

# Technology report

## skype



**ASSIGN  
BUSTER**

The famous first words were spoken by Alexander Graham Bell to his assistant Thomas A. Watson over the telephone, " Mr.. Watson, come here. I want to see you" (" Alexander). Since those first words were spoken, telecommunications has grown into a \$1 trillion global industry (Fordham). Today, nearly everyone in the world is connected by some form of telecommunication technology. However, the majority of technologies offered come with a high price to consumers.

In April of 003, the first words spoken using a free program downloaded over the Internet called Keep were spoken between two of the original developers of the program, " Hello, can you hear me? Less than one year later, Michael Powell, chairman for the Federal Communications Commission (FCC) stated: I knew it was over when I downloaded Keep. When the inventors... Are distributing for free a little program that you can use to talk to anybody else, and the quality is fantastic, and it's free-it's over.

The world will change now Inevitably (Roth). The potential threat to the electroluminescent Industry of free Internet calling was recognized as a disruptive technology, a technology that would revolutionize the principles of the telecommunications industry. Keep Technologies S. A is a global company based out of Luxemburg. It's software, Keep is a communication software application that uses voice over Internet Protocol (POI) and peer-to-peer technology (POP) to connect users to both other Keep users and non-users globally (Keep. Mom). You can make audio calls, Instant message (MIM text, share files, make video calls. And even leave both audio or video voiceless using Keep (Vogue). As the Keep website states, the only requirement to use Keep is " Access too broadband Internet connection".

However, the most amazing feature of Keep is that the majority of applications this software offers won't cost the user a single penny, they are free (Keep. Com).

Today, with more than 408 million users, and growing at an estimated 30 million new users per quarter, Keep is the most popular software program of its kind. Keep users spent more than 33 billion minutes communicating to people in other countries in 2008, accounting for more than eight percent of all international voice communication, and making it the largest cross-border provider of voice communications in the world ("Keep Company Profile).

Yes, there are a number of other similar programs to Keep available, but "Keep is the one whose name has become a verb" ("Can Keep Beat") Due to Keep's clear voice quality, quality of service, simplicity in use of features and applications, availability through Mac, Linux, and Microsoft, and most importantly its early start in the industry, it has been the most successful program of its kind (Vogue). However, in Keep's brief history, it has endured many challenges and changes. Nikolas

Cementers and Janis Frits founded Keep in 2003, but the story of Keep began 4 years earlier in Amsterdam. Cementers and Frits "felt as though they were missing" an opportunity in the dot. com industry, and left their jobs to found and create their own company. Both had significant prior experience in the telecoms industry from Cementers hired four programmers from Estonia, with whom he had worked with in his former job. Together, they invented Aziza (Roth). Aziza was a POP file sharing disruptive technology program similar to Anapest that upset the global record industry.

After Anapest was shutdown in 2001, Aziza immediately took off, and in 003, with more than 31.5 million downloads, it was the most downloaded program in the world ("Can Keep Beat"). Although Aziza was very popular with the consumer, it was just as unpopular with the music industry. Cementers and Frits soon faced many legal issues. In 2002, Aziza was sold, and its inventors distanced themselves as far away as possible from it (Roth). While continuing to face legal issues with the music industry over Aziza, Cementers and Frits saw a business opportunity in the telecommunications industry.

They set out to accomplish the same idea and principles behind Aziza and apply them to the telecommunications industry, "The true of telephony, is free worldwide telephone calling", stated Frits in a 2003 interview (Roth). Internet calling programs were being developed by companies like Peonage at the time, and there was huge potential in the future of the technology (Fordham). Internet telephony programs simply turn the user's voice into streams of data and use the Internet to transmit digitized voice data from one user to another, instead of using the telephone company's lines ("Voice Over Internet").

Working with the established and successful team from Aziza, and programmers and developers from a new company they had formed, Jolted, they started work on an Internet calling software program they named Keep. The POP technology that had originally been developed for Aziza was both the revolutionize idea behind Keep, and what continues to give Keep the advantage in today's market (Roth). They created the first version of Keep that could be downloaded for free by users, and at very low cost to the company, due to how their POP technology was established.

The first version of Keep offered voice over Internet Protocol (POI) telephony services and PC-to-PC calling (Keep. Com). The significance of the history and innovation of POP and POI technology that Keep uses today is important to discuss. Voice over Internet Protocol allows users to talk over the internet, and the hybrid POP system used in Keep revolutionized networking systems. Without these technologies, Keep would not have the advantage it has over competitors today, both the company and the software program would not exist. The name Keep was derived from the POP technology incorporated in the program.

