Chapter – 2.1
Packaged Enterprise Application Software [PEAS]

Enterprise software

- **Enterprise Software**, also known as **Enterprise Application Software** (**EAS**), is computer software used to satisfy the needs of an organization rather than individual users.
- Such organizations would include businesses, schools, interest-based user groups, clubs, charities, or governments.
- Enterprise software is an integral part of a computer based information system.

Enterprise software

Enterprise software describes

- a collection of computer programs with common business applications,
- tools for modeling how the entire organization works, and
- development tools for building applications unique to the organization.
- The software is intended to solve an enterprise-wide problem.

Enterprise level software aims to improve the enterprise's productivity and efficiency by providing business logic support functionality.

Types of Enterprise software

- Enterprise software can be categorized by business function.
- Each type of enterprise application can be considered as a "system" due to the integration with a firm's business processes.
- Categories of enterprise software may overlap due to this systemic interpretation.
- For example, IBM's Business Intelligence platform (Cognos), integrates with a predictive analytics platform (SPSS) and can obtain records from its database packages (Infosphere, DB2).

Types of Enterprise software

- Blurred lines between package functions make demarcation difficult
  - Accounting software
  - Business intelligence
  - Business process management
  - Content management system (CMS)
  - Customer relationship management (CRM)
  - Database
    - Master data management (MDM)
  - Enterprise resource planning (ERP)
  - Enterprise asset management (EAM)
  - Supply chain management (SCM)

Application Package Software - Basics

Application software package is a collection of software programs that have been developed for the purpose of being licensed to third-party organizations.

Application packages are generally designed to support commonly performed business functions and appeal to multiple types of user organizations.

Although a package may be tailored to a user's specific needs through parameters or tables, the software itself is not individualized to a given organization in the same way that custom-designed, custom-coded software would typically be tailored.

Examples of application packages include **accounting systems, human resources software, and enterprise resource planning (ERP) software.**

Application Package Software - Basics

Application packages first became available during the mid-to-late **1960s** when financial accounting and payroll software was made available for lease from companies such as McCormack & Dodge.

Early application packages focused on accounting or financial solutions.
Application packages eventually offered manufacturing, customer management, human resources, and various other functions.

Early packages focused on a single function within a corporate or government hierarchy, such as accounting, and were built using older software languages and programming techniques.

This has caused application packages to become inflexible and increasingly hard to fine-tune to customer requirements

Application Package Software - Basics

Application packages must be integrated into in-house application and data architectures.

As a result, in-house programming teams have had to modify application packages.

Falling behind current releases of a given package increases the challenge of upgrading packages exponentially.

Many times, the decision to acquire and install these packages is driven by senior management, based on promises from vendors stating that the package will provide a low-cost

Packaged Enterprise Application Software (PEAS)

Enterprise systems (ES) are large-scale application software packages that support

- business processes
- information flows
- reporting and
- data analytics in complex organizations.

- While ES are generally packaged enterprise application software (PEAS) systems.
- They can also be custom-built (bespoke), custom developed systems created to support a specific organization's needs.

Packaged Enterprise Application Market 2003

Buyer-side	In-side	Seller-side
Supply Chain **$5B $8B 2007?** e.g., SAP, i2, Manugistics, IBS	**ERP** **$20B $26B 2007?** e.g., SAP, PeopleSoft, Oracle, IFS, Navision	**CRM** **$10B $14B 2007?** e.g., Siebel, SAP, PeopleSoft, Oracle
Procurement **$2B $3B 2007?** e.g., Ariba, SAP EBP, FreeMarkets	**Enterprise Applicat'n Integration (EAI)** **$1.3B $3.0B 2007?** e.g., IBM, seeBeyond TIBCO, webMethods	**Call/Contact Centers** (IVR, ACD, CTI) e.g., Nortel, Cisco, Lucent, Genesys, Kana (e-mail, WWW)
Product Life Cycle Mgt **$2B 2001** e.g., PTC, SDRC, SAP	**Data Warehouse** ***$1B*** e.g., Oracle, Teradata	

Other e.g., Hogan, Reynolds, ESRI GIS, Plumtree, Moldflow, MYOB, Lotus Notes, Exchange

Overall PEAS Market

2002 $40B

2007 $60B?

