

## WHITE PAPER

# EARLY VS. LATE DECISION MODELS: PRODUCT DIMENSIONING FOR ON-DEMAND, ZERO-AIR PACKAGING SYSTEMS

**Knowing the dimensions of primary packaging**, and the dimensions of unboxed products, is necessary for making Zero-Air shipping containers with on-demand packaging technologies. There are two models, within the WMS/ERP environment for knowing the dimensions – Early model and Late model.

**An Early model uses volumetric data** stored in the item master for each product. That data is collected from the supplier of the product, or from a process where the distributor measures (and weighs) each product as part of the new-item set-up.

**A Late model uses technology** to capture the overall size of the order, by passing the compiled items through an accurate measuring device, which reports the length, width, and depth of the order to the On-Demand packaging system. The dimensions are also reported to the Transportation Management System, where it is associated with the shipping number for each order in the Shipping Manifest. When designed into the conveyor system, measuring the order dimensions does not require a manned position.

**The Late Model is generally required for On-demand, Zero-Air, systems.** The Early Model isn't adequate for several reasons. The dimensioning of products, as reported by the supplier, is subject to constant changes based on packaging design revisions, packaging substitution, and rounding errors. Since product dimensions are primarily used for calculating the amount of rack space required for slotting, the dimensions don't require precision, so they are rarely precise. When products are measured individually, the technology used is generally a static camera system on a table, which are not deadly accurate, and require some skill by the operator to position the product correctly etc.

In a Late model system, an order passes through a dimensioning arch, via conveyor, and the size of the compiled order is determined within a millimeter, which negates the issues associated with dimensioning as part of the item set-up, as well as solving for problems such as “nesting,” where two items positioned side-by-side are smaller than the sum of their individual dimensions.

**Late Model dimensioning requires** the order-management system to be updated in real time, just after the order is passed through the dimensioning system. The height and weight is updated in the transportation management system prior to transmitting the manifest to the carrier. Because of IT latency issues, late models require either an on-premises WMS system with minimal latency, with the order management system separated from the wave batch file, or a SQL database with upper-level software that allows for real-time dimension updates to the carrier manifest. The SQL database is used to update the order management system in a batch process when the wave is complete.

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