Originally called Sky peer-to-peer, it was then shortened to Skipper, and later to Keep (Keep. Com). Peer-to-peer technology was popularized in the early 21st Century by the music file sharing programs Anapest and Aziza, which proved POP technology to be a potentially disruptive technology (" Can Keep Beat"). Despite the controversy over the legalities and " fair use" of POP technologies and file sharing, many businesses and website stand behind the belief that POP technologies will not only revolutionize networking, but that they are the future of internet networking (Cope).

POP technologies connect and enable users to easily and effectively share, search for and download files over the internet. Many different versions of POP technologies and networks exist. Keep borrows the hybrid POP technology and network that was initially developed for Aziza (" Peer-to-peer). This allows for files to be shared directly between systems on the network without well as a client (Mitchell). Every new user added to the network, increases the processing power and the capacity of the communication channels.

By “ decentralization resources”, Keep has the ability to grow it’s customer base indefinitely, while maintaining a very small infrastructure, at little to no cost per each user added (Roth, Cope). Similar POP systems used by Anapest and Peonage are considered centralized networks, because at their core, they require a server. Unlike the system used by Aziza and Keep, users are networked through the server maintained by the company. As new users are added, the capacity of the server is filled, and a new additional server is needed (“ Peer-to-peer”).

This centralized infrastructure comes at a high cost to the company, forcing them to charge for their services. Peonage is the top provider of paid for Internet calling, and each new customer added to the system costs Peonage roughly \$400, unlike Keep where there s little to no cost added per additional user. Unlike the systems used for Aziza and Keep, the servers also keep a record of the files stored on customer or user computers. The server maintained records are the reason why the success of Anapest was so quickly ended, and why Aziza was able to endure for a longer time period unnoticed (Roth).

Voice over Internet Protocol software, often referred to as Internet telephony, turns the user’s voice into digital data and uses the internet to transmit the data (“ Voice over Internet”). Voice over Internet Protocol technology was not an original invention developed for Keep. Poi programs and technology had existed many years prior to the development of Keep. Early POI technology was not available on the commercial market, until 1995 when an Israeli company, Vocalist, offered the first free commercial Internet telephony (Fordham).

Early POI programs were difficult to use and did not provide clear voice interaction between users. The potential revolutionize benefits of POI technology were soon realized by developers, and while the phone companies focused efforts on the mobile phone industry, startup companies deploying POI technology quickly grew under the radar, asking advantage of the fiber optic ground work the phone companies had spent billions of dollars and an immense amount of time laying down for the Internet. However, in 2000, when the dot. Mom bubble burst, the majority of POI technology companies did not survive, reinforcing the belief of the telephone companies that POI technology was not a threat (Fordham). What the phone companies failed to see at the time was that it was in fact the biggest threat to the future of their business. Once again, startup companies like Peonage and Keep took advantage of the situation, reacted fast, going somewhat unnoticed, and built the technology and ramekin that would make them the leaders in the POI market. Keep was focused to the European and Asian markets, while Peonage focused on the United States.

Keep had one advantage over Peonage, and that was the POP system that it used. While Peonage charged a monthly usage fee of \$24. 95 for unlimited calling, Keep allowed users to talk to other Keep users for free (Roth, Fordham). By 2005, the Keep software program had been downloaded more than 145 million times. It had grown from just over 100, 000 users from when it was initially deployed in 2003 to more than 47 million users in less than two years (" Can Keep Beat"). It ad taken time, but the phone companies realized the true threat of Internet calling. New standard for voice transmission, but when. Telecommunication companies immediately started

to develop their own technology in efforts to offer Internet telephony services. A survey taken in 2005 by AT showed “ 43 percent of multinationals either using, testing or planning to switch to Poi” by 2007 (Fordham). The software program had proven very successful and their user base continued to grow, but Keep had just one problem, they had not yet succeeded in earning a profit. Two applications that Keep added to its services early on, and were the ginning of a solution to their problems was Support and the ability to PC-to-PC connect with non-users of Keep.

Support is a service that allows Keep users the ability to call landlines phones from their PC as often as they want (Keep. Com). This service is offered at a very low rate compared to traditional phone lines, either paid each month or at a heavily discounted annual rate. It works very similar too traditional phone, in that you enter the number and make your call. Keep also charges very low service rates when users leave the Keep network to connect to outside users. In 2005, more than 1. Million users were already taking advantage of Support, and Kepi’s revenue, due to these services, caws just less than \$60 million.

Cementers commented that if just a fraction of Keep users took advantage of these pay-for services, Keep would “ generate profits because “ we have no cost per additional user” (“ Can Keep Beat”). Companies such as Google, Microsoft, and Yahoo had jumped on the bandwagon and had either acquired or started their own Internet telephony services. In the search to acquire a POI service, in an effort to compete with competitors, eBay approached Cementers and Frits in regards to acquiring Keep. In late 2005, eBay “ plunked down \$2. 6 billion for Keep”.



