ISA

ENTERPRISE BATCH RECORDS (EBR) APPROACH TO MANUFACTURING EXECUTION SYSTEMS (MES)

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Presenter

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THE PROBLEM FOR MANUFACTURERS

- Manufacturers need a cost-efficient MES solution that is not disruptive to their installed base of technology, is scalable and allows them to incrementally implement the functionality they identify as necessary and beneficial to improve operations management in their manufacturing environments.

PLATFORM SUITE VERSUS POINT APPLICATIONS

- The large players in the MES software space reference their "MES platform," a suite of applications acting as extensions to a core software platform.

- The drawback of most large-platform packages is that their design assumes and incorporates certain ways to perform manufacturing functions. This does not easily lend itself to changing how things are done as part of a continuous improvement program.

- This presentation contrasts the platform approach with a tailored, data-driven design approach, utilizing point solution applications that work together over time to create an integrated plant-wide MES.

THE CASE FOR ENTERPRISE BATCH RECORDS TO IMPLEMENT MES

- It's time to rethink the typical approach to MES, shifting from an application-first focus to a data-driven plan.

- Traditionally, MES has been designed and implemented based on the functions that are desired, with secondary consideration to the plant floor data required to support those functions.

- We need to turn that approach around, first considering what data must be captured in the manufacturing process for use by any of the desired functions. A universal data platform with accurate, real-time plant floor data and information will feed functional applications as needed.

THE CASE FOR ENTERPRISE BATCH RECORDS TO IMPLEMENT MES

- Enterprise batch records (EBR) are used to store all information about the product manufacturing process:

  - Batch header, status and results
  - Supplier information
  - Materials produced and consumed
  - Distribution information
  - Processes performed and process data
  - Equipment used and equipment data
  - Labor used and labor data
  - HACCP results
  - Safety results
  - Quality results
  - Deviations and incidents
  - Maintenance activities
  - Sanitation and CIP activities

THE CASE FOR ENTERPRISE BATCH RECORDS TO IMPLEMENT MES

- Having the information captured and available in the form of an EBR supports the needs of the entire enterprise:

  - Information to support research and development for product enhancements based on manufacturing results and variances
  - Supporting product liability and recall
  - Supporting continuous improvement efforts through mining of operational data
  - Supporting current and future regulatory reporting
  - KPI reporting
  - Analysis of the operations data and performance for any function determined to be of importance and value to the specific business

- EBR can support functions that are of value through individual applications that leverage the information.

THERE'S AN APP FOR THAT!

- Implementing MES via an EBR opens up opportunities to achieve additional operational benefits. These include:

    - Continued use of existing installed applications
    - Support for incremental investment
    - Faster ROI
    - Freedom to utilize a best-of-breed approach for the individual functional applications
    - Opportunity for a modular component approach

DOES IT EVER MAKE SENSE TO IMPLEMENT A PLATFORM SUITE?

- In cases where the business has not yet invested in implementation of any MES functionality and is able to commit to a program — for both a significant up-front investment, as well as ongoing support costs — the platform approach may be the best solution.

- However, the cost of entry is often beyond the means of many mid-tier manufacturers who are not receiving the benefits available to them through the implementation of a comprehensive MES solution.

# VISION OF THE TOTAL SOLUTION IS STILL REQUIRED

- It is important that the total solution integration be architected conceptually at the outset. As each application is implemented, the ongoing integration is structured and enforced.

- The goal is to provide a modular, scalable solution that continues to grow and evolve with the business. The integration plan for the applications must be architected up front, although the individual applications can be implemented later.

A PROPOSED FRAMEWORK OR MODEL
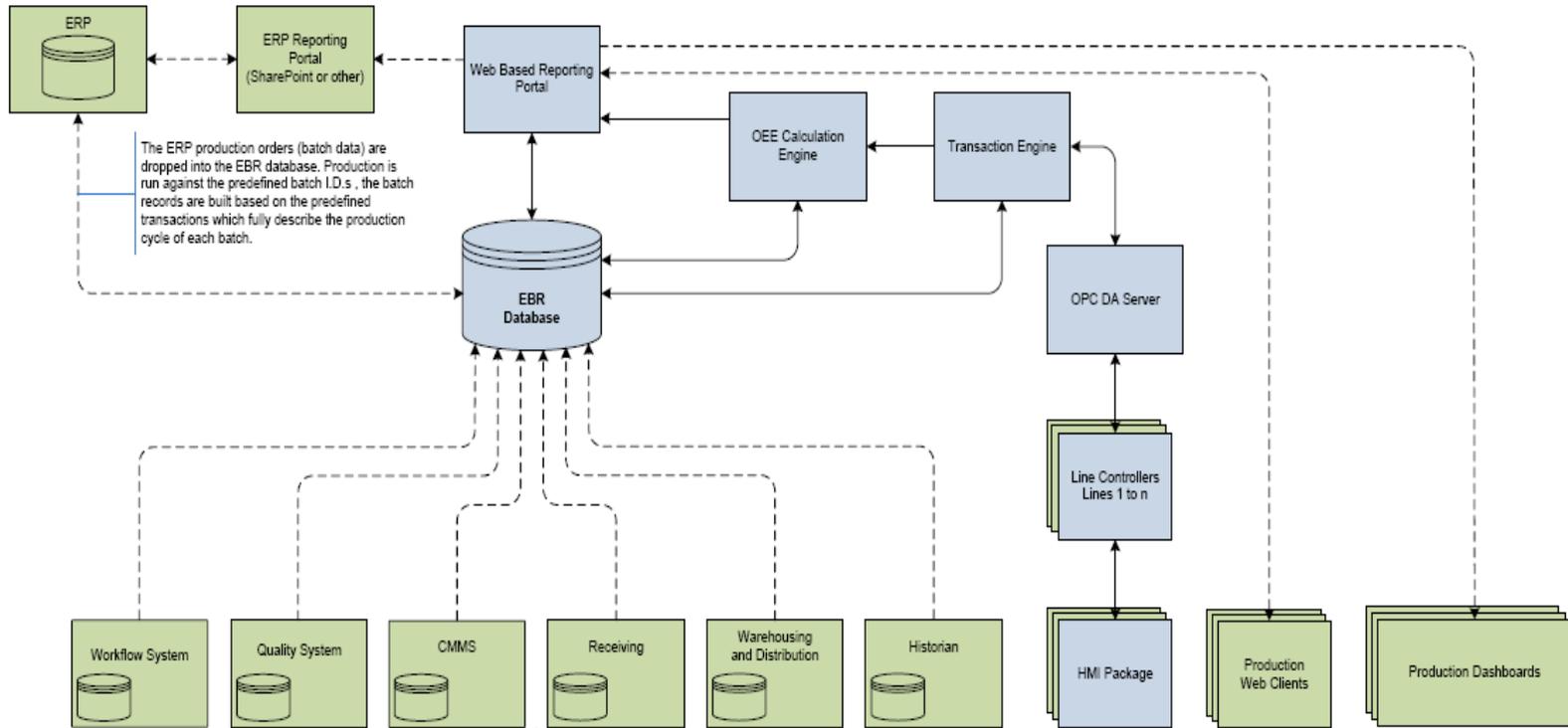
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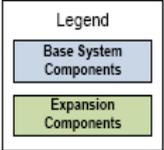
THE WELL-DOCUMENTED VALUE OF MES

- Your greatest value may come from a particular component of MES that is based on your specific business needs.

- The goal is a "solution approach" to MES development that offers value in its flexibility, cost-effectiveness, supportability, vendor flexible implementation, and focus on the manufacturing process — not the software.