can yo please wriet a below story in detaisl

4. Rule Store
   Rules are represented in a low-code visual designer and can be activated/deactivated.
   Each rule has versioning and change history.
   Conditions, actions, and exceptions are auditable and exportable.
   Supports simulation/test mode for safe changes.

Here is a detailed breakdown of the Rule Store story, expanded for design and technical implementation in an enterprise compliance system.

Rule Store – Detailed User Story

Title: Maintain and Operate Configurable Compliance Rules

Description

As a compliance administrator, I want to be able to build, activate, update, and test business/compliance rules using an intuitive, low-code visual interface, so that I can adapt the compliance system to rapid regulatory and business changes—ensuring every rule is traceable, auditable, and safely deployable.[1] [2]

Functional Requirements (Expanded)

- **Low-Code Visual Designer**
  - Drag-and-drop canvas to create rules using graphical components (e.g. “if product.ECCN = ‘5A002’ and destination = ‘CN’ then block and escalate”).
  - Visual representation of conditions, actions, and exceptions.
  - Ability to group rules, use templates (EAR, OFAC, EU), and customize logic with “and/or” branching.
  - Search, browse, and filter rules by tag, status, creation date, or scope (screening, licensing, embargo, etc).
- **Rule Activation/Deactivation**
  - Each rule has an “Active/Inactive” toggle, with visible status and audit trail.
  - Deactivation logs timestamp, user, and reason (mandatory field for non-temp deactivation).

    - System immediately applies only active rules in real-time workflows; inactive rules are “soft-archived” and excluded from evaluation but kept for audit/history.
- **Versioning and Change History**
    - Every rule change creates a new version, allowing rollback to any previous version at any time.
    - Full version history viewable as a timeline: who changed it, what changed, when, and why.
    - Edits to rule logic, scope, or exceptions require an optional “Change Reason” and mandatory “Impact Note.”
- **Auditable/Exportable Conditions, Actions, Exceptions**
    - All logic and parameters are logged and can be exported as readable lists (PDF/CSV) for external audit.
    - “Why” path tracing: Explain which rule(s) influenced a compliance decision, with direct links from decision logs to the rule history.
    - Export includes rule metadata: last applied, success/failure rates, hit counts.
- **Simulation/Test Mode**
    - A sandbox mode lets users stage new or changed rules and run them against historical transaction data “What-If Simulator.”
    - Results of simulation show which transactions would have been blocked, allowed, or flagged, with clear side-by-side comparison to production logic.
    - Staged rules can be reviewed, revised, and then published to production if outcomes match expectation.
    - Support for multi-user review and approval before deployment (configurable policy).
- **API and Permissions**
    - Admins can CRUD rules via REST API (with authentication and audit logging).
    - Permissions: Only users with “Rule Admin” role can create, update, or publish rules; reviewers and viewers have limited access.
    - All rule and simulation activities are logged for compliance with SOX, ISO, and internal control requirements.

Non-Functional Requirements

- Rule evaluation and update must work with sub-500ms latency for real-time workflows.
- Rule Store should handle hundreds to thousands of rule versions efficiently.
- System must support concurrent editing and collision detection.

Example Scenarios

- Admin prepares a new embargo screening rule (with a draft, simulation, multi-stage review).
- An audit investigator pulls all rules with changes between Jan–Mar for annual compliance review.
- Operations manager temporarily disables a deprecated rule due to regulatory change, documenting the reason.

This structure ensures the Rule Store will not only enable flexible, adaptive policy management but also maintain traceability, safety, and regulatory readiness at every step of the compliance process.[2] [3] [1]

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