

ARKHITEKTON Detailed Product Requirements

Epic 1: Core Application Portfolio Foundation

Total Stories: 35 | Total Points: 195

Feature 1.1: Basic Application CRUD Operations

Story 1.1.1: Create Application Entry Form (5 points)

```
1 Feature: Basic Application Creation
2   As an Enterprise Architect
3   I want to create a new application entry
4   So that I can start tracking portfolio items
5
6 Scenario: Display application creation form
7   Given I am on the APM dashboard
8   When I click "Add New Application"
9   Then I should see application creation form
10  And form should have required fields: Name, Technology Type, Vendor
11  And form should have optional fields: Description, Business Owner
12  And "Save" and "Cancel" buttons should be visible
13
```

Story 1.1.2: Application Name Validation (3 points)

```
1 Feature: Application Name Validation
2   As a Data Quality Manager
3   I want application names to be validated
4   So that naming standards are enforced
5
6 Scenario: Validate unique application names
7   Given application "Customer Portal" already exists
8   When I try to create another application named "Customer Portal"
9   Then I should see error message "Application name must be unique"
10  And form should not submit
11  And name field should be highlighted in red
12
```

Story 1.1.3: Save Application to Database (4 points)

```
1 Feature: Persist Application Data
2   As a System
3   I want to save application data to database
4   So that application information is retained
5
6 Scenario: Successfully save new application
7   Given I have filled out application form with valid data
8   When I click "Save Application"
9   Then application should be saved to database with unique ID
10  And I should see success message "Application created successfully"
11  And I should be redirected to application details page
12
```

Story 1.1.4: Application List View (6 points)

```
1 Feature: Application Portfolio List
2   As an Enterprise Architect
3   I want to view all applications in a list
4   So that I can see my portfolio overview
5
6 Scenario: Display applications in sortable table
7   Given 10 applications exist in the system
8   When I navigate to application list page
9   Then I should see table with columns: Name, Technology Type, Vendor,
  Last Modified
10  And table should be sortable by each column
```

```
11 And each row should have "View" and "Edit" action buttons
12 And pagination should show "10 of 10" items
13
```

Story 1.1.5: Search Applications (7 points)

```
1 Feature: Application Search
2   As an Enterprise Architect
3   I want to search for applications
4   So that I can quickly find specific applications
5
6 Scenario: Search by application name
7   Given applications "Customer Portal", "Admin Portal", "Finance
  System" exist
8   When I enter "Portal" in search box
9   Then I should see 2 results: "Customer Portal" and "Admin Portal"
10  And search should be case-insensitive
11  And results should update as I type (debounced)
12
```

Story 1.1.6: Edit Application Details (5 points)

```
1 Feature: Edit Application Information
2   As an Enterprise Architect
3   I want to edit application details
4   So that I can keep information current
5
6 Scenario: Update application properties
7   Given application "Customer Portal" exists with vendor "Old Vendor"
8   When I click "Edit" on the application
9   And I change vendor to "New Vendor"
10  And I click "Save Changes"
11  Then application should show updated vendor
12  And modification timestamp should be updated
13  And audit log should record the change
14
```

Story 1.1.7: Delete Application with Confirmation (4 points)

```
1 Feature: Safe Application Deletion
2   As an Enterprise Architect
3   I want confirmation before deleting applications
4   So that accidental deletions are prevented
5
6 Scenario: Confirm application deletion
7   Given application "Test System" exists with no dependencies
8   When I click "Delete" on the application
9   Then I should see confirmation dialog "Are you sure you want to
  delete Test System?"
10  And dialog should have "Confirm Delete" and "Cancel" buttons
11  When I click "Confirm Delete"
12  Then application should be removed from list
13  And I should see success message
14
```

Feature 1.2: Application Metadata Management

Story 1.2.1: Technology Type Dropdown (3 points)

```
1 Feature: Technology Type Selection
2   As an Enterprise Architect
3   I want to select from predefined technology types
4   So that classification is consistent
5
6 Scenario: Select technology type from dropdown
7   Given I am creating a new application
8   When I click technology type dropdown
9   Then I should see options: SaaS, On-premise, Hybrid, Mobile, Web,
  API
10  And I should be able to select one option
11  And selected option should display in field
```

Story 1.2.2: Custom Fields Configuration (8 points)

```
1 Feature: Custom Application Attributes
2   As a System Administrator
3   I want to configure custom fields for applications
4   So that organization-specific data can be captured
5
6 Scenario: Add custom field for compliance rating
7   Given I am in system administration
8   When I navigate to "Custom Fields" section
9   And I click "Add Custom Field"
10  And I enter field name "Compliance Rating"
11  And I select field type "Dropdown"
12  And I add options "High, Medium, Low"
13  And I click "Save Field"
14  Then custom field should appear in application forms
15  And existing applications should show empty value for new field
16
```

Story 1.2.3: Business Owner Assignment (5 points)

```
1 Feature: Stakeholder Assignment
2   As an Enterprise Architect
3   I want to assign business owners to applications
4   So that accountability is clear
5
6 Scenario: Assign business owner from user list
7   Given users "John Smith", "Jane Doe", "Mike Chen" exist in system
8   When I edit application "Customer Portal"
9   And I click business owner dropdown
10  Then I should see all active users in dropdown
11  When I select "John Smith"
12  And I save the application
13  Then "John Smith" should be listed as business owner
14  And John Smith should receive email notification
15
```

Story 1.2.4: Application Status Tracking (4 points)

```
1 Feature: Application Lifecycle Status
2   As an Enterprise Architect
3   I want to track application lifecycle status
4   So that portfolio health is visible
5
6 Scenario: Set application status
7   Given I am editing application "Legacy CRM"
8   When I select status "Deprecated"
9   And I save the application
10  Then application should show "Deprecated" status
11  And status should display with appropriate color coding
12  And deprecated applications should be filterable in lists
13
```

Feature 1.3: Application Versioning**Story 1.3.1: Version Number Field (3 points)**

```
1 Feature: Application Version Tracking
2   As an Enterprise Architect
3   I want to track application version numbers
4   So that current state is documented
5
6 Scenario: Add version number to application
7   Given I am editing application "Order System"
8   When I enter version number "2.1.3"
9   And I save the application
10  Then version "2.1.3" should be stored
11  And version should display in application details
12
```

