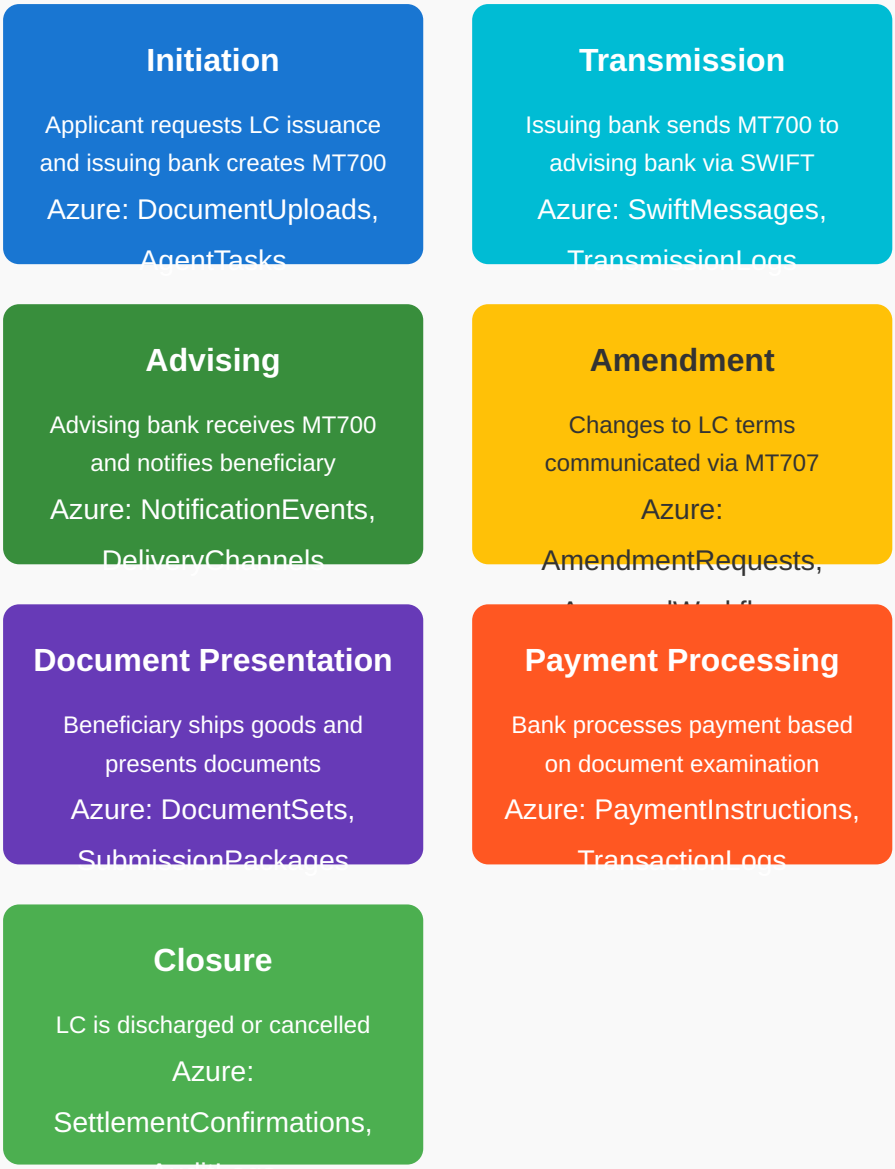
MT700 Documentary Credit Lifecycle - Enhanced UX Design with Agent, Task, and Crew Integration

Overview

This document provides a comprehensive specification for creating an interactive, graphically-rich MT700 lifecycle interface with document validation, agent management capabilities, and Azure integration. The design includes detailed agent, task, and crew functionality, along with document upload and checklist workflows.

Lifecycle Nodes with Azure Integration

The MT700 lifecycle consists of the following interactive nodes, each integrated with Azure services:



Connections with Azure Event Triggers

Nodes are connected with animated flow lines, each associated with Azure event triggers:

Source	Target	Label	Azure Event Triggers
Initiation	Transmission	MT700 Created	DocumentValidated, MT700Generated

Transmission	Advising	MT700 Sent	MessageTransmitted, TransmissionConfirmed
Advising	Amendment	Amendment Needed	AmendmentRequested, ApprovalInitiated
Advising	Document Presentation	LC Advised	BeneficiaryNotified, LCAdvised
Document Presentation	Payment Processing	Documents Presented	DocumentSetSubmitted, ValidationInitiated
Payment Processing	Document Presentation	Discrepancies Found	DiscrepanciesIdentified, AmendmentRequested
Payment Processing	Closure	Payment Completed	PaymentProcessed, SettlementInitiated