The title off FORTUNE magazine article The Net's New Odd Couple best described the acquisition (Lashing's). Cementers was praised worldwide for the deal, while eBay was questioned why they would invest so much money in a company that generated very little revenue. Meg Whitman, CEO of eBay, in regards to the \$2.6 billion acquisition, commented: "I would characterize it as an effort for us to continue to keep expanding the eBay marketplace" (Lashing's). There was potential and reason behind the purchasing of the leading Internet telephony company for both Keep and eBay.

Keep now had a parent company which to operate under. This meant that further applications and services offered by Keep could be focused on, and Keep would be introduced to a much larger market of consumers (Mali, MacMillan). Under eBay, Keep continued to grow, in applications and services offered, upgrades, new technology and in revenue growth. However, by 2007 eBay realized that the acquisition was not performing as initially intended. Cementers had stepped down as CEO, but remained involved in Keep as the executive chairmen.

In 2008, both Cementers and Frits left the day to day operations of the company (MacMillan). Keep was invented in 2003 using revolutionize technologies. Today, it continues to build upon the original product and impress users with new offerings, services and technologies. It is an online community, available to anyone for free who downloads the software. Since 2003, the original beta version of Keep, Keep 0.90, has been modified and upgraded more than 100 times. The most recent available version of Keep, Keep 4. , was released service, clarity, user interfaces, product offerings, service offerings, applications, and many other user features, and is

recognized for its extensive product offerings and or being one of the easiest to use POI programs available (“ Can Keep Beat”). One feature that makes Keep so appealing and user available is the number of systems and products that it is offered for. Keep Software is available for download through Windows, Mac OS X, Linux, phones, Monika Internet Tablets, Sony SSP, Windows Mobile, and on many wireless phones (Keep. Com).

The availability of Keep on operating systems and products allows for the company and product to expand its market reach and continue successful growth. Keep maintains it’s competitive advantage over similar companies by offering a variety of free software. Users can take advantage of free software product offerings including PC-to-PC calling, instant messaging, conference calls, call transfers and call forwarding to other Keep users, and video calls (Keep. Com). Many of these free software products were built on technologies of the past enabled through the POP systems and POI.

Video calling is a technology of the past that with the help of the Internet and software like Keep have now popularized. Often portrayed in movies as a futuristic technology, video calling is almost 50 years old. AT&T first introduced the video telephone to the world at the 1964 World’s Fair. Then it was a revolutionary technology that everyone predicted would be the future of telecommunication, but what happened to it? The idea never really took off. However, in the past decade, video calling and video conferencing have become more popular in both homes and in business.

Keep offers this service to other Keep users worldwide for free. A user can connect to a friend across the globe, and businesses can video conference

instead of having to spend for travel. Although Keep allows for video calling, it still has room to grow to catch up with some competitor. As video calling continues to catch on, features like video vocalism and multi-location video conferencing will become more popular, and both are features that Keep currently does not offer (Vogue). If Keep offered all products and services for free, the company would not be as successful as it is today, nor would it produce any revenue.

Keep generates revenue through pay-for product offerings, and many of these products are on the cutting edge of technology. Support allows for very low cost calls to landlines and mobile phones. Spleen is a product that designates a telephone number directly to the users computer, and allows outside network landlines and mobile phone user to directly call the Keep users computer. Keep vocalism, currently is voice only, although video vocalism will be a future feature. All Keep pay-for software offerings can be paid for through subscriptions or as you use the products with Keep credits (Keep. Mom). Beyond software, Keep also offers a variety of hardware products including cordless phones, video phones, mobile phones and Wi-If mobile phones with Keep built in technology. Hardware also offered by Keep includes headsets, websites, and computer microphones. Dual use Wi-If mobile phones bundled with POI technology are currently believed to be the next wave of user adopted technology. Dual-mode service phones allow users to switch between cellular and Wi-If network use. With Keep available on the phone, users can call other Keep user for free, from anywhere a Wi-If network is available.

Wi-Fi networks are everywhere today, in homes, hotels, free Wi-Fi to attract customers. The Wi-Fi phone market has quickly grown over the past few years, and Keep has the opportunity to truly grow in this industry (Reardon). Although Keep has seen great success and growth, and offers a wide ND diverse product line of both software and hardware, on September 1, 2009, eBay announced that they were selling 65% of Keep to a group of investors and private equity firms for a little less than what eBay had initially acquired Keep for in 2005.

Keep did not create the synergy with eBay, that eBay had thought it initially would. Keep's future looks promising though. The investors and equity firms that acquired the controlling share of Keep not strangers to the company, or the technology, many of them have worked closely with the founders of Keep Cementers and Frits in the sat, and know where Keep needs to go to continue success. The company, technology and services that it offers continue to grow.

Currently the most popular program of its kind and leader in border-to-border communication, Keep is expected to post \$600 million in revenue this year (MacMillan).