Functional Requirement Document (FRD)

Vendor Payment & Procurement System (VPPS)

Date: February 2025

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Note:This document is an anonymized representation of the real project; to comply with non-disclosure policies, all real names, identifiers, and sensitive data have been changed.

Functional Requirement Document (FRD)

Project Type	Vendor Payment & Procurement System VPPS (Anonymized Version)
Version	1.0
Date	February 2025
Author	Sonal M. Khobragade
Status:	Approved

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1. INTRODUCTION.

1.1 Purpose

This Functional Requirements Document FRD) defines the detailed functional specifications for the Vendor Payment & Procurement System VPPS. The document serves as the primary reference for development teams, quality assurance professionals, and business stakeholders to understand the complete scope of system functionality, data requirements, and technical specifications.

The VPPS is designed to automate and optimize the entire procurement-to-payment lifecycle, including vendor onboarding, purchase order management, goods receipt processing, invoice validation, three-way matching, payment scheduling, and financial reporting. This document provides comprehensive functional requirements to support the development of a robust, scalable, and compliant back-end system.

Target Audience:

- Development and Technical Teams
- Quality Assurance and Testing Teams
- Business Stakeholders and Process Owners
- System Administrators and Operations
- Staff External Integration Partner

1.2 Scope

In-Scope Functional Areas:

Vendor Management:

- Vendor master data management and maintenance
- Automated vendor onboarding with approval workflows
- Vendor performance tracking and scoring
- Self-service vendor portal capabilities
- Vendor document management and compliance tracking

Purchase Order Processing:

- Digital PO creation, routing, and approval workflows
- PO modification and change management Real-time
- PO status tracking and notifications Integration with ERP systems for financial posting
- PO closure and completion processing

Goods Receipt Management:

- Digital GRN creation and validation
- Photo documentation and quality verification
- Partial receipt processing and tracking Integration with inventory management systems
- Exception handling for receipt discrepancies

Invoice Processing:

- Automated invoice data extraction and validation
- Three-way matching PO/GRN/Invoice) engine Exception management and approval queues
- Invoice approval workflows and routing
- Tax calculation and compliance validation

Payment Processing:

- Automated payment scheduling and optimization
- Early payment discount identification and capture
- Payment run generation and bank file creation

- Multi-currency support and exchange rate management
- Payment confirmation and reconciliation

Reporting and Analytics:

- Real-time operational dashboards
- Financial reporting and audit trails
- Vendor performance analytics
- Cash flow forecasting and optimization
- Compliance and regulatory reporting

Out-Scope Functional Areas:

- Direct bank account integrations (file-based only)
- International payment processing beyond domestic scope
- Advanced AI/ML vendor scoring
- Phase 2 Mobile application development
- Phase 2 Legacy system historical data migration beyond 6 months

1.3 Background

The organization operates in the competitive digital services market, specializing in embroidery digitizing, vector graphics, and custom embroidered patches for high-volume US partners and retail customers. Current procurement and payment processes rely heavily on manual coordination, spreadsheet tracking, and email-based approvals, creating significant operational inefficiencies and financial risks.

Current State Challenges:

- Average payment cycle of 30 days from invoice receipt to payment
- Manual three-way matching requiring 46 hours daily of administrative effort
- 12% error rate in reconciliation processes requiring manual investigation
- $75,000+ in missed early payment discount opportunities annually
- Limited visibility into vendor payment obligations and cash flow requirements

Strategic Business Drivers:

- Operational efficiency improvement through process automation
- Financial accuracy enhancement through systematic validation
- Cash flow optimization through discount capture and payment timing
- Regulatory compliance through enhanced audit trails and controls
- Scalability support for 40% projected business growth

1.4 References

Business Documentation:

- Business Requirements Document BRD - VPPS v1.0
- Project Charter - VPPS Initiative
- Current State Process Analysis and Gap Assessment
- Stakeholder Requirements Analysis and Prioritization Matrix

Technical Documentation:

- System Architecture Document - VPPS Technical Framework
- Integration Requirements Specification - ERP and Banking
- Systems Data Security and Compliance Standards -
- Financial Systems Performance and Scalability Requirements Specification

