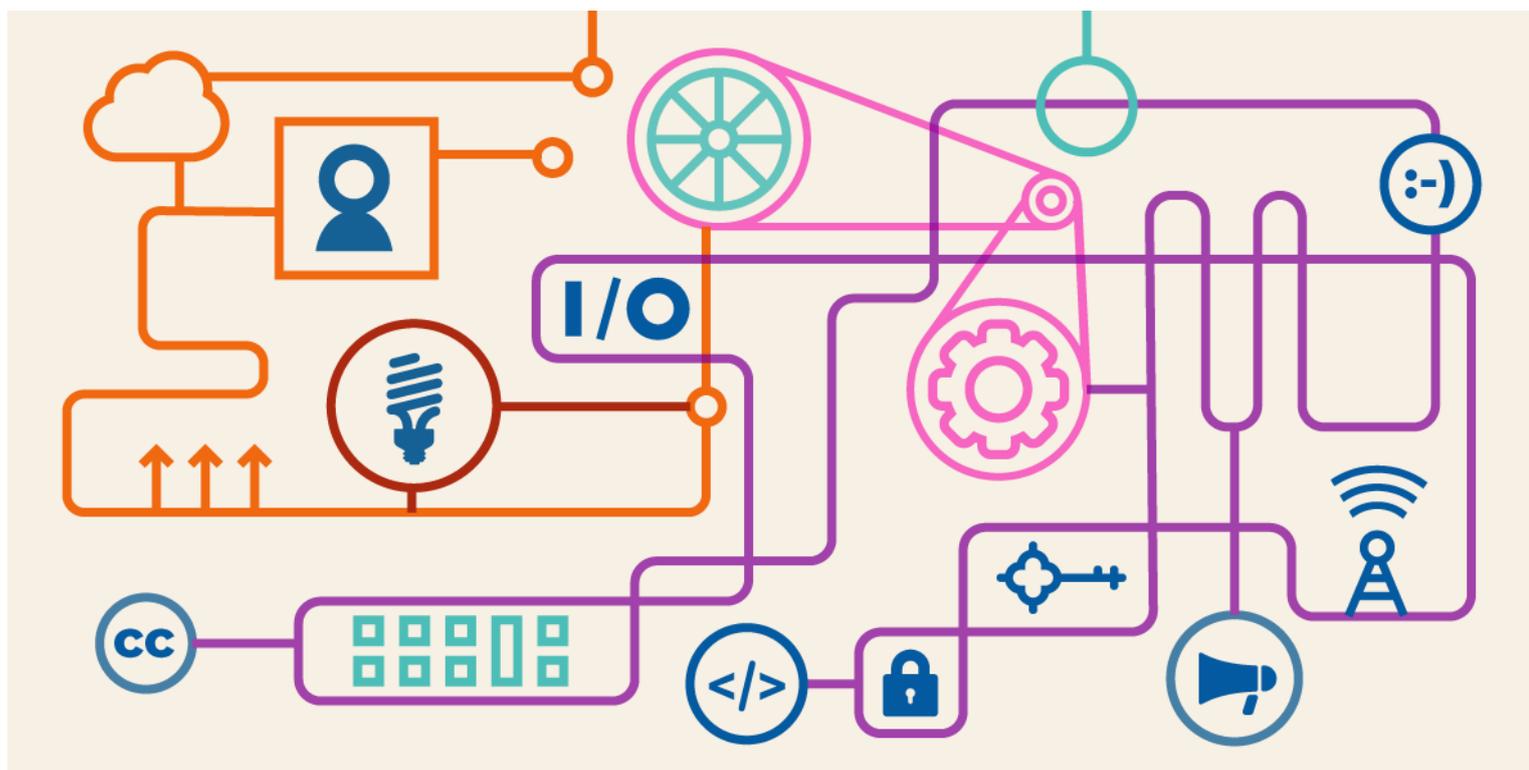


# SAMBA versus SMB: Adversarial Interoperability is Judo for Network Effects

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Before there was Big Tech, there was "adversarial interoperability": when someone decides to compete with a dominant company by creating a product or service that "interoperates" (works with) its offerings.

In tech, "network effects" can be a powerful force to maintain market dominance: if everyone is using Facebook, then your Facebook replacement doesn't just have to be better than Facebook, it has to be so much better than Facebook that it's worth using, even though all the people you want to talk to are still on Facebook. That's a tall order.

Adversarial interoperability is judo for network effects, using incumbents' dominance against them. To see how that works, let's look at a historical example of adversarial interoperability role in helping to unseat a monopolist's dominance.

The first skirmishes of the PC wars were fought with incompatible file formats and even data-storage formats: Apple

users couldn't open files made by Microsoft users, and vice-versa. Even when file formats were (more or less) harmonized, there was still the problems of storage media: the SCSI drive you plugged into your Mac needed a special add-on and flaky driver software to work on your Windows machine; the ZIP cartridge you formatted for your PC wouldn't play nice with Macs.

But as office networking spread, the battle moved to a new front: networking compatibility. AppleTalk, Apple's proprietary protocol for connecting up Macs and networked devices like printers, pretty much Just Worked, providing you were using a Mac. If you were using a Windows PC, you had to install special, buggy, unreliable software.

And for Apple users hoping to fit in at Windows shops, the problems were even worse: Windows machines used the SMB protocol for file-sharing and printers, and Microsoft's support for MacOS was patchy at best, nonexistent at worst, and costly besides. Businesses sorted themselves into Mac-only and PC-only silos, and if a Mac shop needed a PC (for the accounting software, say), it was often cheaper and easier just to get the accountant their own printer and backup tape-drive, rather than try to get that PC to talk to the network. Likewise, all PC-shops with a single graphic designer on a Mac?that person would often live offline, disconnected from the office network, tethered to their own printer, with their own stack of Mac-formatted ZIP cartridges or CD-ROMs.

[...]

Someone attempting to replicate the SAMBA creation feat in 2019 would likely come up against an access control that needed to be bypassed in order to peer inside the protocol's encrypted outer layer in order to create a feature-compatible tool to use in competing products.

Another thing that's changed (for the worse) since 1993 is the proliferation of software patents. Software patenting went into high gear around 1994 and consistently gained speed until 2014, when *Alice v. CLS Bank* put the brakes on (today, Alice is under threat). After decades of low-quality patents issuing from the US Patent and Trademark Office, there are so many trivial, obvious and overlapping software patents in play that anyone trying to make a SAMBA-like product would run a real risk of being threatened with expensive litigation for patent infringement.

[2]

[Microsoft](#)

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[1] <http://www.tuxmachines.org/taxonomy/term/62>

[2] <https://www.eff.org/deeplinks/2019/07/samba-versus-smb-adversarial-interoperability-judo-network-effects>