Story 1.3.2: Version History Log (6 points)

```
1 Feature: Application Version History
2   As an Enterprise Architect
3   I want to see version history for applications
4   So that I can track evolution over time
5
6 Scenario: View version history
7   Given application "Payment Gateway" has versions "1.0", "1.1", "2.0"
8   When I navigate to version history tab
9   Then I should see chronological list of versions
10  And each version should show: Version number, Date created, Created
    by
11  And current version should be highlighted
12  And I should be able to click any version for details
13
```

Story 1.3.3: Planned Version Creation (7 points)

```
1 Feature: Future Version Planning
2   As an Enterprise Architect
3   I want to create planned future versions
4   So that roadmap visibility is maintained
5
6 Scenario: Create planned version
7   Given application "Customer Portal" current version is "2.1"
8   When I click "Plan New Version"
9   And I enter version number "3.0"
10  And I set target date "2024-06-15"
11  And I enter description "React migration"
12  And I save planned version
13  Then version "3.0" should appear with status "Planned"
14  And target date should be visible in timeline view
15
```

Story 1.3.4: Version Status Management (4 points)

```
1 Feature: Version Status Lifecycle
2   As an Enterprise Architect
3   I want to manage version status transitions
4   So that implementation progress is tracked
5
6 Scenario: Update version status
7   Given planned version "3.0" exists with status "Planned"
8   When I change status to "In Development"
9   And I save the changes
10  Then version status should update to "In Development"
11  And status change should be logged with timestamp
12  And stakeholders should receive status change notification
13
```

Feature 1.4: Regional Deployment Tracking

Story 1.4.1: Regional Configuration Setup (5 points)

```
1 Feature: Regional Deployment Configuration
2   As a Global Enterprise Architect
3   I want to configure supported regions
4   So that deployments can be tracked globally
5
6 Scenario: Configure supported regions
7   Given I am in system administration
8   When I navigate to "Regional Settings"
9   And I add regions "US East", "US West", "Europe", "Asia Pacific"
10  And I save configuration
11  Then regions should be available for application deployment tracking
12  And applications should display regional status fields
13
```

Story 1.4.2: Regional Status Assignment (6 points)

```

1 Feature: Application Regional Status
2   As an Enterprise Architect
3   I want to set deployment status per region
4   So that global rollout progress is visible
5
6 Scenario: Set regional deployment status
7   Given application "Global ERP" exists
8   And regions "US East", "Europe", "Asia Pacific" are configured
9   When I edit regional deployment section
10  And I set "US East" to "Live"
11  And I set "Europe" to "Planned Q2 2024"
12  And I set "Asia Pacific" to "Not Planned"
13  And I save changes
14  Then regional status should be saved for each region
15  And deployment map should reflect current status
16

```

Story 1.4.3: Regional Deployment Timeline (8 points)

```

1 Feature: Regional Deployment Timeline Visualization
2   As a Global Enterprise Architect
3   I want to see deployment timeline across regions
4   So that rollout coordination is visible
5
6 Scenario: Display regional deployment timeline
7   Given application "Customer Portal" has regional deployment dates
8   set
9   When I view deployment timeline
10  Then I should see Gantt-style timeline showing each region
11  And timeline should show current date marker
12  And completed deployments should be marked differently from planned
13  And I should be able to filter by region or date range
14

```

Feature 1.5: Data Classification

Story 1.5.1: Data Type Checkboxes (4 points)

```

1 Feature: Data Classification Checkboxes
2   As a Security Architect
3   I want to mark data types handled by applications
4   So that security requirements are identified
5
6 Scenario: Mark application data types
7   Given I am editing application "HR System"
8   When I check "Employee PII" checkbox
9   And I check "Financial Data" checkbox
10  And I save the application
11  Then data types should be stored
12  And security flags should be visible in application list
13

```

Story 1.5.2: Security Classification Levels (5 points)

```

1 Feature: Security Classification Levels
2   As a Security Architect
3   I want to assign security classification levels
4   So that protection requirements are clear
5
6 Scenario: Assign classification level
7   Given I am editing application "Customer Database"
8   When I select security classification "Highly Sensitive"
9   And I save the application
10  Then classification should be stored
11  And appropriate security badge should display
12  And classification should be filterable in reports
13

```

Story 1.5.3: Compliance Requirements Mapping (7 points)

```

1 Feature: Regulatory Compliance Mapping

```

```
2   As a Compliance Officer
3   I want to map compliance requirements to applications
4   So that regulatory obligations are tracked
5
6   Scenario: Map GDPR compliance requirement
7     Given application "Customer Portal" handles "Customer PII"
8     When I navigate to compliance section
9     And I check "GDPR" requirement
10    And I set compliance status to "Compliant"
11    And I add compliance notes "Privacy policy updated Q1 2024"
12    And I save compliance data
13    Then GDPR requirement should be mapped to application
14    And compliance dashboard should reflect status
15
```

Epic 2: AI-Driven Intelligence Features

Total Stories: 28 | Total Points: 180

Feature 2.1: Basic AI Application Discovery

Story 2.1.1: Network Scanner Configuration (6 points)

```
1   Feature: Network Discovery Configuration
2     As a System Administrator
3     I want to configure network scanning parameters
4     So that application discovery can be automated
5
6     Scenario: Configure IP range for scanning
7       Given I am in network discovery settings
8       When I enter IP range "192.168.1.0/24"
9       And I set scan frequency to "Daily"
10      And I enable "HTTP service detection"
11      And I save configuration
12      Then scan parameters should be stored
13      And next scan should be scheduled
14
```

Story 2.1.2: HTTP Service Detection (8 points)

```
1   Feature: Automatic HTTP Service Discovery
2     As a System
3     I want to detect HTTP services on network
4     So that web applications can be automatically discovered
5
6     Scenario: Detect web applications
7       Given network scan is configured for subnet "192.168.1.0/24"
8       When network scan executes
9       And HTTP services are found on ports 80, 443, 8080
10      Then discovered services should be logged
11      And preliminary application records should be created
12      And services should be queued for further analysis
13
```

Story 2.1.3: Application Metadata Extraction (9 points)

```
1   Feature: Automatic Metadata Extraction
2     As a System
3     I want to extract application metadata from discovered services
4     So that basic application information is populated
5
6     Scenario: Extract metadata from HTTP headers
7       Given HTTP service detected at "http://192.168.1.100:8080"
8       When metadata extraction runs
9       And HTTP headers contain "Server: Apache Tomcat/9.0"
10      And HTML title tag contains "Customer Portal"
11      Then application name should be suggested as "Customer Portal"
12      And technology type should be suggested as "Web Application"
13      And server technology should be identified as "Apache Tomcat"
```

