

# Connections

## Big Iron and the Industrial Internet of Things

When I first started my journey into engineering, I remember visiting several Insurance Company Data Centers. At the time, programmers used “dumb terminals” to access the large mainframe computers that were housed

at these data centers. At the time I remember seeing chain driven printers that could print at what was then a blazing 1500 characters per second. (Keep your hands away! – Seriously, that was the warning given to use as we continued through our tour.) Operators as they were called would get requests for programs, and would go to get tape reels off of shelves and load the computer for the programmers located elsewhere.

These machines were referred to as “Big Iron.” Funny thing... Time passes, and the computing power that once commanded a warehouse of space, now fits neatly in the palm of our hand.

However, now there are server farms, that are reminiscent of the

old computing dinosaurs. The computing power they command is massive and many computer tasks and storage requirements are being passed onto these machines via the internet. This home for excessive data and computational prowess is called the cloud. It allows for things like speech recognition AND comprehension. It can allow machine vision. The tech magnates all see this evolving into artificial intelligence. I should correct that and say sentient intelligence. Self-aware machines.

Industry is evolving to use this new technology as well. The AWS and Azure “clouds” are now being commonly used in industrial applications.

**There is no cloud. It's just someone else's computer.**

- Unknown

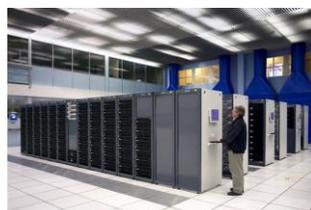
As New England Drives & Controls constantly strives to become a better asset to our customers, our whitepaper series will feature new technologies or helpful insights that may be pertinent to the reader. It is our sincere hope that this information will be beneficial in both relating, and applying content to your industrial needs.

We hope you find this whitepaper series an enjoyable and informative read.

We always welcome your questions and comments.



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Using data from smart sensors and controllers allow for much more in depth analytics. This information is being used to pre-emptively detect and predict machine faults and failures. The value of uptime now plays a role in deciding how a system should be designed.

I guess it just goes to show us how what's old is new again. It is always improved, but the concepts



do find their way back into the next generation of ideas. Things that were once done due to necessity are now done to increase power. The advent of gigabit speed and routing through the internet has also come a long way since its advent in the late 1960's. I suppose it was inevitable that these technologies that diverged would eventually recombine. This leads me to my next thought; Where is the future of industrial automation

headed? Controls such as HMIs and industrial PCs are all now being provisioned to connect to the internet or whatever cloud flavor you like. We at New England Drives & Controls, pride ourselves in the fact that we have been in the I.O.T. playground since the beginning. We will also stay on the cutting edge to provide our customers with the very latest in technology. Give us a call, whether to reminisce about the "good ol' days" or to see the latest that we have to offer. Our knowledgeable representatives will be more than happy to assist in any way they can.



Next month, for the sake of Nostalgia, I'm going to use a terminal like the one to the left to write the December whitepaper. Be sure to come back and take a look. Now I just have to find 1200<sup>2</sup> feet of room to get put my surplus Cray supercomputer in and connect it.

-Peter Lavoie (Engineering Manager)



Toll Free: 888-275-2092  
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