The Next Step: Service Oriented Architecture

- A service oriented architecture provides for loosely coupled business services
- Minimizes dependencies for the caller
  - Well defined (standard) service access protocol (e.g. HTTP)
  - No rigid interfaces
  - No service implementation dependencies
- A service provides access to a "complete" business function
  - Service will perform a function defined on a business level, not by constraints on the IT level
  - These functions are not fine grained
    - Fine grain functions are typically components

Benefits of SOA

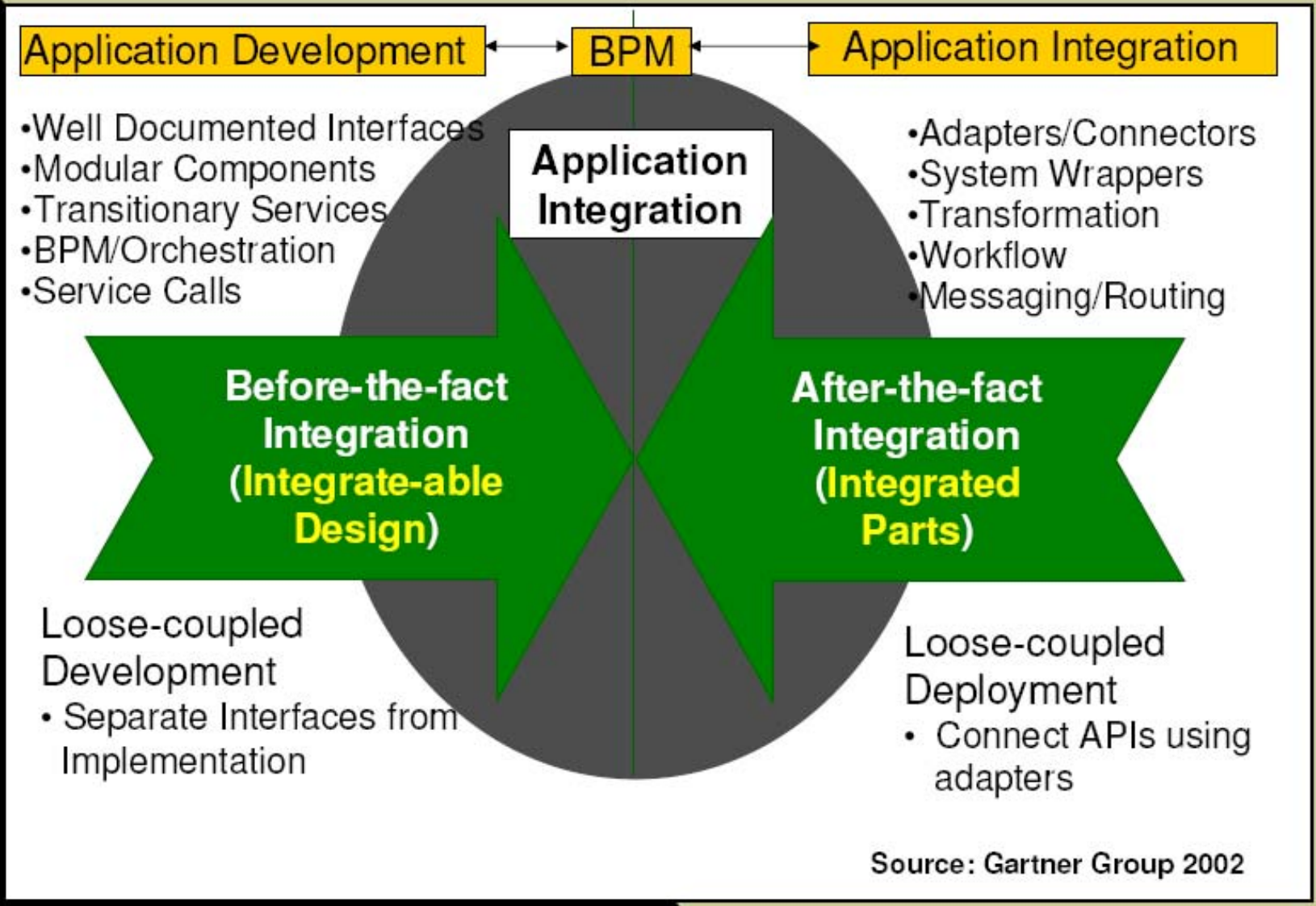
- Support "plug and play" of tools including
  - Development
  - Integration
  - BPM (Business Process Management)
  - BAM (Business Activity Monitoring)
  - BSM (Business Service Monitoring)
- Reduce the distinction between development and integration
  - "development for integration"
  - "integration through development"
- Enable composite applications
  - Composite application combine existing services with new business logic

Development For Integration

- Old thinking:
  - Integration is an afterthought (is addressed after applications have been developed)
- New thinking:
  - Integration requirements become part of the application development process
  - Applications are instrumented for (later) integration
  - Integration can be implemented through
    - Business Process Management (BPM)
    - Composite Applications

➔ Service Oriented Development Of Applications (SODA)

Before-the-fact vs. After-the-fact Application Integration



Source: Gartner Group 2002

Event & Service Oriented Architecture (E-SOA)