Story 2.1.4: Duplicate Detection Logic (7 points)

```

1 Feature: Prevent Duplicate Application Creation
2   As a System
3   I want to detect potential duplicates during discovery
4   So that portfolio doesn't contain redundant entries
5
6 Scenario: Detect potential duplicate by name similarity
7   Given existing application "Customer Support Portal"
8   When discovered service suggests name "Customer Portal"
9   And name similarity score is above 80%
10  Then system should flag as potential duplicate
11  And require manual review before creating new application
12  And suggest mapping to existing application instead
13

```

Feature 2.2: AI-Powered Classification

Story 2.2.1: Technology Pattern Recognition (8 points)

```

1 Feature: Technology Stack Classification
2   As a System
3   I want to classify applications by technology patterns
4   So that accurate categorization is automated
5
6 Scenario: Classify React application
7   Given discovered application has JavaScript files
8   And HTTP responses contain "react" in script tags
9   And API endpoints follow REST patterns
10  Then technology type should be classified as "Single Page
    Application"
11  And framework should be identified as "React"
12  And classification confidence score should be provided
13

```

Story 2.2.2: Business Function Inference (9 points)

```

1 Feature: Business Function Classification
2   As a System
3   I want to infer business functions from application characteristics
4   So that capability mapping suggestions are provided
5
6 Scenario: Infer CRM function from application patterns
7   Given application has endpoints "/customers", "/contacts",
    "/opportunities"
8   And database tables include "customer", "lead", "sales"
9   And UI contains forms for contact management
10  Then business function should be inferred as "Customer Relationship
    Management"
11  And confidence score should be calculated
12  And suggestion should be presented for manual confirmation
13

```

Story 2.2.3: Security Risk Assessment (6 points)

```

1 Feature: Automated Security Risk Scoring
2   As a Security Architect
3   I want automatic security risk assessment
4   So that high-risk applications are identified
5
6 Scenario: Calculate security risk score
7   Given application uses "HTTP" (not HTTPS)
8   And application handles "Customer PII"
9   And last security update was "6 months ago"
10  Then security risk score should be calculated as "High"
11  And risk factors should be listed
12  And security review should be recommended
13

```

Feature 2.3: Intelligent Capability Mapping

Story 2.3.1: Capability Library Setup (5 points)

```
1 Feature: Business Capability Library
2   As a Business Architect
3   I want to maintain library of business capabilities
4   So that consistent mapping is possible
5
6 Scenario: Create capability library entry
7   Given I am in capability management
8   When I add capability "Order Management"
9   And I enter description "Processing customer orders from receipt to
fulfillment"
10  And I add keywords "order, purchase, fulfillment, shipping"
11  And I save capability
12  Then capability should be available for application mapping
13
```

Story 2.3.2: Keyword-Based Capability Matching (7 points)

```
1 Feature: Automatic Capability Mapping Suggestions
2   As a System
3   I want to suggest capability mappings based on keywords
4   So that mapping accuracy is improved
5
6 Scenario: Suggest capability mapping
7   Given application "Order Processing System" has description
containing "order fulfillment"
8   And capability "Order Management" has keywords including "order,
fulfillment"
9   When capability mapping analysis runs
10  Then "Order Management" should be suggested as primary capability
11  And mapping confidence score should be provided
12  And suggestion should be presented for architect approval
13
```

Story 2.3.3: API Analysis for Capability Inference (8 points)

```
1 Feature: API-Based Capability Detection
2   As a System
3   I want to analyze API endpoints to infer capabilities
4   So that functional scope is automatically understood
5
6 Scenario: Infer payment capability from API endpoints
7   Given application has API endpoints "/payments", "/transactions",
"/refunds"
8   And endpoints accept credit card data structures
9   When API analysis runs
10  Then "Payment Processing" capability should be inferred
11  And API-to-capability mapping should be created
12  And confidence level should be calculated based on endpoint coverage
13
```

Feature 2.4: Duplicate and Overlap Detection

Story 2.4.1: Name Similarity Analysis (6 points)

```
1 Feature: Application Name Similarity Detection
2   As a Portfolio Manager
3   I want to detect applications with similar names
4   So that potential duplicates are identified
5
6 Scenario: Detect name similarity
7   Given applications "Customer Support Portal" and "Customer Portal"
exist
8   When duplicate detection analysis runs
9   Then name similarity should be calculated as 85%
10  And applications should be flagged as potential duplicates
11  And manual review should be recommended
12
```


Story 2.4.2: Functional Overlap Scoring (9 points)

```
1 Feature: Functional Overlap Detection
2   As a Portfolio Manager
3   I want to detect functional overlap between applications
4   So that consolidation opportunities are identified
5
6 Scenario: Calculate functional overlap
7   Given "HR Management System" has capabilities "Employee Data,
8     Payroll, Benefits"
9   And "Payroll System" has capabilities "Payroll, Tax Calculation"
10  When overlap analysis runs
11  Then functional overlap should be calculated as 33% (1 of 3
12    capabilities)
13    And consolidation opportunity should be flagged
14    And cost-benefit analysis should be suggested
```

Story 2.4.3: Technology Stack Overlap Analysis (7 points)

```
1 Feature: Technology Stack Consolidation Opportunities
2   As a Technology Strategy Manager
3   I want to identify technology stack overlaps
4   So that standardization opportunities are found
5
6 Scenario: Identify similar technology stacks
7   Given multiple applications use "Java Spring Boot" framework
8   When technology analysis runs
9   Then applications should be grouped by technology similarity
10  And platform standardization opportunity should be identified
11  And shared services recommendations should be generated
12
```

Feature 2.5: Predictive Analytics

Story 2.5.1: Technical Debt Scoring Algorithm (8 points)

```
1 Feature: Technical Debt Assessment
2   As a Technology Strategy Manager
3   I want automated technical debt scoring
4   So that modernization priorities are data-driven
5
6 Scenario: Calculate technical debt score
7   Given application "Legacy CRM" was installed in "2010"
8   And uses technology "Java 8" (2 major versions behind)
9   And has "15" open security vulnerabilities
10  And vendor support ends "2024-12-31"
11  When technical debt analysis runs
12  Then debt score should be calculated as "High (85/100)"
13  And contributing factors should be detailed
14  And modernization urgency should be determined
15
```

