

# IDIOM Development Performance

## The Development

A full Insurance System, approx 100 person years from concept to production.  
Developed in two parallel streams:

- A core development stream of professional integrators writing bespoke Java code using a RAD optimized form of UML.
- An internal team drawn from the business doing decision modeling and design using IDIOM in a RAD approach – 3 distinct delivery iterations occurred in the development phase.

## The Metrics

### IDIOM Development:

All business decision making including underwriting, rating, reinsurance, and claims.

■ Decision Models	89	
■ Decisions	6624	
■ Decision Designer Hours	8,731	
■ Total IDIOM Generated LLoC* (Java)	1,046,618	*Source Logical Lines of Code, excluding blank lines & comments
■ LLoC per Designer Hour	119.87	

### Core Development:

All infrastructure development, including reporting and forms

■ Developer Hours	40,484
■ LLoC (Java)	240,000
■ LLoC per Developer Hour	5.93

### Execution Performance:

Two use cases were tested – underwriting and rating. Each transaction used 4 XML documents:

■ Policy (55 KB, 660 nodes)	■ Intermediary (48KB, 538 nodes)
■ Client (9KB, 71 nodes)	■ Reinsurance Contract (73KB, 1,710 nodes)

### Decision Models (Use Cases)

A 'Decision' is a distinct output written to the XML transaction documents. A 'Decision Model' is a complete assembly of decisions that fully processes the commercial transaction. Two Decision Models were executed:

■ Underwriting (472 decisions)	■ Rating (346 decisions)
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Test Hardware – Intel Core2 CPU @ 2.13GHz 2GB RAM

Underwriting Decision Model as Generated – C#: 59k LLoC      Java: 60k LLoC

Rating Decision Model as Generated – C#: 157k LLoC      Java: 158k LLoC

### Results

Average clock time required to execute decisions on the input documents 10,001 times, excluding the first iteration.

**Underwriting**    ■ C#: 9 milliseconds per transaction    ■ Java: 5 milliseconds per transaction

**Rating**            ■ C#: 7 milliseconds per transaction    ■ Java: 5 milliseconds per transaction

IDIOM – faster software development, faster execution

For more information  
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