



Riding the Dinosaur for 51 Years

Analyst: Mike Kahn

By rare coincidence, fellow analyst Steve Bartlett and I each first encountered the dinosaur in 1966. I say “dinosaur” lovingly, in spite of the negative connotations sometimes applied, as in “it’s so old, it’s a dinosaur.” The dinosaur in question was the *IBM System/360* (a.k.a. *S/360*). Yes, it was the first mainframe of a long series of compatible machines that reaches to today, which by no coincidence is the day that the latest and greatest model in the series, the *IBM z14*, is being announced. However, it was not the first mainframe, as that moniker was widely applied to many earlier computers because the architectures of those eras all had a separate “frame” for each component of the system. The mainframe was where the computation and processing was done. There were other frames for input devices (punched card readers), storage (tape drives and controllers) and line printers. They each had separate frames because each was very big, due to the technology at that time. The mainframe (processing module) was the heart of the system and the moniker has stuck like glue, even being mentioned in quite a few recent futuristic sci-fi films and TV shows.

The System/360 was announced in 1964¹, with the earliest installations in 1965, and more widespread installations in 1966. That’s when Steve and I had our first encounters. Steve spent more than 42 years working for IBM and got his introduction when being trained to sell the new machine. My story is a little more unusual. For those of you who can’t imagine life before personal computers, well, there was a time when that was true and access to computers was very limited. A very physical encounter was required, as remote access was, at best, from a room next to the data center where the computer was housed. In 1966, I was a high school senior working on a science fair project on weather forecasting. After many months of gathering my data manually, it became clear that I could never process it all by hand. (This seems obvious now, but at the time, it wasn’t, as most weather forecasting was being done by manual means.) So, while still a high school student, I enrolled in a junior college with the intent of getting access to a computer to do my computations. I signed up for a FORTRAN programming course and, by sheer luck, the college had just begun using a modestly sized S/360.

Neither of us, at that time back in 1966, could predict that we would spend much or all of our careers riding the dinosaur (in a variety of roles, of course). It was just a new machine with a broader mandate than its predecessors and with a new architecture²; these were exciting times, nonetheless. We couldn’t see where this would be going or even if this was going to be revolutionary (which it was). S/360 was a paradigm shift of significant proportions, not only in the number that were sold, but also on its influence on how data processing was to be done and how the next (and many more) generations³ would be architected.⁴

Fast forward about five decades and we now have the z14 being announced. It’s hard to count how many “new machines” followed the early S/360s (because it would take many pages to articulate

¹ For a retrospective on the conception and launch of the S/360, see *The Clipper Group Captain's Log* entitled *The Beginning of I.T. Civilization - IBM's System/360 Mainframe*, dated March 30, 2004, and available at <http://www.clipper.com/research/TCG2004028.pdf>.

² In those days, just about every new machine had a new architecture with little compatibility with what preceded it.

³ Including those from competitors.

⁴ For a list of IBM mainframe generations and models since 1959 up through 1999, see https://www-03.ibm.com/ibm/history/exhibits/mainframe/mainframe_FT2.html.

exactly what defined a “new machine”) but, clearly, the number is more than thirty. z14 is the fourteenth generation CMOS-based mainframe; the first appeared in 1994. That’s 14 hardware releases in 23 years, which were accompanied by many significant improvements in software, most notably the inclusion of *Linux* on Z and the continued development of the best operating system for enterprise computing, *z/OS*. Clearly, the mainframe hasn’t been standing still. In fact, it’s quite the opposite; it is the cutting edge for enterprise computing. Clipper has been writing about mainframes for more than 24 years, with today’s announcement being no exception.⁵

There aren’t too many folks still working today that can trace back to (almost) the beginning of the modern enterprise-computing era. Steve and I have been very lucky to take this long ride on the dinosaur. Now, the moniker more likely needs to be applied to us and not the mainframe. We clearly are two older guys and the z14 is as modern (and strong) as a present-day enterprise system can be. We have seen many waves and ways of computing come – and go – and then many come again to be newly discovered by IT folks who weren’t around the last time it happened. Steve and I have written about this extensively.

We are back in the cloud *again*, because timesharing (of a large system) of the 1960s and 1970s was the first generation of cloud computing.⁶ We are, again, realizing that distance does matter⁷ and the z14s approach to doing more (especially analytics) without moving the data to an outboard system is the right answer, both economically and technically (the latter including data quality, data security, and meeting time-dependent service objectives). All of these are extremely important for the modern digital enterprise. This needs to be understood by IT folks, general managers, and CFOs.

Steve and I have enjoyed the ride, especially the opportunity to describe and explain the technology and its contributions to business value through Clipper’s publications. Given that new mainframes are announced about every three years, we don’t know whether this will be our last report on the latest and greatest enterprise server. No doubt, there will be more mainframes to come. Whether we will be reporting on them is something that only time will tell. If this happens to be our last mainframe happening and report, we thank you for your readership and support. It has been a great ride.

⁵ For more information, see [The Clipper Group Navigator](#) entitled *IBM z14 - The New Standard for Modern Digital Enterprises*, dated July 17, 2017, and available at <http://www.clipper.com/research/TCG2017001.pdf>.

⁶ For more information, see [The Clipper Group Navigator](#) entitled *IBM zEnterprise is Enterprise Cloud Infrastructure*, dated April 8, 2014, and available at <http://www.clipper.com/research/TCG2014008.pdf>.

⁷ For more information, see [The Clipper Group Navigator](#) entitled *Why the IBM Mainframe is the Right Place for Enterprise Systems of Engagement and Insight*, dated February 17, 2015, and available at <http://www.clipper.com/research/TCG2015002.pdf> and [The Clipper Group Navigator](#) entitled *Why More of Your Mission-Critical Business Should Be Processed on IBM System z*, dated October 16, 2013, and available at <http://www.clipper.com/research/TCG2013019.pdf>.

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Mike Kahn is Managing Director and a co-founder of The Clipper Group. Mr. Kahn is a veteran of the computer industry, having spent more than 45 years working on information technology, spending almost a quarter century at Clipper. For the vendor community, Mr. Kahn specializes on strategic marketing issues, especially for new and costly technologies and services, competitive analysis, and sales support. For the end-user community, he focuses on mission-critical information management decisions. Prior positions held by Mr. Kahn include: at International Data Corporation – Director of the Competitive Resource Center, Director of Consulting for the Software Research Group, and Director of the Systems Integration Program; at Power Factor Corporation, a Boston-based electronics start-up – President; at Honeywell Bull – Director of International Marketing and Support; at Honeywell Information Systems – Director of Marketing and Director of Strategy, Technology and Research; at Arthur D. Little, Inc. – a consultant specializing in database management systems and information resource management; and at Intel Corporation – Mr. Kahn served in a variety of field and home office marketing management positions. Earlier, he founded and managed PRISM Associates of Ann Arbor, Michigan, a systems consulting firm specializing in data management products and applications. Mr. Kahn also managed a relational DBMS development group at The University of Michigan, where he earned B.S.E. and M.S.E. degrees in industrial engineering.

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