Source of most estimates:
AMR Research, June 2003.
EAI from WintergreenResearch

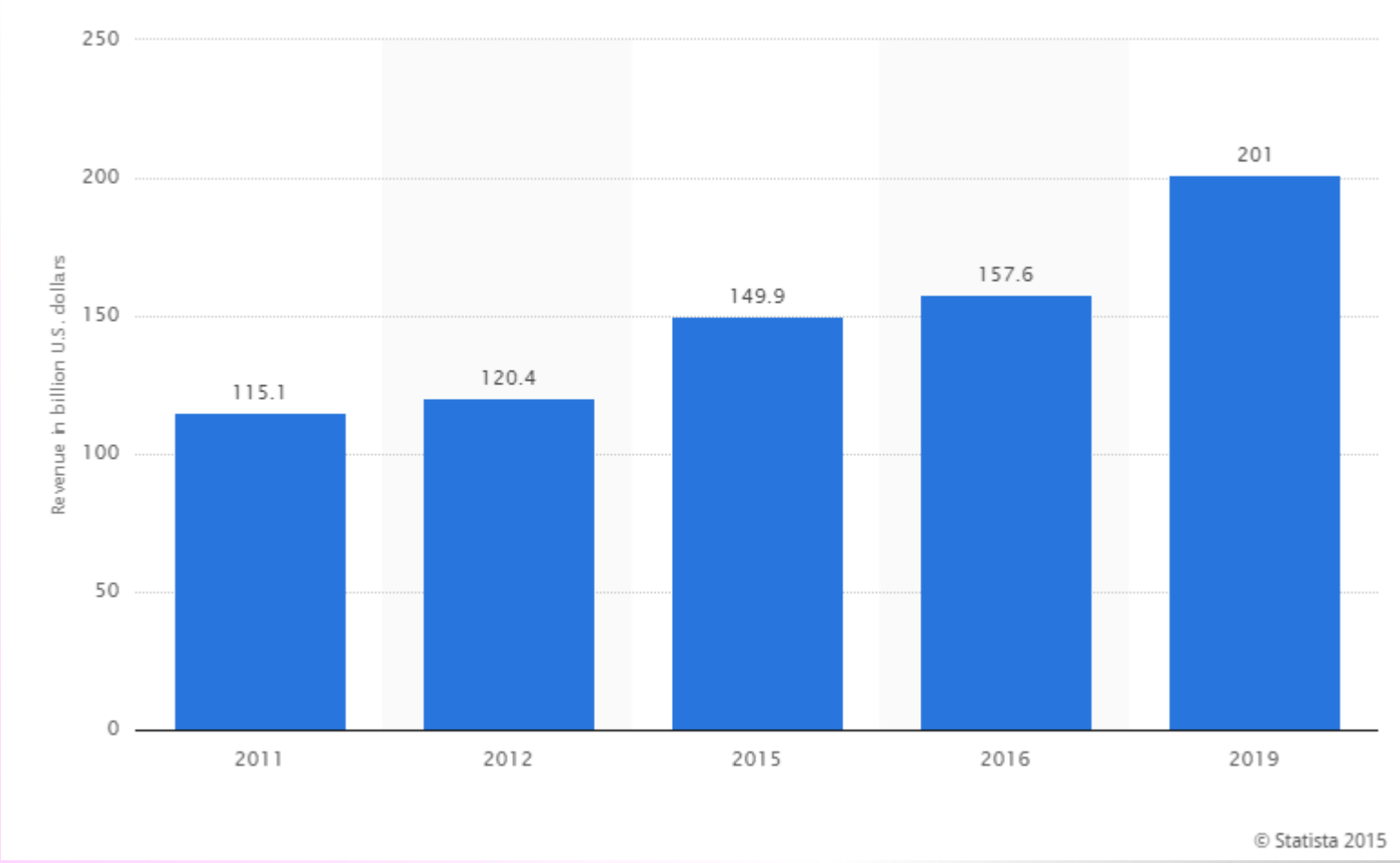
The Packaged Enterprise Application Services Market Sizing Report, 2011-2016

Enterprise Application Software Forecast Comparison by Segment (4Q12 Update), Total Software Revenue, Worldwide, 2011 and 2016 (Billions of Dollars)

	2011 (Actuals)	2016 (4Q12 Forecast)	Five-Year CAGR (%)
BI	12.2	17.2	7.0
CRM	12.0	18.6	9.1
DCC	3.6	5.0	7.0
ECM	4.3	7.0	10.1
ERP	23.8	32.9	6.7
Office Suites	15.7	21.2	6.4
PPM	1.5	2.2	7.8
SCM	7.7	12.0	9.1
Web Conferencing and Teaming	2.9	5.2	12.4
Other Application Software	31.4	36.7	3.2
Total	**115.1**	**158.0**	**6.5**

Source: Gartner (January 2013)

*Global enterprise application software revenue from 2011 to 2019 (in billion U.S. dollars)**



