

Placement Presentation

Java Framework second generation

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Agenda

- Introduction
 - Goldman Sachs
 - Operations Technology
 - Derivatives Settlements: COSTAR
- Placement
 - Java Framework
 - Java Framework Second Generation
 - University curriculum
 - Rewards
- Q&A

- Founded in 1869
- 34000 employees
- Total assets worth up to \$883billion

Operations Technology

- Builds technical solutions to the demands and business needs of Operations division
- Operations deals with post-trade aspects

Derivatives Settlements

- 7 people in London
- 50 people globally (London, NY, Bangalore, Tokyo)
- Critical time sensitive flow

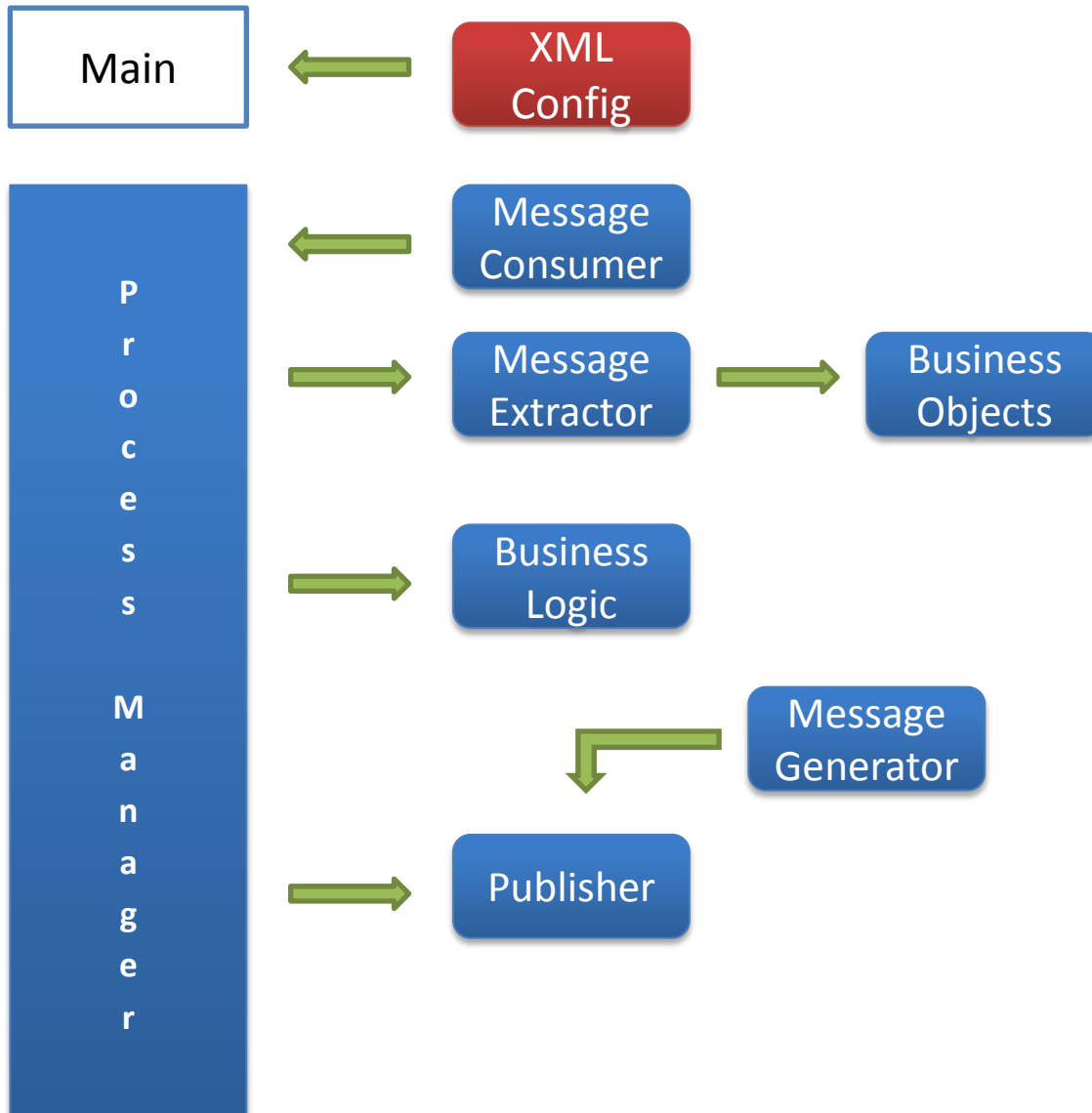
Placement

- 6 months
- **One** project – codename : Java Framework Second Generation
- **Self-initiative**: I came up with the idea and suggested it to my manager
- **Convinced** manager of the benefits of the work
- Free to lead the design of the new framework

Java Framework

- Set of pluggable and reusable components handling enterprise communication
- Examples:
 - Consumers
 - Publishers
 - Extractors
 - Generators
- Driven from xml configuration file
- Every java application in the team uses this framework
- C++ applications currently being migrated to java

High-Level summary



Java Framework problems

- New requirements are difficult to fit in current framework structure
- Confusing object hierarchy
- Code duplication in XML configuration
- Difficult for new developers to use the framework!
- Limited future

