

Session 1-1 Benefits of Using Database

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Data Management without DB – File Processing

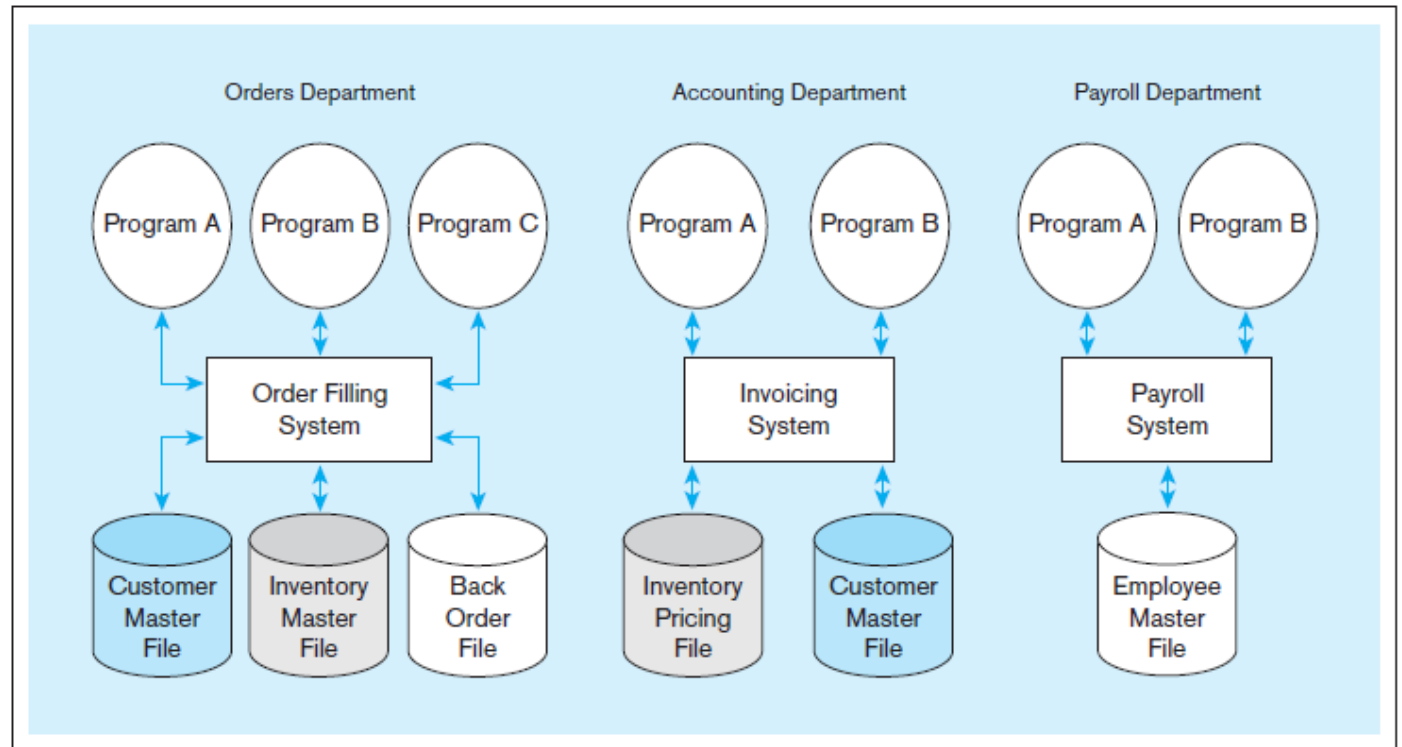


FIGURE 1-2 Old file processing systems at Pine Valley Furniture Company



Data Management without DB – File Processing

Data Sharing and Management Snafu in 3 Short Acts
by Karen Hanson, Alisa Surkis & Karen Yacobucci
NYU Health Sciences Libraries
August 3, 2012 (Last Update: December 12, 2012)



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Source: https://youtu.be/66oNv_DJuPc

Data Management without DB - Disadvantages of File Processing

- Program-data dependence
 - Non-standard file formats, maintenance and coordination issues
- Duplication of data
 - Wasted space and data integrity issues
- Limited data sharing
 - Difficult to query/extract data from multiple files



