



December 8, 2016

Via Email (mshanahan@generalpatent.com)

Michael E. Shanahan
Vice President & General Counsel
General Patent Corporation
Montebello Park
75 Montebello Road
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Re: Bradium Technologies LLC Patent Portfolio

Dear Michael,

I write to you to follow up on our recent conversations and respond to the presentation you provided in your August 15, 2016 email to me. The presentation includes a claim chart asserting that claim 2 of U.S. Patent No. 7,139,794 covers Apple Maps. Your April 19, 2016 letter further asserts that the use of Apple Maps infringes Claims 1, 3, 4, 5, 6, 7, 9 and 12 of U.S. Patent No. 7,908,343, Claim 1 of the '794 patent, Claim 1 of U.S. Patent No. 9,253,239, and Claims 8 and 15 of U.S. Patent No. 8,924,506. However, you have not provided any claim charts or explanation of why you believe Apple infringes those claims.

Apple respects the valid intellectual property rights of third parties. We have carefully considered the information you have provided, but as explained below we do not believe that a license is required. This letter sets forth a high-level summary of our investigation, and we reserve any omitted non-infringement, invalidity, or other defenses in the interests of brevity.

As an initial matter, Bradium has asserted infringement against Microsoft, who then initiated *Inter Partes* Reviews (IPRs) for all four of the patents. Moreover, it is our understanding that the PTO has already instituted IPRs for the '794, '343, and '506 patents, and the IPR for the '239 patent is still under review by the PTO. We have reviewed the prior art cited by the IPRs and do not see how the claims of the patents identified by Bradium are distinguishable from the cited art. Therefore, we believe the claims are invalid.

Aside from the prior art cited in the IPRs, there is a host of other invalidating prior art. For example, years before the Bradium patents, Eastman Kodak developed FlashPix technology in collaboration with Hewlett-Packard, Live Picture, Inc., and Microsoft to run on HP and other computers running,

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Bradium Exhibit 2050



among others, the Windows OS. FlashPix was a well-known image format for presenting high resolution images to viewers over the Internet, as well as for desktop applications. In 1996, more than 4 years before the earliest claimed priority date of the Bradium patents, Eastman Kodak published a specification ("FlashPix Format Specification Version 1.0") and a White Paper ("FlashPix format and Architecture White Paper") describing the technology. Both are attached herein.

As stated in the White Paper, "FlashPix files are stored at multiple independent resolutions" where "each resolution is sub-divided into square tiles." *White Paper*, p. 16. The FlashPix technology included update image parcels that comprised an array of tiles for each of several independent image resolutions. FlashPix files were also designed to be accessed over the Internet ("The FlashPix format will enable interactive Web pages that provide rapid pans, zooms, and access to images for display or high-resolution printing"), which resulted in issuing requests to a server for update image parcels and receiving, and displaying them.

On the server, the image tiles are processed to obtain a series of K_{1-N} of derivative images of progressively lower image resolution:

The hierarchy is created by starting with the highest resolution level, determined by the resolution level(s) of the capture device. To create each consecutive lower level in the hierarchy, FlashPix-optimized applications and peripherals decimate the image in half vertically and horizontally. The hierarchy stops when the image can be fully represented in a single tile, 64 pixels square.

White Paper, p. 20. As stated, each resolution differs from the higher by a power of 2, and each tile size is 64x64 pixels. Additionally, the White Paper discloses use of JAVA and Netscape Navigator plug-ins for displaying images in FlashPix format. *Id.* at 19.

The White Paper further describes that each FlashPix parcel may be compressed (optional JPEG or color compression), and the array of tiles can be independent of the pixel resolution. *Id.* at 22. The systems described in the White Paper could be implemented using HP computers, which were known to run Windows OS and Netscape Navigator, and all of which were multi-threaded machines, operating systems, and/or browsers.

The above-mentioned art demonstrates that the technology claimed in the patents identified by Bradium was well known in the art, thus rendering those patents invalid.



For at least the exemplary reasons set forth above, Apple does not believe that a license is required. If you disagree, please provide us with a detailed explanation of how the claims of the patents have applicability to any Apple product or service, and how the patents are not invalid over the prior art. Absent further information from you, we will consider this matter closed.

Sincerely,

Jeffrey V. Lasker
Senior Counsel, IP Transactions