Industry Standards and Regulations:

- SOX Compliance Requirements for Financial Controls
- PCI DSS Standards for Payment Processing Security

1.5 Assumptions and Constraints

Technical Assumptions:

- Cloud infrastructure AWS/Azure) available for system deployment
- Existing ERP system APIs capable of real-time data synchronization
- Banking partners support standard file formats for payment processing
- Current network infrastructure adequate for increased data volume
- Development team expertise available for chosen technology stack

Business Assumptions:

- All stakeholders available for requirements validation and user acceptance testing
- Vendor partners willing to adopt new portal and communication processes

- Finance and procurement teams committed to process standardization
- Management support for change management and training initiatives Budget of $200,000 approved and available for full project lifecycle.

Regulatory and Compliance Assumptions:

- Current compliance frameworks SOX, PCI DSS) remain stable during development Internal audit requirements satisfied by proposed audit trail capabilities

- Financial reporting standards compatible with system data structure

- Tax compliance requirements addressed through standard calculations

1.6 Document Overview

This FRD is organized into the following major sections:

Section 2 Methodology: Describes the approach used for requirements gathering, analysis, and validation including stakeholder engagement techniques and documentation standards.

Section 3 Functional Requirements: Contains the core functional specifications organized by business context, user requirements, data flows, logical data model, and detailed functional requirements for each system module.

Section 4 Other Requirements: Covers non-functional aspects including interface specifications, data conversion needs, hardware/software requirements, and operational considerations.

Appendix A Glossary: Provides definitions for technical terms, acronyms, and business terminology used throughout the document.

The document follows a hierarchical requirement numbering system FRXXXYYY) where XXX represents the functional area and YYY represents the specific requirement number within that area

2. METHODOLOGY.

2.1 Requirements Gathering Approach

The functional requirements for VPPS were gathered using a comprehensive, stakeholder centric methodology that combined multiple elicitation techniques to ensure complete coverage of business needs and technical specifications.

Stakeholder Engagement Framework.

- **Executive Workshops**: Strategic alignment sessions with C-level sponsors
- **Business Process Workshops**: Detailed current-state analysis with process owners
- **User Story Sessions**: Collaborative requirement definition with end users
- **Technical Architecture Reviews**: Integration and technical constraint validation
- **Vendor Consultation:** Input from key suppliers on portal requirements

2.2 Requirements Elicitation Techniques:

- **Facilitated Workshops:** 12 cross-functional sessions with 58 participants each
- **One-on-One Interviews:** 25 individual sessions with key stakeholders
- **Process Observation**: Direct observation of current procurement and payment processes
- **Document Analysis:** Review of existing procedures, forms, and system documentation
- **Prototyping Sessions:** Interactive mockup review and feedback collection

2.3 Analysis and Validation Methods

Requirements Analysis Framework:

- **Business Process Modeling:** BPMN 2.0 compliant process maps for current and future states
- **Use Case Development:** Detailed scenarios covering normal and exception flows
- **Data Flow Analysis:** End-to-end data movement and transformation mapping
- **Gap Analysis:** Systematic comparison of current capabilities vs. future requirements

Validation and Verification Techniques:

- **Requirements Traceability:** Linkage from business objectives through functional specifications
- **Stakeholder Review Cycles:** Three formal review and approval cycles
- **Prototype Validation**: Interactive mockup demonstrations with user feedback
- **Cross-Reference Analysis**: Consistency checking across all requirement categories

2.4 Documentation Standards:

Requirements Documentation Principles:

- **Completeness:** Each requirement includes acceptance criteria, priority, and rationale
- **Consistency:** Uniform terminology and format throughout all specifications
- **Verifiability:** All requirements are testable with measurable outcomes
- **Traceability:** Clear linkage between business needs and functional specifications
- **Clarity:** Plain language descriptions accessible to both business and technical audiences

Quality Assurance Process:

