

# Skype: Competing with Free

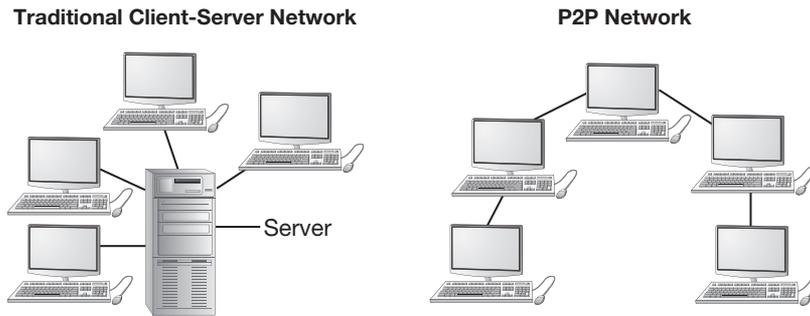
Skype is widely recognized as the first successful “free” telecommunications company. It was founded in 2003 by Niklas Zennström and Janus Friis. A peer-to-peer voice-over-Internet-protocol (“VoIP”) network, Skype experienced incredible growth and wide acceptance, to the point where, five years after its founding, the company was valued at \$2.4 billion and acquired by the multinational online-marketplace corporation eBay. Deriving its name from the combination of “sky” and “peers,”<sup>1</sup> Skype was later divested by eBay and subsequently sold to software giant Microsoft in 2011 for \$8.5 billion, the largest acquisition in Microsoft’s history.<sup>2</sup> The acquisition by Microsoft showed its confidence in Skype’s future potential, but it also highlighted Microsoft’s need to address emerging “free” telecommunication services being offered by some of its primary competitors, including tech giants Google and Apple. With over 663 million registered users worldwide at the time of the Microsoft acquisition, Skype’s market share was dominant to say the least. The question Skype now faced was could this dominance continue with such large new competitors entering the market? Skype’s customer pool had primarily come from converting traditional telecommunications providers’ customers to Skype through the combination of cheaper prices, quality service, and ease of use. Were there more ways to disrupt these existing traditional players and steal further share? And would the company’s “freemium” business model continue to sustain its grand aspirations, or would modifications be necessary in light of evolving market factors?

## Background

When Niklas Zennström and Janus Friis created Skype in 2003 with \$20 million in venture capital funding, their plan was to leverage the existing peer-to-peer (“P2P”) technology they had previously utilized at Kazaa, a P2P file-sharing application they had launched, which became popular as a way to share music over the Internet. Like Kazaa, Skype avoided the traditional client-server architecture by choosing a peer-to-peer model, which allowed for direct communication between users or nodes. Skype argued that decentralized P2P networks had many advantages over client-server networks, including (i) the ability to scale indefinitely without increasing required search time or costly centralized servers and (ii) self-sustainability resulting from the fact that end-users’ processing and networking power increased proportionately with the network itself.<sup>3</sup> Napster used a client-server network, which is one reason it was able to be shut down—by shutting down the server, federal authorities were able to deactivate the entire system (see **Exhibit 1** for a comparison of a P2P versus a client-server network).

Skype utilizes two primary IP-based communications techniques: (i) Firewall and Net Address Translation (“NAT”) Traversal and (ii) global, decentralized user directory. As described on the company’s website regarding Firewall and NAT Traversal:

*Non-firewalled clients and clients on publicly routable IP addresses can help NAT’ed nodes communicate by routing calls. This allows two clients who otherwise would not be able to communicate to speak with each other. Calls are encrypted end-to-end and proxies with spare resources are chosen, so the performance for these users is not affected.*



**EXHIBIT 1** Comparison of Client Server Network versus P2P Network

A global, decentralized user directory was also imperative to Skype's technology. Typically, a centralized directory is required for instant messaging and communications software in order to link a user's identity with a dynamic IP address. However, central directories can be very expensive to maintain as a user base escalates into the millions. In order to avoid this, Skype relies on Global Index P2P, a multi-tiered network in which supernodes communicate in such a way that every node in the network has full knowledge of all available users and resources with minimal latency. A supernode is any node (i.e., connection point, redistribution point, or communication endpoint) that works as a relay for the network, essentially a proxy server, handling data flow and connections for other users.<sup>5</sup> According to cofounder Niklas Zennstrom, "Our supernode technology allows us to efficiently route calls which improves call speed and quality."<sup>6</sup> Certain high-speed Internet connections, such as those at universities, become susceptible to supernodes and therefore have banned the service.<sup>7</sup>

## Rival Technology

Skype uses a proprietary signaling communications protocol while many of its competitors use Session Initiation Protocol ("SIP"), an open network protocol that uses proxy servers to route information to a user's current location, authenticate users and authorize service for them, and deliver user features. SIP also has a registration function in which proxy servers are used to disseminate requests once a user uploads his or her current location. SIP is a flexible protocol; however, it is hampered by NAT and Firewall restrictions.<sup>8</sup> Popular SIP providers include Vonage, Jive, and Nextiva.

