Computing in the Former Soviet Union and Eastern Europe

by Shane Hart

Introduction

In recent years, great changes have occurred in the former Soviet Union and Eastern Europe. Revolutions have erupted, barriers have crumbled, governments have been overthrown, and the economic condition of the area has become fragile. In the rest of the world, recent years have brought tremendous changes in the computer industry, in terms of available technology, the telecommunications field, and global information systems. How have Eastern Europe and the former Soviet Union fared in this rapidly changing field and market? This paper will take an informative look at the history of computer development behind the iron curtain, the challenges of trying to catch up to Western technology, and will discuss how that has evolved into the modern information and technology market in that area today.

History

Power is inseparably connected to information. In the Western world, power and information are seen as a right of the people. Freedom of the press is encouraged to create an informed public capable of making intelligent decisions. In the former communist countries, power was held by dominating leaders who wished to monopolize information. The potential for information to spread posed serious problems to these leaders [2].

Although computers and their ability to process data presented serious problems to these restricted information societies, the results and possibilities that came from such powerful tools were greatly desired. The perceived power of computers forced the citizens of the eastern bloc nations to develop computer skills, hoping that information access could continue to be tightly controlled in the process [6].

The Soviet Union's first major computer project was launched in repsonse to the American Apollo space exploration missions. The Soviets considered American computers to be the key reason for the accomplishments of Apollo. Prime Minister Kosygin expressed deep dissatisfaction with Soviet research and development at that time, particularly with the weaknesses of the computer industry in the economic race with the West [2].

In the early 1970s the most widely used and produced systems in the Soviet Union were functional duplicates of successful IBM, Digital, and Intel systems that were introduced to the market between 1965 and 1968. Soviet computing began to focus on developing and using large mainframe computers. This kind of computer was a necessity for the defense and space industries. Mainframes were also appropriate for centralized use in administration and economic planning. They could also be assigned to major central agencies and kept under close control [2].

In 1984 the Soviet academic and scientific elite were reported as believing that something had to be done to raise computer consciousness in the Soviet Union; otherwise, the East-West gap in electronic technology would become unbridgeable. Soon after, the Politburo took measures to raise computer competence and to foster the application of computer technology in secondary schools. A mixed sector consisting of private organizations such as cooperatives, state enterprise spin-offs, joint ventures with foreign partners, and wholly owned foreign subsidiaries began to emerge [5]. Some speculate that this was a major influence to the crumbling of communism.

In Poland, leaders and computer experts promoted an entirely new perspective for computing in Eastern Europe. Government leaders employed programmers to demonstrate the power of adopting new computing models. They created large-scale applications for the banking and railroad industries. A National Information System was envisioned, providing direction to many computer functions. Poland sent computer specialists abroad to the best training centers. From 1971 to 1975 it is estimated that the number of computer specialists grew to 50,000 people. This was a talented group, comparable in skill level to medical doctors in the country [9].

Polish political leaders were not concerned with the threat of unauthorized information exchange. In fact, these leaders hoped to exert even tighter social control than was possible at that time through the use of computers. The program finally came to an end in 1975 after spending a total sum exceeding $10 billion in domestic currency and $200 million in hard currency [9].

The regime in Hungary made great efforts to promote the use of small computers in homes, schools, and businesses. The Hungarian leaders hoped to raise computer consciousness and to bridge the gap in electronic technology between the East and the West. Czechoslovakia and Bulgaria introduced 16-bit computers in the 1980's that were based on Western architectures, although production and component support were limited [9].

Revolution

The information revolution (or computer revolution) of the West escalated at about the same time that political and social reform was happening in the East. In the years 1989 and 1990, changes in Communist nations were substantial: the Berlin Wall was taken down and Germany reunified, Eastern European nations revolted against their totalitarian governments and against Soviet control, and the powerful Soviet Union began to crumble, and its Republics separated into independent nations.

The former communist nations attempted to play catch-up to the West without admitting to ever having been behind. People in the U.S.S.R. and Eastern Europe were desperate to have Western technology [3]. At the same time, the U.S. and other Western nations were scrambling to sell their wares in the new and promising markets of the East. Eastern Europe had a very lucrative market with 14 percent of the world's Gross National Product and 423 million people -- twice the population of the US [1]. It seemed to be a match made in heaven, but several problems immediately arose.

First were problems with laws banning high-tech sales to Eastern Europe. It took a few years to loosen these regulations, costing the U.S. an estimated $9 billion per year in lost revenues. Another obstacle, which still exists today, is the thick bureaucracy of former communist nations. Companies of all kinds have to wade through red tape that can delay them from establishing new locations [7].

Problems also arose from speculations that the information systems would enable the countries to rise in power again. Some experts pointed out that the average person would not be able to afford a computer. Therefore, the only group that stood to gain was the still-feared Soviet military. Poor economic conditions still exist today and continue to limit Eastern investment in the technology of the West [5].

After the opening of the East, the currencies of Eastern-bloc countries were not convertible into U.S. dollars, complicating payment for goods. In an attempt to overcome this obstacle, one U.S. software firm traded its products for several thousand cases of Russian beer. Another bartered for food that spoiled and had to be dumped at sea [3].

Present Day

Great efforts have been made to make it easier to establish a Western business in the East. The Eastern-bloc bureaucracy has thinned noticeably and many Western companies are now conducting profitable business with the former communist nations [8]. However, some problems still exist.

The greatest obstacle for software companies is software piracy. The majority of the computer-using population in the East thinks that it shouldn't be necessary to pay for software. This opinion, coupled with economic conditions, has allowed software piracy to flourish. Hardware companies have not had to deal with the problems of piracy, but have had a struggle against a flood of cheap clones from Asian nations [6]. The governments of the East have passed new laws to prohibit commercial ventures from copying software and while piracy problems have declined, the problem still exists today [6].

Companies also encounter difficulty doing business in a region of political upheaval. When the Czechs voted to split their country into two nations, computer-related sales dropped dramatically [6]. Some problems come from the suppliers themselves and the difficulty of doing business with another culture. A survey showed that clients want suppliers to satisfy their needs on a more personal basis, citing the need for vendors to offer services in local languages, understand local needs, and know other specifics

which vary throughout the region [7].

Sales in the Eastern-bloc started off rather small but are increasing rapidly. Compaq reports 54 percent increased sales in Hungary and also expected a minimum 40 percent growth rate for the first half of 1996. The growth of computer sales in Eastern Europe was described by Compaq as "phenomenal" [4].

Conclusion

Despite software piracy, poor economic conditions, and political instability, Eastern Europe and the former Soviet Union remain an exciting market with great potential for large profits. While the U.S. industry is dominated by a handful of large companies, Eastern Europe represents an opportunity for small companies to flourish. Considerable demand for personal computers in Eastern Europe has created new opportunities for information technology companies.

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