# Subsystems and layers

1. Platform
   1. Kernel Framework
      1. Dependency injection
      2. Application composition
         1. Pluggable modules and features
         2. Pluggable technology stack
         3. Late multi-dimensional composition of metadata-based models
         4. Dynamic pattern-based implementation of model-based components
         5. Subject-oriented horizontal composition of classes (“mix-ins”)
         6. Aspect-oriented handling of cross-cutting concerns
         7. Multi-dimensional configuration
      3. Process lifecycle orchestration
         1. Process state machine
            1. Startup/shutdown orchestration
            2. Going active/passive (by a command, e.g. from reliability layer)
         2. Lifecycle participants pipeline
      4. Traceability & diagnostics
         1. Formalized application-specific logging APIs
         2. Built-in zero-performance-cost profiling
         3. Concurrent execution & resource access tracing
         4. Aggregations and thresholds
         5. Context-rich data for production intelligence
      5. Common helpers
   2. Core Services
      1. Claims-based authorization + code & data access control
      2. Internationalization
      3. User session management
      4. Message bus
      5. Publish/subscribe
      6. Communication endpoints
      7. Caching
   3. Scalability & Reliability Foundation
      1. Zero-configuration reliable clusters
      2. Automatic active/passive redundancy with voting
      3. Real-time replication/synchronization
      4. In-memory data grid
      5. Hot-swap machines
      6. Elastic grow/shrink on demand
2. Application Framework
   1. Domain Model
      1. Zero-cost domain-driven design implementation
      2. Persistence abstraction
      3. Multi-dimensional extensibility and customization
      4. Domain contexts, entities, value objects, transaction scripts
      5. Rich OOP designs
   2. Processing Model
      1. Unit of work
      2. Actors
      3. Workflows
      4. Rule-based decisioning
      5. Background jobs
      6. Reporting aggregations
   3. Communication Model
      1. Endpoints
      2. Messaging
   4. UI Model
      1. Conceptual high-level technology-agnostic UI model
      2. Pluggable UI themes for concrete presentation platforms
      3. Internationalization
3. Building Block Domains
   1. Infrastructure Domains
      1. DevOps Domain
      2. Security Domain
      3. Globalization Domain
   2. Business Domains
      1. E-Commerce
      2. CRM
      3. Accounting
      4. . . . .
4. Technology Stack
   1. Database
      1. No-SQL
         1. MongoDB
         2. …?
      2. Relational
         1. SQL Server
         2. MySQL
         3. …?
   2. UI
      1. Web
      2. Windows Desktop
      3. Mobile
   3. Communication
   4. Adapters
5. Developer Resources