July 11th

Z4 Delivered

July 11, 1950

Konrad Zuse [June 22] worked on the fourth machine in his "Z" series, the Z4 betweeen 1942 and 1945, and it eventually grew to occupy 160 square feet made up of ten relay cupboards containing 2,200 relays. The mechanical memory consisted of thousands of metal sheets, screws and pins, similar to those used in his Z1 [April 11]. Even so this was a small version of Zuse's design, imposed on him by the unrelenting bombing of Berlin at the end of WWII. That bombing also meant that the Z1, Z2 and Z3 [May 12] were destroyed, but Zuse managed to escape Berlin in 1945 with his Z4. He moved to Hinterstein, a small town in Bavaria, where the machine was stored in a barn owned by the *Hotel Steinadler*.

The Z4 at the Deutsches Museum, Munich. Photo by Clemens PFEIFFER. CC BY 2.5.

In 1948, Eduard Stiefel set up the Institute for Applied Mathematics at ETH-Zürich (Eidgenossisch Technische Hochschule), and wanted access to computing power beyond the level of desktop calculators. Stiefel was told about the Z4 and acquired it after seeing the machine in operation in 1949.

It was delivered to ETH Zurich on this day, after being restored and enhanced by Zuse. Additions included a conditional branching instruction, and support for punch tape output. In 1950/1951, the Z4 was the only working digital computer in continental Europe.

It was reliable enough to be left running unattended overnight. Zuse once remarked that "the rattling of the pins and relays was the only interesting thing about Zurich's nightlife."

The Z4 was the second digital computer to be sold after the BINAC [April 4] which was delivered to Northrop in September 1949. The Z4 pushes the Ferranti Mark 1 ([Feb 12] 1951) into third place.

In 1955 the Z4 was sold to the French-German Research Institute near Basel, and in 1960 was transferred to the Deutsches Museum in Munich.

Werner Koch

Born: July 11, 1961; Erkrath, Germany

Koch is the author of the GNU Privacy Guard (GnuPG or GPG), a free replacement for Symantec's PGP cryptographic software suite. It uses a combination of conventional symmetric-key cryptography [May 6] for speed, and public-key cryptography [Feb 00] for easy key exchange.

Koch began writing GPG in 1997, inspired by a talk by Richard Stallman [March 16] who called for someone to write a replacement for Phil Zimmermann's Pretty Good Privacy (PGP) [June 5] which was subject to US export restrictions at the time.

Edward Snowden used GPG when he leaked classified information from the NSA [June 5].

The Prancing Pony

July 11, 1974

Les Earnest [Dec 17] set up the first computer controlled vending machine, the "Prancing Pony" at SAIL (the Stanford AI Lab) [Sept 4], then located six miles off campus. The machine was named after a tavern in J.R.R. Tolkein's Middle Earth, and sold everything from soft drinks to bagels and beer.

It was a turntable-and-doors type device, with a Teletype KSR-35 keyboard [April 00], connected to the SAIL DEC-20 [Aug 23]. The payment software let you charge purchases to your account, but under-age juvenile deliquents who attempted to buy beer were told "Sorry kid." At the end of the month each user received a bill, usually by e-mail.

The code had a few quirks. For example, during a purchase you were given the option to double-or-nothing the cost, the outcome depending on whether it was an odd-or even-numbered millisecond when you gambled. In addition, approximately one out of every 128 purchases was given away for free, and the computer would ring a bell to celebrate.

These features allowed Earnest to observe a cultural difference in that almost none of the computer science students gambled, knowing that they would win 1/128th of the time if they didn't, whereas many of the music students (who shared the building) did gamble.

Multiple versions of Earnest's code can be found in SAIL's archives. The earliest, with today's date, is at https://www.saildart.org/PONY SY.SAI[PNY,SYS]1

Although the Pony was the first computer controlled vending machine, it wasn't accessible over the ARPANET. The first vending machine to have that ability was the Internet Coke machine at CMU in [?? 1982].

The Last K&E Slide Rule

July 11, 1976

The Reverend William Oughtred, and others, developed the slide rule in the 17th century based on John Napier's work on logarithms. It was primarily used for simplifying multiplications and divisions, but could also help with exponents, roots, and trigonometry.

Slide rules became very popular in the 1950s and 1960s, before falling out of favor before the insidious rise of the pocket calculator [April 15; Jan 4].

K&E (Keuffel and Esser) of Hoboken, New Jersey made the Cadillac of slide rules – a mahogany masterpiece, about a foot long, costing a very reasonable $40, and including an imposing leather scabbard that you could strap to your belt.

K&E produced its last slide rule on this day, which it presented to the Smithsonian Institution, together with the milling machine the company had used to turn out millions of slide rules over the years.

The last dedicated US maker of slide rules was probably Sterling Plastics of Mountainside, New Jersey. Sterling stopped production in December 1980. However, overseas companies continue to make them, and retailers like "Think Geek" offer replica models of earlier designs.

Sneakernet

July 11, 1985

Sneakernet is an informal term for the transfer of electronic data by physically moving media, such as magnetic tapes, floppy disks, or flash drives, from one computer to another. On this day, in the net.lan USENET newsgroup, user pkern wrote: "Never underestimate the bandwidth of a station wagon full of tapes," which he credited to Warren Jackson, the Director of the University of Toronto's Computing Services (UTCS). However , there's an older reference in Fred Gruenberger's 1971 textbook, *Computing: A Second Course*:"There's a lot of band-width in a station wagon." But even back then, Gruenberger called it a cliché, so the saying must date from earlier still.

For an airborne sneakernet, see [April 1].