Story 2.5.2: Modernization ROI Calculation (9 points)

```
1 Feature: Modernization Return on Investment
2   As a Financial Planning Manager
3   I want ROI calculations for modernization efforts
4   So that investment decisions are data-driven
5
6 Scenario: Calculate modernization ROI
7   Given application "Legacy Inventory" has annual maintenance cost
8     "$50,000"
9   And modernization cost is estimated at "$200,000"
10  And modern solution reduces maintenance by "60%"
11  When ROI calculation runs
12  Then annual savings should be calculated as "$30,000"
13  And payback period should be "6.7 years"
14  And 5-year NPV should be provided
15
```

Story 2.5.3: Risk Prediction Model (7 points)

```
1 Feature: Application Risk Prediction
2   As a Risk Management Officer
3   I want predictive risk assessment
4   So that proactive risk mitigation is possible
5
6 Scenario: Predict application failure risk
7   Given application "Payment Gateway" has increasing error rates
8   And last update was "18 months ago"
9   And supports "critical" business function
10  When risk prediction model runs
11  Then failure probability should be calculated
12  And risk factors should be identified
13  And mitigation recommendations should be provided
14
```

Epic 3: Portfolio Rationalization Engine

Total Stories: 22 | Total Points: 145

Feature 3.1: Rationalization Scoring Framework

Story 3.1.1: Business Value Scoring (6 points)

```
1 Feature: Business Value Assessment
2   As a Portfolio Manager
3   I want to score applications by business value
4   So that investment prioritization is objective
5
6 Scenario: Calculate business value score
7   Given application "Customer Portal" supports "critical" business
8   capability
9   And serves "10,000" daily users
9   And generates "$2M" annual revenue impact
10  When business value scoring runs
11  Then score should reflect high business criticality
12  And user impact should be weighted appropriately
13  And revenue impact should factor into final score
14
```

Story 3.1.2: Technical Health Assessment (7 points)

```
1 Feature: Technical Health Evaluation
2   As a Technology Strategy Manager
3   I want objective technical health scoring
4   So that modernization needs are quantified
5
6 Scenario: Assess technical health
7   Given application "Legacy ERP" has "25" security vulnerabilities
8   And technology stack is "3 versions" behind current
9   And performance metrics show "degrading" trends
10  When technical health assessment runs
11  Then health score should reflect poor technical condition
12  And specific technical issues should be itemized
13  And improvement recommendations should be provided
14
```

Story 3.1.3: Strategic Alignment Scoring (5 points)

```
1 Feature: Strategic Alignment Assessment
2   As a Business Strategy Manager
3   I want to score applications by strategic alignment
4   So that portfolio investment aligns with business direction
5
6 Scenario: Calculate strategic alignment
7   Given application "Mobile Sales App" supports strategic initiative
8   "Digital Transformation"
8   And aligns with technology direction "Cloud First"
```

```
9   When strategic alignment scoring runs
10  Then alignment score should be high
11  And supporting strategic initiatives should be identified
12  And misalignment risks should be flagged
13
```

Story 3.1.4: Composite Rationalization Score (4 points)

```
1   Feature: Overall Rationalization Score
2     As a Portfolio Manager
3     I want composite scoring for rationalization decisions
4     So that applications can be objectively compared
5
6   Scenario: Calculate composite score
7     Given application has business value score "75/100"
8     And technical health score "40/100"
9     And strategic alignment score "85/100"
10    When composite scoring runs with weights "50%, 30%, 20%"
11    Then overall score should be calculated as "68/100"
12    And score breakdown should be visible
13
```

Feature 3.2: Cost-Benefit Analysis

Story 3.2.1: License Cost Tracking (5 points)

```
1   Feature: Application License Cost Management
2     As a Financial Analyst
3     I want to track license costs for applications
4     So that total cost of ownership is accurate
5
6   Scenario: Record annual license costs
7     Given application "Enterprise CRM"
8     When I enter annual license cost "$120,000"
9     And I set cost escalation rate "3% annually"
10    And I save cost information
11    Then license costs should be stored
12    And 5-year projection should be calculated
13
```

Story 3.2.2: Infrastructure Cost Allocation (8 points)

```
1   Feature: Infrastructure Cost Attribution
2     As a Financial Analyst
3     I want to allocate infrastructure costs to applications
4     So that true total cost of ownership is calculated
5
6   Scenario: Allocate cloud infrastructure costs
7     Given application "Web Portal" uses "4 EC2 instances"
8     And monthly infrastructure cost is "$2,400"
9     And application utilizes "30%" of shared database resources
10    When cost allocation runs
11    Then direct infrastructure costs should be "$2,400/month"
12    And shared resource costs should be proportionally allocated
13    And total monthly infrastructure cost should be calculated
14
```

Story 3.2.3: Support Cost Estimation (6 points)

```
1   Feature: Support Cost Calculation
2     As a Financial Analyst
3     I want to estimate support costs for applications
4     So that operational expenses are included in TCO
5
6   Scenario: Calculate support costs
7     Given application "Legacy System" requires "2 FTE" for support
8     And average FTE cost is "$120,000" annually
9     And vendor support cost is "$50,000" annually
10    When support cost calculation runs
11    Then internal support cost should be "$240,000"
12    And total annual support cost should be "$290,000"
```

Story 3.2.4: ROI Calculator for Replacements (9 points)

```

1 Feature: Replacement ROI Analysis
2   As a Financial Analyst
3   I want ROI analysis for application replacements
4   So that modernization investments are justified
5
6 Scenario: Calculate replacement ROI
7   Given current application has TCO "$500,000/year"
8   And replacement solution has implementation cost "$2M"
9   And new solution TCO "$300,000/year"
10  When ROI analysis runs
11  Then annual savings should be "$200,000"
12  And payback period should be "10 years"
13  And 5-year NPV should be calculated
14  And ROI percentage should be provided
15

```

Feature 3.3: Risk Assessment Engine**Story 3.3.1: Security Risk Scoring (7 points)**

```

1 Feature: Security Risk Assessment
2   As a Security Architect
3   I want quantified security risk scores
4   So that security investment is prioritized
5
6 Scenario: Calculate security risk score
7   Given application "Customer Database" has "High" data sensitivity
8   And has "8" critical security vulnerabilities
9   And last security review was "2 years ago"
10  When security risk assessment runs
11  Then risk score should reflect high security exposure
12  And specific risk factors should be itemized
13  And mitigation timeline should be recommended
14

