



The Pragmatic Programm...

Bill Gates, Hacker

A Story from the Early Days of Personal Computing



Michael Swaine 

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The term “attack surface” has entered the vocabulary of savvy company executives, with the log4j vulnerability being just the most recent crack to be exploited by hackers. Read how a teen-aged Bill Gates breached a vulnerable attack surface half a century ago.

I swore off computers for about a year and a half — the end of the ninth grade and all of the tenth. I tried to be normal, the best I could. — Bill Gates





Image from **Fire in the Valley** by Michael Swaine and Paul Freiberger

Gates got cocky. To a high school kid, this after-school job of troubleshooting a big computer was exhilarating. The sense of power he got from controlling those giant computers exhilarated him. It gave him a sense of power. He was eager to see what else he could do.

One day he started playing around with the computer's security systems. On time-sharing computer systems, like the DEC TOPS-10 system that Gates now knew well, many users shared the same machine and used it simultaneously, via a terminal connected to a mainframe or minicomputer that was often kept in a locked room. Safeguards had to be built into the systems to prevent one user from invading another user's data files or crashing a user program, or worse yet, crashing the operating system and bringing the whole computer system to a halt.

Gates taught himself how to invade this DEC TOPS-10 system and then other

systems. He became an expert in the underground art of subverting computer-system security. His baby face and bubbly manner masked a very clever and determined young hacker. Soon he could brag that he was able, by typing just 14 characters on a terminal, to bring the whole TOPS-10 system to its knees.

After learning how easily he could crash the DEC operating system, Gates cast about for bigger challenges. The DEC system had no human operator and could be breached without anyone noticing and sounding an alarm. On some other systems, human operators continually monitored activity.

Control Data Corporation had a nationwide network of computers called Cybernet, which CDC claimed was completely reliable at all times. For Gates, that claim amounted to a dare.

A CDC computer at the University of Washington had connections to Cybernet. Gates set to work studying the CDC machines and software; he studied the specifications for the network as though he were cramming for a final exam.

“There are these peripheral processors,” he explained to Paul Allen. “The way you fool the system is you get control of one of those peripheral

processors and then you use that to get control of the mainframe.” It was a strategy for slowly invading the system.

Gates got access to one of those peripheral processors and set about insinuating himself into the CDC hive dressed as a worker bee. The mainframe operator observed the activity of the peripheral processor that Gates was controlling, but only in the form of messages sent to the operator’s terminal. Gates worked out how to gain control of all the messages the peripheral processor sent out. He schemed to trick the operator by maintaining a veneer of normalcy while he cracked the system wide open.

The scheme worked.

From his outpost of a peripheral processor, Gates electronically insinuated himself into the main computer, bypassed the human operator without arousing suspicion, and planted the same “special” program in all the component computers of the system. And set them running. It was a spectacular success: he caused all the computers to crash simultaneously.

Gates was amused by his exploits, but CDC was not, and he hadn’t covered his tracks as well as he thought. CDC caught him and sternly reprimanded him. Chastened and humiliated, he swore off computers for more than a

year.

But hacking was the high art of the technological subculture; all the best talent was hacking. When, later, Gates wanted to establish his credentials, he didn't display some clever program he had written. He just said, "I crashed the CDC," and everyone knew he was hot stuff. He was a hacker.

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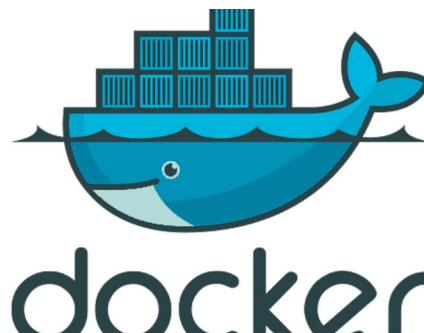


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