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Dilithium helps Yahoo! expand mobile reach

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Serving approximately 600 million visitors daily, [Yahoo!](#) is giving video an ever-larger role in its content mix, reflecting its consistent online video strategy from news and sports to entertainment. A leading ad followed by a sequence of short video clips creates an eyeball-catching lineup monetized with the occasional targeted ad. The next step for the Internet pioneer was making the Yahoo! experience mobile.

The company's first mobile offering was built on a batch system to ingest, transcode and deliver content. It wasn't long before the effort of producing 30 to 40 formats for a very dynamic, growing content lineup became overwhelming.

It was clear that Yahoo! Mobile's next generation required a high degree of automation and flexibility, real-time content determination and on-demand transcoding — a programmable solution that could ingest almost any source content and deliver it to nearly any handset on the market. With these objectives guiding its technology decisions, Yahoo! built the next generation of Yahoo! Mobile on the [Dilithium](#) Content Adapter (DCA) platform. The Dilithium DCA automates the transcoding of nearly 40 outputs per clip. Because it transcodes on-demand, the first user request for new content automatically triggers the transcoding. On-demand preserves the time sensitivity of news items and reduces pressure on operation centers. Software-based, the DCA's transcoding capabilities expanded Yahoo!'s reach to iPhone OS 2.0, BlackBerry, Android, Palm, Nokia, Samsung and most 2.5G and 3G handsets from a single platform.

Yahoo! aimed to serve 5000 concurrent sessions initially, but the system has to keep growing. To reach maximum session capacity per server, the DCA remembers what it has already transcoded. Once content has been adapted it is stored in cache, from which all future requests are served, maximizing server throughput. The DCA also streams clips as a playlist rather than repeatedly returning the user to the WAP interface, and its URL-based API and scriptable interfaces let Yahoo! serve targeted ads and custom playlists in real time on a per-user, per-call basis. The same API allows Yahoo! to serve content at different bit rates, frame rates and codecs for a consistent experience across different networks.

The DCA's clientless approach allows Yahoo! to design and maintain its preferred WAP application and invoke the DCA to serve content on-demand through standard HTTP and URL coding. The open platform approach lets Yahoo! integrate its content security technology into the DCA without professional services. Because Dilithium software runs on standard Intel-based servers with no custom hardware or DSP requirements, Yahoo! can deploy its server resources more effectively — the DCA grows as Yahoo! video traffic grows.

As Yahoo! continues to evolve its mobile video strategy, Dilithium's DCA continues to be a partner, enabling Yahoo! to deploy new revenue-generating services and applications with advanced technical features such as live streaming, caching, stream splitting, dynamic bit rate adaptation and support for the full-featured iPhone OS3.

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