

The WorkForce Management Guide to: Center Performance Data Integration

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Does your contact center accurately report center performance to calculate future staffing requirements? You may be surprised what you uncover by looking under some unturned stones.

Implementing the data integration associated with a workforce management (WFM) system at first appears easy because vendors define the requirements and walk clients through the setup process. Realistically, integration details must be reviewed and communicated within the project team. If a WFM system is already installed, the data elements and processes may need to be validated. There is a mystic that vendors know all and tell all to implement the process to meet client business needs. This incorrect belief will integrate you into the reporting world of "garbage in, garbage out" and the never ending wonder, "Why am I never staffed properly?"

This article is intended for contact center decision makers and those involved with using or implementing a workforce management system. Data elements such as events and average handle time are reviewed in detail in addition to issues that commonly, unknowingly exist in up-and-running WFM systems in today's contact center world.

The primary points being conveyed within this article are:

- Validate data elements represented in existing reports and those included in a data integration process.
- Review the default reports recommended by WFM vendors to determine if changes are required to align the reports with business needs and in support of operation procedures.

To begin, let us clearly define workforce management historical data integration. The automation of exporting the historical data from an ACD or other data resource and importing to WFM is commonly referenced as WFM historical data integration for the use of reporting and forecasting staffing requirements.

Forecasting activity workload is one of the core features of a WFM solution. In order to accurately forecast activity, the patterns of historical activity, also termed historical forecast models, need to be built based upon the collecting and proportional weighting of historical data that best represents the time increment being forecasted. For example, the last four Mondays are the best representation of next Monday. The source of the historical data is typically an automatic call distributor (ACD). WFM vendors have developed automated processes along with ACD vendors to make the process efficient, easy to implement and easy to administer.

However, the point to be made is that the data elements requested by the vendors should still be examined to see if they satisfy the center's business needs. A center may have unique business processes that require changes to the default data element and report settings.

Before setting up the data integration process, the data to be collected must be identified. The base set of data elements collected in WFM are offered events or calls, and average handle time (AHT).

$$\text{Workload} = \text{events} * \text{AHT}$$

In addition to events and AHT, other data elements are also collected primarily to enhance performance reporting, such as agent performance. Allowing WFM to collect multiple data elements promotes the workforce management system's use as the contact center's centralized reporting performance tool.

Close attention should also be taken to determine which items are going to be collected and reported as is, and which items are going to be calculated within the WFM application. For instance, is service level going to be collected or is it going to be a calculation. If the WFM reporting calculates the service level, it will likely not identically match the service level reported by the ACD. This can make a substantial difference in determining a centers performance and should be identified prior to implementation.

A CLOSE LOOK AT THE DATA INTEGRATION SETUP

Now let us look at the setup of data integration process. The data integration process itself is easy to implement and usually requires little maintenance. However, not placing the proper human resources to support an implementation setup can cause a project to come to halt. Existing WFM systems also need defined administration resources to assure issues are efficiently addressed.

Time increment data integration is the preferred means for reporting the number of events offered over a period of time. This also is the common process for collecting other variables that are populated within WFM. This process is setup by scheduling a designated set of reports in an ascii, text file format containing all desired data elements to be sent to a specific location on a WFM server or a workstation dedicated to the process. The server then recognizes the file and processes the information by importing the data into the associated activity tables defined within WFM.

Most WFM vendors have partnerships established with the major ACD vendors to established generic reports specifically for the data integration, usually one or two reports. WFM vendors will provide the name(s) of the report(s); the reports are purchased and programmed by the ACD vendor; the WFM vendor then sets up the import process to the WFM data tables. The ACD vendors charge \$5 to \$10k for each scheduled report with no maintenance. Based upon the points made within this article, each report should be reviewed for changes based upon unique business requirements. Changes usually result in a \$1k additional charge to the changed generic report. Charges for necessary changes are a small price to pay compared to the total investment that would otherwise be producing inaccurate center performance reports and staffing requirements.

A CLOSE LOOK AT EVENTS

For the setup of data integration, WFM vendors will ask for events offered to use as the basis of calculating staffing requirements. Some ACD will report offered while other ACD will report handled and abandoned which comprises offered.

$$\text{Offered} = \text{Handled} + \text{Abandoned}$$

$$\text{Workload} = (\text{Handled} + \text{Abandoned}) * (\text{AHT})$$

No matter what ACD type, each data element needs to be validated to assure the formulas correctly represent the data element and business needs.

