The Zoltzar-Arbis Alliance in a Chase for the Fast Lane Market
by Yaron Amir, under the supervision of prof. Dovev Lavie

It was 1999 when the internet gained momentum and imposed challenging requirements for high-speed communication equipment. The industry was offering 2.5GB/Sec chips based on sets of four 622MB/Sec channels, but the market demanded greater bandwidth. Realizing the opportunity, Andi approached his friend, Michael, a serial start-upist that served as head of development in three start-ups of which two were eventually acquired. Andi suggested that they will establish a new start-up company to develop a VLSI chip that supports high-speed communication using the SONET/SDH protocol. The plan was to offer a 10GB/Sec chip with a single channel or as a set of four 2.5GB/Sec channels. Michael was appointed as the CEO of the new company, named Zoltzar, while Andy was responsible for marketing, system engineering, software and hardware. A colleague of Michael from his previous start-up served as the head of development.

In an effort to gain market access, Andi sought to leverage his prior ties to a U.S.-based company called Arbis, that was once a leader with the SONET/SDH protocol, but has since lost its market position and was relying on outdated technology to offer chips at the 622MB/Sec rate, while its competition has already shifted to 2.5GB/Sec chips and was developing the next generation 10GB/Sec chips. Arbis was considered a second-tier player that did not possess the necessary resources or skills for introducing competitive products in the VLSI market, which was crowded with major corporations such as Intel, PMC-Sierra, and AMCC.

The founders wrote a business plan for Zoltzar, raised seed money from friends and family, and sought a first round of venture capital (VC) funding as they were entering negotiations with Arbis. The internet hype made it relatively easy for them to raise $6M from VCs and corporate investors, including Arbis that signed a strategic alliance agreement with Zoltzar.

The alliance agreement with Arbis included cooperation for introducing the chip that Zoltzar was developing to prospect customers such as Nortel, Lucent, Ciena, Siemens, Nokia, Alcatel and Cisco. These customers would then integrate the chip in routers, switches and other products sold to telecommunication companies. The agreement also allowed for Arbis to distribute Zoltzar’s chip directly. The agreement did not specify minimum sales figures and did not offer exclusivity to either party. Arbis received less than a 20% stake in Zoltzar for its financial investment as well as a seat on Zoltzar’s board of directors and a first right of refusal in the case of a tender to acquire Zoltzar.

The three founders debated about the value of the alliance with Arbis. While all of them appreciated the investment, they differed in their views on the business cooperation. One felt that Zoltzar should operate independently with no partners. The second believed that cooperation with a large company is a must to increase sales and reach customers such as Cisco and Lucent, that could become potential acquirers. The third felt that Zoltzar should have signed an alliance agreement with one of the major customers, either Cisco, Lucent or Alcatel.

Despite their reservations, the alliance was initiated and Arbis indeed introduced Zoltzar and its technology to prospective customers. However, over time, Zoltzar began to approach these customers directly after meeting their representatives in conventions, exhibitions and standard-setting committees. It turned out that in many cases Arbis has already approached these customers and offered Zoltzar’s technology without informing Zoltzar and without revealing the fact that Zoltzar owned the technology and intellectual property (IP). The partners maintained monthly conference calls with Zoltzar’s CEO and some Arbis managers. Yet, disagreements remained concerning who should approach prospective customers, leading to mistrust.
The alliance also faced technical challenges in the year 2000. As Zoltzar learned about evolving market needs and competitors’ development plans, their management realized that a 10GB/Sec chip will not be sufficient to gain competitive advantage. They decided to develop a 40GB/Sec chip which was in the planning by only few competitors, such as AMCC, that was considered the market leader. Another challenge arose since Zoltzar relied on a Digital Wrapper – a free protocol offered by Lucent, whereas the competing G.709 protocol became the industry standard once it was under work by ITU – the UN’s committee for communication standards. Zoltzar had observers in the ITU meetings in which the two standards were debated. The needed change in the chip’s architecture delayed progress by three months. Then, when G.709 was announced as the industry standard, additional four months were required to introduce hardware and software modifications despite the flexible design of the external chip.

In 2001 Zoltzar realized that they will also face challenges with the production of the chip since the 40GB/Sec chip required production in a 0.13 micron fab, which was available only to IBM and Infineon. Attempts to contract with one of these companies failed, probably because of Arbis’ prior business relations with that company. Eventually, Zoltzar signed with another company that offered a 0.18 micron technology that could simulate the 0.13 micron fab. However, this complicated the fabrication process and resulted in lower quality and further delays. As the chip design progressed, Zoltzar learned that customers require an error correction mechanism stronger than available in its standard chip. Thus, it initiated the design of the next generation chip, even before the first generation reached production at the end of 2001. Heavy R&D expenses motivated Zoltzar to seek a second round of funding. $7M were raised from existing investors and a new VC at the beginning of 2002.

As Zoltzar began to develop its own marketing channel to customers such as Lucent, Alcatel, and Nortel, it learned that due to the economic slow-down in the telecommunication industry, many customers decided to postpone investments. Zoltzar realized that the next generation chips would offer 10GB/Sec rather than 40GB/Sec rates, so it decided to downgrade its chip, which could now be successfully based on the 0.18 micron fab technology. By that time, however, Zoltzar ran out of funding, so it agreed that Arbis will fund the chip development. As an investing partner, Arbis then took over the development plan and forced Zoltzar to continue the original development of the 40GB/Sec chip. Arbis also provided layout services to Zoltzar, which enabled it to gain exposure and learn the technology that Zoltzar used in the 40GB/Sec chip design. During that time, Arbis was secretly engaging in the development of their own 10GB/Sec chip that was offered to their customers, without Zoltzar’s knowledge. Arbis gradually gained control over Zoltzar and managed to effectively acquire its IP. However, when Arbis failed to complete the development of its 10GB/Sec chip on its own, it contracted with Zoltzar to assist with the completion of the design and layout of its chip. Unfortunately, by that time, competitors were already introducing their 10GB/Sec products to the market, leaving Arbis and Zoltzar behind.

In 2003 Zoltzar laid off half of its 40 employees and ended the year with only 7 employees. The disappointment of the founders and investors led to the closing of the company in 2004. As Andi was leaving Zoltzar’s offices for the last time, he tried to figure out what went wrong: What caused the challenges that Zoltzar faced with its alliance with Arbis? What could Zoltzar have done differently to avoid or resolve the emerging problems?