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## A Quick and Dirty Toll-Free Primer

**Often, it's the most ordinary aspects of communications, like 800 numbers, that are the least understood.**

*Most human beings have an almost infinite capacity for taking things for granted.*

*-Aldous Huxley*

Let's face it, we are surrounded by things that we don't truly understand. I am writing this article from my kitchen table about eight feet from my refrigerator. While I know it uses a compressor and a refrigerant to keep my food frozen or cold, I am pretty clueless as to how it actually does that. Okay, I do remember something about the laws of thermodynamics and heat flowing from hot to cold, but it gets a little fuzzy beyond that.

No matter what, I know that if I open the freezer door, the ice cubes and veggie burgers will be frozen solid. How they got that way only matters when my Amana stops working and those ice cubes melt and the veggie burgers turn to mush.

I expect that many of us in the world of unified communications struggle when it comes to understanding a great deal of the technology we work with on a daily basis. For instance, I know SIP very well, but my understanding of the H.323 protocol is limited. The opposite is true for others I work with. The good thing is that we all know people who are smart in ways we are not. This keeps our jobs in balance and the paychecks coming.

Often, it's the most ordinary aspects of communications that are the least understood. For example, do you understand how 800 numbers work? You know that they connect us toll-free to a business or organization, but are you aware of how they differ from ordinary telephone numbers?

### **A Little History Lesson**

Prior to the mid-1960s, toll-free dialing required an operator intervention. A caller would dial 0 (zero) and tell the operator the toll-free number he or she wanted to call. These numbers were assigned to a geographic region which limited how they could be used by a large company. Toll-free numbers answered in New York could not suddenly terminate in Phoenix and vice versa.

This started to change with the introduction of Direct Dial 800 numbers in 1966. While the initial offering was a big improvement over operated assisted toll-free numbers, they lacked many of the features we take for granted these days. For instance, these early numbers did not support Automatic Number Identification (ANI) to inform call center agents who was calling. Also, like the previous operated-assisted solution, these early 800 numbers were still bound to geographic regions.

Toll-free numbers went through a significant transformation in the early 1980s when the dialed number became an index into a database that determined where the call was to be directed. This broke the dependency on location and allowed 800 numbers to be freely assigned across the country.

Judge Greene's 1982 breakup of the Bell System was a further catalyst for change. New carriers quickly popped up across the country, and they all wanted a piece of the toll-free pie. No longer were companies tied to AT&T and its vision of how the world should operate.

The 1980s also saw the introduction of the vanity number. Instead of a random series of numbers, **1-800-Got-Junk** and other easy to remember numbers became commonplace. Companies now began using telephone numbers as marketing and branding tools.

With toll-free calling becoming the lifeblood of many organizations, their use skyrocketed. This eventually exhausted the supply of 10,000,000 800 numbers, causing 888 numbers to be introduced in 1996. This was soon followed by the creation of 877 and 866 numbers. Despite this huge expansion of the toll-free number pool, continued demand required the introduction of 855 numbers in 2010.

### **You Can Get There From Here**

As I previously wrote, the geographic distribution of 800 numbers was enabled by a central database. This database, known as SMS/800, is owned and operated by SMS/800 Inc., which is a subcontractor to the Federal Communications Commission (FCC).

SMS Inc. provides a Web-based configuration tool that allows companies to use SMS/800 to control how 800, 888, 877, 866, and 855 are routed by carriers. A company that takes on the responsibility for one or more toll-free numbers is known as a **RespOrg** (Responsible Organization). Long distance carriers such as AT&T, CenturyLink, and Level3 are RespOrgs, but there are many non-carrier RespOrgs, as well. In fact, anyone willing to pay the requisite fees to SMS/800 Inc. can be a RespOrg and start controlling toll-free numbers.

Most enterprises use their carrier to act as the RespOrg for their toll-free numbers. For example, if a company's inbound calls only come from Verizon, it might make sense that Verizon be their RespOrg. It makes life easier for the company and the carrier.

In the case where an enterprise uses multiple carriers, the enterprise might pick one of the carriers to act as the RespOrg for their numbers. For instance, AT&T can be the RespOrg for numbers that are routed on both the AT&T and Verizon networks. This is often termed Shared RespOrg.

Some companies want greater flexibility in how their calls are delivered and choose to go with a carrier-neutral RespOrg. **ATL Communications** is an example of a third-party RespOrg that works with all carriers to help customers distribute their toll-free calls in the most efficient manner.

In addition to features such as least cost routing, a third-party RespOrg can provide disaster recovery by rerouting toll-free numbers during carrier outages. While a carrier-based RespOrg might be able to accomplish these same things, it might not be in its best interest to move calls off its network to a competitor. A carrier-neutral RespOrg won't have the same hesitance.

## A Changing World

If I've learned one thing in my 30-plus years in the communications industry, it's that everything changes: Analog was replaced with digital, and digital was eventually pushed aside by IP. While toll-free numbers have ruled inbound calling to a company for 60-plus years, how much longer will we be picking up telephone handsets and dialing digits? Personally, I would much rather go to a company's webpage and chat with an agent than call that same agent. If I do need to talk with someone, I would love to do that via a WebRTC session on my PC or through a mobile app.

That said, I'm pretty sure that 800 numbers in one form or another will be around for several more years and their place in customer care is pretty well established. And like the refrigerator, a little knowledge in how things work isn't a bad thing, is it?

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