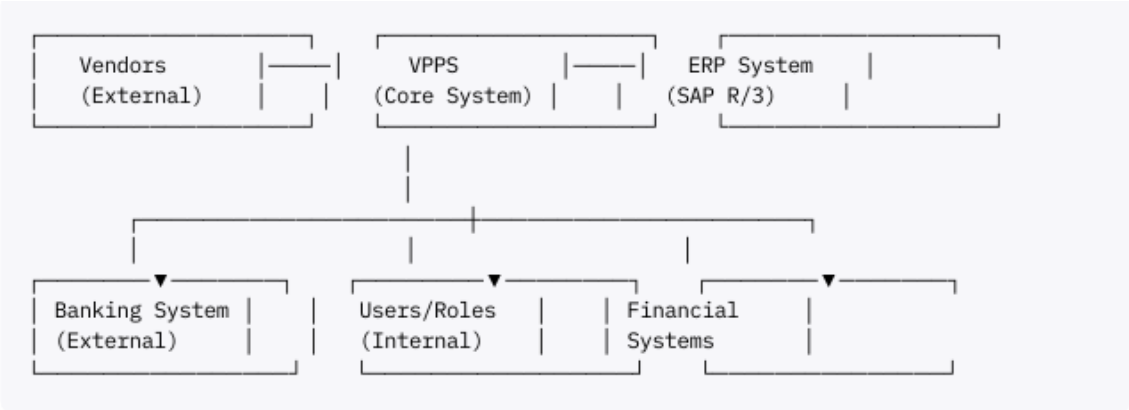
- **Peer Reviews:** Technical review by senior business analysts Stakeholder
- **Validation:** Business user confirmation of requirement accuracy
- **Standards Compliance:** Adherence to IEEE 8301998 and organizational templates

3.FUNCTIONAL REQUIREMENTS

3.1 Context

The VPPS system operates within ClientA's broader enterprise architecture, integrating with multiple existing systems and supporting various business processes across procurement, finance, and vendor management functions.

System Context Diagram:



Business Process Context: The VPPS system supports the complete procurement-to-payment cycle, encompassing:

1. **Vendor Management:** Registration, qualification, performance tracking

2.**Procurement Planning**: Budget validation, vendor selection, requisition processing

3. **Order Management:** Purchase order creation, distribution, and tracking

4.**Receipt Processing:** Goods/services receipt validation and recording

5.**Invoice Management:** Invoice processing, matching, and approval

6.Payment Processing: Payment execution, reconciliation, and reporting.

Organizational Context:

Primary Users: Procurement team 25 users), Finance team 15 users)

Secondary Users: Department managers 50 users), Executives 10 users)

External Users: Registered vendors 200+ organizations)

Integration Points: 3 internal systems, 2 external service providers

3.2 User Requirements

3.2.1 User Roles and Personas

UR001 Procurement User

Description: Day-to-day procurement activities and vendor management

Typical User:

Procurement Specialist, Buyer, Category Manager

Key Responsibilities:

- Create and manage purchase requisitions
- Evaluate vendor proposals and performance
- Manage vendor relationships and communications
- Monitor procurement KPIs and exceptions

System Access Level: Full procurement module access, read-only financial data

- **Volume:** 25 concurrent users during peak hours

UR002 Finance User

Description: Invoice processing, payment management, and financial controls

Typical User: Accounts Payable Clerk, Finance Analyst

Key Responsibilities:

- Process vendor invoices and resolve discrepancies
- Execute payment runs and manage cash flow
- Perform financial reconciliation and reporting
- Maintain chart of accounts and cost center mappings

System Access Level: Full payment module access, read-only procurement data

Volume: 15 concurrent users during peak hours

UR003 Approver/Manager

Description: Approval authority for requisitions, purchase orders, and payments

Typical User: Department Manager, Finance Manager, Director

Key Responsibilities:

- Review and approve procurement requests
- Authorize payments within delegation limits
- Monitor budget utilization and compliance
- Access management reports and dashboards

System Access Level: Approval workflows, management reporting, budget data

Volume: 50 users with intermittent access patterns

3.2.2 User Requirement Specifications

URREQ001 Intuitive Navigation

Requirement: System shall provide role-based navigation with clear menu hierarchies

