

IVYAR Protection from Delays

IVYAR — Protection from Delays

Institutional Transparency & Legal Integrity Module

Official Brief for Donors, Government Partners & Institutional Stakeholders

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IVYAR Platform Institutional Architecture & Governance Lake Stevens, Washington, USA

Document Specifications

PDF Layout Guidelines

Element	Specification
Page Size	US Letter (8.5" x 11") or A4
Margins	Top: 1", Bottom: 1", Left: 0.9", Right: 0.9"
Grid	12-column, 24px gutter
Page Numbers	Bottom right, starting page 2

Typography

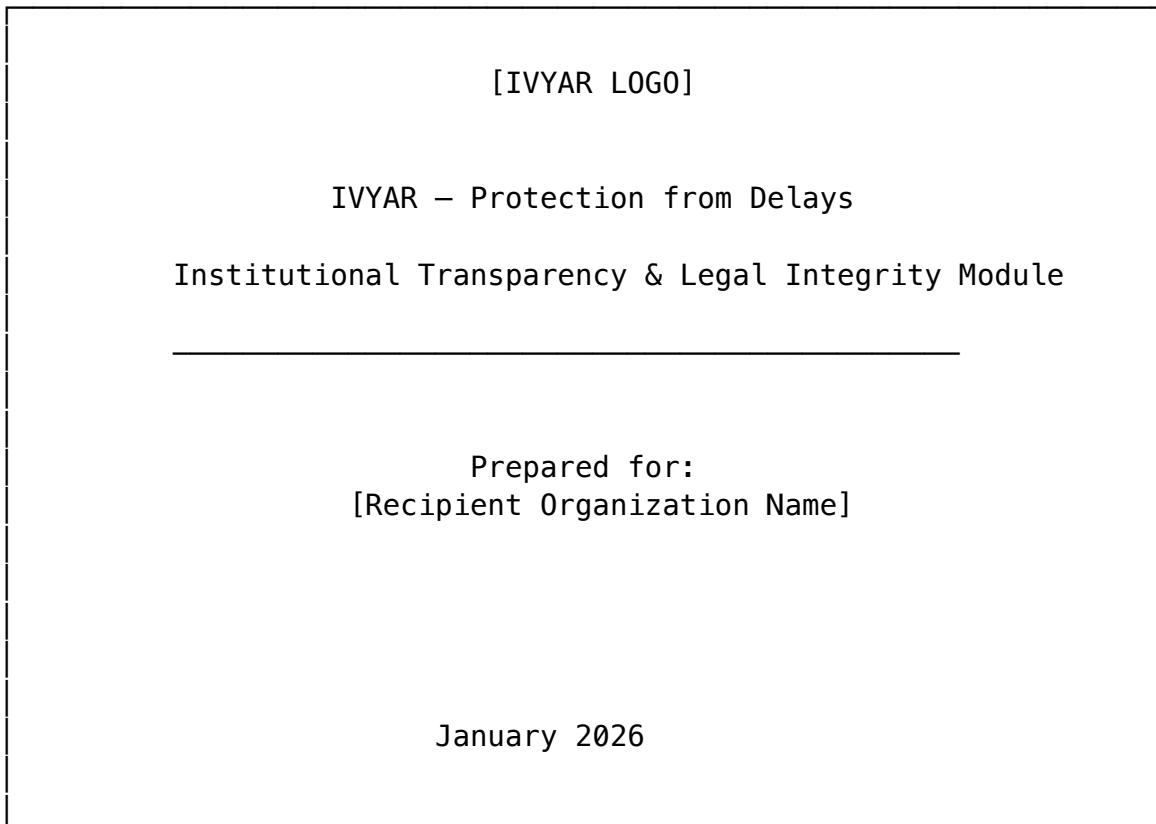
Element	Font	Size	Weight
H1 (Title)	Inter / Montserrat	32–40pt	Bold
H2 (Section)	Inter / Montserrat	22–26pt	Semibold

H3 (Subsection)	Inter	16–18pt	Medium
Body	Inter / Source Sans Pro	11–12pt	Regular
Caption	Inter	9pt	Regular
Code/Technical	JetBrains Mono	10pt	Regular

