PLANNED OBSOLESCENCE

IS YOUR DAS NETWORK A VICTIM?

BY DOMINIC VILLECCO

Approximately 40 years ago, the first generation (1G) of cellular phones was born. An analog, narrowband service introduced to the world for wireless calling capabilities. Barely ten years later came the second generation (2G), which included texting. The third generation (3G) followed not long after that, with increased data speeds and new wireless features. As we near the end of the fourth generation (4G) we reflect on the advanced wireless capabilities that were delivered; faster web browsing, unlimited applications, pictures, videos and more.

The fifth generation (5G) of wireless is on the horizon. And, while it is not yet ready to be released to consumers in full scale, there are currently several market trials bringing its reality closer each day. Similar to previous generations of wireless technology, 5G promises more network capacity and even faster network speeds. In the interim, major wireless carriers have begun acquiring and deploying additional frequencies, or channels (e.g. Sprint's 2.5 GHz, AT&T's 2.3 GHz and T-Mobile's 600 MHz) to satisfy capacity demands, as discussed in the first of this column series in Connected Real Estate Magazine's debut issue. Much of the existing DAS network equipment, however, will not be able to service 5G, let alone the newly deployed frequencies.

This problem highlights an issue with how the wireless landscape keeps changing and will continue to change. Due to the significant growth in devices, applications and capabilities and subscribers' seemingly insatiable appetite for them, wireless capacity demand continues to grow and the wireless game evolves at an ever-rapid pace. As it grows, carriers and other companies in the industry continue looking for new solutions to satisfy wireless capacity needs. If building owners are not educated on what is happening in the wireless industry, it could end up costing them a lot more than originally anticipated, while leaving the tenants in the proverbial "dust".

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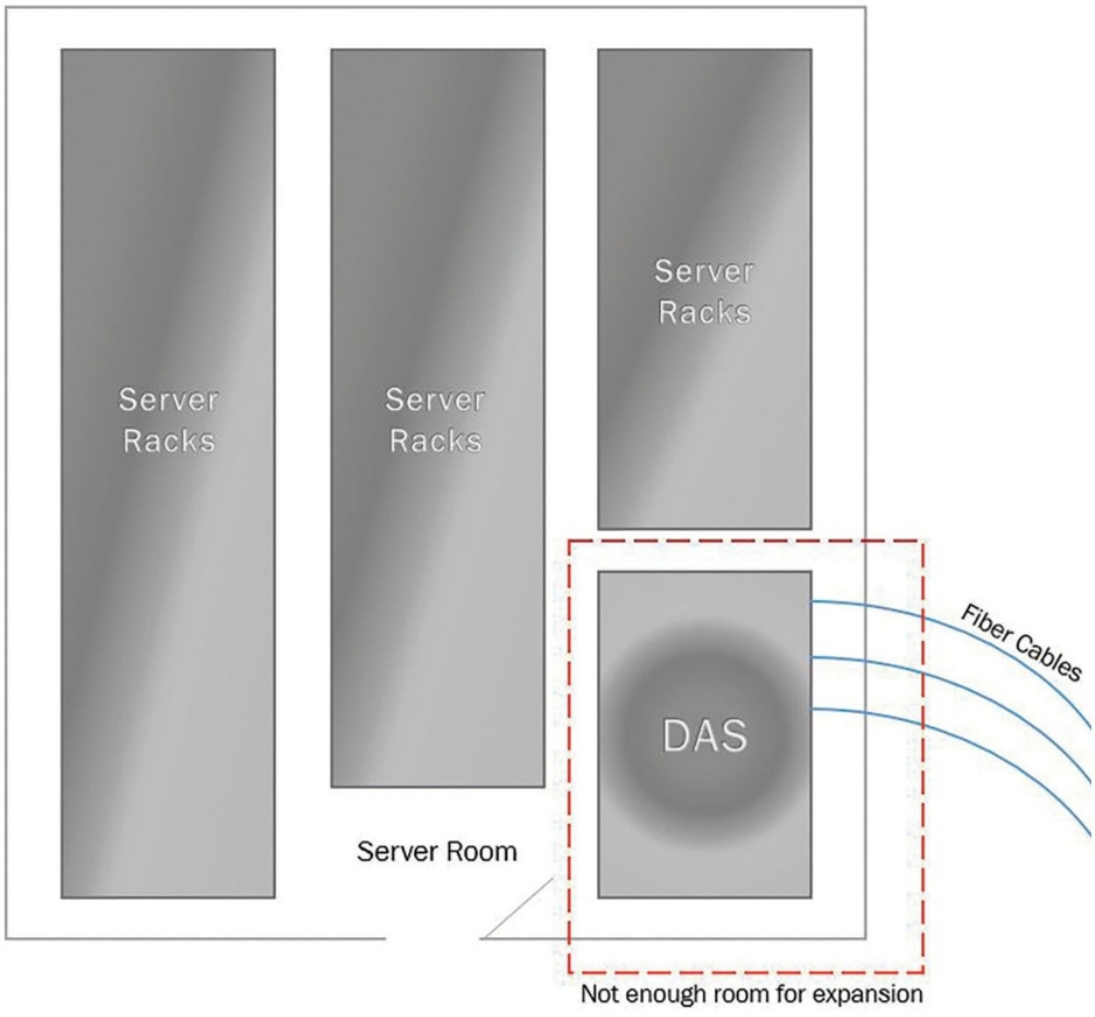
In Connected Real Estate Magazine's second issue, this column discussed what type of DAS network you might need, and how to enhance your system without breaking the bank. But what happens when your system equipment is outdated because the wireless industry is growing too fast? Think of it like your personal computer (PC). When PCs first hit the market in the mid-70s, their purpose, design and