Key Phases to Full Lifecycle Application Packaging and Application Readiness

Identify applications and new requests

Validate and eliminate redundancy

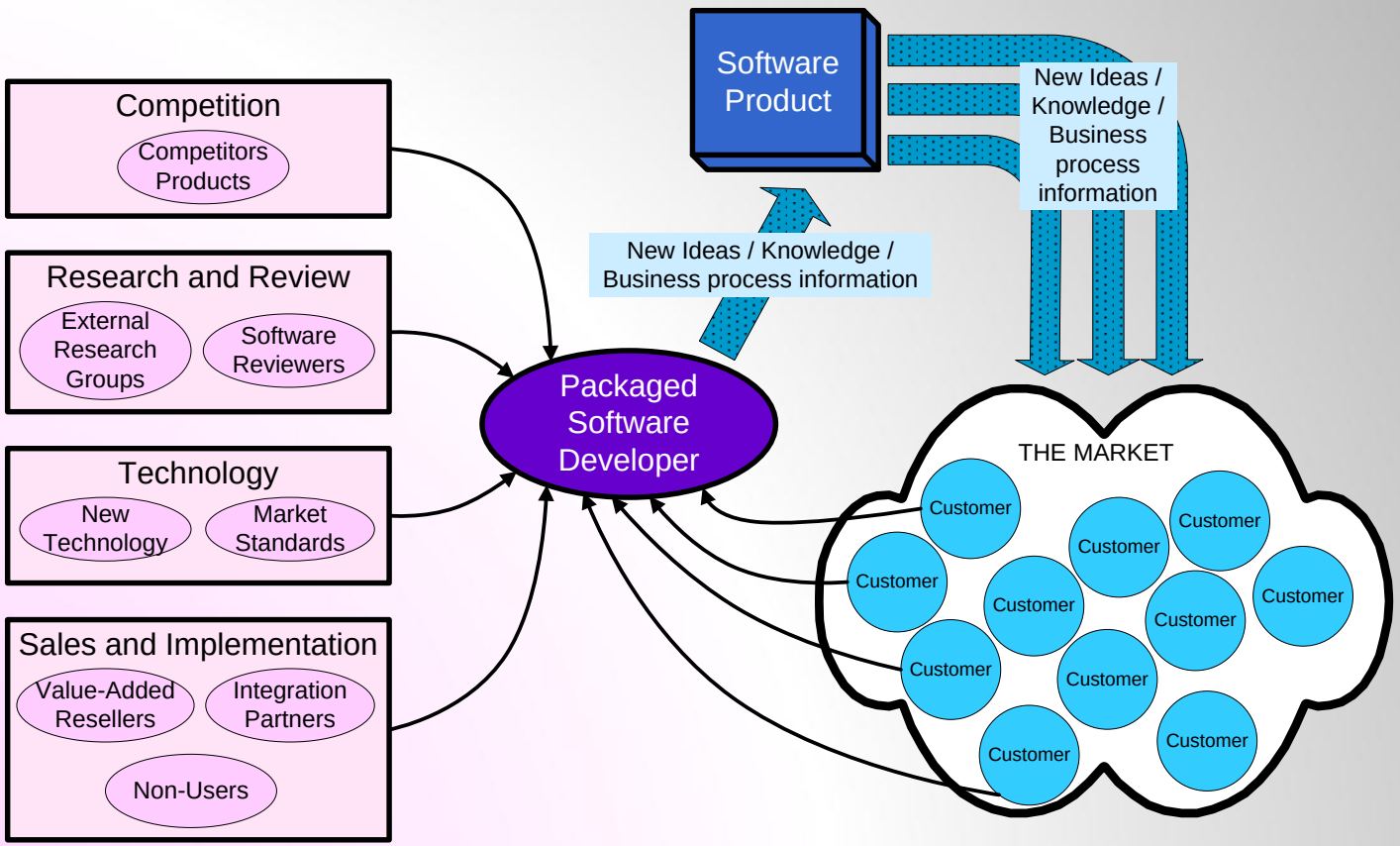
Determine compatibility for the target environments and packaging formats

Plan resources required

Package and test for target environments

Publish application for deployment

The Vendor's World



The Vendor must Innovate

- **Highly competitive marketplace**
- **Regular, e.g., annual, upgrade cycle (just like with automobiles), and patches**
- **New technologies (e.g., web services, RFID, mobile devices)**
- **Vendor acts as an innovation amplifier (to improve the lot of the customer community)**
- **Best practice varies from customer to customer (because most customers' needs are different),**
- **The software must offer menus of very good practices.**

Global Enterprise Application System Integration Market, 2015-2019

Vendors

technavio
discover market opportunities

IBM

IBM is one of the largest vendors in the Global Big Data Services market. The company offers various types of hardware, software, consulting, and infrastructure services.

