

# It's About Time!

**I am an Air Force Brat** – in fact, there's been only a total of 24 days of my life that I did not have a military ID card (I've had dependent, active duty, and retired). You have a different viewpoint on life if you were a military dependent and grew up overseas. You appreciate some things a whole lot more (I lived most of my childhood without television – I always felt it left scars). One thing I appreciate is time.

I grew up in Turkey - Istanbul, to be precise. Istanbul was a wonderful city to grow up in, full of history. Istanbul was the head of three empires – Eastern Roman, Byzantine, and Ottoman. The city had history everywhere you looked! Also, Istanbul is one of the few cities that span two continents (the Bosphorus separates the city into two parts – one in Europe, one in Asia). We lived there during the 1960s – and my dad (like his dad before him) was possibly a tiny bit OCD about “time.” When my dad was a very young man, he remembers his dad buying him his first wristwatch. My dad, in turn, bought me a wristwatch when I was 8. I will admit that I was forever breaking it – he seemed to have patiently re-bought me one every few years. He even bought me yet another new one when I discovered two things: 1) a strong magnet from an old speaker will stop a mechanical wristwatch; and 2) removing the magnet does not make it start again.

The problem (when living in Turkey) was that there was no easy way to accurately set the time. Today, of course, we are used to having cell phones (with precisely accurate times), plus numerous other ways to determine the right time (down to the millisecond, if needed): TV, the internet, radio, etc. We had none of these in Istanbul. But – we had a shortwave radio. It ran on 5 vacuum tubes – a Hallicrafters set he had bought back in the late 1950s when we lived in Scotland (I was born there). It picked up AM only - FM radio was not really popular until the 1960s. However, for those of you who understand how AM works – it picked up BOTH long and short-wave! Long wave is what we call “regular AM radio” – and shortwave? Well, that's where the magic came in. I could listen to stations from ALL OVER THE WORLD! The British Broadcasting Channel and BBC news. Australia. The Voice of America. I would wait around until it grew dark (shortwaves propagate or “bounce” at night) and twirl the dial and be transported all over the world.

And then my dad let me in on the secret of radio station WWV – Ft. Collins Colorado. Operated then by the National Bureau of Standards (now run by NIST – National Institute of Science and Technology). They broadcast (at 2.5, 5, 10 and 15 Mhz back then, as I recall) a time signal, accurate to the second. Dad and I used a tree, and ran a 7.5-meter antenna wire (which, he explained to me, was a quarter-wavelength signal for 10 Mhz. I found this relationship amazing, and learned how to convert Hz to wavelengths). We just had to remember to disconnect the antenna connection every time it clouded up (hate to have a lightning strike blow the radio!).

So, every Saturday night, it was our ritual. We'd turn on the radio, tune in WWV, and set all of the watches and clocks in the house. It was something that Dad and I did together.

Time is important, of course. If things occur out of order (too early or too late), “time” itself becomes wasted. I traveled to Baltimore this summer to attend a meeting – and I wanted to visit a few relatives along the route. I drove up and made the following observation: Note to self: Update the map on the GPS BEFORE you leave - because knowing the detours for construction coming into Baltimore from Washington DC would really be nice.

It's all about time.

This issue is about “Fusing IT and Real-Time Tactical.” I was trying to think of how much you have to understand about technology to just appreciate topic. Information technology used to be the domain of punch cards and grey-haired COBOL programmers who were one step away from retirement. Real-time development used to be the domain of a few weirdo's in the closed rooms who ignored modern compilers and hardware, and who hand-coded machine code that ran on (maybe) 8-bit processors. They had NOTHING in common. Now, both are critical technologies with complex interrelationships.

Things change, and I repeat, it's all about time.

My introduction to shortwave radio technology occurred almost 50 years ago. Back in 1997, I gave Dad a birthday gift of a modern “atomic” clock that adjusted itself every night. He marveled over it constantly. A few years ago, I bought myself an “atomic” wristwatch. I can't think of anything I do that requires accuracy of +/- 0.5 seconds, but you never know. Every time I look at my watch, I think back to the days of the shortwave radio in Istanbul, and smile a little.

My Dad passed away three years ago – and to the very end, he and I argued about which wristwatch was the best. I now teach college – and it's common to have a class of students where nobody actually wears a watch anymore. They all use their cellphone. I, in turn, would give almost anything to be back in Istanbul, wristwatch in hand, with my Dad, slowly tuning the radio to search for the voice saying, “....tick....tick....at the tone, the time will be 20 hours, 50 minutes coordinated Universal Time.” I still have the Hallicrafters radio. It's a reminder of special times. I didn't realize how special those times were until they were long past.

It's all about time. You shouldn't waste it – whether it's IT, tactical, real-time or life.

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