

## IV. The Road Less Traveled

### IBM Licenses DOS Not CPM

There are many stories, some true, some partially true and some pure fiction, about the origins of the original license deal between Bill Gates and Paul Allen and their company, Microsoft, and IBM involving the development and use MS-DOS as the operating system for the original IBM Personal Computer in the early 1980s. The operating system, or “OS” as it’s called, is the foundational software for a computer. It permits computers to function. Without it, a computer is simply a collection of electronic components with no useful purpose.

At the time IBM was developing its first PC in the late 1970s and early 1980s, IBM was mostly into large, mainframe computers and business machines such as the Selectric typewriter and memory typewriter lines. IBM’s PC project was a low-priority, low budget project intended mainly to fill out its product line with a desktop microcomputer. Management didn’t expect the product, or for that matter, the desktop microcomputer to become the industry that it would ultimately become. Their primary competition at the time was the start-up, Apple Computer, with its Apple ][ computer which had been introduced in 1977 as well as the Commodore Pet and Tandy microcomputers.



While IBM was certainly capable of developing its own operating system and had done so for many of its larger systems, it decided to use third-party software for its PC, including a third-party operating system. The purpose was to keep project costs low and permit them to meet delivery schedules.

At the time, the most advanced microcomputer operating system on the market was a system called CP/M (Control Program for Microprocessors) which had been developed by Gary Kildall, a Ph.D. computer instructor who ran a company called Digital Research. More than 600,000 copies of CP/M had been sold at the time, and it set the industry standard.

CP/M differed from other operating systems of the day in that it relied on English-like commands to the chip instead of using the 0s and 1s which was the standard at that time. CP/M became the dominant microcomputer operating system of the 1970s, powering machines from Xerox, Kaypro, Kentucky Fried Computers, and Morrow.



*Microsoft Team*

When IBM was finally ready to consider an operating system for its PC, its first stop was Microsoft and Bill Gates, since IBM already had an NDA in place with them to deliver an 8086 BASIC interpreter for the IBM PC. The IBM PC project was very hush-hush, and IBM wanted to carefully limit the number of third parties to those parties who were already covered by an NDA. So, it made sense for them to approach a software vendor such as Microsoft with whom it had already been working on the PC project.

When they approached Gates about supplying the entire operating system, his initial response was that Microsoft didn't do operating systems, particularly after IBM told him that they wanted their operating system to look like CP/M. Gates referred the IBM representatives to Gary Kildall at Digital Research. Gates then let Kildall know that some important (but undisclosed) folks wanted to talk with him. Since Gates had signed an NDA with IBM, he couldn't share the details of the visit or what they wanted.

History is a little fuzzy about exactly what happened next, but it appears that IBM did approach Digital Research about CP/M, and some combination of the following events occurred which prevented the parties from making a deal:

- Digital Research was hesitant to sign the IBM NDA, which was required before the IBM PC project could even be discussed;
- Kildall was not available when IBM representatives attempted to meet with him initially ... legend has it he was either out fishing or flying his plane and/or was late for the meeting;
- While Kildall had done some work on an 8086 version of CP/M, it was not very far along, so there would have been a delay in getting a fully implemented and tested version for the PC; and/or
- Digital Research and IBM could not agree on the financial terms of a deal for CP/M, allegedly because Kildall was asking for a flat fee over \$200,000 which was more than IBM was reportedly willing to pay.

Unable to conclude a deal with Kildall and feeling frustrated, the IBM representatives resumed discussions with Microsoft. The parties then met to discuss the state of Microsoft's work on home computers and explore what Microsoft could do for IBM. Gates gave IBM a few ideas on what would make a great home computer, among them to have Basic written into the ROM chip. Microsoft had

already produced several versions of Basic for different computer systems beginning with the Altair, so Gates was more than happy to write a version for IBM.

The IBM representatives liked what they heard and began to negotiate a license agreement with Gates.

One thing standing in the way of that agreement, however, was that Microsoft first needed to acquire rights to an operating system called QDOS (for "Quick and Dirty Operating System") which was also called 86-DOS. 86-DOS had been written by Tim Paterson of Seattle Computer Products ("SCP"). Gates knew about 86-DOS and discussed it with IBM. Legend has it that that 86-DOS was based on Gary Kildall's CP/M and that Tim Paterson had supposedly bought a CP/M manual and used it as the basis to write his operating system in six weeks. Peterson, of course, vehemently denied this charge.

Gates suggested that IBM could try to get 86-DOS from SCP, but IBM was not interested in getting involved with yet another software vendor, given how things had gone with Digital Research. It preferred to work with Microsoft. IBM suggested that Microsoft acquire the rights to the 86-DOS software, port it to the IBM PC hardware, and license it to IBM for the PC. Microsoft agreed and went ahead to purchase the rights to 86-DOS from SCP, reportedly for \$25K. They would also hire Peterson to work on the IBM project.

That set the stage for the eventual license between Microsoft and IBM which would eventually propel Microsoft to one of the world's largest and most profitable companies. Recognizing the potential for MS-DOS, Gates agreed to give IBM a non-exclusive license for an initial fee well below what IBM was prepared to pay. In exchange, Microsoft wanted to retain the right to license the software to other computer manufacturers. The non-exclusive nature of the grant and the ability to ultimately license their operating system as MS-DOS to the exploding PC market turned out to be a stroke of genius for Microsoft. Gates and IBM then concluded the deal and the rest is history.

On August 12, 1981, IBM introduced its new revolution in a box, the "Personal Computer," complete with a brand new, 16-bit, Microsoft computer operating system called PC-DOS 1.0 which would become the heart and soul of the personal computer market. Microsoft created two versions of DOS. One was known as PC-DOS, which was specifically for the IBM PC. Microsoft retained the rights to sell its own version of DOS, known as MS-DOS, for all the PC clones not manufactured by IBM.



Kildall did not take the news well. He became bitter, claiming that MS-DOS copied the best features of CP/M with enough differences to make it incompatible with CP/M. He threatened to sue Gates and Microsoft but never did. What particularly bothered Kildall was that he found himself having to compete in the IBM compatible market with a clone of his work called DR-DOS which never dented Microsoft's sales.

Novell would ultimately buy Kildall's firm in 1991, but it was never able to make much money with it. Ironically, a few years later, Microsoft agreed to sanctions imposed by the Justice Department over how it had licensed MS-DOS during the period that Kildall was trying to get traction with DR-DOS.

On July 6, 1994, Kildall, then 54, walked into a Monterey biker bar wearing motorcycle leather with Harley-Davidson patches, got into an altercation with some of the bikers, and ultimately died from the injuries he sustained.

The morale of the story—don't take the day off to go fishing.

