**HR's Big Adventure!**

**(HR decided to remain anonymous)**

***Prologue***

*It was a dark and stormy night many years ago...and a small boy gazed in wonderment at the eerie glow of the burning slag dumps along the banks of the heavily polluted Monongahela River as it flowed Northward towards its terminus at the then "Steel Capital of the World."  As he pondered the future, little did he realize that he would eventually become a small cog in the machinery of onrushing technology....*

**RCA Astro Electronics...to the Moon**

In 1963, I went to work for the RCA Astro-Electronics Division in Hightstown, NJ working in the clean room on fabrication and assembly of various electronic systems and cabling for satellites and other space flight vehicles.  While there, I worked on the electronics for the Ranger Lunar Probes, which were the first systems to actually take closeup pictures of the moon.  The Ranger was designed for a "one-way trip."  It took pictures on the way in, transmitted them back to Earth and then crashed into the Moon.  So, some of the electronic assemblies I worked on for Ranger are probably littering the Moonscape.   One other project of note that I worked on was an early prototype of the hand-held video camera that the astronauts used on their first trip to the Moon in 1969.

**Philco-Ford Corporation...Early Computers**

I went to work for the Philco-Ford Corporation in Willow Grove, PA in 1965 as a Field Engineer in their computer division.  I eventually ended up in the Washington, DC area maintaining the computer hardware and operating system software for one of Philco-Ford's US Government customers.  I worked on a Philco-Ford 2000 Computer, a machine developed in the early 1960's. The Philco-Ford 2000 was a "mainframe" computer with a 48-bit word length and a whopping 64K of "very fast" magnetic core memory (1.5 microseconds).  The 64K of memory took up as much floor space as about 12 of today's standard 19-inch center electronics cabinets.  And, of course, as was the norm back then, there were lots of tape drives.

**CSC and Me...The Early Years**

I joined Computer Sciences Corporation (CSC) in April of 1969. Back then, the future Systems Group was a subsidiary of CSC called Communications and Systems, Inc.  I don't quite remember when it happened, but shortly after I joined the company, we became CSC Systems Division, which eventually grew into CSC Systems Group, which eventually became the CSC Government Sector.

During the early part of my career at CSC, I developed network simulation and modeling software using assembly language and FORTRAN.   The network simulators and models were developed for the Defense Communications Agency (DCA), which is now called the Defense Information Systems Agency (DISA).  They did simulation and modeling of DCA's two main networks at the time: AUTODIN (data) and AUTOVON (voice).

When I joined CSC, the software ran on a Philco-Ford 2000 Computer.  We eventually ported the software to an IBM 360/50 and were all quite taken aback when we discovered that the IBM 360/50 was quite a bit slower than the old Philco-Ford 2000.  Although the IBM 360 Series computers were "32-bit" machines, the mid-range computers such as the IBM 360/50 had 16-bit data paths.  But things got better when we started running on an IBM 360/65, and eventually on an IBM 370.

**CSC and Me...The Middle Years**

During the mid-1970's, I worked on a project called AUTODIN II, which was supposed to be the replacement for the venerable AUTODIN network.  This was my first exposure to the "minicomputer" world.  We developed real-time executives, communications device drivers and protocol software on DEC PDP-11 computers.  Another first was my exposure to a couple of "new" network protocols called the Transmission Control Protocol (TCP) and the Internet Protocol (IP).  We used assembly language and "Structured FORTRAN," a pre-compiler that used structured constructs that in turn produced FORTRAN code.  For a number of reasons, AUTODIN II never went operational.  However, it was quite a successful project here at CSC while it lasted.

My next major network job was something called "Project Mercury."  This project introduced me to yet another protocol called "X.25" and its supporting cast...X.3, X.21, X.28, X.29, and X.121.  And this was also my first exposure to the "Open Systems Interconnection (OSI) Model."

During this time, I was also introduced to what I consider one of the two most significant information technology events of the last half of this century...Personal Computers (PCs).  My first PC was a Kaypro II, with a Zilog Z80 8-bit CPU, 64K of memory, two floppy drives and an operating system called CPM (I still have the Kaypro II and it still works!).  The Kaypro II was retired and replaced by an IBM PC, which in turn was replaced by an IBM PC/AT...and the rest is well-documented history.

Subsequent to this, I worked on a number of projects that I can't tell you all too much about.  But, as you can guess, they all involved some aspect of data communications and networking.

**CSC and Me...The Not So Recent Past**

In 1984, I became involved in the proposal effort for the Consolidated Data Network (CDN) for the U.S. Treasury Department.  After many amendments, BAFOs and a Live Test Demonstration (LTD), CSC was awarded a contract to design, implement and operate the CDN in August 1985.  For the next 3.5 years or so, I worked on the CDN project.  During this time, we deployed the CDN throughout the 50 states, and locations in Puerto Rico, the Bahamas, Bermuda, and Canada.  When I left CDN, every U.S. Customs Service (USCS) location (headquarters, regional and district offices, ports of entry, border crossings, international airports), and the majority of the Internal Revenue Service (IRS) headquarters, tax processing service centers, regional offices, district offices and posts of duty were using the CDN as their "data transport utility"...and CSC was operating and maintaining CDN from a Network Control Center (NCC) in Herndon, Virginia 24 hours a day, 365 days a year.  CDN went on to become an even larger network serving additional US Treasury agencies including the Bureau of Alcohol, Tobacco and Firearms (BATF), and the U.S. Mint.  I guess you could call CDN a real success story!

While on CDN, I was introduced to what I consider the other significant information technology event of the last half of the 20th Century...Local Area Networks (LANs).  We were looking for a cost-effective way to build an computing infrastructure to support the CDN project.  We stumbled upon a small company in Utah called Novell that sold a product called Netware.  The end result was the implementation of a LAN at the CSC Herndon, Virginia facility using Netware servers and Token Ring transmission technology.   Why Token Ring you ask?  Well, we did consider Ethernet but decided that Token Ring was more stable and maintainable (i.e., at the time, Token Ring used shielded twisted pair while Ethernet used coaxial cable).  The Token Ring was eventually replaced by Ethernet 10BaseT (twisted-pair!).

After I left CDN, I was involved in a number of other smaller projects and more than a few proposal and LTD efforts.  I also worked for a while in the Integrated Systems Division (ISD) Systems Engineering Center providing systems engineering support for new business activities.

**CSC and Me...Turn of the Century**

From April 1997 through 1999, I was a member of the CSC Corporate Year 2000 Assurance Office.  Our charter was to insure that  CSC met its Year 2000 obligations in a timely and professional manner.  This included providing guidance to and oversight of the various CSC business unit Year 2000 projects that made their products, internal applications and infrastructure "Year 2000 Ready."

From early 2000 until my departure from CSC in April 2003, I worked in the Global Infrastructure Services (GIS) Network Engineering as a network systems engineer/project manager.  During my time there, GIS provided infrastructure support services to CSC's outsourcing customers and internally to CSC's business units.

***Epilogue***

*Guess if nothing else, I can say: "Been there, done that" as the answer to a lot questions.  At RCA and Philco-Ford respectively, I was a small part of the early days of the space program and the computer industry.  And, although I was with CSC a long time, I've always felt as if I had worked for a number of "different companies" over the years. I started out with a medium-sized company that had 2,500 or so employees that provided software and systems engineering services.  I finished at a large multi-billion dollar company with 70,000 or so employees that provides a broad range of information technology services.*

**And that's my story and I'm sticking to it!**

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