STATEMENT OF

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RESTON, VIRGINIA

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Good morning, Mr. Chairman, Senator Nunn, and Members of the Subcommittee.

As a member of America's high technology industrial community, I note with great interest this Subcommittee's concern over the increasing loss of American technological know-how to the Soviets. I am pleased to be here this morning to share with you my personal experiences in confronting this problem in the computer software industry.

I am currently both President and Chairman of the Board of Software AG of North America, Incorporated, located in Reston, Virginia. Our company focuses on the production and sale of computer software, as opposed to computer hardware. Computer hardware, including microprocessor chips, can be and has been reverse engineered. As a result of Soviet use of that technique, Soviet hardware technology is now nearly equivalent to U. S. hardware technology.

By contrast, software cannot be so easily deciphered and duplicated. Software remains the key to future computer development. Yet, given the inability to reverse engineer, current Soviet efforts at software development are "antique" by comparison to those in the United States. Even the Japanese are approximately many years behind the United States in development of computer software. The United States undoubtedly has both an enormous investment and a substantially important "natural resource" in its technology lead in the software field.

In that context, my company has proven itself as a leader in the software field. Specifically, we have been responsible for the development and manufacture of ADABAS, a Data Base Management System (DBMS) which constitutes the present state-of-the-art for this very important aspect of software technology. DBMS is the implementation tool used by programmers to implement computerized information systems—with an increase in productivity of approximately 1,000%—as compared to conventional computer software technology. Between 1960 and 1980 over one billion dollars has been spent on hundreds of projects to solve the DBMS problem. The current ADABAS Source Code represents the highest level of sophistication yet achieved in DBMS technology. It now includes over 200,000 detailed instructions.

Substantially reduce the size of a computer needed to perform a given say

Like other software, ADABAS is not susceptible to copying by the technique of reverse engineering. By analogy, one might consider ADABAS as the "Coca-Cola formula" of the computer software industry. It is, deservedly, a closely guarded secret: possession of the source code, like the Coca-Cola formula, would be obtained by competitors by the quirk of an identical, independent "invention", sale or theft of the source code itself.

Unfortunately, our task in guarding the source code as a private company, does not stem only from the economic rigors of the competitive domestic marketplace. The most blatant and obvious attempts to secure the secrets of ADABAS have come, not from our American competitors, but from the Soviet Union.

Although the ADABAS source code is not classified, it is considered to be sensitive technology requiring a validated license for export. My story to you this morning will detail not one, but two, focused attempts to secure our computer software know-how for use in the Soviet Union.

In 1979 a Belgian national by the name of Marc DeGeyter contacted our marketing representative in the state of California. DeGeyter wanted the name of the most technologically expert individual in Software AG. He was referred to Jim Addis of our Reston, Virginia office. Jim Is one of two individuals in our company who have access to the ADABAS source code. DeGeyter personally approached Addis, offering him \$150,000 for the purchase of ADABAS on behalf of the Soviets. Addis told DeGeyter that he would have to discuss the offer with his superiors. When Addis told me about the approach by DeGeyter, I immediately contacted the F.B.I.

At their request, I agreed to cooperate by personally dealing with DeGeyter. As part of that cooperation, I agreed to the tape recording of my conversations with DeGeyter concerning the possible sale of the source code. Based on his conversations with Addis, DeGeyter contacted me, confirming the original offer of \$150,000 for the source code. He told me that he had many business dealings with the Soviets in their country; in order to insure continued good business dealings with them on other matters, he needed to obtain the ADABAS source code for them.

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Working with the F.B.I., I negotiated with DeGeyter for a period of approximately seven months, finalizing arrangements whereby I would transfer the source code to him for a price of \$150,000. During those months, I had numerous telephone and personal discussions with DeGeyter. I personally met with him in Washington, as well as phoning him in Belgium and vice versa. I recall that, in at least one conversation, DeGeyter told me that the Soviets had approached him with a specific "shopping list" of technological items needed from American sources. He told me that, as early as three years previously, they had included the ADABAS was a base on that list. Since he could not at first figure out a way to obtain the code, DeGeyter had initially bypassed it and gone after other technology items on the list. The Soviets had evidently changed their priorities and were now insisting that DeGeyter secure ADABAS on their behalf.