```

Story 3.3.2: Compliance Risk Evaluation (6 points)

```

1 Feature: Regulatory Compliance Risk
2   As a Compliance Officer
3   I want compliance risk assessment
4   So that regulatory exposure is managed
5
6 Scenario: Assess GDPR compliance risk
7   Given application "Marketing Platform" processes "EU customer data"
8   And lacks "data retention policy"
9   And has no "privacy controls"
10  When compliance risk assessment runs
11  Then GDPR risk should be scored as "High"
12  And specific compliance gaps should be identified
13  And remediation requirements should be listed
14

```

Story 3.3.3: Operational Risk Analysis (5 points)

```

1 Feature: Operational Risk Assessment
2   As an Operations Manager
3   I want operational risk scoring
4   So that service continuity risks are identified
5
6 Scenario: Calculate operational risk
7   Given application "Order Processing" has "99.2%" uptime
8   And recovery time objective is "2 hours"
9   And current RTO capability is "8 hours"
10  When operational risk assessment runs
11  Then availability risk should be moderate
12  And RTO gap should be highlighted as high risk
13  And disaster recovery improvements should be recommended

```

Story 3.3.4: Vendor Dependency Risk (4 points)

```

1 Feature: Vendor Risk Assessment
2   As a Risk Management Officer
3   I want vendor dependency risk scoring
4   So that supply chain risks are managed
5
6 Scenario: Assess single vendor dependency
7   Given application "Finance System" depends on "Single Vendor Inc"
8   And vendor has "unstable financial condition"
9   And no alternative vendors are identified
10  When vendor risk assessment runs
11  Then dependency risk should be high
12  And vendor diversification should be recommended
13

```

Feature 3.4: Decision Workflow Engine**Story 3.4.1: Automated Review Triggers (8 points)**

```

1 Feature: Automatic Review Request Generation
2   As a Governance Manager
3   I want automated review triggers
4   So that governance is consistent and timely
5
6 Scenario: Trigger review for high-risk application
7   Given application "Legacy CRM" has rationalization score "25/100"
8   And score is below threshold "40/100"
9   When daily scoring analysis runs
10  Then architecture review request should be auto-generated
11  And assigned to appropriate review board
12  And review timeline should be set based on risk level
13

```

Story 3.4.2: Stakeholder Notification System (5 points)

```

1 Feature: Stakeholder Review Notifications
2   As a Governance Manager
3   I want stakeholders notified of review requests
4   So that review participation is ensured
5
6 Scenario: Notify stakeholders of pending review
7   Given review request created for "Customer Portal"
8   And business owner is "John Smith"
9   And technical lead is "Jane Doe"
10  When review notification is triggered
11  Then email should be sent to John Smith and Jane Doe
12  And notification should include review timeline
13  And link to review workspace should be provided
14

```

Story 3.4.3: Decision Recording Interface (7 points)

```

1 Feature: Decision Capture and Documentation
2   As an Architecture Review Board Member
3   I want to record review decisions
4   So that governance decisions are documented
5
6 Scenario: Record rationalization decision
7   Given review for "Legacy ERP" is in progress
8   When I select decision "Replace within 24 months"
9   And I enter rationale "Technical debt and security risks outweigh
  business value"
10  And I assign implementation owner "IT Modernization Team"
11  And I save decision
12  Then decision should be recorded with timestamp
13  And stakeholders should be notified
14  And implementation tracking should begin
15

```

Story 3.4.4: Implementation Progress Tracking (6 points)

```
1 Feature: Rationalization Implementation Tracking
2   As a Portfolio Manager
3   I want to track rationalization implementation
4   So that decisions translate to action
5
6 Scenario: Track replacement progress
7   Given decision to "Replace Legacy CRM by Q4 2024"
8   When implementation milestone "Requirements Complete" is marked done
9   And milestone "Vendor Selection" is in progress
10  Then progress should be updated to "40% complete"
11  And timeline should reflect current status
12  And delays should be flagged if behind schedule
13
```

Bug Fix Categories and Estimation

Data Quality Issues (2-3 points each)

- Invalid data type conversions
- Null reference exceptions
- Data validation bypass
- Inconsistent field formatting

UI/UX Bugs (2-4 points each)

- Form validation errors
- Responsive design issues
- Browser compatibility problems
- Navigation flow problems

Performance Issues (3-5 points each)

- Slow query optimization
- Memory leaks
- API timeout issues
- Large dataset rendering problems

Integration Bugs (4-6 points each)

- External API connectivity issues
- Data synchronization failures
- Authentication/authorization problems
- Third-party service integration errors

Security Vulnerabilities (3-8 points each)

- Input validation gaps
- SQL injection vulnerabilities
- Cross-site scripting (XSS) issues
- Access control bypasses

Epic 4: Integration and Ecosystem Connectivity

Total Stories: 32 | Total Points: 200

Feature 4.1: ServiceNow CMDB Integration

Story 4.1.1: CMDB Connection Configuration (6 points)

```
1 Feature: ServiceNow CMDB Connection Setup
2   As a System Administrator
3   I want to configure ServiceNow CMDB connection
4   So that application data can be synchronized
5
6 Scenario: Configure ServiceNow API connection
7   Given I am in integration settings
8   When I enter ServiceNow instance URL "https://company.service-
now.com"
9   And I enter API credentials for service account
10  And I test connection
11  Then connection should be validated successfully
12  And API permissions should be verified
13  And connection status should show "Active"
14
```

Story 4.1.2: CMDB Field Mapping Interface (8 points)

```
1 Feature: Field Mapping Configuration
2   As a System Administrator
3   I want to map CMDB fields to Arkhitekton fields
4   So that data synchronization is accurate
5
6 Scenario: Map application fields
7   Given ServiceNow CMDB connection is configured
8   When I access field mapping interface
9   And I map ServiceNow "name" field to Arkhitekton "applicationName"
10  And I map ServiceNow "version" field to Arkhitekton "currentVersion"
11  And I map ServiceNow "business_owner" to Arkhitekton "businessOwner"
12  And I save mapping configuration
13  Then field mappings should be stored
14  And mapping validation should confirm data type compatibility
15
```