Web Real-Time Communication (WebRTC) is another rival technology that has begun to emerge since its release by Google in 2011 as an open-source project. WebRTC allows for telephony, instant messaging, video, and file transferring, but through web browsers, eliminating the need for softphones.<sup>9</sup> One of its biggest benefits is that it does not require plugins, which can be complicated and error-ridden, dissuading users from trying the product.<sup>10</sup>

## Products

Skype users must have the company's downloadable software on their device in order to use the service. Software is available for free and runs on major operating platforms, including Microsoft Windows, iOS, Linux, Android, Blackberry, and Symbian. The technology allows Skype users on computers, mobile phones, tablets, home phones, televisions, and other mobile devices to connect with other Skype users via voice, video, text, and file sharing.

For voice calls, Skype users can call anyone else on Skype for free, anywhere in the world. Calls to mobile and landlines worldwide require a fee payable on an as-you-go basis, or on a monthly subscription basis. Skype allows users to have a phone number to receive non-Skype calls, as well as access to call-forwarding, caller ID services, international calling, and group calls with up to 25 people. Video calling (both one-on-one and group) is available in a basic one-on-one format free of charge. The company also offers messaging services through video, instant messaging, text, or voice. File sharing, including photos and video, can also be done by simply adding the file into the Skype chat.

## Acquisition History

After growing its user base to 54 million registered users, 2.7 million of which were premium service customers, the company was acquired by eBay for \$2.6 billion. The transaction also carried up to an additional \$1.5 billion of earnouts for Zennstrom and Friis, contingent on reaching 2008 profit targets as well as revenue and user count goals. For eBay, the acquisition price, including earnouts, represented approximately 5% of its market value.<sup>11</sup> eBay's management noted the following key benefits related to its acquisition of Skype:<sup>12</sup>

*Accelerating existing categories:* Categories requiring highly involved, complex, and expensive purchases, such as motor vehicles, business and industrial goods, collectibles, jewelry, sporting goods, and musical instruments, could benefit from connecting buyer and seller directly through Skype. These types of purchases require significant communication about product details, shipping, and so on, and they are less suited to transaction-based monetization. eBay hoped Skype's features could take over the site's text messaging system, which had been in place to that point. In addition to accelerating existing categories, eBay hoped that the introduction of Skype would open new categories, such as vacation packages, which required more support than the listing and text messaging available on eBay prior to the acquisition.

*Expanding global footprint:* In many international markets at the time of Skype's acquisition, eBay was still working to establish its foothold. eBay management believed that Skype, with its stronger worldwide presence, would help the company in its expansion into these markets. They also believed the new communications capabilities Skype provided would provide ways to further build trust between buyers and sellers across borders.

*Great stand-alone business:* Not only was the acquisition seen as having the potential to synergistically help eBay, but the company's management also looked at Skype's potential on a stand-alone basis. It pointed to Skype's large and growing opportunity in the market of global broadband and VoIP usage, its leadership position in the market, and its successful executive team.

Despite the fairly convincing arguments in favor of the acquisition, many wondered why eBay chose not to simply license Skype's technology or use their services, embedding them in the platform. eBay's own doubts appeared to be confirmed when in 2009, only four years later, it decided to divest the majority (65% stake) of Skype to an investor group including Silver Lake, Index Ventures, and Andressen Horowitz for \$1.9 billion in cash. eBay's remaining 35% stake, however, still allowed it to participate in future profits created by the new owners.<sup>13</sup>

Less than two years after eBay's divestiture, Skype found itself with new owners once again, being acquired by software giant Microsoft for \$8.5 billion, making it Microsoft's largest ever acquisition. Although there was much speculation as to whether Microsoft overpaid for the Company, which recorded revenues of \$860 million the year before in 2010, most agreed that Microsoft's strategy was to utilize Skype's popularity to increase appeal across its existing software offerings and to enhance the functionality of its hardware. For example, Skype's integration in Microsoft's Outlook software could enhance appeal for business users, and voice and video communication would appeal to Microsoft Xbox gaming enthusiasts as a way to better connect with other online players.<sup>14</sup> At the time, Skype had approximately 663 million subscribers worldwide, of which approximately 170 million were active users, and had logged over 207 billion minutes of video and voice conversations the previous year.<sup>15</sup>

## Revenue Model

From its inception, Skype has utilized a "freemium" business model in order to generate revenue. "Freemium," a neologism derived from the combination of "free" and "premium," is a pricing strategy that involves introducing a free basic product or service to gain widespread