My own knowledge of DeGeyter was consistent with his description of his efforts for the Soviets. I knew that DeGeyter had personally approached software expert Charles Matheny some two or three years previously, attempting to hire him to steal selected IBM technology on his behalf. I later learned from a software representative in Amsterdam that DeGeyter had been caught stealing trade secrets and prints from their Belgian plant several years earlier. DeGeyter had taken the items while employed at the plant. Although he had been initially charged in the Belgian courts, he was never convicted of the offense in this country.

I also knew that DeGeyter moved constantly in high technlogy circles. During my negotiations with him, he traveled in and out of California's "Silicon Valley" on numerous occasions. Certainly Silicon Valley might well have been the home of many of the items on the requested "shopping list". When DeGeyter was eventually arrested at Kennedy Airport, Federal agents searching his briefcase found, among other things, numerous telexes from DeGeyter to individuals and companies in Moscow. One such telex dealt with a payoff to DeGeyter. In connection with the payoff, the telex included nomenclature assigned to a new microprocessor chip in the process of development at Intel in Silicon Valley. The chip was not, of course, publicly marketed at the time. In his conversations with me, DeGeyter made no bones about his technology efforts on behalf of the Soviets. He told me that he was not alone in doing so; rather, technology transfer was simply "their (the Soviets) way of doing business."

In discussing the sale of ADABAS, I voiced to DeGeyter my concerns that the source code might eventually be disclosed to our American competitors, in addition to the Soviets. In the contest of a highly competitive American market for computer software, it was certainly realistic to treat the threat of American companies developing ADABAS as more economically frightening than Soviet development. DeGeyter assured me that the source code would not be coming back to the States or to American competitors anywhere. He told me that he was purchasing the code on behalf of Techmash Import, a Soviet trading company and that the Soviets had no interest in furnishing the code to my competitors.

During the course of my negotiations with DeGeyter, I attempted to arrange for the delivery and sale of ADABAS to him in the United States. A planned delivery in this country was necessary in order to successfully prosecute DeGeyter under our export laws. Unfortunately, he insisted that I fly to Brussels for delivery of the code where he would make arrangements for payment of the cash price through a Swiss bank account. When I voiced hesitation to him about delivery abroad and, consequently, the entire transaction, DeGeyter upped the cash price from \$150,000 to \$200,000 plus some California real estate, and later to \$450,000. Of course, by comparison to got investment of \$1 billion over the years, the Soviets were still talking in terms of "bargain basement" prices.

Eventually, our negotiations broke down, due to his unwillingness to agree to delivery in the United States. DeGeyter later contacted Charles Matheny, the owner of a computer company in our building, and asked him if he knew of any other way to secure the ADABAS code on DeGeyter's behalf. The F.B.I. again stepped in and, through the use of undercover operatives, eventually arranged a planned delivery of a "dummy" code in New York. As a result, DeGeyter was eventually charged and sentenced for his efforts to steal the code. I understand that Mr. Greenberg, the Federal prosecutor in that case, will describe that matter in detail for the Subcommittee.

When the DeGeyter case ended I assumed, perhaps naively, that ADABAS was relatively secure from Soviet attempts to buy or steal. In the spirit of American free enterprise, I even used the fact of the Soviet efforts for the potential economic advantage of Software AG. We subsequently purchased magazine advertisements boasting "ADABAS. The Russians weren't smart enough to invent it ... but they knew enough to want it."

Unfortunately, despite DeGeyter's conviction, I soon discovered that the Soviets still want ADABAS and our other software and are, in fact, still trying to secure it. As with other technology companies, Software AG participates in trade

shows on a regular basis. In 1981 a Russian diplomat named Georgiy V. Veremey visited the Software AG booth in at least two separate trade shows in the Washington area. Since he was registered with the show and also provided us with his business card, we have a formal record of the trade show contacts. In both instances, Veremey asked numerous questions concerning the ADABAS source code.

