Legacy Modernization Testing Service Offering

2025

LEGACY MODERNIZATION OBJECTIVES

IT systems face issues including old technology, huge and complex systems, and black boxes that are hard to manage and grow businesses.

Legacy Modernization Objective

Objective 1: Business Agility

- **Challenge**: Environments lack quick response capability
- **Impact**: Changes are costly, time-consuming, and prevent rapid business adaptation

- **Core business enhancement:** Develop infrastructure supporting smooth business expansion

Objective 2: Operational Efficiency

- **Challenge**: Operations and maintenance requirements
- **Impact**: Excessive recovery time and manual routine tasks that resist automation

- **Productivity enhancement:** Increase efficiency for complex system management
- **Business improvement:** Implement management and processing enhancements

Objective 3: Cost Optimization

- **Challenge**: Performance and cost efficiency
- **Impact**: Hardware limitations lead to high license fees and operational inefficiencies, creating a continuous cycle of suboptimal performance

- **Productivity enhancement:** Increase efficiency for complex system management
- **Business improvement:** Implement management and processing enhancements

1. Legacy Modernization Areas

1. Mainframe Migration

- **COBOL** ↓ **Java/C#**
- **COBOL/PLI/Assembler** ↓ **OpenCOBOL** (Open Platform)
- **RPG** ↓ **Java**
- **Assembler** ↓ **COBOL/PL1**

2. Database Migration

- **DB2/Sybase/ Oracle** ↓ **PostgreSQL**
- **データベースアップグレード** (SQL, Oracle, MySQL, DB2)
- **Oracle** ↓ **PostgreSQL**
- **Tree/NDD** ↓ **Mongo DB**

3. Open Migration

- **Java/Framework** Upgrade
- **Struts/JSF** ↓ **Spring**
- **VB** Migration
- **Flash/Flex** ↓ **HTML5**

4. Groupware Migration

- **SharePoint** (On-Premise) ↓ **SharePoint Online**
- **Lotus Notes** Migration
- **Google Suite** Migration
- **Cybozu** Migraion

1. Pipeline & Business Development

- Mainframe migration and non-mainframe systems remain a large and specialized market with only a few capable players.
- Recognizing this opportunity, FPT is strategically focusing on building and expanding our expertise in this area.

Open Pipeline in 2025 ($) – (Most in Japan)