Story 4.1.3: Initial CMDB Data Import (9 points)

```
1 Feature: Bulk CMDB Data Import
2   As a System Administrator
3   I want to import existing CMDB data
4   So that Arkhitekton starts with current application portfolio
5
6 Scenario: Import applications from ServiceNow
7   Given CMDB connection and field mapping are configured
8   When I initiate bulk import
9   And ServiceNow CMDB contains 500 application CIs
10  Then import process should retrieve all application records
11  And data should be transformed using field mappings
12  And 500 applications should be created in Arkhitekton
13  And import log should detail any data quality issues
14  And duplicate detection should prevent redundant entries
15
```

Story 4.1.4: Real-time Sync Event Handling (7 points)

```
1 Feature: Real-time CMDB Synchronization
2   As a System Administrator
3   I want real-time sync with ServiceNow
4   So that data remains current across systems
5
6 Scenario: Sync application updates from ServiceNow
7   Given real-time sync is enabled
8   When application "Customer Portal" is updated in ServiceNow
9   And business owner changes from "John Smith" to "Jane Doe"
```

```
10 Then change event should be received within 5 minutes
11 And Arkhitekton should update business owner to "Jane Doe"
12 And version history should record sync event
13 And stakeholders should be notified of change
14
```

Story 4.1.5: Bidirectional Sync Conflict Resolution (8 points)

```
1 Feature: Sync Conflict Management
2   As a System Administrator
3   I want to handle sync conflicts gracefully
4   So that data integrity is maintained
5
6 Scenario: Resolve conflicting updates
7   Given application "Finance System" is updated in both systems
8   When Arkhitekton version changes to "3.1" at 10:00 AM
9   And ServiceNow version changes to "3.2" at 10:05 AM
10  Then sync conflict should be detected
11  And conflict resolution interface should display both versions
12  And administrator should be able to select winning version
13  And conflict resolution should be logged for audit
14
```

Feature 4.2: Cloud Provider Auto-Discovery

Story 4.2.1: AWS Account Integration Setup (5 points)

```
1 Feature: AWS Account Connection
2   As a Cloud Administrator
3   I want to connect AWS accounts for discovery
4   So that cloud applications are automatically tracked
5
6 Scenario: Configure AWS integration
7   Given I am in cloud integration settings
8   When I enter AWS access key and secret key
9   And I specify regions "us-east-1, us-west-2"
10  And I test AWS connection
11  Then connection should be validated
12  And IAM permissions should be verified
13  And account information should be retrieved
14
```

Story 4.2.2: EC2 Instance Discovery (7 points)

```
1 Feature: EC2 Application Discovery
2   As a Cloud Administrator
3   I want to discover applications running on EC2
4   So that cloud portfolio visibility is complete
5
6 Scenario: Discover EC2 hosted applications
7   Given AWS integration is configured
8   When cloud discovery scan runs
9   And EC2 instances are found with tags "Application=CustomerPortal"
10  Then applications should be created from EC2 metadata
11  And instance details should be linked to applications
12  And infrastructure costs should be associated
13  And application technology type should be inferred from AMI
14
```

Story 4.2.3: Lambda Function Discovery (6 points)

```
1 Feature: Serverless Function Discovery
2   As a Cloud Administrator
3   I want to discover Lambda functions as applications
4   So that serverless portfolio is tracked
5
6 Scenario: Discover Lambda functions
7   Given AWS integration is configured
8   When Lambda function discovery runs
9   And functions are found with naming pattern "customer-*"
10  Then serverless applications should be created
```



```
11 And function metadata should populate application details
12 And execution metrics should be imported
13 And cost allocation should be configured
14
```

Story 4.2.4: Container Service Discovery (8 points)

```
1 Feature: Container Application Discovery
2   As a Cloud Administrator
3   I want to discover containerized applications
4   So that modern cloud-native apps are tracked
5
6 Scenario: Discover ECS/EKS applications
7   Given AWS integration is configured
8   When container discovery scan runs
9   And ECS services are found with service definitions
10  Then containerized applications should be created
11  And container image information should be extracted
12  And scaling configuration should be imported
13  And service dependencies should be mapped
14
```

Story 4.2.5: Multi-Cloud Cost Aggregation (9 points)

```
1 Feature: Cross-Cloud Cost Analysis
2   As a Financial Analyst
3   I want aggregated costs across cloud providers
4   So that total cloud spending per application is visible
5
6 Scenario: Aggregate costs from AWS, Azure, GCP
7   Given integrations configured for all three cloud providers
8   When cost analysis runs for application "Global Web Platform"
9   And application spans resources across all three clouds
10  Then total monthly cost should be calculated as sum of all clouds
11  And cost breakdown should show per-cloud spending
12  And cost trends should be tracked over time
13  And cost optimization recommendations should be generated
14
```

Feature 4.3: Enterprise Tool Ecosystem Integration

Story 4.3.1: Jira Project Integration Setup (6 points)

```
1 Feature: Jira Project Management Integration
2   As a Project Manager
3   I want to link applications to Jira projects
4   So that development progress is tracked
5
6 Scenario: Configure Jira integration
7   Given I am in project integration settings
8   When I enter Jira instance URL and API token
9   And I test Jira connection
10  Then connection should be validated
11  And available projects should be retrieved
12  And project mapping interface should be available
13
```

Story 4.3.2: Application-Project Linking (5 points)

```
1 Feature: Link Applications to Development Projects
2   As a Project Manager
3   I want to link applications to their development projects
4   So that implementation progress is visible
5
6 Scenario: Link application to Jira project
7   Given application "Customer Portal v3.0" exists
8   And Jira project "PORTAL-MIGRATION" exists
9   When I link application to project
10  Then association should be created
11  And project status should be visible in application details
12  And project timeline should be imported
```

Story 4.3.3: Automatic Status Updates (7 points)

```

1 Feature: Automated Status Synchronization
2   As a Project Manager
3   I want application status to update with project progress
4   So that portfolio status remains current
5
6 Scenario: Update application status from Jira
7   Given application "Mobile App v2.0" is linked to Jira project
8   When Jira project status changes to "In Progress"
9   Then application implementation status should update to "In
10  Development"
11   And stakeholders should receive status change notification
12   And timeline should be updated with latest project dates