Microsoft

Microsoft, founded in 1975, is headquartered in Redmond, Washington, US. The company develops, licenses, and supports a wide range of software products and services; it is a global leader in this field. It is known for its software products such as Microsoft Windows OS, Office Suite, and Internet Explorer.

MuleSoft

MuleSoft was founded in 2006 and is headquartered in California, US. It develops an integration platform for connecting applications, data sources, and devices in the cloud or on premises.

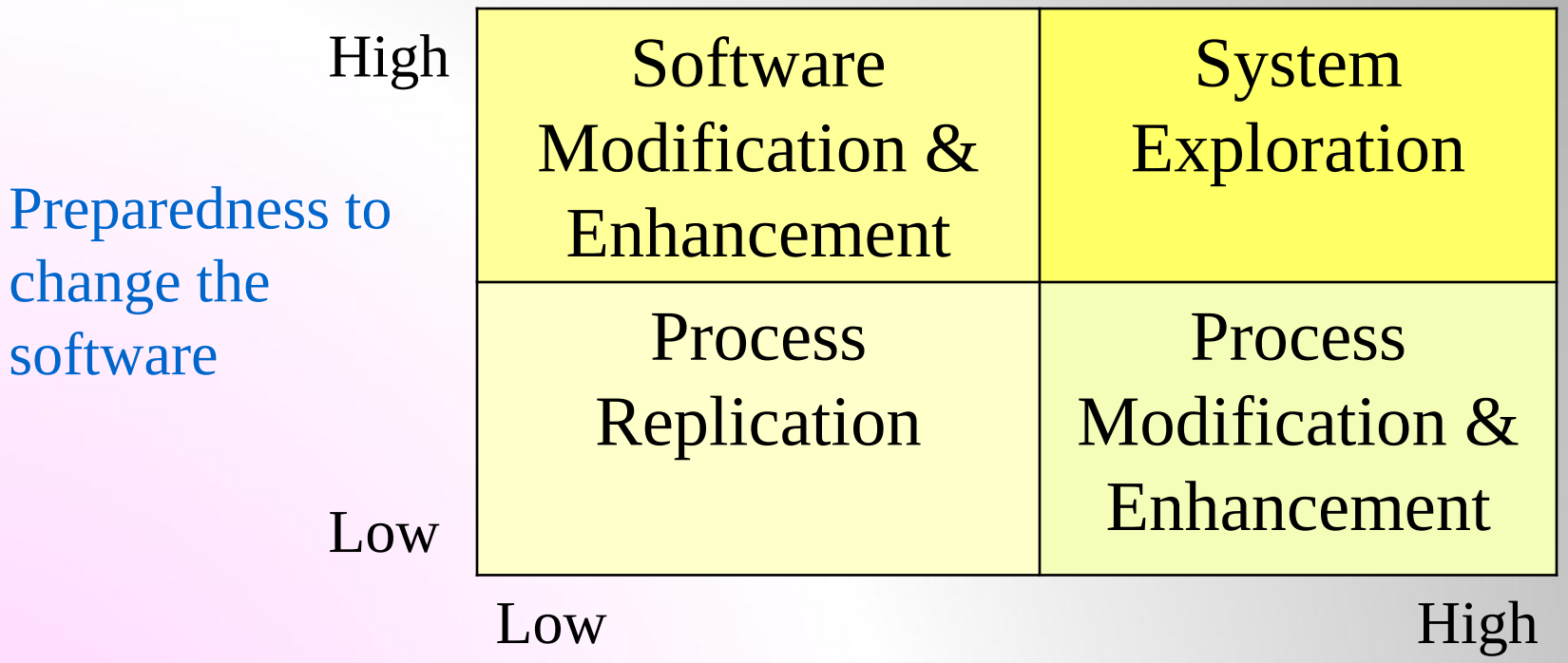
To understand the vendor landscape and for a full list of vendors view our report:

Global Enterprise Application System Integration Market 2015-2019

Community of stakeholders

1. **Customers (e.g., SAP: 20,000; PeopleSoft 5,000; Oracle: 12,000)**
2. **Competitors**
3. **Reviewers (e.g., Gartner, AMR)**
4. **Technology (e.g., web services, portal)**
5. **Industry partners (upstream & downstream)**

Four Strategies for Achieving Fit with Packaged Enterprise Application Software (PEAS)



Need to Institutionalize On-going Improvement

"The greatest single mistake that is made across the board is that firms get to Day One and "go live" and then break up the team.