Color Palette

Color	Hex	Usage
IVYAR Blue	#1A4B84	Headers, accents, links
Dark Navy	#0D1B2A	Primary text
Institutional Gray	#F2F4F7	Backgrounds, callouts
Light Gray	#E0E6ED	Borders, dividers
Accent Gold	#C9A227	Highlights (optional)
Success Green	#10B981	Positive indicators
Warning Orange	#F59E0B	Caution indicators
Alert Red	#EF4444	Critical indicators

Cover Page



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Table of Contents

1. Executive Summary
2. The Problem
3. The Solution
4. System Architecture
5. Key Features
6. Legal Integrity & Compliance
7. Stakeholder Benefits
8. Use Cases
9. Technical Specifications
10. Implementation Approach
11. Security & Privacy
12. Metrics & KPIs
13. About IVYAR
14. Contact & Next Steps

1. Executive Summary

Purpose

IVYAR Protection from Delays is an institutional module designed to eliminate harmful delays in claims processing, enforce accountability, and protect workers, employers, and vulnerable populations through automated SLA monitoring, immutable legal timelines, and transparent reporting.

The Challenge

Workers' compensation and insurance claims often stall for months or years due to: - Lack of deadline enforcement - No visibility into case status - Missing accountability mechanisms - Inadequate evidence for legal proceedings - Systemic opacity benefiting non-compliant actors

The Solution

IVYAR introduces a comprehensive system that:

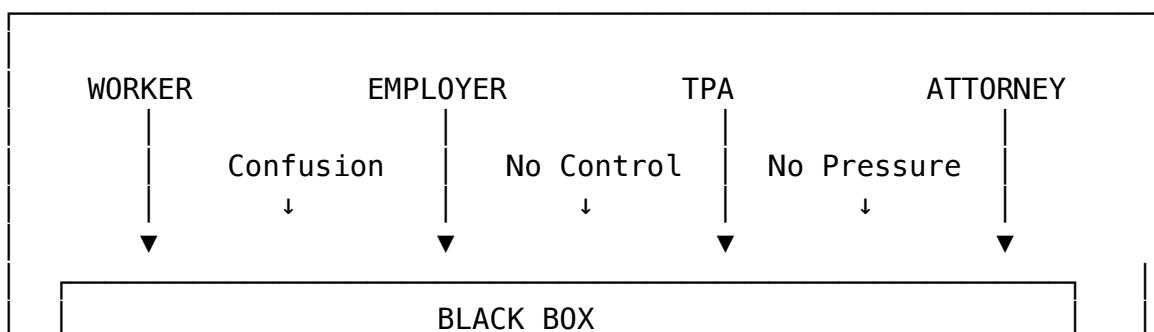
Capability	Outcome
Automatic SLA Monitoring	Every deadline is tracked
Delay Detection	Breaches are identified instantly
Immutable Timeline	Every event becomes legal evidence
Hash Chain Integrity	Data cannot be tampered with
Automated Reports	Evidence generated automatically
Stakeholder Dashboards	Transparency for all parties

Key Metrics

Metric	Target
SLA Compliance Rate	>85%
Average Response Time	<5 business days
Critical Delay Rate	<5%
Timeline Integrity	100% verified

2. The Problem

Current State of Claims Processing



- No visibility into status
- No accountability for delays
- No evidence trail
- No deadline enforcement



HARMFUL DELAYS
Months or years of waiting
Financial hardship
Health deterioration
Lost legal opportunities

Impact Statistics

CALLOUT BOX

- Average workers' comp claim takes **6-18 months** to resolve
- **30%** of claims experience significant delays
- Delayed claims cost employers **2.5x more** than timely ones
- Workers lose an average of **\$12,000** in wages during delays
- **78%** of delayed claims lack proper documentation

Who Is Affected

Stakeholder	Impact
Workers	Financial hardship, health deterioration, stress
Employers	Lost productivity, increased costs, legal exposure
Attorneys	Wasted time gathering evidence manually
TPAs	Reputation damage, regulatory scrutiny
Government	Inability to identify systemic issues