Data Redundancy in File Processing

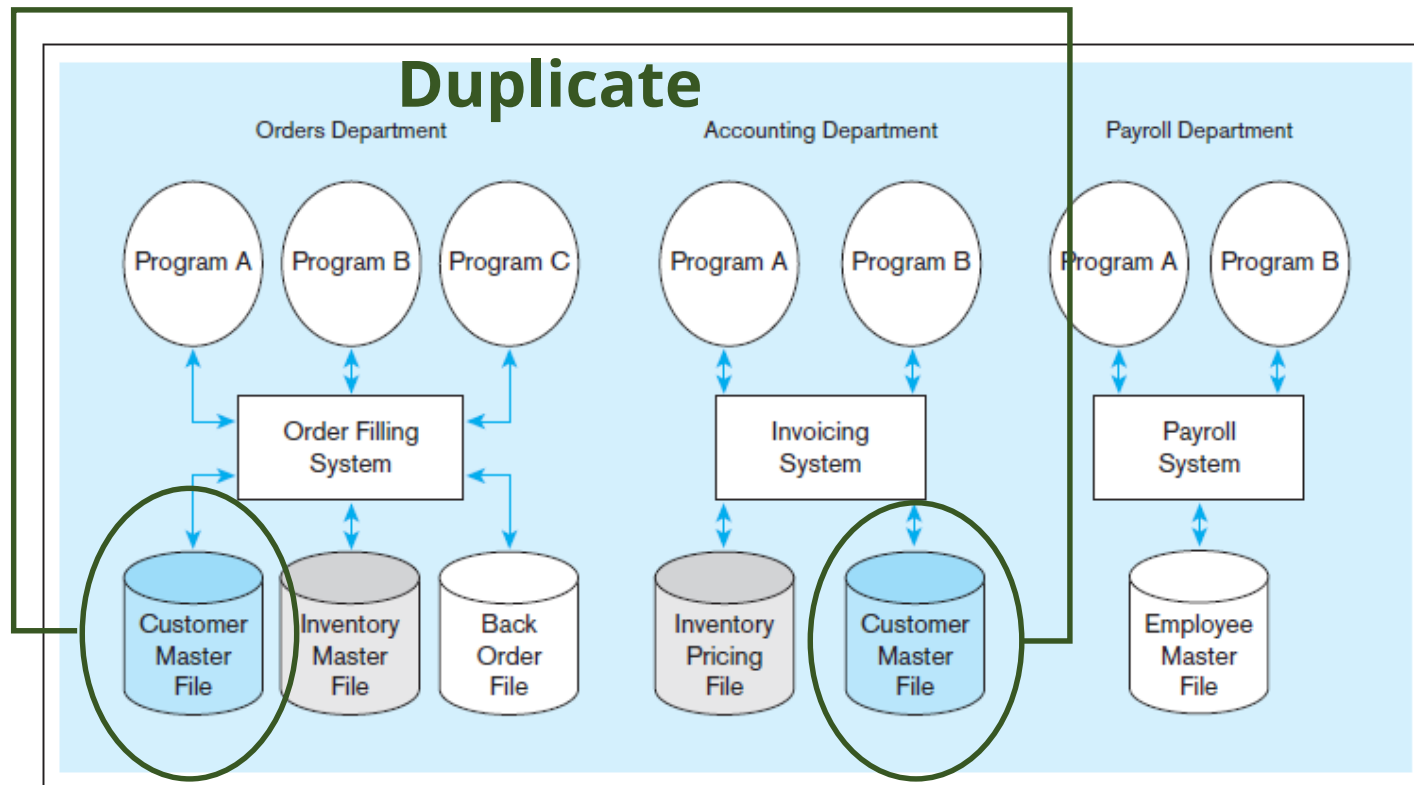


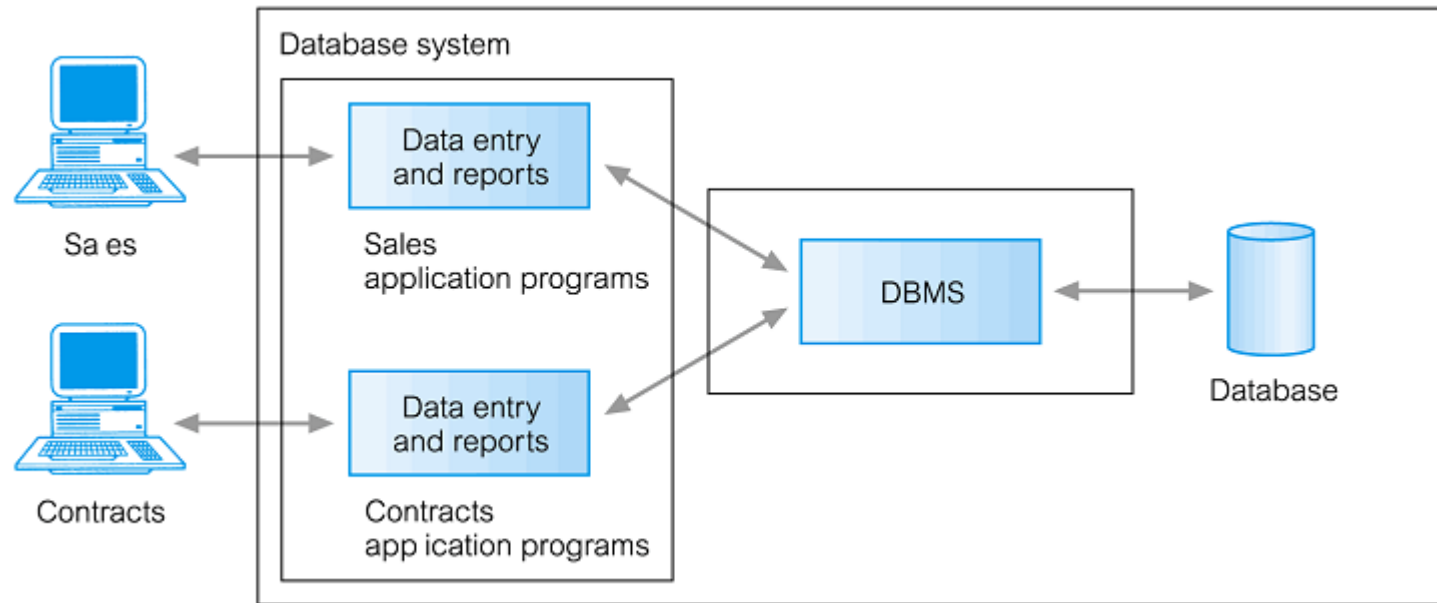
FIGURE 1-2 Old file processing systems at Pine Valley Furniture Company



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SOLUTION: The DATABASE Approach



