

Indirect Infringement in the Internet of Things (IoT)

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The Internet of Things (IoT) is a network of devices including electronics and software that allow these so-called "things" to exchange data. Many titans of the tech industry are now selling IoT devices and are thus obtaining patents on such devices, preparing for potential patent wars. The rapid rise of IoT devices raises issues of indirect infringement of U.S. patents.

For example, patenting IoT devices may often result in a multi-actor method claim and/or a system claim, because steps and functions are often performed respectively by multiple devices such as a smart speaker and a cloud server. To prove infringement of multi-actor method and system claims, patent practitioners have to consider theories of divided infringement and indirect infringement. Because divided infringement requires one to prove that an entity (*e.g.*, a service provider of the cloud server) directs or controls another's performance (*e.g.*, a user of the smart speaker)¹, indirect infringement may be the preferred, slightly easier theory to pursue.

In *Centillion Data Systems, LLC v. Qwest Communications International, Inc.*, 631 F.3d 1279 (2011), the Federal Circuit held that to "use" a system for infringement, a party must put the invention into service, *i.e.*, control the system as a whole and obtain benefit from it. In this case, because customers of Qwest (the service provider) put the system into operation by initiating a demand for the service, the customers "used" the system for possible direct infringement and thus possible indirect infringement by Qwest.

While drafting claims for IoT device patents, patent prosecutors must keep the *Centillion* case in mind, along with the elements of indirect infringement. For instance, to prove induced infringement of a patent claim, there must be the following:

¹ See *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 797 F.3d 1020 (Fed. Cir. 2015)

- 1) Direct infringement;
- 2) Accused infringer induced infringement; and
- 3) Accused infringer knew or should have known that its actions would induce infringement.²

Accordingly, the first strategy for drafting IoT device claims that may be easily infringed under an induced infringement theory is ironically to draft claims for strong direct infringement. Method steps should be actively performed by an end-user device, not an end-user. Software functions should be actively performed by a processor executing instructions, not by a display or sensor.

A second strategy is to draft claims targeting evidence of inducement. Often, while drafting claims, patent prosecutors consider only their client's product and/or the competitor's product. While this practice is still adequate for a direct infringement theory, an additional induced infringement theory may be triggered if claims are drafted toward evidence of inducing use of a product, such as test software made and used, a master copy of software made and used for preinstalling and/or downloading the software, instructions on how to use the product, customer service on how to use the product, and marketing regarding an infringing use of the product.

To prove contributory infringement of a patent claim, there must be the following:

- 1) Direct infringement;
- 2) Accused infringer knew the combination for which its component was being made was patented and infringing;
- 3) Component has no substantial noninfringing uses; and
- 4) Component is a material part of the invention.³

² See 35 U.S.C. § 271(a)-(c).

³ See *id.*

Another strategy for drafting IoT device claims that may be easily infringed under a contributory infringement theory is to draft a patent specification to target a component of an IoT device. That is, the specification should start with standard broad descriptions and figures of the IoT, and continue with descriptions and figures describing the IoT device at a high level, including the device's components, *e.g.*, a processor (*e.g.*, "FIG. 2 shows a smart device 110a including a processor 205 and a memory 210."). If possible, the specification can even go to a more granular level and use descriptions and figures describing a specific, inventive portion of a component of the device (*e.g.*, "FIG. 3 shows the memory 210 including a display module 305 executable by the processor 205."). This is called "cascading," and it allows courts and litigators to draw a narrow box around a smaller component (*e.g.*, the display module 305) to avoid substantial noninfringing uses of a larger component (*e.g.*, the processor 205).