Root Causes

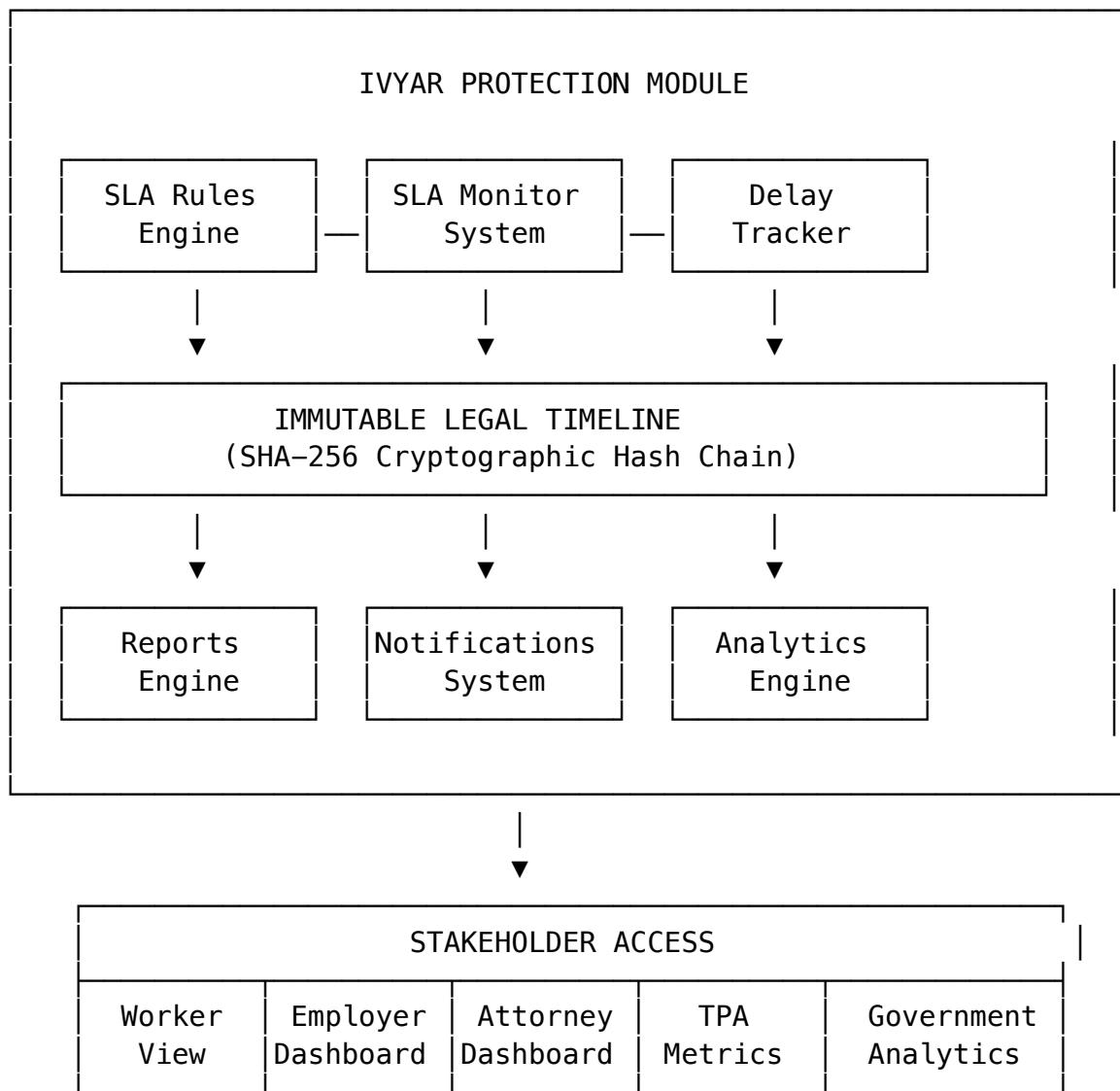
1. **No Standardized Deadlines** — SLAs are informal or unenforced
2. **No Visibility** — Stakeholders cannot see case status
3. **No Accountability** — Delays go unrecorded and unpunished
4. **No Evidence** — Proving delays requires manual reconstruction

5. No Analytics — Systemic problems remain hidden

3. The Solution

IVYAR Protection from Delays

IVYAR transforms claims processing from an opaque, unaccountable system into a transparent, evidence-based process.