capabilities were unlike anything we could have imagined at the time. Fast forward a few decades and see how PCs today are almost unrecognizable compared to their earliest ancestors. Each year, PCs and mobile devices evolve at such a rapid pace, consumers are forced to upgrade their devices every few years to keep up with the technological advances.

Wireless evolution is not unlike the evolution of PCs. With new advancements and frequencies in the picture, it becomes harder for older equipment to keep up. When your equipment can no longer handle the newest system development, it will inevitably become obsolete.

To put things into perspective for you, a building owner, I'll use an example from a recent client discussion. Our client is a hospital with a multi-carrier DAS network installed back in 2011 by another party. The client wants to expand the network from three carriers to four. While this seems easy enough, there is one large problem the hospital now faces. The equipment vendor that supplied the DAS network electronics for the original system no longer supports the equipment, even though it was deployed just six years ago. It wouldn't make financial sense for the client to buy older equipment that is no longer supported (i.e. from a secondary market source) just to add the fourth carrier, considering the evolution of wireless networks, as previously discussed. So, on top of the cost of adding another carrier, the client will also have to uproot its entire system to be fitted for new, upgraded equipment just to enhance its system to the fullest technological capability. This is what is known in the wireless industry as the "Forklift Effect".

Typical DAS Installation in Existing Building



So, how do you avoid becoming a victim of the Forklift Effect? Unfortunately, due to the rapid growth of the wireless industry, there is no way to avoid it completely. However, you can help minimize this scenario by pre-planning as much as possible. As described in our previous articles, avoid installing your systems in areas that will prohibit expansion (i.e. tight spaces, finished walls, etc.), leave enough physical space to make modifications in the future, carefully consider your choice between a single-carrier and multi-carrier system and, finally, consider a budget for all impending upgrades after your network is built. If properly planned, you will be able to minimize the loss of "sunk costs" and use those sunk costs as assets moving forward. For example, insure you have enough fiber bandwidth, spare pairs, etc., so you won't have to go through the time and expense of redeploying more fiber for this new system. It's the old adage "pay now or pay later." The difference is, "pay now" is always the less costly of the two.

It is important to set goals for what your in-building system will do for your building and your tenants, both now and in the future. Plan for all carriers up front, so you can gracefully expand in the future, rather than the hospital situation described above. If the system was planned to support more carriers up front, no expansion would have been required, and the ability to continue utilizing the existing system would have been less of an issue. Make sure you purchase spare parts for your system, or make sure they are built into your maintenance contract. Like PCs, these systems will run for quite some time, as long as you don't have to expand them assuming new or replacement parts will be available. Finally, find a professional who truly understands the workings of the wireless industry and the direction in which it is headed. An expert can help you pre-plan as much as possible so later you have easy access to your system, and any outdated equipment can be swapped out relatively cost effectively.

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