

BYTE.WS4

Origin of the word "byte" in computers

(Retyped by Emmanuel ROCHE.)

"Olde English", BYTE, NOV.1976, p.77

I have been on a crusade over the past few years, trying to discover the true origin of the word "byte", but my efforts have been unsuccessful. I have begun to think that the origin is lost, but I have decided on one last attempt.

Since the name of your magazine happens to be the very same word that has been the source of my frustration, I am hoping that you can shine some light on the origin of this small word. I have looked in just about every textbook that I can get my hands on.

If you can provide some relief to my plight, it would be most appreciated. Thank you for the trouble.

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I first ran across an etymology of the word "byte" in a book that I read on the IBM "Stretch" computer borrowed from an associate of mine at Intermetrics, Inc, where I worked prior to founding BYTE. In that book, which was published in the early 60s, a research precursor of the IBM/360 series was being described. The "Stretch" computer (if I remember correctly) had a large bit addressable memory, in which the term "byte" was an arbitrarily coined word used to reference an arbitrary bit string field of length "n". The term at that time was meant as a generalized concept of a bit string subfield. When the 360 came out, all that changed since, after System/360, almost all published literature references 8 bit bytes. Perhaps a reader can supply a more definitive answer to the question of the history of the early "supercomputer" work following the the "second generation" transistorized computers of the late 1950s and early 1960s... CH

"The word "byte" comes of age...", BYTE, FEB.1977, p.144

(We received the following from W. Buchholz, one of the

individuals who was working on IBM's Project Stretch in the mid 1950s. His letter tells the story.)

Not being a regular reader of your magazine, I heard about the question in the November 1976 issue regarding the origin of the term "byte" from a colleague who knew that I had perpetrated this piece of jargon. I searched my files and could not locate a birth certificate. But I am sure that "byte" is coming out of age in 1977 with its 21st birthday.

Many have assumed that "byte", meaning 8 bits, originated with the IBM System/360, which spread such bytes far and wide in the mid-1960s. The editor is correct in pointing out that the term goes back to the earlier Stretch computer (but incorrect in that Stretch was the first, not the last, of IBM's second-generation transistorized computers to be developed).

The first reference found in the files was contained in an internal memo written in June 1956 during the early days of developing Stretch. A "byte" was described as consisting of any number of parallel bits from one to six. Thus, a "byte" was assumed to have a length appropriate for the occasion. Its first use was in the context of the input-output equipment of the 1950s, which handled six bits at a time. The possibility of going to 8 bit "bytes" was considered in August 1956, and incorporated in the design of Stretch shortly thereafter.

The first published reference to the term occurred in 1959 in a paper "Processing Data in Bits and Pieces" by G.A. Blaauw, F.P. Brooks Jr, and W. Buchholz in the IRE Transactions on Electronic Computers, June 1959, page 121. The notions of that paper were elaborated in Chapter 4 of "Planning a Computer System (Project Stretch)", edited by W. Buchholz, McGraw-Hill Book Company (1962). The rationale for coining the term was explained there on page 40 as follows:

"BYTE denotes a group of bits used to encode a character, or the number of bits transmitted in parallel to and from input- output units. A term other than "character" is used here because a given character may be represented in different applications by more than one code, and different codes may use different number of bits (i.e., different "byte" sizes). In input-output transmission, the grouping of bits may be completely arbitrary and have no relation to actual characters. (The term is coined from "bite", but respelled to avoid accidental mutation to "bit".)"

System/360 took over many of the Stretch concepts, including the basic byte and word sizes, which are powers of 2. For economy, however, the byte size was fixed at the 8 bit maximum, and addressing at the bit level was replaced by byte addressing. Since then, the term "byte" has generally meant 8 bits, and it has thus passed into the general vocabulary.

Are there any other terms coined especially for the computer field which have found their way into general dictionaries of the English language?

W. Buchholz

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