The Univac Corporation

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In from the Beginning

By

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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INTRODUCTION

The Sperry Gyroscope Corporation (Sperry) was formed by Elmer Ambrose Sperry in 1910. Originally focused on making gyroscopes and other navigational equipment for ships, the company soon entered a period of expansion, acquiring the Vickers Corporation, which manufactured hydraulic systems, in 1937 and New Holland, a manufacturer of farm machinery, in 1941. By the end of World War II, Sperry had broadened its offerings to include navigational and radar systems for ships and planes. By the early 1950s, Sperry had accumulated considerable expertise in electronics and much wealth. With an eye on the company's continued diversification into related industries, Harry Vickers, Sperry's President, led the drive to acquire Remington Rand to gain entry into the computer industry. The company became known as Sperry Rand when the merger was completed in 1955 (Gray and Smith 2004).

The Univac Division of Remington Rand was formed as a result of the merger of the Eckert-Mauchly Computer Corporation and Engineering Research Associates. The history of these two firms was discussed in Volume I: *Birthing the Computer: From Relays to Vacuum Tubes*. Its first computers, the UNIVAC 1101/1102/1103 machines, were derived from the ERA 1101. A second generation of machines followed – notably the UNIVAC SS80/SS90 and the UNIVAC 418 and 490 series. These were discussed in Volume II: *Birthing the Computer: From Drums to Cores*. That volume also discussed further the history of the Remington Rand Corporation.

The UNIVAC 1103 was the first computing machine with significant commercial sales. It set the 36-bit word as standard for the UNIVAC 1100 series. The UNIVAC 1103 used vacuum tubes for computational circuits and a magnetic drum for its main memory. Both of these were soon to become obsolete as transistors became more reliable. Univac realized that its machines had to be viable in several markets – scientific, commercial, and interactive/real-time. This gave it an advantage over IBM, who it perceived to be its main competitor.

Thereafter, Univac used the 11xx designation for its mainframes up through the 1100/90 family. It then introduced the 2200 family with significantly enhanced performance. The UNIVAC 1104 was a 30-bit machine based on the UNIVAC 1103 that was designed and built for Westinghouse Electric in 1957 for the BOMARC program. It never entered

into production as, by the time the BOMARC was complete, the 1104 technology had become obsolete. This volume picks up the UNIVAC 1100 series beginning with the UNIVAC 1105.

Univac also introduced a small machine families – the 10xx – mostly to serve as a multipurpose unit record peripheral for its mainframes; and the 9x00 series of IBM-compatible machines as stand-alone business data processing systems for small to medium businesses. Univac was also engaged in developing computer systems for the military and real-time applications – a few of which will be discussed in a forthcoming volume on military computer systems, tentatively entitled *Special Machines*.

The UNIVAC family tree is depicted in Figure I-1.