Document Upload System

The document upload system provides multiple channels for document submission, all integrated with Azure services:

Document Upload Zone

Drag and drop files here or click to browse

Supported formats: PDF, DOCX, XLSX, JPG, PNG, TIFF

Maximum size: 25MB

Azure Blob Storage | Azure Functions | Azure Cognitive Services

Upload Channels

Channel	Description	Azure Integration	File Types	Size Limit
Drag & Drop Zone	Interactive area for dragging and dropping files	Azure Blob Storage SDK	PDF, DOCX, XLSX, JPG, PNG, TIFF	25MB
File Browser	Traditional file selection dialog	Azure Blob Storage SDK	PDF, DOCX, XLSX, JPG, PNG, TIFF	25MB
Email Processor	Process documents sent via email attachments	Azure Logic Apps + Email Connector	PDF, DOCX, XLSX, JPG, PNG	10MB
Mobile Capture	Mobile app document capture and upload	Azure Mobile App Service	JPG, PNG, PDF	15MB
Batch Upload	Bulk document upload for multiple files	Azure Batch + Blob Storage	PDF, DOCX, XLSX, ZIP	100MB

Document Processing Pipeline

1. **Initial Scanning:** Virus/malware scanning using Azure Security
2. **Format Validation:** File format verification and conversion if needed
3. **Metadata Extraction:** Using Azure Cognitive Services to extract key information
4. **Classification:** Automatic document type detection and categorization
5. **Storage:** Secure storage in Azure Blob Storage with metadata in Cosmos DB

Document Checklist System

The document checklist system provides multiple views for managing document requirements:

Sample Document Checklist for Document Presentation Node

Required Documents

Commercial Invoice	Upload	View
Bill of Lading	Validated	View
Insurance Certificate	Upload	View
Certificate of Origin	Validated	View
Packing List	Upload	View

Optional Documents

Inspection Certificate	Upload	View
Beneficiary Statement	Upload	View

Checklist View Types

View Type	Description	Azure Component	Interaction Features
Tree View	Hierarchical view of documents by category	Azure Custom Web Component	Expand/collapse, drag & drop, context menu
Table View	Tabular view with sortable columns	Azure Data Table Component	Sort columns, bulk select, inline edit
Card View	Visual card-based view of documents	Azure Card Component	Card flip, quick actions, drag & drop
Timeline View	Chronological view of document processing	Azure Timeline Component	Zoom in/out, milestone markers, date navigation
Kanban View	Kanban board for document workflow stages	Azure Kanban Component	Drag between columns, card details, add notes

Agent System with Azure Integration

The agent system provides automated processing capabilities for various tasks in the lifecycle:

DV

Document Validator Agent

Validates trade documents against LC terms and compliance rules

Capabilities: Document validation, discrepancy detection, compliance checking

Azure Integration: Azure Cognitive Services Azure Functions Cosmos DB

Crew Assignment: Document Processing Crew, Validation Crew

Tasks:

> **Examine Documents** - 30 minutes
>
> Examines presented documents against LC terms
>
> Azure Function: ExamineDocumentsFunction

> **Review Amendment** - 15 minutes
>
> Reviews amendment request for compliance
>
> Azure Function: ReviewAmendmentFunction

CO

Compliance Officer Agent

Ensures all regulatory and compliance requirements are met

Capabilities: Regulatory compliance, sanction screening, AML checking

Azure Integration: Azure Cognitive Services Azure Logic Apps Cosmos DB

Crew Assignment: Compliance Crew, Risk Management Crew

Tasks:

> **Verify Applicant** - 10 minutes
>
> Verify applicant identity and eligibility
>
> Azure Function: VerifyApplicantFunction

> **Check Compliance** - 15 minutes

> Check compliance with regulatory requirements
>
> Azure Function: CheckComplianceFunction

All Agents

Agent	Description	Azure Integration	Crew Assignment
Document Validator	Validates trade documents against LC terms	Azure Cognitive Services, Azure Functions, Cosmos DB	Document Processing Crew, Validation Crew
SWIFT Formatter	Ensures SWIFT messages adhere to proper format	Azure Functions, Logic Apps, Service Bus	Message Processing Crew, Transmission Crew
Compliance Officer	Ensures regulatory compliance requirements are met	Azure Cognitive Services, Logic Apps, Cosmos DB	Compliance Crew, Risk Management Crew
Payment Processor	Handles payment execution and settlement	Azure Functions, Service Bus, Cosmos DB	Payment Crew, Settlement Crew
Notification Manager	Manages communications and notifications	Azure Communication Services, Logic Apps, Service Bus	Notification Crew, Customer Service Crew

Crew Management System

The crew management system organizes agents into functional teams for different lifecycle stages:

