STARTING 2015 WITH NO MORE CLARITY ON 802.11AC WIRING THAN 2014

Wireless networking has never been an arena for absolutes. There's *always* wiggle room, a list of exceptions, and the "under lab conditions, but will be different in your environment" factor. To the uninitiated, it can sound like we're either trying to make excuses or that we suffer from the inability to commit when we can't promise discreet quantity (35 users should all get 12 Mbps at 75 feet from this access point, unless any one of these very likely things is in play…). To our our fellow Wi-Fi professionals, this frequent moving tartgetism is just a way of life that we both accept and pride ourselves on being able to bring order from as we ply our craft. **The wireless half of WLAN has always been fraught with permutation, but prior to 11ac, the wired uplink was straightforward. Now that we're well into 11ac's tenure, we're finding that even the notion of planning for getting APs connected to switches has gotten potentially confusing- and the WLAN industry isn't exactly helping itself in this regard.**

The Confusion Is Understandable To A Point

Where managers and non-techie money folks are trying to plan for future WLAN expenditures, you can appreciate the assumption that big, big capacity uplinks

might be needed for a new wireless standard that promises to around 7 Gbps.

Forget about the "data rate versus real throughput" paradigm for a minute- 7 Gbps is data center-grade connectivity in the minds of many, and so it's no surprise that people map available Ethernet speeds to what it would take to support the promise of 11ac. Remember here that 802.11ac, as with 11n before it, is WAY OVERMARKETED as ambitious glossy goes right to the we-may-never-get-there high end of the standard. Under that lens, and combined with innocent ignorance of the nuances of real-world wireless, you can sympathize with those who think "hmmm, 100 Mbps ain't gonna cut it. And standard Gig ports are way too slow. We better plan for 10 Gbps per AP."

After Ruling Out 10 Gbps Uplinks, It Gets Uglier

So we get past the point where 10 Gbps is being chatted up for AP uplinks, and we get closer to reality. But in this case, reality seems to be in the eye of the beholder, and there are lots of beholders with their own realities. Unfortunately, they also happen to be many of the same folks that customers turn to for technical guidance in these issues. **Right now, about all you can safely say is that the WLAN industry agrees that for 11ac, 100 Mbps uplnks are too slow and 10 Gbps uplinks aren't needed.** Beyond this, it's pretty wild and woolly. Different though leaders have different opinions, and as bizarre as it seems, they all sound viable.

The short version: given all of the variables of the contemporary complex business Wi-Fi setting, many environments won't be able to achieve aggregate demand of 1 Gbps or higher even on the latest 11ac hardware. Or maybe they will. But they won't, and you can count on that. Except where you can't. So all you need is a 1 Gbps uplink. But you better run two cables. And burn two switchports. But you don't need to. And because 1 Gbps won't be enough (or will it?), a new class of switches is being developed to put multiple Gigabits of throughput on a single UTP run.

Yes it's all a bit crazy. And those perpetuating the craziness likely mean well, they just don't seem to agree on what's really "needed" when asked by customers how to cable for 11ac going forward. **That lack of unified message really does a disservice to customers in a number of ways:**

- 11ac is frequently overmarketed. There is a delta between promise (or implied promise) and what reality will be.

- We've seemingly entered a period where everyone accepts "oh, that's just marketing- let an SE or VAR explain what this REALLY amounts to"

- I don't think that some in the WLAN industry get that cabling isn't trivial in many buildings, and even a single cable run can exceed the price of a top- end AP in many cases. Pathway concerns are huge where conduit is in use,

and some of us have to get our cable designs right to serve many, many
years.

- This status quo makes the industry look a bit disjointed, and kinda silly at
times. Wireless is complicated, sure. But a common message on how to
cable for it shouldn't be.

There's certainly plenty out there to confuse, amuse, and ponder on the topic of
planning for cabling for 11ac. This is one of those topics that is arguably more of
concern for bigger networks and customers with challenging cabling paradigms
than it is for others. And it's also pretty fascinating to see the different takes and
spins put on the subject by those in the vendor/VAR space versus those on the
customer end.

One thing is for sure, at least to me- as 2014 draws to a close, we're no closer to
clarity on this discussion than we were earlier in the year, and it will be interesting
to see what develops in 2015 as 11ac continues to explode and we see the front end
of Wave 2.

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clarity-on-802-11ac-wiring-than-2014/