Handled and abandoned values are usually easy to identify. However, finding modified data element formulas within ACD reports is not uncommon. This is especially true when the ACD has been in place for several generations of IT personnel managing the systems. Validation of the reporting consistency and historical changes is always strongly recommended.

One of the most common reasons for a changed formula is due to the business decision to not include all abandon in the service level performance goal. The majority of centers will reference all events entering a queue to be potentially worked upon as an offered event; however, some centers discount abandoned events that occur during a defined length of time within the queue. Special attention should be taken to assure that the reported offered in WFM is the same offered that is being used to grade the service level of an activity. If reporting is not consistent, the data will not result in an effective staffing requirement forecast. If discounted abandons are factored in the calculation of service level performance but not discounted in the integration of offered events to the WFM system, the calculation of the forecasted offered will be overstated resulting in overstated staffing requirements.

An example is a center with a goal of 80% of offered within 20 seconds but all abandoned events discounted within the first 20 seconds. Most WFM vendors will only have algorithms that reference the arrival patterns based upon the time the event enters the queue.

Even if the discounted abandons are factored out of the abandon, the calculation of staffing requirements will be factoring an algorithm-based percentage of the offered calls to still be abandoned prior to the time limitation parameter of the service level performance goal resulting in the understating of staffing requirements. Seldom will a vendor customize the forecasting algorithm to match a customized service level calculation with a modified abandon formula, but the trend in new releases and new vendors is to allow users more options and the ability to manually customize the abandon delay in the algorithm.

To go to an extreme, event accounting is especially sensitive when activities within the same center have different abandon discount rates due to different service level performance measurements. For example, activity A has a service level of 80% in 20 seconds and abandons discounted up to 20 seconds, while activity B has a service level of 80% in 30 seconds and abandons discounted up to 30 seconds. In this case, multiple customized integration processes need to be developed for each scenario or a complex custom integration report will need to be developed that compensates for the different activity formulas prior to the integration process. This is extremely complex and can be potentially quite expensive when the environment changes resulting in the integration process and reports to be scraped and re-implemented with the new formulas.

Based on the points made, three recommendations need emphasized. The calculation of abandons in the formula for offered events needs validated against each activities performance measurement. Secondly, serious consideration should be taken to re-evaluate the business positioning of discounting abandons compared to the creation of a consistent performance measurement across all activities for reporting as well as in the calculation of forecasting staffing requirements. Lastly, develop and communicate processes to support the integration process to assure accurate data and to escalate issues for quick resolution.

A CLOSE LOOK AT AHT

In the simplest of terms, AHT is the sum of average talk time (ATT) and average after call work (ACW). ATT is the time from the beginning of time an agent begins working on the event with the customer to the time the customer leaves. After the customer has left the agent, further time may be necessary to complete the work generated by the initial event known as ACW.

$$\text{Workload} = \text{events} * (\text{ATT} + \text{ACW})$$

As simple as it seems, Average handle time, AHT, is one of, if not the most frequently misrepresented data elements in contact center performance reporting. The reasons for the misrepresentation are the lack of understanding the variables comprising AHT, the effect of hold time, the inability to apply actual handle time to the same interval as the event worked, inconsistent agent workstate management, and an activity allocation issue caused by multi-skilled agents. Each issue has the potential of causing an extreme impact to the over-all ability to report actual performance in addition to the forecasting of staffing requirements.

AHT Integration Process Options

The actual values reported for AHT performance are dependant upon the location of the source data and the integration process used to transfer data from an ACD to WFM. There are primarily two methods for integrating data from an ACD, real-time and the reporting of performance by time-increment. Each of these methods will report different AHT values.

