

From Source-driven to Model-driven

Introducing LG CNS' Model-driven Development

Solution

Finance IT System and Model

IT System is Production Plant and Service Center for Financial Institutions!

Unlike manufacturers, which produce and sell products visible to human eyes, the financial industry produces and services products via IT systems. As their IT system assumes the crucial role of both production plant and service center, financial institutions need to implement and manage an optimum system that actualizes a well-defined process with consistent quality.

Transforming Finance IT System from Source-driven Invisible System

Finance IT systems are implemented through the process of "Analysis-Design-Coding-Testing" to produce source code and final deliverables with its structure and well-organized management process. Written in a programming language highly abbreviated and encrypted, source code is not easy to understand for business people with no IT expertise. Once implemented, all systems undergo continuous changes from the addition of products and a shift in management strategy. Since changes to source code made in the maintenance phase are not automatically implemented to output documents produced during the development phase, the inconsistency between source code and output documents becomes greater as time goes on. Such a gap between source code and output documents remains only as an abstraction in the mind of developers tasked with system maintenance and increases business dependency on the small group of specific individuals.

To Model-driven Visible System!

With a system implemented through MDD, models expressed in diagrams become the management target, not source code. This allows non-IT business people to easily understand the system's structure. Also, changes made to models are automatically updated to output documents to ensure consistency between final source code and management documents. This actualizes process change, which in the past only existed in the mind of maintenance developers, into a tangible document and transforms the once invisible finance IT system into a clearly visible one.



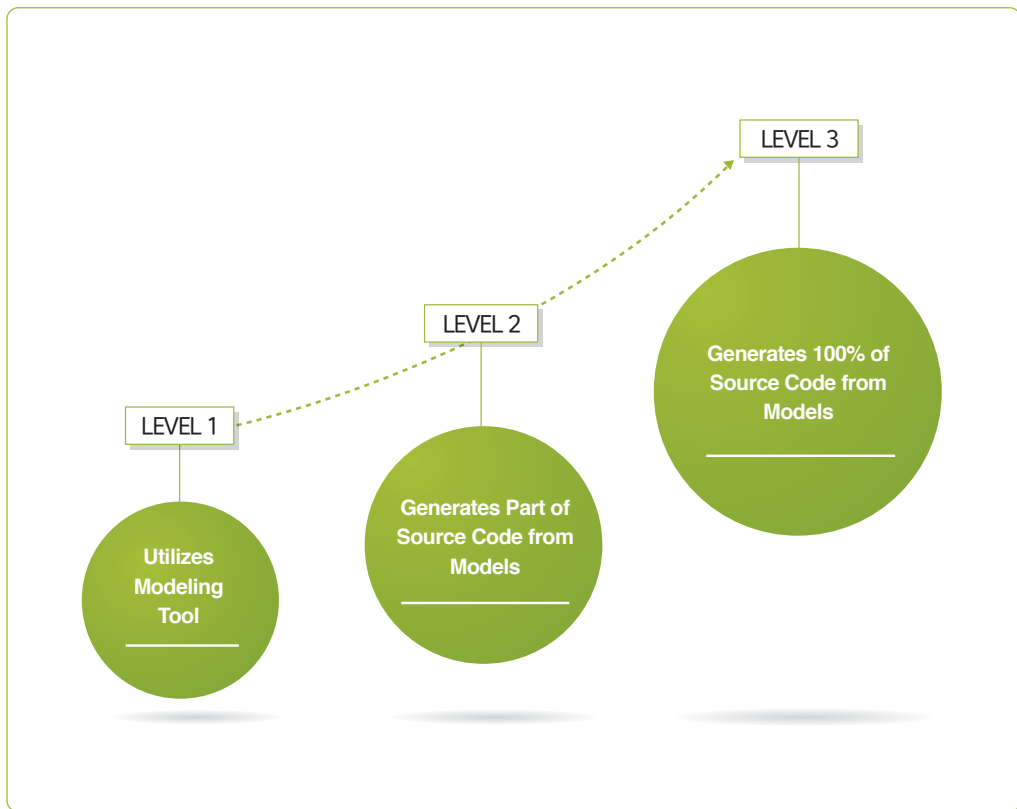
LG CNS MDD for Finance Business

Introducing LG CNS' Model-Driven Development

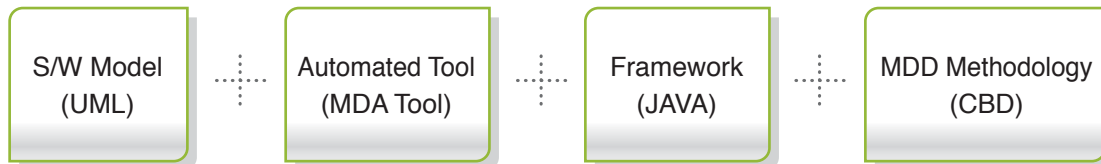
- Model-Driven Development has evolved in step with global application development standards
- Model-Driven Development is not a brand new concept and has been available for some time
- LG CNS was first in Korea to employ this development approach in a large-scale IT project

Maturity and Sophistication of LG CNS' Model-Driven Development Capability

- LG CNS' Model-Driven Development capability has reached Level 3, which stands for the capacity of undertaking a "full MDD" process
- In a full MDD process, 100% of source code for the entire business areas is generated automatically from models.



Components and Advantages of Model-driven Development



S/W Model

- UML and CBD based component model
- Sequence diagram based model
- Naming in local language is supported (i.e. naming components)
- Supports modeling of diverse transactions carried out at financial institutions, including online, batch, center-cut, etc.

