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Computing...Yesterday and Today

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Yesterday, circa 1965, computing was mostly programming to solve simple problems, to do simple accounting like running a payroll, to match items from a list, and maybe even to print results on multi-colored, fan-fold, wide computer paper. (I bet some of you even remember that kind of computer output.) In fact in those days, you never even saw the computer because it was enshrined in a temperature and humidity controlled room or rooms with a flooring system that allowed many, many heavy cables to be run beneath the computers, so they could go the shortest distance between the massive computer cabinets.

Computing in the 70s, 80s, (and maybe part way into the 90s), was still running special software on computers and printing the results. During this time, thanks to integrated circuits, computers got a lot smaller, and some even moved from the cavernous computer room to the smaller computer lab, where it only took up the space of one desk or so. Anyone remember the Digital Equipment PDP-8? And, during this time, we did start to use the computer for many office tasks like word processing (Word and Word Perfect) and data analysis (Excel and 1-2-3). If you are relatively new to computing, you probably are not aware of this, but the first personal computer that showed up in 1975, the MITS Altair 8080, was available as a kit for \$395, (soldering iron and tools not included). No keyboard or monitor, input was done by setting a bank of switches and output was just a bank of lights. This was the humble beginning of a major change in computing.

Soon after this, Apple released the Apple 2, which was a major improvement in the way data got into and out of the computer. It had a keyboard for input and the output was displayed on a TV monitor. During this period, the early 80s, there were many start-up computer companies. If you leafed through a computer magazine (like PC Magazine) in 1980 you may have seen almost 100 different manufacturers of incompatible computers advertised. Radio Shack was even a player with its TRS-80 computer system. (Does anyone have or remember the Atari or Osborne or Commodore computers?) Finally, in 1981, the IBM-PC arrived and from then on it has been the platform of choice for computing, (at least from these computers-in-use statistics).

The original IBM-PC was an 8-bit computer, although it did have a 16-bit bus. (Anyone remember the Intel 8088 microprocessor chip?). During this period, Apple also released some very successful computers such as the Apple 2e, and finally the Apple Mac. (The Apple Lisa didn't fare too well, even with its forward looking Graphical User Interface,

which, as it turns out, is a forerunner of our modern Windows User Interface). How is that for digital computer nostalgia?

Today, things are a little different in what we wish to accomplish with, and in what we expect from, our computers. Today, we still expect to accomplish problem solving, but we also expect to communicate the results to, and collaborate with, others nearby, and halfway around the globe. Over the last few decades, our computers have gone in several directions and morphed into several “computing devices” such as desktops, laptops, tablets, and smartphones. Today our computing devices have become the focal point of our virtual digital existence and provide, for us, both computing and communications capabilities. These communications capabilities are now an integral part of our computing devices. Where would we be without smartphones, Wi-Fi, cell towers, and Starbucks?

So what is computing, today? Well, computing today is multi-faceted and quite ingrained in our daily lives. Much of it revolves around the home as well as the office. In the office we still use the computer to solve simple and complex problems like organizing a small business’s finances, or tracking the latest hurricanes across the globe. The results, however, are typically provided as softcopy output on a flat panel, touch sensitive display, and only sometimes as hardcopy printouts. But, we also expect to communicate with other workers, and sometimes the public, using our computer. Office networks, Wi-Fi, the Internet and Social Networking Apps allow us to communicate with others across the hall and across the globe. At home we communicate with others, mostly by email, but very often by texting, (especially if we are trying to keep in contact with grandchildren), or video conferencing, aka Skype or Face Time. Our home computer is the repository and focal point for all our digital information: documents, pictures, and videos. Documents that we create or collect are stored on the home computer for easy access, and long term storage. Pictures that we take with our digital cameras, smartphones, tablets, and scanners are all centrally housed on the home computer. At least, that is one way of keeping track of the large number of pictures we take using multiple devices. (When was the last time you moved your pictures from your smartphone to the computer? No excuses now.) Videos that we create or acquire are also housed on the home computer. Where else would you be able to store a bunch of 2 to 3 Gigabyte files? We communicate, entertain, and keep track of our home activities, all with the home computer. Not so long ago, the computer in the home was considered the “personal computer”. But, today, the desktop or laptop, in our home is really a “home computer” while our smartphone (or tablet) has taken on the role of “personal computer”.