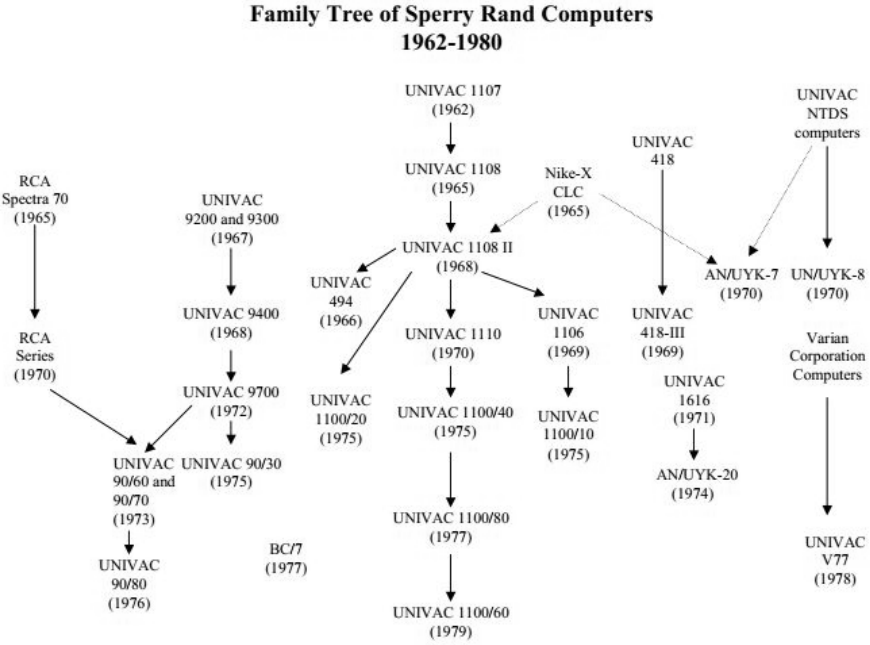

Figure I-1. UNIVAC Family Tree
Courtesy of Unisys Corporation

Note: UNIVAC (all caps) is used to refer to the computer systems, while "Univac" is used generally to refer to the Remington Rand division, and, later, to Sperry Univac. Eventually, Sperry dropped the word Univac, and changed the name of the computers to Sperry. But, for reading consistency, I refer to them all as UNIVAC computers.

Univac developed the 10x0 series systems as standalone, card-oriented processors at the low end similar to and competing with the IBM 1400 series of machines. Generally, these systems were often used for card-to-tape and offline printing systems for the larger UNIVAC 1100 mainframes.

Univac needed an entry-level system for small firms since it could not downsize the low-end models of the 1100 series. In this range, the low-end system/360 and System/370 systems were seen as the main competitors. Initially, Univac developed its 9000 series machines to be the competitors to the low-end IBM models.

When RCA decided to exit the computer manufacturing market, it sold its computer division to Univac. Univac relabeled the RCA machines as the Series 70 processors. However, after evaluating the high-end Spectra 70 machines, it decided to discontinue the 9000 series, and re-engineered and relabeled the low-end RCA machines as the Series 70. Sperry acquired Varian's computer division which manufactured the Vxx family of minicomputers. These will be discussed in a forthcoming volume entitled *Minicomputer Systems: The Second Tier – Prime, Varian, and Harris*.

By the mid-1980s, IBM was siphoning customers from both Univac and Burroughs, its two main competitors. This was partially due to IBM's strong market position, but also through corporate mergers where the larger company typically was an IBM shop. The junior partner in the merger then converted to IBM to be compatible with its larger partner. Such was the case when US Air swallowed Piedmont Airlines. Another factor was IBM's deep pockets that allowed it to invest heavily in the development of new processors and peripherals with advanced technology. Neither Univac nor Burroughs could keep up with IBM's innovation on their own (Gray and Smith 2007).

By 1985, Sperry had several tough years and "was viewed by the industry pundits as ripe for acquisition". Burroughs approached Sperry about a direct acquisition. After almost two years of negotiations, Burroughs agreed to buy Sperry for $78 per share. The merger was completed in September 1986. A contest was held to name the new company. It was won by Christian Machen of Burroughs' Atlanta office. The new company was named Unisys, which he said stood for Universal Information Systems. Unisys has always claimed it was not an acronym, but Sperry old-timers said it stood for *Univac Is Still Your Supplier*.

Note: RCA is discussed in a forthcoming volume: T*he Other Dwarves: RCA, SDS/Xerox, and NCR*.

Note: Honeywell, the other major mainframe manufacturer (and the ‘H’ in BUNCH) is described in a forthcoming volume: *Mainframe Computer Systems: Honeywell Corporation*.

Note: Varian Corporation’s minicomputer families are described in a forthcoming volume: *Minor Minicomputer Vendors: Prime, Varian and Harris*

Note: In this volume I use K to mean 1024 words or bytes. Thus, 64K words means 65,536 words. I think this is much clearer than saying 65K. The documentation uses 65K to mean 65,536 words which is not correct.

Note: In the tables, if there is a blank entry, then I was unable to discern from the available documentation and technical literature a value for that attribute or feature.

Note: Because there were several name changes to the corporation during the years 1960 until the 1990s, all references have been listed under ‘Univac’, but may be mentioned by the then-current name. For example, the COBOL-74 PRM is known as Sperry 2017cq, but will be found under Univac 2017cq.