



The

Broadcasters' Desktop Resource

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... edited by Barry Mishkind – the Eclectic Engineer

IT Connection

Getting IT and Engineering to Play Nice By Steven Martin

[August 2010] Radio engineers and IT people both work with electronic gear, mostly connected by wiring. From that point, however, although a few engineers can handle both, it often seems these two disciplines speak two different languages and operate with very different priorities. Finding ways to work together may be a challenge at times, but in the end, it will benefit everyone.

In the beginning of the computer industry, engineers and researcher types were the only ones that had computers. It was 1979 when the first interactive, auto-recalculating spreadsheet, VisiCalc (The Visible Calculator), blasted personal computers out of the "techie" realm. VisiCalc was a huge time saver, allowing the instant "what if" financial or numerical scenario analysis that we now take for granted.

	A	B	C	D	E
1 Year		1979	1980	1981	1982
2					
3 Sales		54321	59753	65728	72301
4 Cost		43457	47802	52583	57841
5 Profit		10864	11951	13146	14460
6					
7					
8					
9					
10					
11					
12					

VisiCalc made "What if?" easy

Indeed many would claim that VisiCalc was the first "killer app" – an application that people found it was impossible for them to do without it. As VisiCalc and other applications hit the market, virtually overnight calculators, typewriters, and manual cash registers became surplus gear at offices and shops all over the country.

The digital revolution resulted in innovation after innovation, and the time needed to bring products to market, as well as product life time, has gotten very short since 1979 – an application can be written, tested, and posted to the Internet for downloading easily in just a matter of hours.

COMPUTERS MEET BROADCASTING

In a very similar way, the computer revolution also has taken place in our broadcast stations.

At first, there was little love lost when broadcast companies started converting their stations to PCs and removed most tape machines. This removed numerous moving parts and, in most cases, dramatically improved the quality and reliability of the air product.

As computers took hold, networks to tie them together to share resources did as well. Novell had the first file server software with Netware in 1983. Windows NT followed in 1993. Most engineers updated their skills at this point, sometimes even with their own money to support this new technology.

Now we commonly tie large groups of local computers together via Local Area Networks (LANs) and, with firewalls, hope to protect everyone from the evildoers that troll the Internet. Wide Area Networks (WANs) tie locations together, allowing central control of computers and LANs.

The challenges of administering a LAN and supporting desktop users are many. Clearly, in this age of computers running broadcast stations, the engineering department needs IT's full cooperation. In fact, the IT department should be an integral part of the engineering department.

A BAD DIVISION OF RESPONSIBILITY

Unfortunately, in some broadcast companies, there has been an ill-advised creation of a department separate from engineering, the "IT" department. This is not a properly thought through situation. The reason is that the technical and IT departments operate in very different ways.

Broadcast engineers are trained to be very flexible in their approach to problem solving, being ready to do almost anything to get back a station on the air as quickly as possible. Dead air, even hums and buzzes are sure to bring complaints from the staff, and the engineer often is tasked with an *immediate* problem solution.

On the other hand, IT departments can be very inflexible and unaware of the unique nuances, pressures, time demands and the 24/7/365, competitive nature of our business. IT people tend to be highly oriented toward 9 to 5 operations, and shutting operation down while they troubleshoot is the normal mode.

The company that has an IT manager that has been a chief engineer and truly understands the bigger picture is a fortunate one indeed.

GETTING ALONG

In some ways, it might be that some broadcast engineers are getting a "taste of their own medicine." As long as there have been microphones, transmitters and antennas, engineers have led a somewhat shielded existence, sheltered from brutal sales calls and the "Class Clown" world of air personalities.

However, for the first time ever, many engineers are having to deal with a different, detached, and mostly unaccountable department that controls a vital resource. The shoe is on the other foot - and the fit could not be worse.

There can be many conflicts between a typical IT department and Broadcast Operations. This is because Broadcast Engineers are responsible for on-air product, which produces the revenue stream, but most, if not all, air product is generated today by computers, usually three or four layers or more of computers.

A RELATIONSHIP GOING OFF THE RAILS

Most stations now do some walk-away automation. Since the physical control location is almost irrelevant when using Internet protocols (IP) this means that people from thousands of miles away, with little or no knowledge of the local day-to-day challenges, are now often calling many of the shots for our companies' revenue generating systems.

IT departments also can often be unaware of the physical distances our LAN extensions can traverse, such as when piggybacking with our audio T1s, and the time, gas and effort it takes to get to each location, especially if you work for a large cluster of stations.

And here is where things can get “sticky:” once a LAN becomes "centrally managed" and secured from far, far away, moving LAN devices (printers, computers, etc.) requires a call to IT to allow that change to happen. Installing a new program - or even an update to programs like TAPSCAN, QUALITAP, Media mix, SmartPlus, X-Ray, Media Audit, etc. - is difficult or impossible without “admin privileges.” Opening a port to get a vendor into your LAN for an update or support can be an all-day affair.