After the trade show contacts, Veremey personally visited the Software AG offices in Reston, Virginia. On September 25, 1981, Veremey arrived, introducing himself as a member of the Soviet embassy staff in Washington, D.C. and requesting to see various documentation on our products. He spoke to Sunday Lewis, a Senior Executive at the Reston office. He told Lewis that he wanted a complete bibliography of all Software AG products. He disclaimed any particular purpose for the request, saying that he was just "interested". He was extremely vague about the nature of his work with the Soviet embassy. After Lewis gave him a standard bibliography and an order form, he left.

On September 26, 1981, Lewis told me about the incident. I told her that, as company policy, we would not sell products to the Soviets. Moreover, I told her that to do so without a license was prohibited by federal law.

On October 2, 1981, Veremey again arrived at the Software AG offices. While waiting for Lewis to return from lunch, Veremey continually wandered in and out of the Software offices despite the receptionist's request that he be seated. When Lewis arrived, Veremey gave her an order for all of Software AG's documents. At a price of about \$400, the documents would fill about twelve boxes. This type of technical documentation tells one how to use various systems produced by Software AG. One would have no use for this unless (1) you have the system or are planning on acquiring it; or (2) you are attempting to develop the system via knowledge of user techniques.

In response, Lewis told Veremey that she could not sell him the documentation. She added that, if he insisted, she would have to first go to the appropriate federal agency to secure the necessary licensing. Veremey laughingly asked Lewis, "what license was issued for the U.S.-U.S.S.R. wheat deal?" He left and, to my knowledge, has not returned since.

Our experiences with both Mr. DeGeyter and, most recently, Mr. Veremey, have increased my frustrations with the current lack of adequate legal protections for American high technology. Despite the fact that software technology is the recognized key to future computer development, the United

States has no current statute which, in my opinion, adequately protects this technology. To the average businessman, the Export Administration Act and its concomitant regulations are, simply speaking, a "terrible hassle". Most industry representatives know that a license is required for trade with the U.S.S.R. Few, however, know which other nations, if any, require export licenses from the Commerce Department. The U.S.S.R. is not, of course, alone in efforts to transfer technology: our own company has also received inquiries on ADABAS from Hungary and Poland. In both instances, we have declined to transact any business.

As for the controlling export lists, when approached by DeGeyter I did not know if any of my products were specifically included on those lists; I strongly suspected, however, that they might well have been. The information currently available to businessmen on U.S. export laws, regulations, and policy in this area is negligible, despite the fact that businessmen are the real key to detection and enforcement. While a few large firms like IBM may be extremely familiar with the lists and regulations, those firms account for only 40% of a software market of \$2.5 billion annually (estimated 1985 production of \$8 billion). The remaining 2,500 companies have 60% of the market. I suspect that representatives of most of those companies are no more aware of these laws and lists than I was.

Lastly, when businessmen such as I do get involved in the enforcement process, the results are oftentimes even more frustrating. In the DeGeyter case, I spent nearly seven months dealing with a man openly working for the Soviets to purchase one of the most significant trade secrets in the U-S. software industry. Despite that fact, he was eventually charged only with misdemeanors under commercial bribery statutes. In my mind, it is entirely incomprehensible that the man was finally sentenced to a jail term of merely four months.

By comparison, I read newspaper reports of a Celanese corporation employee who in June, 1979, was convicted and sentenced to a term of forty years for selling trade secrets to Mitsubishi Plastics Co., a Japanese competitor of Celanese. From the scant newspaper reports, I can glean no evidence of national security interests or Soviet involvement. In sum, a businessman receives forty years for selling trade secrets to a competitor while a Soviet agent receives four months for attempting to transfer one of our most guarded technology secrets to the U.S.S.R. It is, indeed, a sad state of affairs if those cases accurately reflect his country's priorities on technology transfer.