AHT Interval collection is the sending of the AHT value each half hour, or other determined length of time, from the ACD and collected within the WFM system. In the majority of ACD, the time used to derive the AHT value is based upon the interval in which an event ends. If an event starts at 11:58 and ends at 12:02, the event was 4 minutes in length. All 4 minutes of work will be applied to the 12:00 to 12:30 increment. The negative effect of this process is that the AHT will be understated for the 11:30 to 12:00 while 12:00 to 12:30 will be overstated. The greatest effect caused by this integration method is seen at the beginning and the end of the day because the peak periods of the day will have both negative and positive effects being applied. A positive point of using this process is that the data is retrievable from the ACD as long as it stores the data, data integration can occur at any time.

The alternative approach to reporting AHT is through the real-time collection of agent workstate time. This process consists of sending a continuous datastream from the ACD to WFM containing all changes to agent workstates. The total amount of time within each workstate is then calculated and divided by the total number of events handled over the same increment of time. This process applies the work to the proper increment. A negative point is that if the datastream is down for any length of time, the data cannot be re-sent and is lost. Note needs to be taken that not all ACD will support real time data streaming.

The real-time process is also dependant upon employees being properly defined within the WFM application to associate the work time. All employees that potentially work scheduled activities need defined. If an agent, lead, supervisor, trainer, etc. works an activity and is not defined, the time worked is lost resulting in an incorrect reporting of AHT and ultimately incorrect forecasted staffing requirements.

Average Talk Time

Average talk time (ATT), the primary component of AHT, is straightforward but how hold time is represented needs to be reviewed. Talk time accuracy issues arise when hold time is not known to be included. Work time can possibly be missing if hold time is not counted or even overstated if double counted. If hold time cannot be factored into the AHT, the work time should be summed regularly and included as a shrinkage category.

After Call Work

After call work (ACW), the follow-up work that is required from a previous event and the second primary component of AHT, is the most common element that causes inaccurate workload performance reporting. Reporting ACW is difficult because it is dependant upon an agent's ability to place their phone or CTI into the proper work state and due to the affects of multi-skilled agents.

Determining what activities are supposed to be included in ACW is vital to properly reporting performance. Ultimately, all activities are defined prior to the setup of data integration. Usually the guideline for determining if an activity should be included in ACW is if it is a direct result of an inbound activity. Activities that are not a direct result of an inbound activity should be defined as a shrinkage category and be managed and planned independently. For example, training is an activity but not associated to an event generated by a customer. The activity of sending a fax to the plant to finish a customer order, in most instances, is included in ACW.

Upon determining the different activities to be included in ACW, the agents need to be educated on what phone and CTI workstates represent what activities. This education is ideally supported through quality control monitoring and coaching.

Multi-skilled agents make ACW even more complex. Centers with multi-skilled agents using an ACW will not be able to associate the ACW time to the proper activity. If agents are assigned to handle two activities and place themselves into ACW, there is no link to associate the work and activity. Some ACD and WFM applications will report the ACW time to the most recent inbound activity, while other ACD will only report the overall ACW time.

A CLOSE LOOK AT SOME NUMBERS

Let us look at some efficiency numbers to see the impact of not staffing properly due to an inaccurate representation of center performance.

In this scenario, a center has one activity and handles 1000 events during a day with a talk time of 3 minutes. However, the after call work does not include all of the after call work activities and reports 45 seconds instead of 1 minute. The overall cost is that the activity will be understaffed by approximately 6%.

1000 events handled
180 seconds talk time
45 sec reported ACW
15 sec of unreported ACW

$15 / 240 =$ Approximately 6% understaffed

Looking at a similar scenario where the ACW includes activities such as extra unscheduled breaks and reports 75 seconds instead of 1 minute. The overall cost is that the activity will be overstaffed by approximately 6%.

These figures quickly justify why the review of each data element is so important to the success of workforce management principles and practices.

SUMMARIZING OUR POINTS

In summary, the following points must be reviewed to successfully manage a data integration process for the transfer of center performance data.

- Provide proper resources to support the data integration setup.
- Review vendor supplied reports
- Review WFM reported data to determine if it is integrated data or based upon a WFM formula.
- Review the center definition of abandoned and offered events
- Review Hold Time in calculation of Talk Time
- Review what activities are to be used to calculate after call work and which are shrinkage categories
- Review Operations workstate management procedures

The data integration process is an extremely vital component of a successful workforce management system implementation. In order for workforce management to produce an accurate staffing requirement forecast, there must be an accurate representation of the center's historical performance based upon the specific center and activity goals.