Java Framework second generation

- Massive refactoring of the core of the framework
- Completely new xml schema
 - Object oriented: uses type inheritance
 - Strongly typed
 - More readable and usable
 - References to processes
 - Custom elements
- Core is now schema driven
- Dependency Injection orientation
- New Features:
 - Root level extractor selection
 - Parallel Processing
 - Conditional Processing
 - Deep cloning of Business objects
 - Process References in schema
 - Separation of core framework from COSTAR business layer
 - DF: multiple discovery
 - Deployment feature: OBJAlerter

- **SourceForge, CVS** - Version Control
- **Hikari** - Change management, release management
- **Junit, Cobertura, Findbug** - Automated unit test, code coverage, code quality checks.
- **Ant, Hudson** – Generic build script, continuous build.
- **In memory unit testing** - in memory database, OBJ, and JMS testing.
- **Environment Tokenization** – Environment properties are tokenized, and will be de-tokenizing during packaging for a specific env profile.

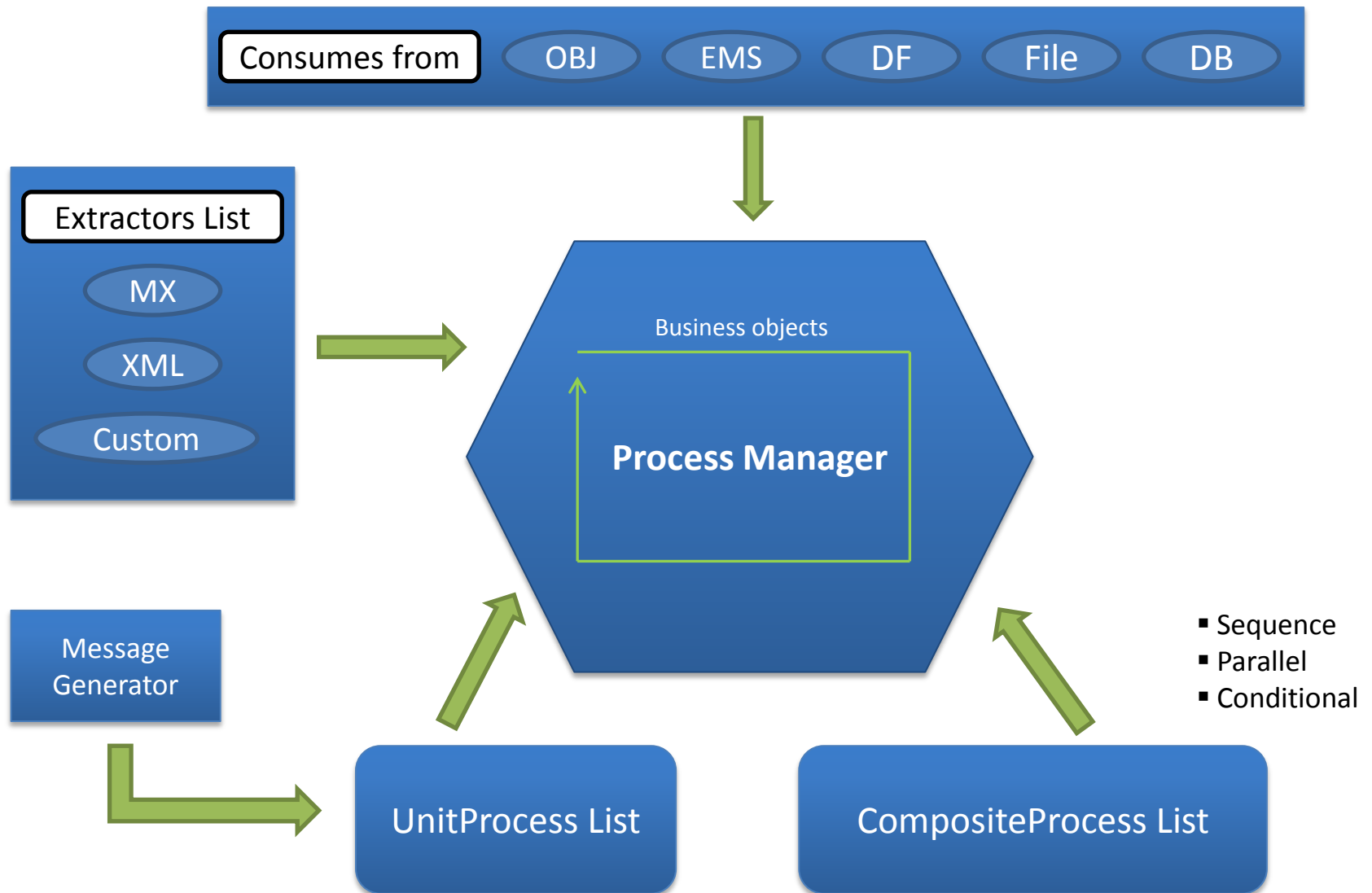
- Software Engineering: UML diagrams + Design Patterns
- Software Engineering Methods
- Distributed Systems
- Algorithms

Rewards

- Presented project globally
 - telepresence presentation to New York
 - conference with Bangalore & Tokyo:
- My work had a massive impact:
 - enabled several projects to take off quickly (New York)
 - every application migrating to new framework
 - It's now the strategic solution within the team: 50 people have to build their applications using my work
- Other teams looking to use it: CCT
- Ideas and concepts advertised on the Tech portal for the wider Technology division

Thank You

Second Generation Java Framework



UML Diagram