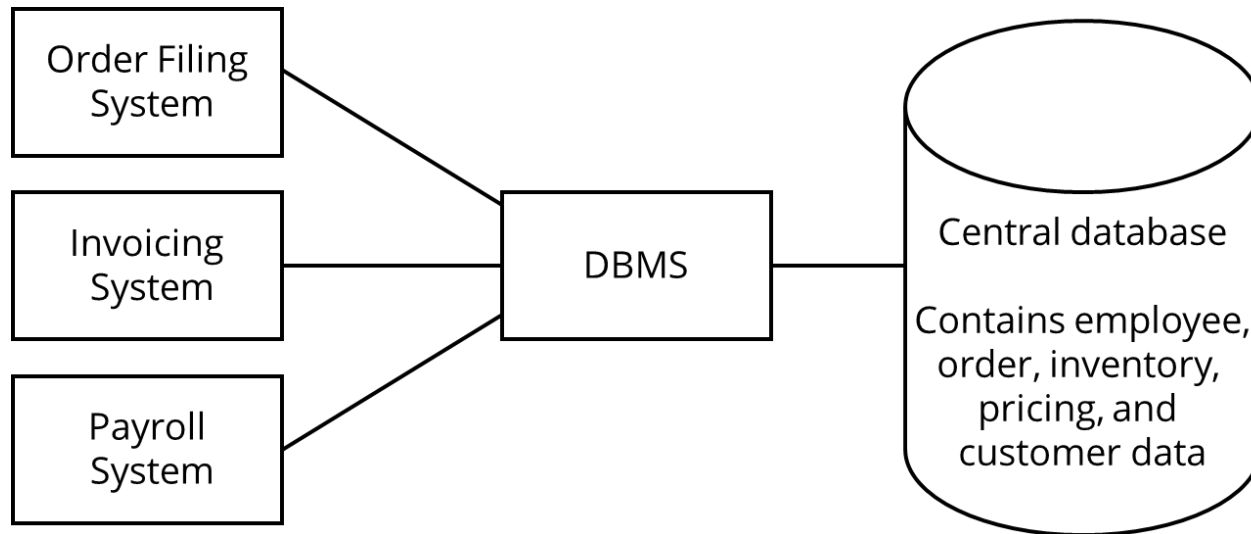
What is Database

- Database: Central repository of shared data
- Data is stored in a standardized, convenient form
- Database is managed by an universal controlling agent, called DBMS



