April 10th

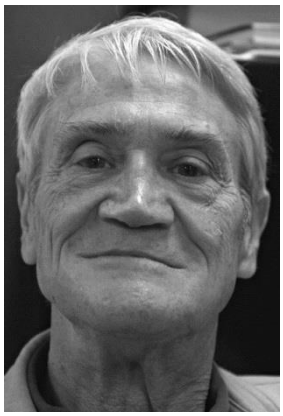
Wesley Allison Clark

Born: April 10, 1927;

New Haven, Connecticut
Died: Feb. 22, 2016

Clark and Charles Molnar's LINC [May 24] (Laboratory Instrument Computer), designed at MIT's Lincoln Lab, is widely considered to be the first minicomputer, as well as the first "user friendly" system in the sense of being easy to program and maintain. LINC built on Clarks' previous experiences in developing the Whirlwind [April 20], the TX-0 [Nov 20], and the TX-2 [Feb 26].

In April 1967, Clark suggested using a dedicated computer, an Interface Message Processor (IMP [Aug 30]), to manage each node of a computer network. This ultimately supplanted the prevailing idea of having the network under centralized control. In particular, it became the approach used when constructing the ARPANET [Oct 29].



Wes Clark (2002). Photo by Dicklyon. CC BY-SA 3.0.

Clark was known to joke that he was "Not the general," referring to retired Army general Wesley Kanne Clark. He was also confused with Welden E. Clark who co-authored the influential paper "On-Line Man Computer Communication" [May 1] with J.C.R. Licklider [March 11].

Alan Kay [May 17] wrote of Clark: "I think of Wes as being one of the few seminal contributors to what today we call 'personal computing,'"

Shuttle Launch Delayed

April 10, 1981

A software problem delayed the maiden voyage of the Columbia space shuttle, specifically a lack of synchronization between the main and backup flight control computers.

Each shuttle used five IBM AP-101s as general-purpose computers (GPCs). Each one consisted of two 55-pound boxes about the size of small suitcases, with one box handling the computing and the other in charge of I/O.

Four IBM AP-101s operated in sync, for redundancy, while the fifth acted as a backup, and so was called the Backup Flight Control System (BFS). It listened to the inputs and outputs from the GPCs so it could take over if there was a problem.

The AP-101 was the top-of-the-line model in IBM's System/4 Pi series, and shared much of its architecture with IBM's System/360 mainframes [April 7].

The AP-101 was used in the B-52 and B-1B aircraft, and an earlier version was utilized in the F-15 fighter.

After the shuttle launch was cancelled, the AP-101 hardware and software were scrutinized minutely. Eventually, the lack of synchronization between the BFS and the GPCs was tracked down to a very slight difference in their clock times. Time-stamped data passed from the GPCs to the BFC would occasionally be ignored because it contained a stamp that was too old.

The bug was fixed, and two days later, the launch took place without a hitch.

For more space shuttle stories see [Jan 22], [Feb 24], [March 11], [Apr 00], [Aug 9], [Oct 4]

Intel 486

April 10, 1989

At COMDEX [Dec 3], Intel announced the 25 MHz 32-bit 80486 (aka the i486) and subsequently released it in June.

Its instruction set was very similar to the 80386 [Oct 17], but ran at around double the speed without having to increase the clock rate. This was possible by including an 8K on-board data cache, an on-chip floating-point unit (FPU) and an enhanced bus interface. All told this meant that the 80486 was the first x86 chip to use more than a million transistors.

Another crucial design decision was to make sure that the 80486 was fully backward code compatible with earlier x86 processors. Programs for those chips would run on the 486 with no problem, but much faster.

A lot of the publicity materials used the i486 name rather than the 80486 designation because of a recent court ruling that had prohibited the trademarking of numbers. With their next major chip, the Pentium [March 22], Intel began using name-based branding.

Lotus as Big Brother

April 10, 1990

Lotus [Jan 26] had recently announced a direct-mail marketing CD-ROM database called MarketPlace that was to contain the names, addresses, and spending details of 120

million US citizens. Equifax [July 29], one of the country's largest credit bureaus, was supplying the data while Lotus was writing the Mac software. A second version of MarketPlace for the IBM PC was at the planning stage.

On this day, Larry Seiler posted a message that was widely reposted. In part, it said of the database: "It will contain a LOT of personal information about YOU, which anyone in the country can access by just buying the discs. It seems to me (and to a lot of other people, too) that this will be a little too much like big brother, and it seems like a good idea to get out while there is still time."

A mass e-mail and bulletin board campaign began which distributed information on how to contact Lotus and supplied suitable form letters for complaining. This was probably the first time that the Internet had been used as a medium for mass activism.

Over 30,000 people asked Lotus to remove their names from the database, and on Jan. 23, 1991, Lotus announced that it had cancelled MarketPlace.

For more online activism, see [Jan 18], [Oct 4], [Nov 5], and the next entry

Electronic Disturbance Theater Sit-in

April 10, 1998

The "Electronic Disturbance Theater" (EDT) was a group of cyber activists and performance artists founded in 1997 by Ricardo Dominguez. They introduced the idea of a "virtual sit-in," based around a DDOS (distributed denial-of-service) attack on a chosen website [Aug 17; June 25].

Their tool, a Java Applet called FloodNet, would reload a URL many, many times, effectively slowing down the site's server if enough people ran FloodNet at once.

On this day, 8,000 people employed FloodNet to intermittently block Mexican President Zedillo's home page. The aim was to draw attention to paramilitary attacks in Mexico and offer support for the Zapatista Army of National Liberation.

In a subsequent version of FloodNet, users were asked to append the names of those that had died to the requested URL. This would cause the server to write a record to its error log, turning it into a list of those civilians who had died.

The group organized two more electronic sit-ins in May and June. But by the second, Mexican sysadmins had added JavaScript code to the site which parried FloodNet by opening multiple windows in the user's browser in the hope of crashing their computer.

EDT wasn't the first group to organize a DDOS protest – that was the Strano Network on [Dec 21] 1995. But EDT was the first to utilize software to make the attack more effective.

For more online activism, see [Jan 18], [Oct 4], [Nov 5], and the previous entry