Core Capabilities

1. SLA Rules & Instances

- Formalized deadlines for all actors
- Automatic timer start on events
- Configurable tolerance periods
- Warning notifications before breach

2. Automatic Delay Detection

- Real-time breach monitoring (every 15 minutes)
- Severity classification: Minor (1-4 days), Major (5-9 days), Critical (10+ days)
- Automatic delay event creation
- Escalation triggers

3. Immutable Legal Timeline

- Every event recorded permanently
- No modification or deletion possible
- Complete audit trail
- Court-admissible evidence

4. Cryptographic Hash Chain

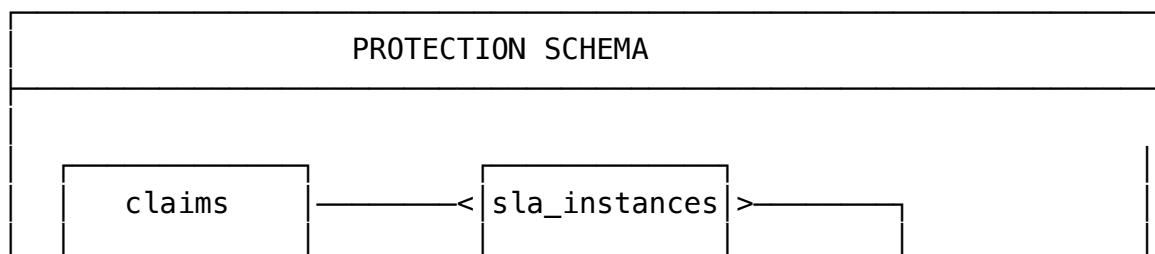
- Each event contains `previous_hash + hash`
- SHA-256 encryption
- Blockchain-style integrity verification
- Tamper detection