Acceptance Criteria:

- Users can access primary functions within 3 clicks from home page
- Navigation breadcrumbs show current location and path Quick search available from any page
- Frequently used functions accessible via dashboard shortcuts

Priority: Must Have

Rationale: Minimize training time and maximize user productivity

URREQ002 Responsive Design

Requirement: System shall support access from desktop, tablet, and mobile devices

Acceptance Criteria:

- All functions available on desktop browsers Chrome, Firefox, Edge, Safari)
- Core approval workflows accessible on tablet and mobile devices
- Touch-friendly interface elements with appropriate sizing
- Consistent user experience across all device types

Priority: Must Have

Rationale: Support mobile workforce and improve approval cycle times

URREQ003 Real-time Data Access

Requirement: System shall support access from desktop, tablet, and mobile devices

Acceptance Criteria:

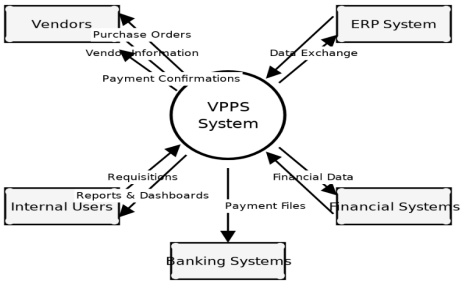
- Dashboard data refreshed every 5 minutes or less
- Transaction status updates visible immediately after processing
- User notifications delivered within 30 seconds of triggering events
- Concurrent user actions synchronized across sessions

Priority: Must Have

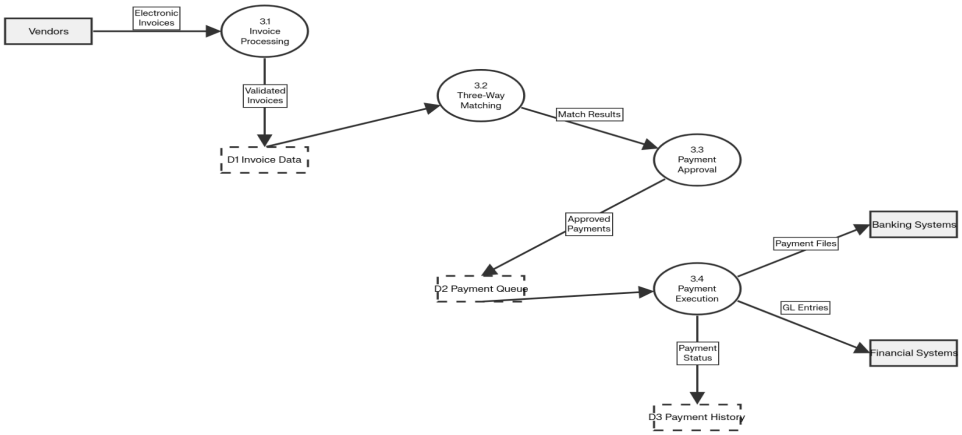
Rationale: Enable timely decision making and process efficiency

3.3 Data Flow Diagrams

VPPS System Data Flow Diagram



Payment Processing DFD



3.3.2 Detailed Process Data Flows

Procurement Process Data Flow:

1. User creates requisition with line item details
2. System validates budget availability against financial data
3. Approval workflow routes requisition based on amount and category
4. Approved requisitions automatically generate purchase orders
5. PO data transmitted to vendors and integrated with ERP system
6. Goods receipt data captured and matched against PO details

Procurement Process Data Flow:

1. Vendor submits invoice through portal or electronic transmission

2. System performs automatic three-way matching PO, Receipt, Invoice)

3. Matched invoices route through approval workflow

4. Approved payments batch for execution based on payment terms

5. Payment files generated and transmitted to banking systems Payment confirmations update transaction status and vendor records

3.4 Logical Data Model/Data Dictionary

3.4.1 Conceptual Data Model

The VPPS logical data model consists of six primary entity clusters representing the core business objects and their relationships:

Entity Cluster:

1. **Vendor Management:** Vendor profiles, categories, contacts, performance metrics

2. Procurement: Requisitions, purchase orders, line items, receipts

3.Financial: Invoices, payments, accounting codes, budgets

4.Workflow: Approvals, routing, status tracking, audit trails

5.System: Users, roles, configurations, integration logs

6.Reference: Categories, currencies, units of measure, lookup values

3.4.2 Core Entity Definitions

VENDOR Entity:

1. **Purpose:** Master record for supplier organizations and individuals

2. **Key Attributes:** vendor_id PK, vendor_name, tax_identification, status, contact_information

3. **Relationships:** One-to-Many with PURCHASE_ORDER, INVOICE, PAYMENT

Business Rules:

1. Tax ID must be unique within the system

2. Vendor status determines transaction eligibility

3. Contact information required for active vendors

PURCHASE_ORDER Entity:

1. **Purpose:** Formal commitment to purchase goods or services from vendor

2.Key Attributes: po_id PK, po_number, vendor_id FK, total_amount, status, dates

Relationships: One-to-Many with PO_LINE_ITEM, Many-to-One with VENDOR

Business Rules:

1. PO number must be unique and follow configured format
2. Total amount calculated from line item summation
3. Status progression follows defined workflow states

3.4.3 Data Dictionary - Key Entities

PURCHASE_REQUISITION

Field Name	Data Type	Length	Null	Description	Business Rules
requisition_id	VARCHAR	20	NA	Primary key identifier	System generated, format REQ YYYYMMDD####
requestor_id	VARCHAR	50	NA	User ID of requestor	Must be valid active user
total_amount	DECIMAL	15.2	NA	Total requisition value	Must be positive, validated against

					budget
status	VARCHAR	20	NA	Current workflow status	Values: Draft, Submitted, Approved, Rejected

VENDOR

Field Name	Data Type	Length	Null	Description	Business Rules
vendor_id	VARCHAR	20	NA	Primary key identifier	System generated, format VEN ######
vendor_name	VARCHAR	255	NA	Legal business name	Must be unique, required for registration
tax_id	VARCHAR	50	NA	Tax identification number	Unique, validated format by country
vendor_status	VARCHAR	20	NA	Current vendor status	Values: Active, Inactive, Pending, Suspended

INVOICE

Field Name	Data Type	Length	Null	Description	Business Rules
invoice_id	VARCHAR	100	NA	Primary key identifier	System generated, format INV YYYYMMDD ###
po_id	VARCHAR	150	NA	Reference to vendor	Must be active vendor
total_amount	VARCHAR	20	NA	Reference to purchase order	Required for PO-based invoices
due_date	VARCHAR	50	NA	Invoice total amount	Calculated from invoice date + term

3.5 Logical Data Model/Data Dictionary

3.5.1 User Roles and Personas.

FRVM001 Vendor Registration and Onboarding

FRVM001.1 Vendor Self-Registration

Description: External vendors can register through a web portal.

Functional Specification:

- Vendor accesses public registration URL
- System presents multi-step registration form
- Mandatory fields: Company name, tax ID, primary contact, address
- Optional fields: Website, secondary contacts, certifications
- Document upload functionality for compliance certificates
- Email verification process before account activation

Input: Vendor registration data and supporting documents

Processing:

- Data validation against business rules
- Duplicate vendor detection based on tax ID and company name
- Document format validation PDF, JPG, PNG Email verification link generation

Output: Registration confirmation, admin notification for approval

Acceptance Criteria:

- Registration form completes within 5 minutes for typical vendor
- Duplicate detection prevents multiple registrations
- Email verification required before admin review
- Admin receives notification within 15 minutes of submission

Priority: Must Have

Dependencies: Email service configuration, document storage setup

FRVM001.2 Vendor Profile Management

Description: Registered vendors can maintain their profile information

Functional Specification:

- Secure login to vendor portal Profile update forms with validation
- Banking information management with encryption
- Contact information maintenance
- Document library for certifications and compliance
- Change history tracking with audit trail

Input: Updated vendor profile data

Processing:

- Field-level validation and business rule enforcement

- Banking information encryption before storage
- Approval workflow for material changes (banking, legal name

Output: Updated profile, change notifications to relevant users

Acceptance Criteria:

- Profile updates save within 3 seconds
- Banking information encrypted at rest and in transit
- Material changes trigger approval workflow
- Change history maintained for audit purposes

Priority: Must Have

Dependencies: Encryption services, approval workflow engine

3.5.2 Procurement Processing Module

FRPR001 Purchase Requisition Management

FRPR001.1 Requisition Creation and Validation

Description: Users can create purchase requisitions with automatic validation

Functional Specification:

- Multi-line requisition entry with item details
- Budget validation against approved departmental budgets
- Vendor suggestion based on category and historical data
- Attachment support for specifications and quotes
- Save as draft functionality for incomplete requisitions
- Automatic calculation of totals including tax

Input: Requisition details, line items, supporting documents

Processing:

- Real-time budget availability checking

- Vendor recommendation engine based on performance and pricing
- Tax calculation based on item categories and delivery location
- Business rule validation (minimum/maximum amounts, approved vendors)

Output: Validated requisition ready for approval, budget impact notification.

Acceptance Criteria:

- Budget validation completes within 5 seconds
- Vendor suggestions based on last 12 months performance
- Tax calculations accurate based on configured rates
- Draft requisitions auto-saved every 2 minutes

Priority: Must Have

Dependencies: Budget integration, vendor performance data, tax calculation service

FRPR001.2 Approval Workflow Processing

Description: Requisitions route through configurable approval workflows

Functional Specification:

- Automatic routing based on amount thresholds and categories
- Parallel approval support for complex workflows
- Delegation and escalation capabilities
- Mobile-friendly approval interface
- Batch approval for multiple requisitions
- Approval history and audit trail maintenance

Input: Submitted requisition data

Processing:

- Workflow engine determines routing based on rules
- Notification generation for approvers
- Escalation timer management
- Status tracking through workflow stages

Output: Approved/rejected requisitions, notifications, audit records

Acceptance Criteria:

- Routing decisions made within 10 seconds of submission
- Approvers notified within 5 minutes via email and system alert
- Escalation triggers after configured timeout period
- Batch approval processes up to 20 requisitions simultaneously

Priority: Must Have

Dependencies: Workflow engine, notification service, user management

3.5.3 Payment Processing Module

FRPP001 Invoice Processing and Matching

FRPP001.1 Electronic Invoice Receipt

Description: System receives and processes invoices from multiple channels

Functional Specification:

- Email-based invoice processing with OCR capability
- Web portal invoice submission by vendors EDI invoice receipt and parsing
- Manual invoice entry interface for paper documents
- Invoice data extraction and validation
- Duplicate invoice detection and prevention

Input: Electronic invoices (email, portal, EDI , manual entry data)

Processing:

- OCR processing for scanned documents
- Data extraction using configurable templates

- Validation against vendor master data Duplicate detection using invoice number and amount

Output: Processed invoice records, exception reports

Acceptance Criteria:

- OCR accuracy rate above 95% for standard invoice formats
- Invoice processing completes within 2 minutes for electronic submissions
- Duplicate detection prevents 100% of true duplicates
- Exception rate below 10% for electronic invoices

Priority: Must Have

Dependencies: OCR service, vendor portal, EDI integration

FRPP001.2 Three-Way Matching Engine

Description: Automated matching of purchase orders, receipts, and invoices

Functional Specification:

- Automated matching based on PO number, vendor, and amounts
- Tolerance-based matching with configurable variance limits
- Exception handling for mismatched items Manual override capability for authorized users
- Matching status tracking and reporting
- Integration with approval workflow for exceptions

Input: Invoice data, purchase order data, goods receipt data

Processing:

- Multi-criteria matching algorithm
- Variance calculation and tolerance checking
- Exception categorization and routing

- Matching confidence scoring

Output: Matching results, exception reports, approval workflow triggers

Acceptance Criteria:

- Perfect matches processed automatically within 1 minute
- Variance tolerance configurable by category and amount
- Exception reports generated immediately for mismatches
- Manual override capability with supervisor approval

Priority: Must Have

Dependencies: Purchase order data, goods receipt integration, approval workflow

FRPP002 Payment Processing and Execution

FRPP002.1 Payment Approval Workflow

Description: Matched invoices route through payment approval processes

Functional Specification:

- Automatic approval for perfect matches under threshold
- Manual approval workflow for high-value or exception payments
- Batch payment processing capabilities
- Payment scheduling based on vendor terms
- Cash flow management integration
- Early payment discount calculation

Processing:

- Approval routing based on payment amount and type
- Payment scheduling optimization

- Discount calculation and recommendation
- Cash flow impact analysis

Output: Approved payments, payment schedules, cash flow reports

Acceptance Criteria:

- Automatic approval for payments under $1,000 with perfect match
- Manual approval queue updates in real-time
- Batch processing handles up to 500 payments simultaneously
- Payment scheduling considers vendor terms and cash flow

Priority: Must Have

Dependencies: Matching engine, approval workflow, cash management system.

3.5.4 Reporting and Analytics Module

FRRA001 Real-Time Dashboard

FRRA001.1 Executive Dashboard

Description: High-level KPI dashboard for executive management

Functional Specification:

- Real-time procurement spend metrics
- Payment processing performance indicators
- Vendor performance summary
- Budget utilization by department
- Exception and alert summaries
- Drill-down capability to detailed reports

Input: Aggregated transaction data from all modules

Processing:

- Real-time data aggregation and calculation
- KPI calculation based on configured formulas

- Alert generation for threshold breaches
- Data visualization preparation

Output: Interactive dashboard with charts, graphs, and KPI displays

Acceptance Criteria:

- Dashboard loads within 5 seconds for authorized users
- Data refreshes every 15 minutes during business hours
- All KPIs accurate to current business data
- Drill-down functionality works for all summary metrics

Priority: Must Have

Dependencies: Data warehouse, visualization tools, user role configuration

4. OTHER REQUIREMENTS

4.1 Interface Requirements

4.1.1 External System Interfaces

INTREQ001 ERP System Integration

Interface Type: Real-time bidirectional API integration

Protocol: RESTful web services over HTTPS

Data Format: JSON with XML fallback capability

Authentication: OAuth 2.0 with client credentials flow

Data Elements:

- Vendor master data synchronization
- Chart of accounts and cost center information
- Purchase order creation and status updates
- General ledger posting for all financial transactions

Performance Requirements:

- Response time under 5 seconds for standard operations
- Batch processing capability for up to 1,000 records
- Error handling with retry logic and dead letter queues

Availability: 99.5% uptime during business hours 7 AM 7 PM

INTREQ001 ERP System Integration

- Interface Type: Scheduled file-based transmission
- Protocol: Secure FTP SFTP) with PGP encryption
- File Formats: NACHA ACH, ISO 20022, proprietary bank formats
- Security: End-to-end encryption, digital signatures, IP whitelisting

Data Elements:

- Payment instruction files
- Bank account validation requests
- Payment confirmations and status updates
- Bank statement import for reconciliation

Processing Schedule:

- Payment files transmitted daily at 2 PM
- Confirmation files imported every 4 hours

- Bank statements imported daily at 8 AM

Compliance: SOX controls, audit trail requirements, data retention

4.1.2 User Interface Requirements

4.2.1 Legacy Data Migration

DC REQ001 Vendor Data Migration

Source Systems: Excel spreadsheets, legacy procurement system

Data Volume: Approximately 2,500 vendor records

Data Quality Requirements

- De-duplication based on tax ID and company name
- Address standardization and validation
- Contact information verification
- Classification into new vendor categories

Migration Approach: Extract-Transform-Load ETL) process with validation

Timeline: Complete 30 days before go-live

Rollback Plan: Maintained backup of source data for 90 days

DCREQ002 Transaction History Migration

Source Systems: Legacy procurement and AP systems Data

Volume: 3 years of historical transactions (estimated 50,000 records.