Crew Structure

Crew	Description	Members	Supervisor Role	Azure Resource Group
Document Processing Crew	Handles document intake and initial processing	Document Validator, Compliance Officer, Notification Manager	Document Processing Supervisor	rg-document-processing
Validation Crew	Performs detailed document validation and compliance checking	Document Validator, Compliance Officer	Validation Supervisor	rg-validation
Message Processing Crew	Manages SWIFT message creation and validation	SWIFT Formatter, Document Validator	Message Processing Supervisor	rg-message-processing
Payment Crew	Processes payments and financial transactions	Payment Processor, Compliance Officer	Payment Supervisor	rg-payment
Notification Crew		Notification Manager,	Notification Supervisor	rg-notification

	Handles all communications and notifications	Document Validator		

Crew Communication Channels

- **Internal Messaging:** Azure Service Bus topics for crew-specific communication
- **Status Updates:** Event Grid for broadcasting status changes
- **Alert Notifications:** Azure Logic Apps for triggering alerts
- **Audit Logging:** Azure Log Analytics for comprehensive audit trail

Crew Performance Monitoring

Performance metrics tracked for each crew include:

- Task completion rates
- SLA compliance percentage
- Error rates and types
- Processing throughput
- Resource utilization

All metrics are stored in Azure tables and visualized through Azure Dashboards.

Document Validation Workflow

The document validation workflow provides multi-level validation for all documents:

Validation Levels

Level	Description	Responsible Agent	Azure Service	Output Actions

Level 1	Format and completeness check	Document Validator	Azure Functions	Accept, Reject, Request Amendment
Level 2	Content validation against LC terms	Document Validator	Azure Functions + Cognitive Services	Accept, Reject, Request Amendment
Level 3	Compliance and regulatory check	Compliance Officer	Azure Functions + Cognitive Services	Accept, Reject, Escalate
Level 4	Final approval	Human Specialist	Azure Logic Apps Human Interaction	Accept, Reject, Request Amendment, Escalate