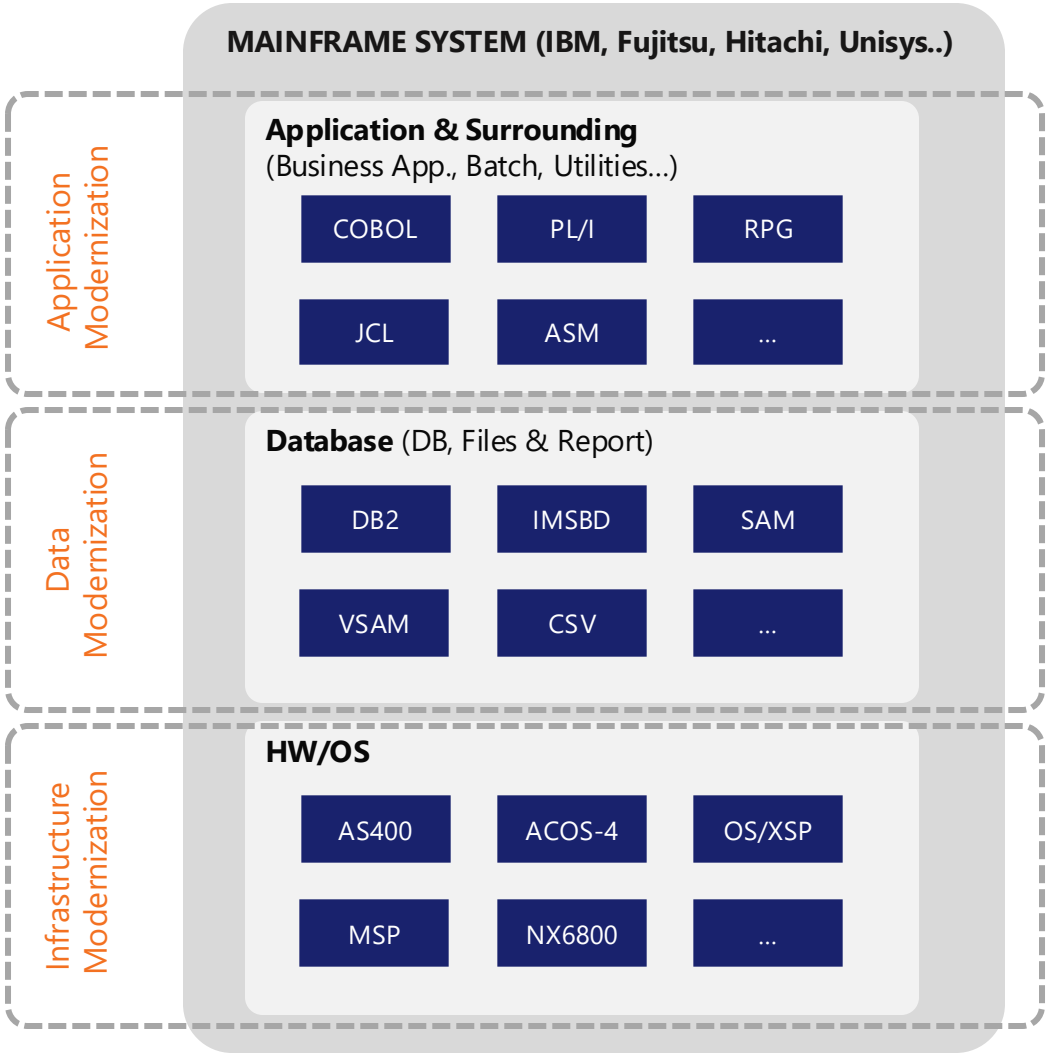
FOCUS

Mainframe

Open Pipeline	Forecast	O: Initial Meetings/Hea...
64.5M	27.8M	32.5M

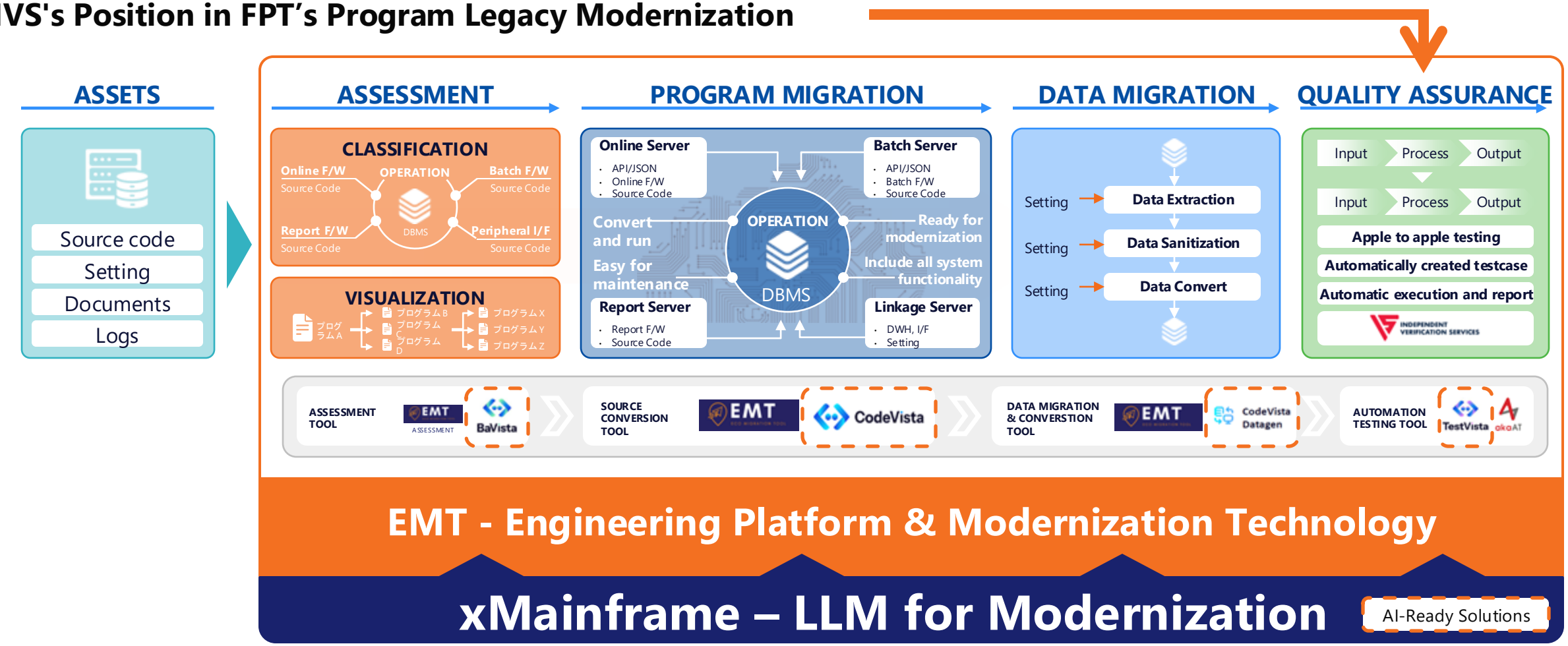
Non-Mainframe

Open Pipeline	Forecast	O: Initial Meetings/Hea...
21.1M	9.8M	1.5M



2. Positioning of Testing Phase in Modernization Project

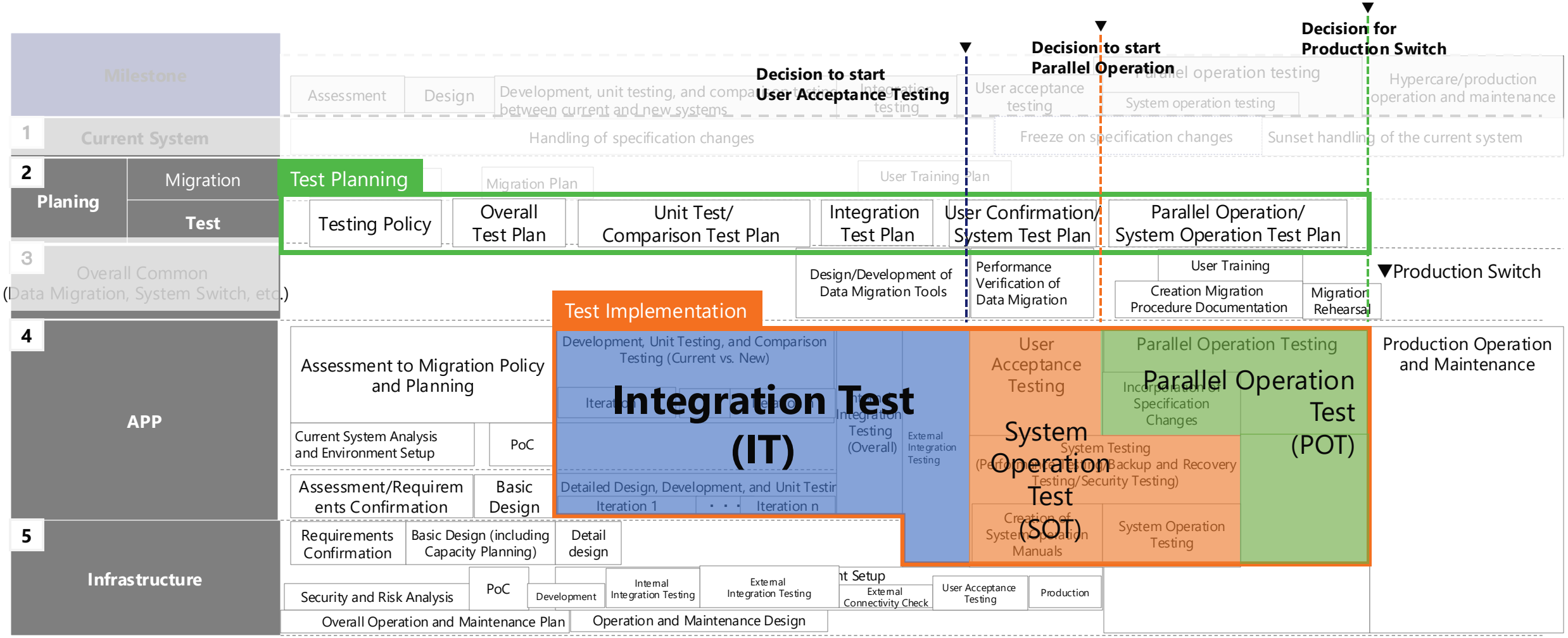
IVS's Position in FPT's Program Legacy Modernization



We also offer independent testing services. While the earlier stages, such as asset and data migration, are handled by another company, FPT takes full responsibility for Quality Assurance to meet the highest standards.

2. IVS's Quality Control Level

IVS is currently focused on the IT stage. Due to system and data requirements, the customer handles the process from System Testing onward, with FPT supporting bug fixing. Onsite support is available upon request.



Overview Quality Control Approach

The Modernization approach will go through 2 steps

Step 1

Migration: Ensure the new system meets 100% of the business of the old system.

Input: Assessment Result

Tools: FPT's EMT Accelerator

Input: Pattern List

Tools: UT Tools

Input: Revert Engineering

Tools: Automaton Tools

Input
- Customer Scenario
- User manual

A&A (AI & Automation)

Test Level	Test Coverage
Pattern Test	**100%** New Pattern

Unit Test	• Auto Conversion Code: Verify **Accuracy & Completeness**
	• Manual Conversion Code
	  • C0: 100%
	  • C1: >70%

Integration Test	• Screen: **100%** condition display, validation and transition screen. • JCL/Batch: **100%** jobs to be executed
Comparison Test	
System Test	Cover **100% Business Flows** (which had confirmed by customer)

Making comparison by ensuring all relevant factors are the same, except that output is same too

Stages

Design → Coding → Unit Test → Integration Test → System Test → Operation Test

Step 2

Modernization: Apply changes and improvements in both system functionality and performance

SRS/DD Base Quality Control

Test Coverage	+ Test Type	Test Level
Coverage: C0: 100% C1: >70%		Unit Test
100% of the links between modules, which are part of the change requirements in LOT2	Infra Test	Integration Test
Cover **100% Business Flows** which is impact by the new requirement	Security Test. Performance Test	System Test
Cover **100% Operation Flows (Over Duration 1-6 month)**	Parallel Test	Operation Test

Input: Detail Design

Tools: CodeVista, UT Tool

Input: Basic Design

Tools: TestVista, Automation Tool (regression test)

Input: Specification

ACCELERATORS AND TOOLS LANDSCAPE