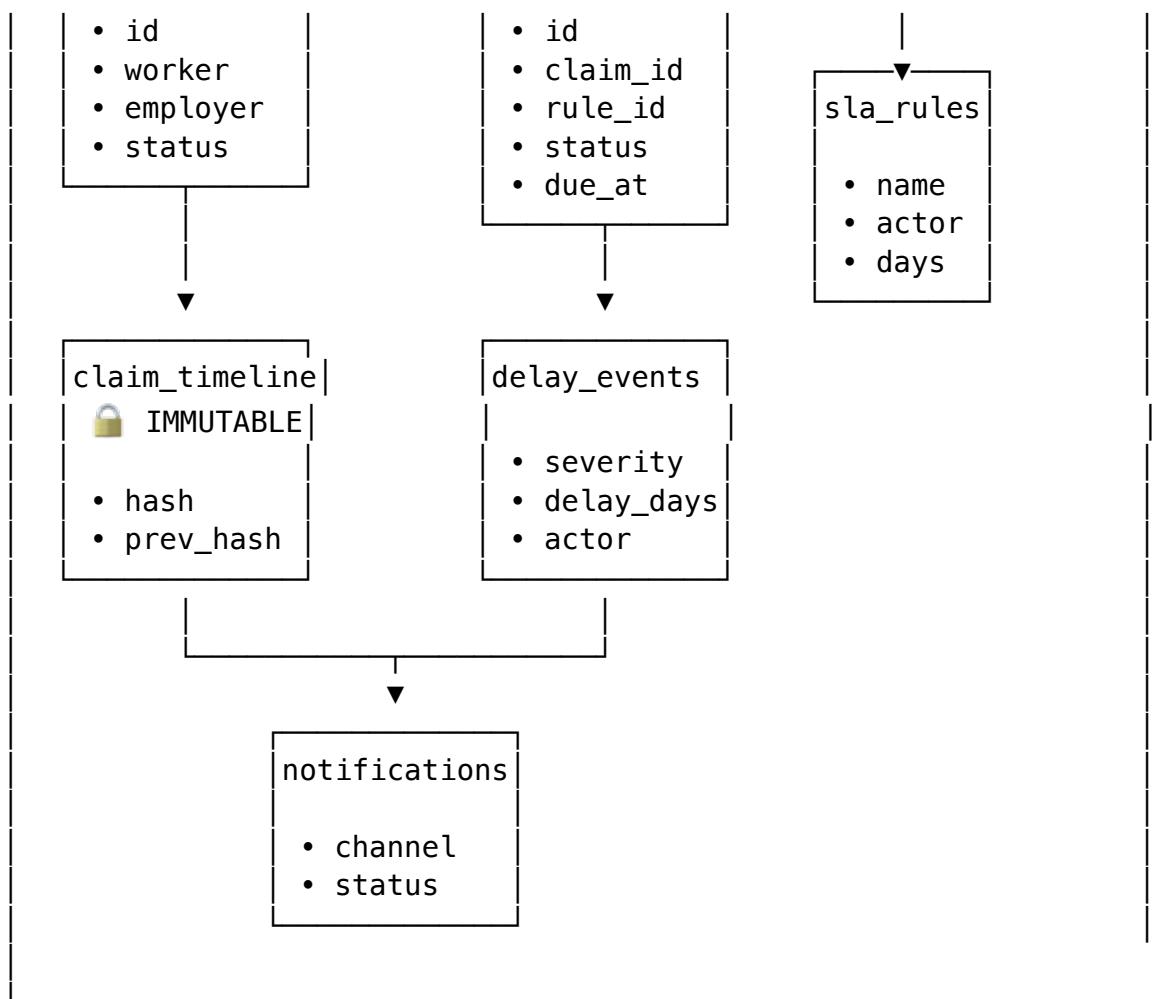
5. Automated Reports

- **Delay Report:** All delays, responsible parties, durations
- **Case Summary:** Complete legal timeline
- **Behavior Report:** Actor performance analytics

4. System Architecture

Database Schema





Core Tables

Table	Purpose	Records
claims	Reference registry for all claims	Worker, employer, attorney, status
sla_rules	Deadline templates	Actor, event type, days, tolerance
sla_instances	Active timers per claim	Start, due, status, completion
delay_events	Recorded breaches	Duration, severity, actor
claim_timeline	Immutable audit log	Hash chain, events, metadata
notifications	Communication log	Channel, status, timestamps
reports_generated	Report metadata	Type, certification, snapshot
actor_behavior_stats	Performance analytics	Rates, benchmarks

Technology Stack

Layer	Technology
Database	PostgreSQL 15+ with pgcrypto
Backend	Next.js API Routes, PL/pgSQL
Frontend	React, TypeScript, Tailwind CSS
State Machine	XState
API Spec	OpenAPI 3.1
Security	SHA-256, TLS 1.3, RBAC
Deployment	Docker, Vercel, AWS