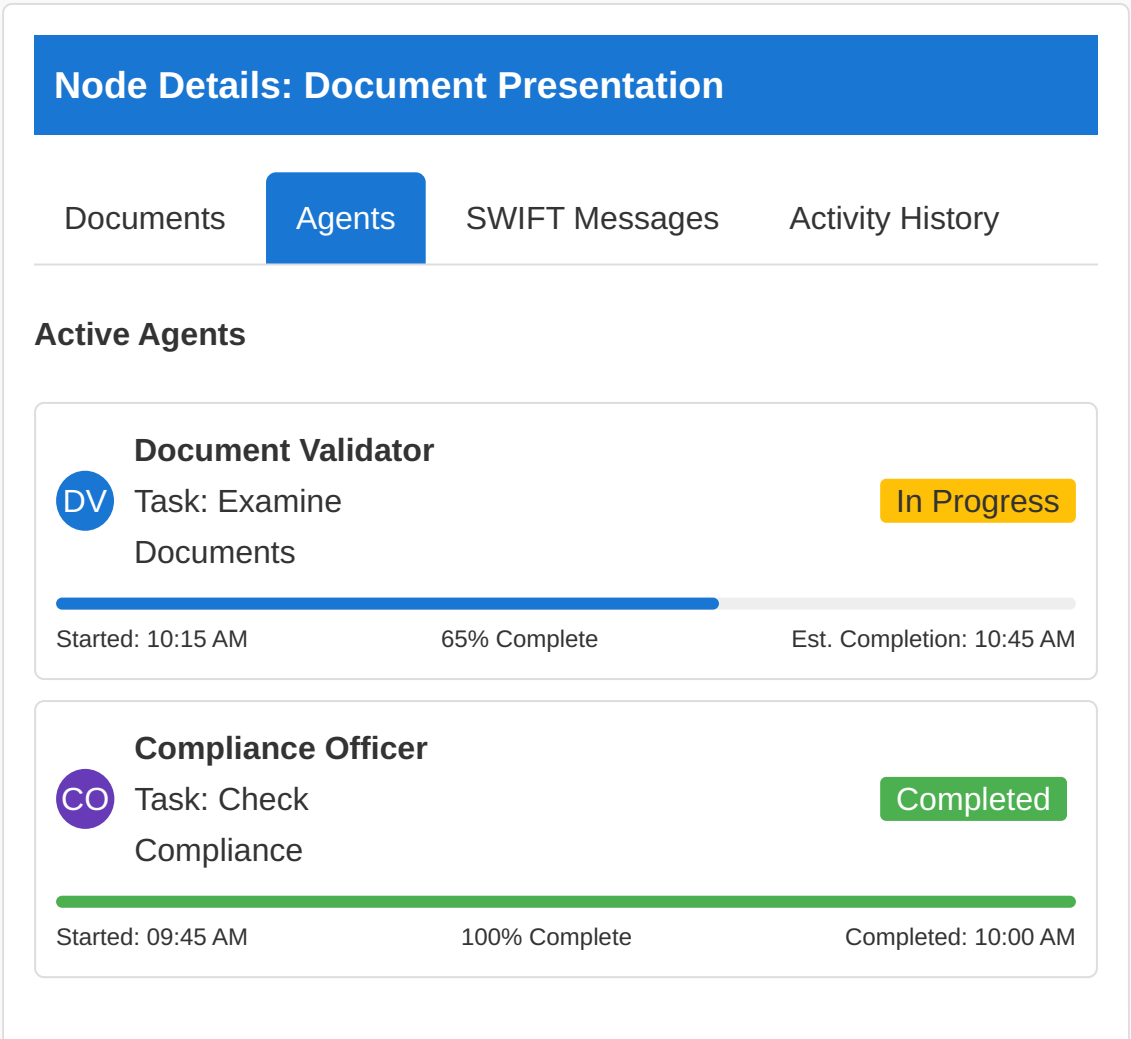
Document Set Submission Types

Submission Type	Description	Required Validation Level	Azure Workflow
Complete Set	All required documents submitted as complete set	Level 3	CompleteSetSubmissionWorkflow
Partial Set	Partial document set with completion plan	Level 2	PartialSetSubmissionWorkflow
Replacement Set	Replacement for previously	Level 3	ReplacementSetSubmissionWorkflow

	rejected documents		
Amendment Set	Documents supporting an amendment request	Level 2	AmendmentSetSubmissionWorkflow

Modal Window with Agent Status

When a node is clicked, a modal window appears showing document checklist, agent status, and task progress:



Crew Status

Crew	Status	Active Tasks	Completed Tasks
Document Processing Crew	Active	1	2
Validation Crew	Active	1	0

View Details

Close

Azure Integration Architecture

The system integrates with multiple Azure services for comprehensive functionality:

Core Azure Services

- **Azure Cosmos DB:** Document and state storage
- **Azure Blob Storage:** Document file storage
- **Azure Functions:** Serverless processing for agent tasks
- **Azure Logic Apps:** Workflow orchestration
- **Azure Service Bus:** Message queuing and event distribution
- **Azure Event Grid:** Event-driven architecture
- **Azure Cognitive Services:** AI capabilities for document processing
- **Azure API Management:** API gateway for external integrations

Data Flow Architecture

Data Ingestion:

- Document uploads → Azure Blob Storage

- Metadata → Azure Cosmos DB
- Events → Azure Event Grid
- Messages → Azure Service Bus

Processing Flow:

- Triggers from Azure Event Grid
- Orchestration by Azure Logic Apps
- Processing by Azure Functions
- State management in Azure Cosmos DB

Output Flow:

- Results to Azure Cosmos DB
- Notifications via Azure Communication Services
- Reports to Azure Blob Storage
- Audit logs to Azure Log Analytics

Implementation Guidelines

Development Approach

- **Microservices Architecture:** Agent services as independent microservices
- **API-First Design:** All components expose well-defined APIs
- **Event-Driven Communication:** Components communicate via events
- **Containerization:** Services deployed as containers in Azure Container Instances

Integration Strategy

- **API Gateway Pattern:** Centralized API management with Azure API Management
- **Event Mesh Pattern:** Decoupled communication via Azure Event Grid
- **Event Sourcing:** State reconstruction from event streams

- **CQRS Pattern:** Separate command and query responsibilities

Deployment and Operations

- **CI/CD Pipelines:** Automated deployment with Azure DevOps
- **Infrastructure as Code:** Azure Resource Manager templates
- **Monitoring and Alerting:** Azure Monitor and Application Insights
- **Disaster Recovery:** Geo-redundant storage and point-in-time recovery

Conclusion

This enhanced specification provides a comprehensive framework for implementing the MT700 Documentary Credit lifecycle with:

- **Interactive Lifecycle Visualization:** Colorful, clickable nodes representing each stage
- **Document Upload System:** Multiple channels for document submission with Azure integration
- **Document Checklist Management:** Flexible views for tracking document requirements
- **Agent-Based Processing:** Automated agents for document validation and task execution
- **Crew Management:** Organized teams of agents for different lifecycle stages
- **Azure Integration:** Comprehensive integration with Azure services
- **Validation Workflow:** Multi-level validation process for documents

The configuration is provided in a structured CSV format that can be easily imported into your app builder, with all necessary Azure table integrations defined.