Data Elements:

- Purchase orders and receipts
- Invoice and payment records
- Audit trails and approval history

Business Rules:

- Only closed transactions migrated
- Open items handled through parallel processing
- Historical data read-only after migration

Data Integrity:

Checksum validation and reconciliation reports

4.2 Hardware/Software Requirements

4.3.1 System Architecture Requirements

HWREQ001 Production Environment:

Application Servers: 2 servers, 16 CPU cores, 64GB RAM each

Database Server: 1 server, 24 CPU cores, 128GB RAM, SSD storage

Web Servers: 2 load-balanced servers, 8 CPU cores, 32GB RAM each

Storage Requirements: 500GB initial, 20% annual growth

Network: Gigabit Ethernet, redundant connections

Backup: Daily incremental, weekly full, 3-month retention

SWREQ001 Software Platform:

Operating System: Windows Server 2019 or Linux RHEL 8

Database: Microsoft SQL Server 2019 Enterprise Application

Framework: .NET Core 6.0 or higher Web Server: IIS 10.0 or Apache HTTP Server 2.4

Security: SSL/TLS 1.3, WAF integration, endpoint protection

4.3.2 Development and Test Environments

Environment Specifications:

Development: 50% of production capacity, shared resources

Test/UAT :75% of production capacity, isolated environment

Staging: Production-equivalent for final validation Disaster

Recovery: Geographically separated, 4-hour RTO

4.4 Operational Requirements

4.4.1 Performance Requirements

PERFREQ001 Response Time Requirements:

Interactive Transactions: 95% complete within 3 seconds

Batch Processing: Large reports complete within 5 minutes

Dashboard Loading: Initial load under 5 seconds, updates

under 2 seconds File Uploads: Support up to 10MB files with progress indicators

API Responses: 95% of calls respond within 1 second

PERFREQ002 Throughput Requirements:

Concurrent Users: Support 100 concurrent users peak load

Transaction Volume: Process 10,000 transactions per day

Database Queries: Handle 1,000 queries per minute

Batch Jobs: Complete daily processing within 4-hour window

4.4.2 Availability and Reliability

AVAILREQ001 System Availability:

Uptime Target: 99.5% during business hours 7 AM 7 PM

Planned Downtime: Maximum 4 hours per month for maintenance

Disaster Recovery: 4-hour RTO, 1-hour RPO for critical data

Monitoring: 24/7 automated monitoring with alerting

RELREQ001 Data Integrity and Backup:

Data Backup: Daily incremental, weekly full backup

Backup Retention: 90 days online, 7 years archival

Data Recovery: Point-in-time recovery capability

Backup Testing: Monthly restore testing to verify integrity

4.4.3 Security Requirements

SECREQ001 Authentication and Authorization:

Single Sign-On: Integration with Active Directory/LDAP

Multi-Factor Authentication: Required for administrative functions

Role-Based Access: Granular permissions based on job function

Session Management: 8-hour timeout, concurrent session limits

SECREQ002 Data Protection:

Encryption: AES256 for data at rest, TLS 1.3 for data in transit

Data Classification: Sensitive financial data identified and protected

Audit Logging: Complete audit trail for all data modifications

Privacy Controls: GDPR compliance for vendor personal information

APPENDIX A - GLOSSARY

Term	Definition
ACH Automated Clearing House)	Electronic network for financial transactions in the United States, commonly used for direct deposits and bill payments.
API Application Programming Interface)	Set of protocols and tools for building software applications, enabling different systems to communicate.
Approval Workflow:	Systematic process for reviewing and authorizing business transactions based on predefined rules and hierarchies
Budget Validation:	Process of checking requisition amounts against approved budget allocations to ensure spending authority.
Chart of Accounts	Structured listing of all accounts used in an organization's general ledger for financial reporting
Vendor Portal	Self-service web interface allowing vendors to interact with procurement and payment systems.
SOX Sarbanes-Oxley Act)	Federal law establishing requirements for financial record keeping and reporting to prevent fraud.
SLA Service Level Agreement)	Commitment between service provider and client defining expected service levels