The business people who became engaged throughout the implementation think "its over". …People break up, and the engine stops.

Except that business keeps moving… and changing."

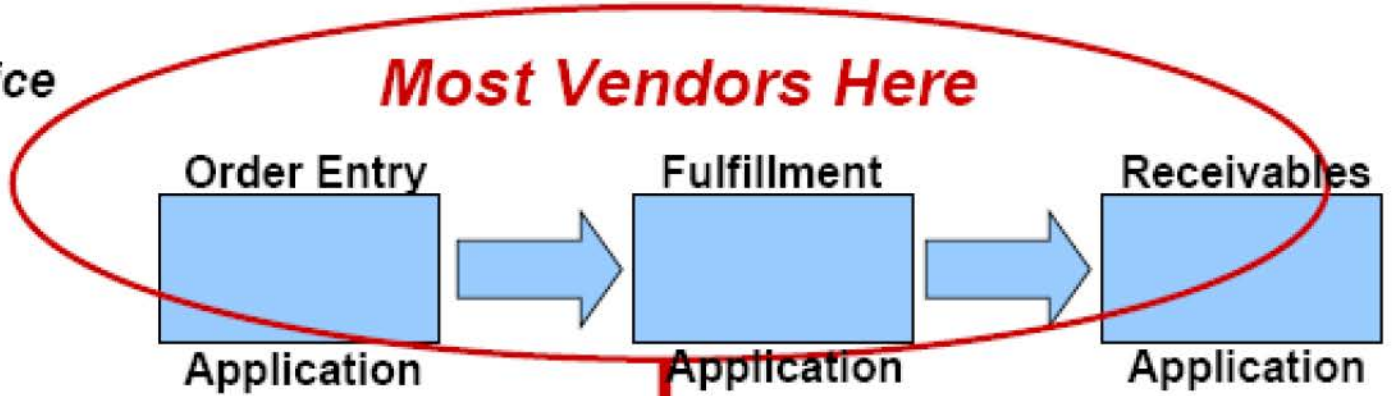
(Wilderman, Sapphire)

Business Applications Vendor Imperative: Componentization of Objects

Process:
Demand to Service

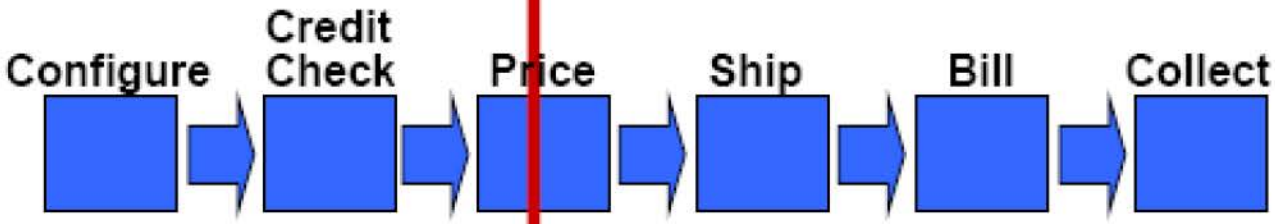
1. Applications

Business Process



2. Microflows

Business Objects



3. Enterprise Process

Enterprise-Spanning Business Process

4. Value Chain Optimization

Multienterprise Business Process

Need to Get Here

Gartner

Generations of Enterprise Applications

Approach	Characteristics	Shortcomings
1. Custom	Built solely for a customer need at a specific point in time	Expensive, delays, hard to adapt, impossible to maintain as technology and functionality evolves
2. Packaged Products (such as ERP, CRM and SCM)	Driven by the vendor's definition of best practices	One size fits all, hard to adapt, dead end customization, vendor dependency
3. Packaged Products plus configuration, extendibility and collaboration	Flexibility through tables and switches, technology changes or "wrappers" required for real time integration with partners	Complexities of code, long implementation cycles, difficult upgrades and maintenance, vendor dependency, lack of technology standards
4. Applications for Business Process Fusion (BPF) and the Real Time Enterprise	Cross-functional, access to transactional information from a heterogeneous application environment, decision-support-oriented, adaptive to user environment to the level of role within user, SOBA development environment	Today: Oriented toward large, Type A enterprises, heavy service investment for user; commitment to single vendor

Gartner

Business process fusion (BPF)

Business process fusion (BPF) transforms business activities by integrating previously individual business processes to create a new scope of combined management capabilities

For example, a vehicle manufacturer that combines parts management and ordering processes with diagnostic and warranty data.