DBMS - DataBase Management System

- Software used to create, maintain, and provide controlled access to user databases

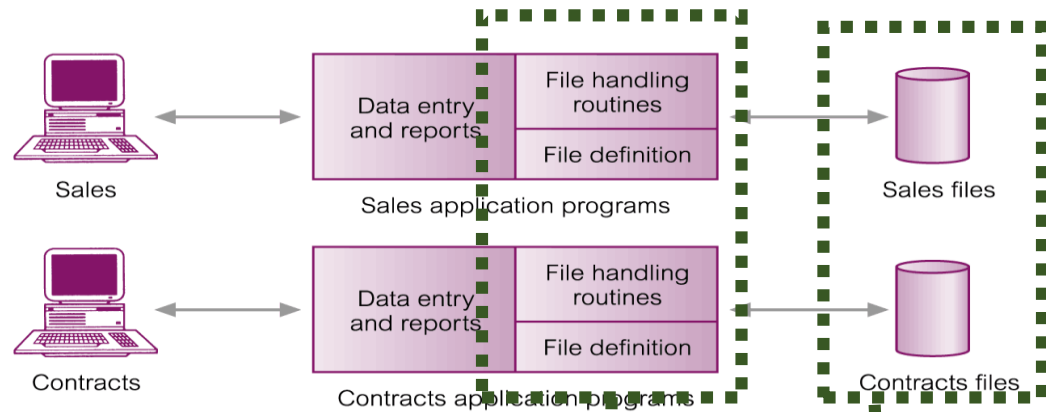


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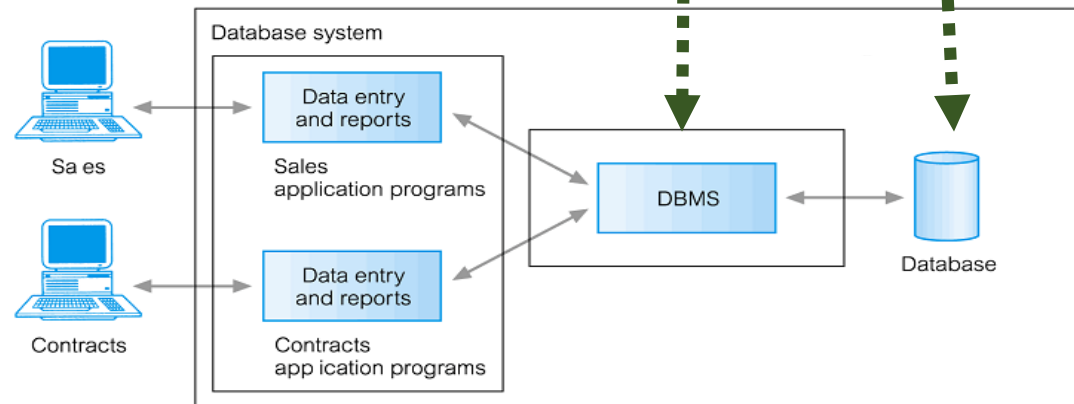
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Compare the Two Approaches

File Processing



Database Approach



Data Management *with* DB

- Program-data **in**dependence
 - Reduced program dependency and maintenance
 - Enforcement of standards
- **Planned** data redundancy
 - Improved data consistency and quality
- **Improved** data sharing (permissions, views)
 - Data accessibility and responsiveness



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Costs/Risks of the Database Approach

- New specialized personnel required
- Installation and management cost and complexity
- Conversion costs (from legacy systems)
- Need for explicit backup and recovery
- Organizational conflict (consensus on data definitions, ownership, responsibilities, etc.)



Wrap Up

- The benefits of using databases over file processing systems
- The differences between database and DBMS



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