Some attempts to justify this lost productivity and expense are laid on the often mentioned, dreaded "Sarbanes-Oxley." It is hard to think of this mantra as much more than scare tactics, since SARBOX only covers financial data (SarBox is the IT equivalent of the FCC).

WHO IS IN CONTROL?

Remote access via the Internet to station computers is vital to keeping operations going. But some IT managers reserve remote management capabilities for their own staffs. Then, remote computing can cause problems if someone from the far away, central management point – and who may be unfamiliar with broadcast operations – gets into a system.



**When the studio is empty,
who is in control?**

Content filtering is another challenge. Keeping morning shows happy is one of the things we engineers do to please management. However, some morning shows have questionable content and need to access questionable sites to get material. While, no one wants employees to waste time surfing porn – and possibly cause a hostile work environment – a morning show trying to research breast cancer can get blocked as well.

Just imagine the response to giving your highly rated, highly spot loaded, morning show a help desk number in another state when they are trying to do show prep!

THE PASSWORD HASSLE

The effect of centrally managed computers on the people in the trenches can also become a morale problem. When the big brother aspects of remote management set in, the underlying theme comes through loud and clear, some companies does not trust their employees to operate a computer responsibly.

Periodic forced password changes, (usually every 90 days) cause problems. Passwords that fit complexity rules, and that are secure, are especially hard to memorize. The end result "in the trenches" is paper

notes on monitors with each users' password on it. Not very secure at all. In fact, it rather defeats the purpose of passwords.

UNIFORMITY IS A LOST CAUSE

One IT goal is "Uniformity" and "Best Practices." This is neither a rational nor a practical goal at a broadcast station because broadcast stations do not lend themselves to computer uniformity well.

The typical lineup of computers at a broadcast station is not the least bit uniform. Machines in the Control Room, Production, automation racks, offices, and at the transmitter all have varying software installs, some unique to that user, some running an Apple OS.

How many editing programs do you support? I have been in shops where there are four or more in use. Production people have their own preferences for editors and plug-ins, and very few want to relearn another editor when starting a new job.

A MOST INCONVENIENT TIME

My favorite anecdote about how all these various these conflicts can play out is about the station where there was a "Microsoft Tuesday Update" and subsequent reboot of all PCs on the LAN in the middle of afternoon drive – with no warning. Of course, remote computers failed to reboot rendering some critical systems inoperative until they could be reached by an engineer.

Loss of a couple minutes of air time (or production time) especially in afternoon drive can be expensive and hard to recover from, especially in rated markets. Updates can break things like the automation software that is running your afternoon drive spot load, the production manager's editor, the traffic software, etc.

The lesson is that when these patches are installed without the knowledge of the local engineers, this can make troubleshooting impossible. The Microsoft restore point feature is a life saver, but only if a restore point is created immediately before patches are applied.

SHARING CONTROL

One compromise is for a radio station LAN (and its attached devices) to be split into two parts, one part of the LAN that can be managed from a central location and the other managed by local personnel. The locally managed part of the LAN is for engineering and operations. This is the LAN where the automation, the transmitter computers, HD encoders, HD importers, the remote control systems, satellite receivers, etc. are located.

This part of the LAN will have the remote applications such as VNC, LogMeIn, GoToMyPC installed, and lack applications that tend to affect performance, block ports, etc. A "bridge" device can be installed that has two LAN interfaces in it and that allows *temporary* connections to both parts of the LAN for log and other data transfers. Sometimes firewalls that are already in place can do this.

Part of this compromise with IT folks is this: if it is part of the locally managed LAN, it is none of the IT departments' business. A good selling point is to state that the IT department does not have to support this entire group of machines, but allows IT to control the "bridge" device and the centrally managed part of the LAN.

FINDING SOLUTIONS

Engineers who lack control of their LANs need to talk with their boss about better control of their operations. The biggest cause of stress in a work environment is responsibility for something for which you lack control. Sometimes broadcast engineers become responsible for an outcome over which they have very little control. The newer satellite receivers that store programming on a hard drive which needs to be on the LAN and Internet is a good, current example of why control of your LAN is so important.

To be fair, not every IT department is completely inflexible about control; indeed, your mileage may well vary. There are many large broadcast groups where the engineers have control of their IT department, or at least have their full cooperation. In those cases, if the Chief Engineer says a machine needs VNC, then it gets it.

If you lack the experience or training to administer your LAN, you need to update your skills. I have an extensive LAN at my home that I use as a test bed to try new devices. This is a great place to "break" stuff – and repair it yourself. Those engineers that have refreshed their skills in the last ten years are able to administer their LANs, and impress their supervisors.

Finally, as we move into the future, it seems clear that most electronic devices more complex than a toaster will be on a LAN, and most of these devices will have a CPU of some kind in it. Having the right people in control, especially for mission critical gear, is very important. If there is difficulty in getting that control, just remind your boss who gets called first when there is a problem on the air, especially at 2 AM.

I rather doubt if it is a far away IT department.

Steven Martin is a pseudonym for an experienced engineer who is just slightly worried that somewhere an IT person is plotting against him. You can contact him via bdr-info@theBDR.net

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