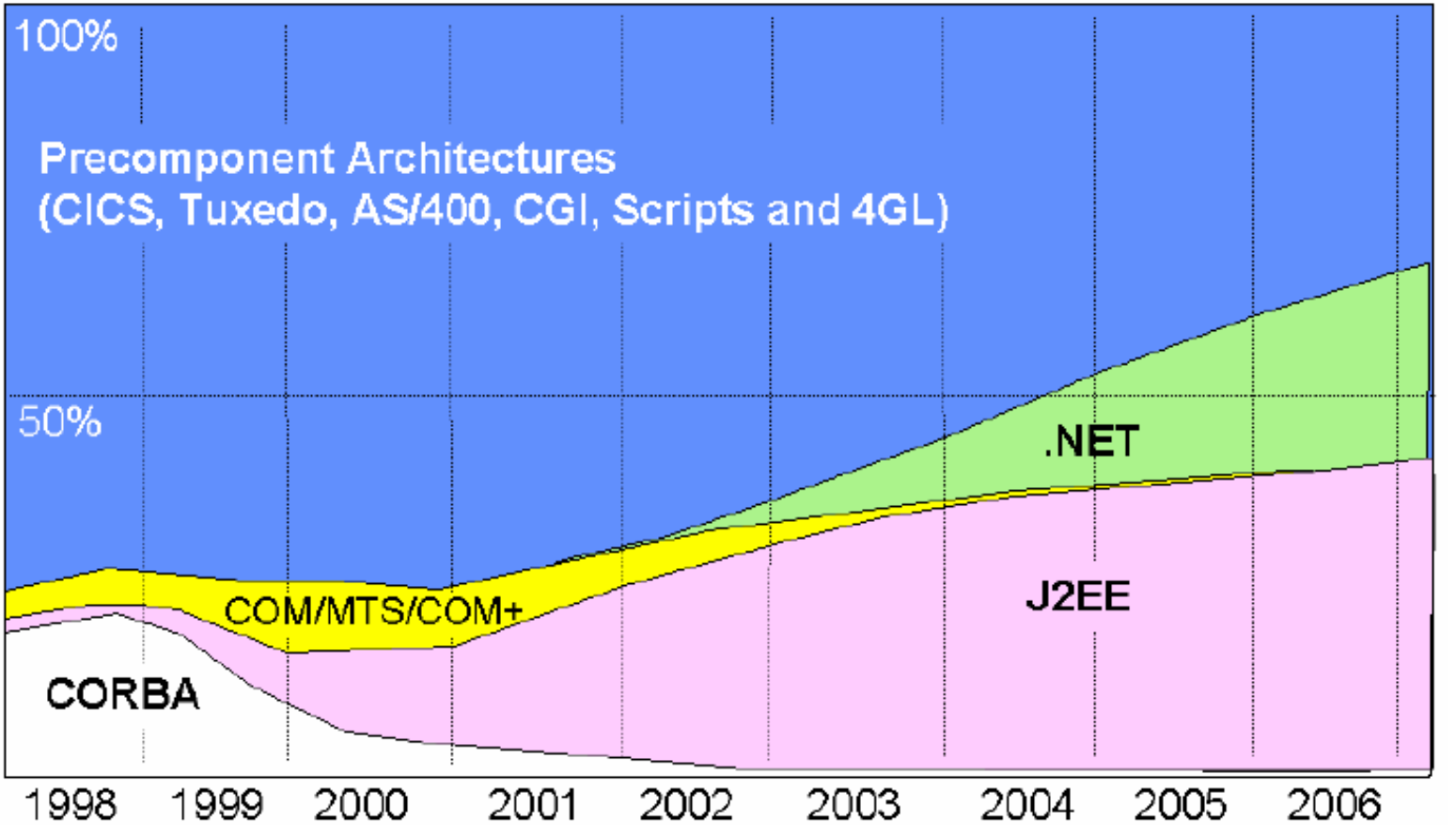
- How can Services and Events be unified?
  - Focusing on the notion of a business service is the main concept of E-SOA
  - Designing business logic as services is the most distinctive characteristic of the architecture
    - As opposed to invocation semantics like synchronous vs. asynchronous
  - Unified E-SOA architectures have successfully been deployed in projects for many years
    - E.g. transport layer abstraction that utilizes policy-based selection of invocation type and Quality of Service (QoS), transparent to business applications
  - A unified approach to development and integration also mandates an E-SOA

Event & Service Oriented Architecture (E-SOA)

- A comprehensive E-SOA will enable a layer of high-value services that have a visible impact on the bottom line of the business
  - Business process orchestration
    - Automated process flow that composes a new, easy to change business process based on the invocation of a number of business services
    - Typically requires support for both request/reply and asynchronous invocation patterns
  - Business Activity Monitoring (BAM)
    - Standardized service interfaces and service access protocols facilitate collection of information about business operations that can be utilized for real-time business intelligence applications
    - Needs to include many diverse business applications

Enterprise Application Architectures

Architectures for enterprise projects



Source: Gartner Group – 9/12/01

INTERNATIONAL Systems Group, Inc.

Open Source Software (OSS)

- SOA can be viewed as a catalyst for OSS
  - Modularization of IT services allows software choices to be made more selectively
- Many concerns about OSS remain
  - Legal issues
  - Technical support
  - Versioning and integration

SOA Market Penetration

- Through '06, most large enterprises will support both J2EE and .NET environments
- Small and medium size companies will be split between J2EE and .NET (non Office-related)
  - Microsoft market share is expected to be dominated by small- and midsize businesses
  - Large enterprise spending will be lopsided toward Java technologies
- Other SOA platforms such as Integration Brokers and Enterprise Service Buses will continue to be viable especially for integration-centric projects although increasingly similar features will be supported in J2EE and .NET

Integration Brokers

- Further consolidation of Integration Broker vendors is expected
  - Web Services standards are quickly maturing
  - Web Services functionality is expanding, providing more of what is needed for integration projects
  - As a result, proprietary EAI solutions become less appealing

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