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The Last Mile's Easy… It's the First 25 That Can Kill You

The Distance Race for Today's Service Providers

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Less than one percent of the U.S. population.

That's how many people across the country completed a 26-mile, 385-yard journey on foot last year. That trek, more commonly known as a marathon, is often hailed as the ultimate endurance accomplishment. Ironically, most first-time marathoners have nightmares about their finish – about tearfully crawling over the line with their hands and knees scarred from a pebble-ridden, unforgiving pavement. The reality, however, is actually quite the opposite. The last mile isn't the hard part at all. The reason is simple: crowds of encouraging onlookers. In day-to-day life, being screamed at by strangers is far from welcome, but during the last mile of a marathon, it's the most beautiful sound there is.

Extending the marathon analogy to today's service provider arena highlights several similarities. In the service provider world, the onlookers are customers, and their enthusiastic encouragement is represented by their demand to sign up for services. A marathon's last mile doesn't make the runner depressed at how much further he has to go, but elated at how far he's come and how comparatively little distance he must still cover – and the same holds true for service providers. It's getting to the last mile that is a thankless endeavor and also, ultimately, where the real work lies.

Does this mean the last mile isn't a problem? Of course not. But relative to what it takes to get there, it's a problem service providers should almost welcome.

The Efficiency Imperative

Regimented training, coupled with a race-day focus on pace, are the keys to completing a marathon. Coaches warn first-timers against the dangers of going too fast early on, stressing that conserving energy by consciously refraining from overextending is critical.

The same advice can be given for service provider build-outs. To establish optimal network performance and to support future growth, a service provider must avoid overextension. The provider needs to start with a firm knowledge of the overall network structure and then focus intently on their operations processes and network management systems. Using such an approach will improve efficiency and enable a tighter control on capital expenditures.

Knowing exactly what's on your network and having an effective change management system in place is the best way to counteract declining margin per bandwidth unit. However, according to expectations of leading industry analysts, there will be massive increases in spending for fiber to the premises (FTTP) equipment, cable and apparatus. This information hints, rightly, that much needed cost controlling may be considered by many service providers as only part of a larger picture.

So, if service providers face the danger of overexertion like the marathoner struggling to finish, what can they do to counteract this risk?

As mentioned previously, service providers do not need to be overly concerned with the cost of equipment. The more expensive endeavor is in making sure the network runs smoothly and in keeping keenly aware of all of its moving parts. For the service provider then, getting to the last mile is about management and design processes which maximize the utility of infrastructure. The successful marathoner makes it to the last mile not just by focusing on pace, but by concentrating on the efficiency of stride. Holding a consistent pace is certainly important, but how many steps the runner takes while doing so is even more critical. For the service provider, overexertion occurs not through the expenditure of capital itself, but because of inefficient operational processes that create gaps that only more (and unnecessary) equipment can fill.

Industry Partner

Toward the Finish Line

Based on our experience working with customers, there are several technology prerequisites needed to make it to the last mile. All of them emerge from a robust, near-real-time inventory structure that also has integrated collaborative design-and-assign processes.

Making the Commitment

Managing network change on a service provider scale, like deciding to run a marathon, is no small affair. The marathoner-in-training can expect a minimum of three days of running each week for around twenty weeks. And running, ironically, is only one component of training successfully. The trainee's diet must be modified and monitored, cross-training and flexibility exercises need to be integrated into the overall workout structure, and new equipment, e.g., shoes, must be purchased. A casual runner preparing to run a marathon needs to take a personal inventory of time and willpower.

The basis for change then, for both weekend joggers hoping to become marathoners and providers hoping to become last mile champions is, perhaps counter-intuitively, not to begin running immediately, but to take stock of where they are now. A complete network inventory of all assets, that ideally is automatically discovered, allows providers to establish a solid foundation for change.

Don't Go it Alone

Many experts coach runners to complete marathons in segments because it is easier to focus on going one more mile than to think of the next 13. They also encourage running in groups because self-inflicted peer pressure is motivating – especially when, due to weather or bad roads, the environment is uninviting.

Similar processes could help service providers to control capital expenditures during their race to the last mile. As more equipment is placed in a cabinet, existing issues like space, power supply, temperature range and maintenance move to the forefront. Collaborative design-and-assign processes integrated into an accurate inventory system can help providers extract every bit of bandwidth from existing network elements and manage capacity issues like space and power

effectively. Working together inside a system with real-time conflict management, like running together in the context of a training regimen, equals more than the sum of its parts.

Go Slow to Go Fast

When completing their first 26.2-mile run, some set a goal to simply finish, while many other runners set their sights on time thresholds, like the three-hour marathon or the under five-hour marathon.

Strangely, one way to accomplish these objectives is by walking. Coaches often advise dropping out of a running pace for 30 or 45 seconds at each mile marker in order to preserve strength, fuel up on sports drinks, and think about the next mile.

While stopping altogether isn't an option in either a foot race or the race to the last mile, pausing to plan the next set of moves will ultimately save time. Establishing design review processes and enforcing them with role-based security and workflow may cause a provider to go slower than it feels able, but it ensures the company is focused on the end-game: reaching the finish line.

Such a system can also establish a transparent view that breaks apart every step of the provider's journey so that activities are not intimidating, opaque and error-prone, but discreet, defined and understood.

The Downhill Glide of Automation

Champion marathoners employ several techniques during a race, but one of the most efficient is practiced during downhill parts of the course. By moving their feet as close to the ground as possible, maintaining a moderate striding distance, and minimizing arm movements, runners use "gliding" to force gravity to do most of their work for them. Essentially, these athletes engage an autopilot, yielding more distance with less effort.

It is incumbent upon service providers to do the same, and a scalable inventory repository is the base upon which automation becomes reality. Automation is simply not possible without an updated, transparent view of available resources. The ability of an inventory system to import data quickly, discover assets and incorporate a reconciliation capability to compare what was planned to what actually is (and then reconcile the differences for deployments) increases the likelihood that providers can glide into new markets.

Additionally, as new enablement technologies gain increasing traction, the need for automation becomes even more imperative. Multi-protocol label switching (MPLS) is one such technology, addressing issues that arise from the mixing of voice and data on the same wide area network (WAN). MPLS delivers quality-of-service (QoS), jitter and latency guarantees for voice, a range of cost-effective bandwidths, and a migration path for established networks. Lest one believe that MPLS is the panacea for all that ills build-outs to the last mile, consider the very nature of MPLS: It is logical, not physical. This means that it is incredibly dynamic – constantly morphing according to customer demand. Automating MPLS activation is the only way to extract its true value. And without a physical understanding of equipment location, power requirements, spare inventory and port-to-port connectivity – in short, without having effectively navigated every mile up to the last one – how can a provider possibly accomplish that?

Our experience, both as marathoners and as IT professionals, tells us that they cannot.