```

Story 4.3.4: Confluence Documentation Integration (6 points)

```

1 Feature: Documentation Linking
2   As a Technical Writer
3   I want to link applications to their documentation
4   So that information is easily accessible
5
6 Scenario: Link application to Confluence pages
7   Given application "API Gateway" exists
8   And related documentation exists in Confluence
9   When I add documentation links to application
10  Then links should be stored and displayed
11  And documentation should be accessible from application view
12  And outdated documentation should be flagged when application
13  changes

```

Story 4.3.5: Microsoft Project Timeline Sync (8 points)

```

1 Feature: Enterprise Project Timeline Integration
2   As a Portfolio Manager
3   I want to sync with Microsoft Project timelines
4   So that enterprise project coordination is maintained
5
6 Scenario: Import project timelines
7   Given Microsoft Project integration is configured
8   When project "Enterprise Modernization" contains application
9   milestones
10  Then application implementation dates should sync with project
11  timeline
12  And resource allocations should be imported
13  And project dependencies should be mapped to application
14  dependencies
15  And timeline conflicts should be automatically detected

```

Feature 4.4: API Management Platform Integration**Story 4.4.1: API Gateway Discovery Setup (7 points)**

```

1 Feature: API Gateway Integration
2   As an API Product Manager
3   I want to discover APIs automatically
4   So that API portfolio is maintained
5
6 Scenario: Configure Kong API Gateway integration
7   Given Kong Admin API is accessible
8   When I configure Kong integration with API endpoint and credentials
9   And I test connection to Kong Admin API
10  Then connection should be validated
11  And API discovery should be enabled
12  And Kong services and routes should be retrievable
13

```

Story 4.4.2: API-Application Relationship Mapping (8 points)

```
1 Feature: API to Application Mapping
2   As an API Product Manager
3   I want APIs linked to their parent applications
4   So that API ownership is clear
5
6 Scenario: Map APIs to applications
7   Given API "customer-data-api" is discovered from API gateway
8   And application "Customer Management System" exists
9   When I establish API-to-application relationship
10  Then API should be linked as component of application
11  And API documentation should be accessible from application view
12  And API metrics should contribute to application health score
13
```

Story 4.4.3: API Dependency Analysis (9 points)

```
1 Feature: API Dependency Mapping
2   As an Integration Architect
3   I want to map API dependencies automatically
4   So that integration architecture is visible
5
6 Scenario: Discover API consumer relationships
7   Given API gateway tracks API usage statistics
8   When dependency analysis runs
9   And "order-api" is consumed by "mobile-app" and "web-portal"
10  Then dependency relationships should be created automatically
11  And dependency graph should be visualized
12  And impact analysis should be available for API changes
13
```

Story 4.4.4: API Lifecycle Integration (6 points)

```
1 Feature: API Lifecycle Management
2   As an API Product Manager
3   I want API lifecycle events to update application status
4   So that application portfolio reflects API changes
5
6 Scenario: Handle API deprecation
7   Given API "legacy-payment-api" is marked for deprecation
8   When deprecation date is set in API management platform
9   Then consuming applications should be notified
10  And migration tasks should be created automatically
11  And application risk scores should be updated
12
```

Feature 4.5: Security Tool Integration

Story 4.5.1: Vulnerability Scanner Integration (8 points)

```
1 Feature: Security Vulnerability Integration
2   As a Security Architect
3   I want vulnerability scan results linked to applications
4   So that security posture is continuously monitored
5
6 Scenario: Import vulnerability scan results
7   Given Qualys vulnerability scanner is configured
8   When vulnerability scan completes for "Customer Portal"
9   And scan identifies 5 high-severity vulnerabilities
10  Then vulnerabilities should be linked to application
11  And application security score should be updated
12  And security review should be triggered automatically
13  And remediation timeline should be calculated
14
```

Story 4.5.2: Security Compliance Monitoring (7 points)

```
1 Feature: Compliance Status Integration
2   As a Compliance Officer
3   I want compliance scan results integrated
```

```
4   So that regulatory status is current
5
6   Scenario: Update compliance status from security tools
7     Given application "Finance System" is subject to PCI DSS
8       When PCI compliance scan completes
9         And scan shows "non-compliant" status
10        Then application compliance status should be updated
11        And compliance risk score should increase
12        And remediation workflow should be triggered
13
```

Story 4.5.3: Threat Intelligence Integration (6 points)

```
1   Feature: Threat Intelligence Correlation
2     As a Security Analyst
3     I want threat intelligence correlated with applications
4       So that emerging threats are quickly addressed
5
6   Scenario: Correlate threat intelligence with technology stack
7     Given threat intelligence feed reports new Java vulnerability
8       When applications using Java are identified
9         Then affected applications should be flagged
10        And risk assessments should be updated
11        And security patches should be prioritized
12
```

Story 4.5.4: Security Incident Correlation (5 points)

```
1   Feature: Security Incident Application Mapping
2     As a Security Operations Manager
3     I want security incidents linked to applications
4       So that incident impact is understood
5
6   Scenario: Link security incident to application
7     Given security incident "INC-2024-001" affects "Customer Database"
8       When incident is created in security tooling
9         Then incident should be linked to application automatically
10        And application availability status should be updated
11        And business impact should be calculated
12
```

Epic 5: Advanced Analytics and Reporting

Total Stories: 18 | Total Points: 120

Feature 5.1: Portfolio Dashboard

Story 5.1.1: Executive Portfolio Overview (7 points)

```
1   Feature: Executive Dashboard
2     As a CTO
3     I want high-level portfolio metrics
4       So that technology strategy decisions are data-driven
5
6   Scenario: Display portfolio health overview
7     Given 500 applications exist in portfolio
8       When I access executive dashboard
9         Then I should see total application count
10        And technology health distribution (Good/Fair/Poor)
11        And modernization priority breakdown
12        And total portfolio value and costs
13        And key risk indicators
14
```

Story 5.1.2: Technology Stack Analysis (8 points)

```
1   Feature: Technology Stack Analytics
2     As a Technology Strategy Manager
3     I want technology stack distribution analysis
```

```
4 So that standardization opportunities are identified
5
6 Scenario: Analyze technology diversity
7 Given applications use various technology stacks
8 When I view technology analysis dashboard
9 Then I should see technology distribution charts
10 And obsolete technology identification
11 And vendor consolidation opportunities
12 And license optimization recommendations
13
```