Automated Tool

- Complies with OMG (Object Management Group) and MDA (Model-driven Architecture) standards
- Platform-independent architecture allows translation of source code into diverse programming languages
- Automatically generates 100% of source code from models
- Automatically generates development outputs including component specifications
- Offers over 70 standardization and development-convenience features including code standardization, metadata linking, etc.

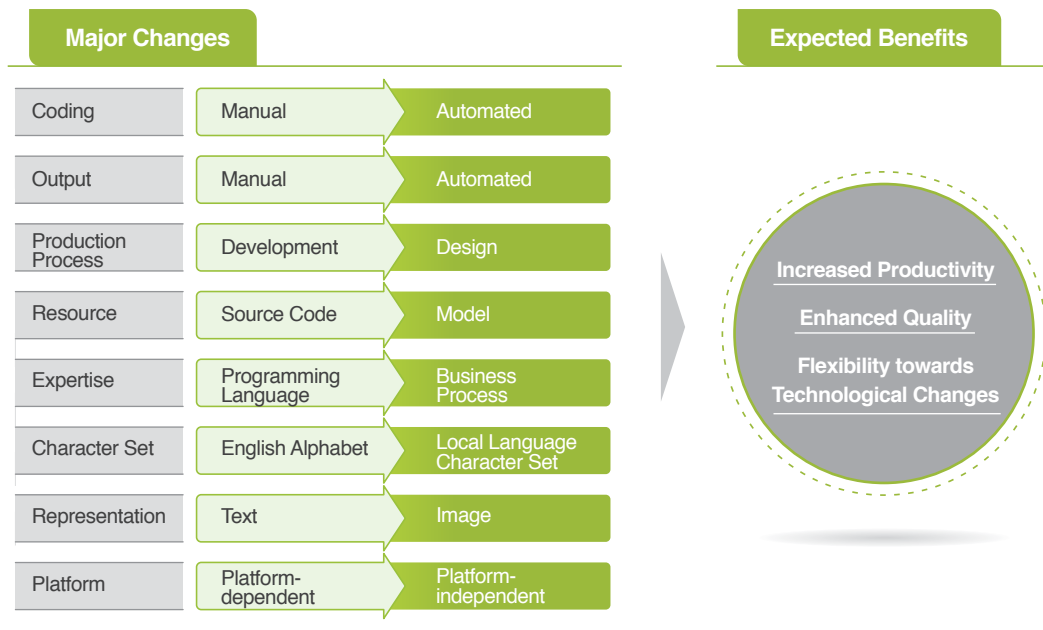
Framework

- Finance IT system application framework
- Successfully implemented at numerous financial institutions including Shinhan Card, Jeonbuk Bank, etc.
- Offers development, runtime, and test environments
- MDA tools are integrated into the framework

MDD Methodology

- CBD methodology is customized for model-driven development process
- Repeatedly performs “Design + Implementation + Test” as a set process
- Integrated into the automation step using MDA tools
E.g.) Automatic generation of Use Case and components

Expected Benefits



Increased Productivity

- Diagram (in local language) based model analysis reduces time required for program analysis
- Automatic generation of source code increases development and maintenance productivity
- Integrated environment for design, development, and unit test increases productivity
- Increases management productivity through automatic update (model ⇄ source code ⇄ output)
- Eliminates need for entry-level developers required for manual coding

Enhanced Quality

- Increases details of design work
- Improves communication by producing models in local language based on standard terms
- Supports code standardization with standard code templates and batch update
- Provides traceability from Use Case to source code
- Automatic update of model, source code, and output shifts the focus of quality control from standard compliance to program itself
- Model-based reverse engineering of legacy systems enables reuse of existing assets

Increased Flexibility towards Technological Changes

- Supports conversion of source code into a new programming language from the same model
- In case of migration to new framework, supports universal conversion from the same model
- Model-based reverse engineering of legacy systems enables reuse of existing assets

Core Business Solution

- LG CNS Bank: Core Banking Solution
- InsuTower: Insurance Solution
- Securities Solution: Securities Solution
- CardPerfect: Credit Card Solution

Channel Solution

- BankWare: Internet/Mobile Banking Solution
- Agent Banking: Branchless banking system for agents to perform selected banking transaction using handheld devices
- HTS: Home Trading System
- Smart Branch: Branch Innovation Technology for financial institutions
- Recycling ATM: Recycling ATM(ezATM5000/5100) for cash depositing as well as cash dispensing with built-in cash recycling module
- Teller Cash Recycler: Teller Cash Recycler

Platform Solution

- DevOn JAVA: JAVA development Framework
- DevOn C: C development Framework
- Smart Channel Platform: Integrated development/management framework for internet and mobile channels

Management Solution

- IFRS: IFRS(International Financial Reporting Standards) Solution
- ProductWise: Integrated data repository for managing finance product information

Mobile Solution

- MPost: Mobile service for delivering billing and marketing information to end-users
- MPay: Mobile payment service which enables customer pay safely and easily with just a simple registration of payment information

Portal Solution

- iKEP: Collaboration-based portal solution
- iKEP MOS(Mobile Office Suite): Mobile portal solution featuring e-mail, messaging, planner, To-Do, bulletin and notes functions

Development Tool

- DevOn MDA: Automated MDA development tool
- DevOn UI Designer: UI framework for UI design
- DevOn UI Modeler: UI modeling tool

System Maintenance Solution

- ITMS: IT Management System
- G-AMS: Application Management System
- G-IMS: Infrastructure Management System



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