

The Service Level Group's Better Contact Center Series

Agent Occupancy—Revisiting The Basics



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In the article "*The Truth about Agent Occupancy*", we focused the importance of understanding and appreciating the role of occupancy in call center management. Since that article was published, I've received numerous emails with additional questions about occupancy — many of which focused on the more foundational elements around the calculations. While answering these questions, I realized that one of the best ways to gain a better understanding of agent occupancy is to break down the math behind the Erlang calculator.

If you're running a call center, it's essential to have some type of Erlang calculator available for quick "what-if" analysis, which can help to paint an accurate picture of the true impact of the workload or service level adjustments being considered. An Erlang calculator is also a great tool to help you better understand and communicate the dynamics of managing an inbound call center. Yes, this simple little tool can take you a long way toward solving a problem we hear on a regular basis: "Senior management just doesn't understand."

The Erlang model used in the previous article is ICMI's QueueView staffing calculator, which is available at www.icmi.com. This version automatically generates the agent occupancy for the different inputs and provides several what-if type outputs on a single screen. There are also other versions available for download on various Web sites — some stand alone, while others are part of the Web page itself. With most of these, the resulting occupancy is not part of the output so you'll have to manually account for it each time. That isn't necessarily a bad thing — actually, I recommend spending some time manually doing the math if occupancy is automatically calculated for you. Recreating the output will provide you with a new appreciation for occupancy and call center dynamics in general.

The good news is, it's pretty easy — and once you set it up in a spreadsheet, you'll quickly get a feel for how changes to any of the inputs will impact the resulting occupancy. To illustrate this, we've created a couple of examples.



The inputs used in the Erlang calculator are:

80/20 SLO — goal to answer 80 percent of the calls within 20 seconds
50 calls in a half-hour
200 seconds Average Talk Time
50 seconds of Average After-Call Work Time

Based on the above inputs, we're able to manually calculate the following outputs:
Handle Time is 250 seconds — Talk plus After-Call Work
Call Load is 12,500 seconds — After-Call Work x Calls (Total amount of work that needs to get done — 250 x 50)

At an 80/20 SLO, an Erlang calculator will give a requirement of 10 agents. This tells us that we need 10 agents plugged in and available for the entire 30-minute period.

All you need to do now is multiply the number of agents (10) by the total number of per-agent seconds available in a half-hour (1,800) to get 18,000

The occupancy percentage is the call load (12,500) divided by the available seconds (18,000), or 69 percent for that half-hour. In this example, the 10 agents on the phone will be occupied (on the phone talking or in an after-call work state) about 21 minutes in the half-hour. The inverse of this is agent idle time (sitting waiting on the phone), resulting in a requirement of about nine minutes of the half-hour.

To help illustrate the relationship between size and occupancy, we'll increase the number of calls in the half-hour to 75 and keep the handle time the same. As expected, with the increase in call volume, the work that needs to get done (call load) will also increase. The new call load is 18,750 seconds (75 calls x 250 seconds).

When we use the Erlang calculator to determine the number of agents needed to meet an 80/20 service level against the new call load, we get a requirement of 14 for the half-hour. Using the same adjustment as above, we can multiply the agents needed by the number of available seconds in the half-hour (14 x 1,800) to get 25,200.

Determining the occupancy for the new call load is simple as dividing the work by available time: $18,750/25,200 = 74$ percent. This tells us that, by increasing number of calls, the agents on the phone will now be occupied a little over 22 minutes per half-hour. In this example, the required idle time is reduced to just under eight minutes.

The most important take-away from this exercise is the understanding that occupancy is a result based on the workload in the half-hour and the service level objective you set for your center. Attempting to manage to a specific occupancy number creates more frustration than benefit, and it's often a battle that can't be won.

If you've struggled to get others in your organization to understand the call center's dynamic real-time environment, I recommend developing several what-if scenarios based on agent occupancy. When company decision-makers truly appreciate this concept, running the call center becomes a lot easier for everyone involved.

About the Author:



As a seasoned industry executive, popular speaker and highly regarded consultant, Tim Montgomery has guided thousands of contact center agents and leaders to improve individual and team performance, and exceed operational objectives. Drawing from these interactions and his extensive real-world experience, Tim founded **The Service Level Group** to help contact centers leverage the competitive advantages they have right at their finger tips.

During his career, Tim has held a variety of leadership positions – everything from Call Center Manager to Vice President of Sales and Operations. His hands-on contact center leadership experience was fine-tuned by working for three of the most celebrated service companies in the world – **USAA, The Coca-Cola Company and The SCOOTER Store**. Prior to founding **The Service Level Group**, Tim spent three years as a Consultant, Seminar Leader, and Technology Advisor with **Incoming Calls Management Institute (ICMI)**. Tim's expertise in customer service and contact center operations allows him to lead a wide range of consulting engagements for companies in a variety of industries. His consulting partners have included some of the most recognized companies in America - **AIG, Lifetouch Publishing, Mitsubishi Motors, Premera Blue Cross, Deluxe Printing, Allstate, Kodak, Liberty Mutual, Cinergy, Meguiar's and The Gartner Group**. Tim has written articles and whitepapers on a variety of management, customer service, and call center topics and has been featured in many global publications. Tim earned both his BBA in Accounting and MBA degrees from degrees from the University of Texas @ San Antonio. Tim can be reached directly at TimM@ServiceLevelGroup.Com