Story 5.1.3: Cost Analytics Dashboard (6 points)

```
1 Feature: Portfolio Cost Analysis
2 As a Financial Manager
3 I want portfolio cost analytics
4 So that technology spending is optimized
5
6 Scenario: Display cost breakdown analysis
7 Given applications have associated costs
8 When I access cost analytics dashboard
9 Then I should see total portfolio TCO
10 And cost distribution by business unit
11 And cost trends over time
12 And cost optimization opportunities
13
```

Feature 5.2: Rationalization Reports

Story 5.2.1: Rationalization Priority Report (9 points)

```
1 Feature: Application Rationalization Priority Report
2 As a Portfolio Manager
3 I want rationalization priority reports
4 So that portfolio optimization is systematic
5
6 Scenario: Generate rationalization recommendations
7 Given all applications have rationalization scores
8 When I generate rationalization report
9 Then applications should be ranked by rationalization urgency
10 And recommendations should include "Retain/Replace/Retire"
11 And business case should be provided for each recommendation
12 And implementation timeline should be suggested
13
```

Story 5.2.2: Duplicate Analysis Report (6 points)

```
1 Feature: Application Duplication Report
2 As a Portfolio Manager
3 I want duplicate application analysis
4 So that consolidation opportunities are identified
5
6 Scenario: Identify functional overlaps
7 Given functional overlap analysis has been performed
8 When I generate duplication report
9 Then applications with functional overlap should be grouped
10 And consolidation recommendations should be provided
11 And potential cost savings should be calculated
12
```

Story 5.2.3: Technology Debt Report (7 points)

```
1 Feature: Technical Debt Analysis Report
2 As a Technology Strategy Manager
3 I want technical debt reporting
4 So that modernization investments are prioritized
5
6 Scenario: Generate technical debt summary
7 Given technical debt scores exist for all applications
8 When I generate debt report
9 Then applications should be ranked by technical debt severity
```

```
10 And debt categories should be analyzed (security, performance,
    obsolescence)
11 And modernization ROI should be calculated
12 And recommended modernization sequence should be provided
13
```

Feature 5.3: Compliance and Risk Reports

Story 5.3.1: Compliance Status Report (5 points)

```
1 Feature: Regulatory Compliance Reporting
2   As a Compliance Officer
3   I want compliance status reports
4   So that regulatory obligations are tracked
5
6 Scenario: Generate compliance dashboard
7   Given applications have compliance requirements mapped
8   When I generate compliance report
9   Then compliance status should be summarized by regulation
10  And non-compliant applications should be highlighted
11  And compliance gaps should be prioritized
12  And remediation timelines should be recommended
13
```

Story 5.3.2: Security Risk Assessment Report (8 points)

```
1 Feature: Portfolio Security Risk Report
2   As a Security Architect
3   I want security risk analysis across portfolio
4   So that security investments are prioritized
5
6 Scenario: Analyze portfolio security posture
7   Given security risk scores exist for applications
8   When I generate security risk report
9   Then applications should be ranked by security risk
10  And common security vulnerabilities should be identified
11  And security improvement recommendations should be provided
12  And risk mitigation timelines should be suggested
13
```

Story 5.3.3: Business Continuity Risk Report (6 points)

```
1 Feature: Business Continuity Risk Analysis
2   As a Risk Manager
3   I want business continuity risk assessment
4   So that operational risks are managed
5
6 Scenario: Assess business continuity risks
7   Given applications support business capabilities
8   When I generate continuity risk report
9   Then critical single points of failure should be identified
10  And business impact of application failures should be calculated
11  And disaster recovery gaps should be highlighted
12  And resilience improvement recommendations should be provided
13
```

Feature 5.4: Trend Analysis and Forecasting

Story 5.4.1: Portfolio Evolution Trends (7 points)

```
1 Feature: Portfolio Growth and Evolution Analysis
2   As a Technology Strategy Manager
3   I want portfolio evolution trend analysis
4   So that technology direction is data-driven
5
6 Scenario: Analyze portfolio trends over time
7   Given historical portfolio data exists
8   When I generate trend analysis
9   Then portfolio growth trends should be visualized
10  And technology adoption patterns should be identified
11  And modernization progress should be tracked
```

```
12 And future portfolio composition should be forecasted
13
```

Story 5.4.2: Cost Trend Forecasting (8 points)

```
1 Feature: Portfolio Cost Forecasting
2   As a Financial Planner
3   I want cost trend forecasting
4   So that technology budgets are accurate
5
6 Scenario: Forecast portfolio costs
7   Given historical cost data and growth trends
8   When I generate cost forecast
9   Then future portfolio costs should be projected
10  And cost drivers should be identified
11  And cost optimization opportunities should be highlighted
12  And budget recommendations should be provided
13
```

Story 5.4.3: Technology Lifecycle Predictions (6 points)

```
1 Feature: Technology Lifecycle Forecasting
2   As a Technology Strategy Manager
3   I want technology lifecycle predictions
4   So that modernization planning is proactive
5
6 Scenario: Predict technology obsolescence
7   Given technology age and industry lifecycle data
8   When I generate lifecycle predictions
9   Then technologies approaching end-of-life should be identified
10  And modernization timeline should be recommended
11  And replacement technology options should be suggested
12  And migration planning should be initiated
13
```

Sprint Planning Framework for 100-Point Delivery

Recommended Sprint Composition:

- **User Stories: 75-80 points** (15-20 stories of 3-10 points)
- **Bug Fixes: 15-20 points** (5-10 bugs of 2-4 points)
- **Technical Debt: 5-10 points** (refactoring, documentation)

Story Point Guidelines:

- **3 points:** Simple UI changes, basic CRUD operations, configuration updates
- **4-5 points:** Form validation, simple business logic, basic integrations
- **6-7 points:** Complex forms, moderate business logic, API integrations
- **8-9 points:** Complex algorithms, advanced integrations, reporting features
- **10 points:** Advanced AI features, complex analytics, multi-system workflows

Velocity Management Strategy:

1. **Start conservatively** with 3-5 point stories to establish baseline velocity
2. **Mix complexity** within each sprint to balance risk and predictability
3. **Reserve 10-15% capacity** for unexpected complexity or production issues
4. **Cross-train team members** on different story types to prevent bottlenecks
5. **Prepare overflow stories** at 3-4 points for quick completion if ahead of schedule

This granular breakdown ensures consistent delivery while maintaining flexibility for the agile POD to adapt to changing priorities and handle production support alongside feature development.