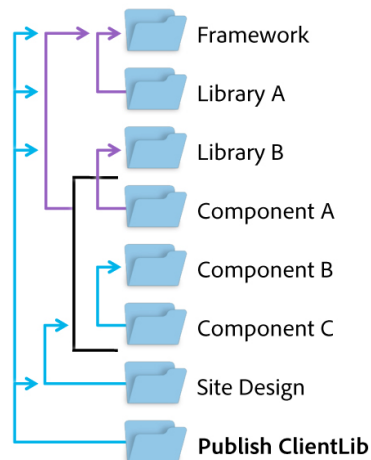
The CQ 5.4 client library feature helps you optimize the speed at which pages are loaded in the browser. Optimization tools, such as Google Page Speed or Yahoo! YSlow, give recommendations to group subrequests for CSS and JavaScript files.

A site has many different libraries for CSS scripts and JavaScripts that reside in different folders, including:

- Framework libraries
- Libraries that are built on the framework
- Folders for scripts and other complex components, like video
- A folder for the site design

### Client Libraries

- Split CSS and JavaScript into different folders
- Express relations between client libs
  - dependencies
  - embed
- Various optimizations
  - concatenated
  - minified
  - gzipped



The client library feature can help you organize these resources to avoid redundancies. To optimize your site files even further, you can organize them in several ways, including concatenation, minification, and gzipping. You create a final folder called ClientLib, where everything about the site is expressed, and everything is put together in one resource.

Here's how this works:

- From the admin site, go in CRXDE Lite and open ClientLib.
- You will see default client libraries, but you can always add more. Each client library contains categories and dependencies, depending how you want them organized.
- When you click on a folder, the mobile rendition includes every component in that folder, plus the other components that are embedded with it.
- Another tab on the screen shows you the same files concatenated together. You can also minify the components by opening a list page, going into the file, and selecting the Minify option to prepare the site for the mobile device.

Another CQ 5.4 client library feature debugs the page. If the source page shows a value that causes an error on the mobile rendition, on some platforms you don't know where the error is coming from. You can click the Debug button and make the necessary adjustments. It can take a long time because it places scripts in separate files, but if you use Firebug, you can set up a console to locate the exact spot of the error.

## Video transcoding

With CQ 5.4, you can use FFmpeg to transcode video. For example, you can drag and drop videos from File Explorer into the asset library. It uploads the video and renders output files for the different browsers and devices. One side of the screen shows you the renditions being created. While that's happening, you can go into the video profiles page and see the settings for each rendition. By default, CQ 5.4 renders MP4 and FLV files, but you can customize it to create more optimized mobile renditions using other formats.

## User-generated content

Now that you know how to render developer content for mobile devices, the next step is to render user-generated content. CQ 5.4 has several features that allow visitors to contribute comments, forums, and other content, which can then be modified for mobile settings. While the reverse replication feature has been around for a while, new enhancements make it more accessible and easier to use.

With CQ 5.4, instead of just reverse replicating user-generated content, you can reverse replicate almost anything.

Generally, content is posted to one or more publish servers and then it goes to an outbox. Content doesn't go to the publish server, because the publish server is in a location where it can't talk to the author server. However, the author server regularly scans for changes to the published content, retrieves those changes, stores them to the author server, and then sends the changes to all the publish servers.

### Reverse replication

What's new in CQ 5.4 is that, instead of just reverse replicating user-generated content, you can reverse replicate almost anything. You start by creating a separate slot for the task, and then you create a workflow trigger that goes off when the content is ready to go. When the content is ready, it goes into the outbox and gets published. In a typical process, a command comes into the page and goes into an author server. If it has been approved and moderated, it goes into the outbox, but if it hasn't been approved, it can be edited and then finalized.

### Managing user-generated content

With CQ 5.4, you can allow users to interact with you and with others on your site but still maintain control.

Two features in particular are great for managing the content that users contribute. The Block Content feature allows you to deactivate certain comments if you don't want them appearing on your page. CheckSpam, which requires an API key to be activated, helps eliminate spam from your comments section by scanning the content on your site.

The Community tool allows you to see all the content that comes into your site. It also lists the status of each entry to indicate whether it has been approved or denied, and whether it is spam. This tool is extensible, so even nontechnical staff can look at or even modify what comes into your site, as well as what's published in the mobile content. You can allow users to interact with you and with others on your site but still keep control over what gets displayed.

## Marketing automation and optimization

CQ 5.4 can be integrated with the Adobe Online Marketing Suite applications to keep your mobile site as optimized as your traditional site. Adobe SiteCatalyst<sup>®</sup>, powered by Omniture, performs analytics on your web page, and Adobe Test&Target<sup>™</sup>, powered by Omniture, helps you send relevant content to users.

The Clickstream Cloud can be enabled to collect information about your visitors. Based on that information, you can start changing or personalizing content to match user behaviors. CQ 5.4 sends the tracking information that other tracking programs do, but it also sends information on every click that happens on your site, as well as data on the users who do the clicking. You can then decide whether to populate SiteCatalyst with this information, matching the data with a specific field of your choice.

The information can also go into Test&Target for sending more targeted content. You can still manually manage your content in CQ 5.4, but you can do so with much more complete and accurate information.

CQ 5.4 works really well with the Adobe Online Marketing Suite to make mobile web tracking and optimization easier. For example, the Events feature lets you track all activity that happens on your website. You can track the number and types of query searches, the number of times content is downloaded, or how long people are looking at certain pages or files. You can send this information to SiteCatalyst, or you can select which types of files or applications you want to track.



Which ways could the integration between CQ 5.4 and the Adobe Online Marketing Suite work for you?

## Creating targeted content with Adobe Online Marketing Suite integration

Here's an overview of how to create targeted content leveraging CQ 5.4 integration:

- The browser requests a page and sets a cookie.
- The clicks are measured against the server, adding information about the user and the device that the user is on.
- From that information, the browser selects the correct mobile rendition. The browser can either request it from CQ 5.4 or Test&Target. This information is tracked so that you can analyze and optimize it later.
- The browser sends the relevant page and context to CQ 5.4.
- The tracking and event information goes to SiteCatalyst.
- Context and targeted content from offers goes to Test&Target, which goes back into CQ 5.4. Nontechnical people can view the data from CQ 5.4, while the technical people can use the development application as they optimize the content.

This process is applicable whether you want to analyze activity throughout your site or just look up events like web searches and downloads.

### In summary

CQ5 WCM is a platform for delivering engaging, multichannel customer experiences to drive online business success. It enables online marketing agility to help organizations attract new audiences, deliver targeted, relevant content, and optimize site campaigns in real time for increased click-throughs, conversions, and revenue.

CQ 5.4 offers several new features for developers and software architects, and it leverages the industry-leading capabilities of the Adobe Online Marketing Suite with integration to its powerful applications.

### Next steps

- Download CQ 5.4 and play with it.
- Update your instance to CQ 5.4.
- Existing customers and partners should visit *Adobe Developer Connection*.
- Partners and developers should join the *Adobe Enterprise Developer Program*.

### Key takeaways

- As mobile devices proliferate, increasing numbers of people are using them to access websites.
- CQ 5.4 from Adobe helps developers make website content watchable on all mobile device platforms.
- CQ 5.4 is based on an open architecture, making use of industry standards.
- CQ 5.4 supports the application developer ecosystem with the incorporation of WURFL, the up-to-date database that catalogs the configurations of all mobile devices on the market.
- CQ 5.4 works with other powerful Adobe applications specifically designed to optimize mobile content.

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<http://seminars.adobe.acrobat.com/p3jzi4dypsq>

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