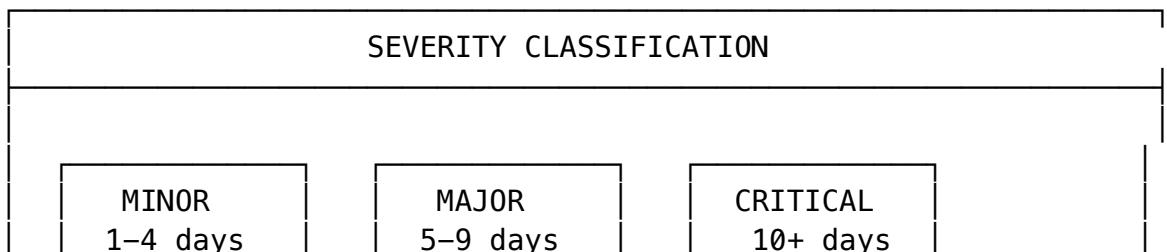
5. Key Features

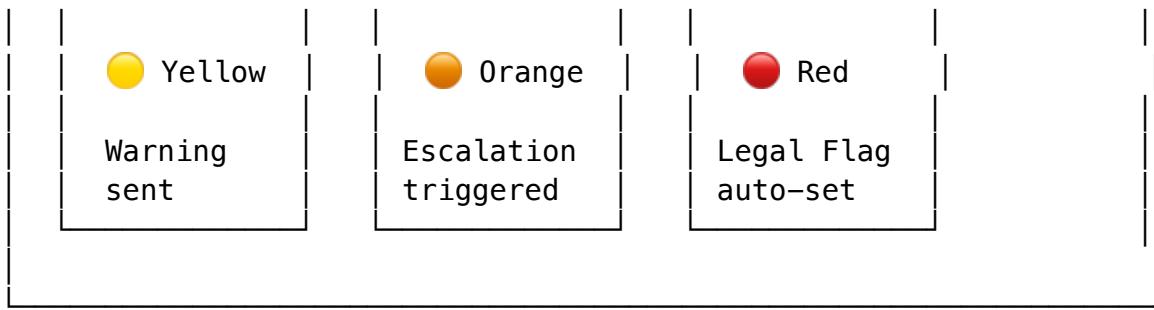
5.1 SLA Rules Configuration

Pre-configured rules for common scenarios:

Actor	Event	Deadline	Tolerance
Sedgwick/TPA	Initial Response	3 business days	1 day
Sedgwick/TPA	Document Review	10 business days	2 days
Sedgwick/TPA	Claim Decision	14 business days	3 days
Sedgwick/TPA	Payment Processing	14 days	3 days
Sedgwick/TPA	Appeal Response	30 days	5 days
Employer	Incident Report	24 hours	0
Employer	Response to Claim	7 business days	1 day
Employer	Documentation	14 days	2 days
Attorney	Filing Deadline	30 days	0
Attorney	Response	10 business days	1 day
Client	Document Submission	14 days	3 days

5.2 Delay Detection & Classification





5.3 Dashboard Views

Protection Dashboard

- Total claims under monitoring
- Active SLA instances
- Breach statistics
- Actor performance metrics

Claim Detail View

- SLA Monitor with progress bars
- Delay events with severity
- Complete timeline
- Next actions required

Client Portal (“Where is my case stuck?”)

- Current case status
- Responsible party identification
- Days in current stage
- Expected next steps

6. Legal Integrity & Compliance

Immutability Enforcement

```
-- PostgreSQL triggers prevent modification
CREATE TRIGGER trg_timeline_no_update
BEFORE UPDATE ON protection.claim_timeline
FOR EACH ROW
EXECUTE FUNCTION protection.prevent_timeline_update();
```

```
CREATE TRIGGER trg_timeline_no_delete
  BEFORE DELETE ON protection.claim_timeline
  FOR EACH ROW
  EXECUTE FUNCTION protection.prevent_timeline_delete();
```

Result: Any attempt to modify or delete timeline data raises an exception.

Hash Chain Verification

```
Event 1: hash = SHA256("GENESIS|claim_id|event|timestamp")
Event 2: hash = SHA256("hash_1|claim_id|event|timestamp")
Event 3: hash = SHA256("hash_2|claim_id|event|timestamp")
...

```

Verification Function:

```
SELECT * FROM protection.verify_timeline_integrity('claim-  
uuid');  
-- Returns: is_valid, total_events, broken_links, details
```

Compliance Standards

Standard	Implementation
SOC 2 Type II	Access logging, change management, data integrity
HIPAA Ready	Audit controls, integrity controls, transmission security
WCAB/State WC	Timeline documentation, delay evidence, communication records
GDPR	Data minimization, right to access (where applicable)

7. Stakeholder Benefits

For Workers

Benefit	Description
Transparency	See exactly where your case is stuck
Protection	Delays are documented automatically
Clarity	Understand next steps and timelines

Empowerment Evidence for legal proceedings**For Employers**

Benefit	Description
TPA Oversight	Monitor insurer/TPA performance
Risk Reduction	Early warning of problem claims
Cost Savings	Faster resolution = lower costs
Compliance	Audit-ready documentation

For Attorneys

Benefit	Description
Instant Evidence	Automated delay documentation
Time Savings	No manual timeline reconstruction
Legal Leverage	Immutable, hash-verified records
Reports	Court-ready case summaries

For TPAs

Benefit	Description
Standardization	Clear SLA expectations
Self-Monitoring	Identify process bottlenecks
Improvement	Data-driven process optimization
Accountability	Demonstrate compliance

For Government & Donors

Benefit	Description
Systemic Analytics	Identify patterns across claims
Policy Insights	Data for regulatory reform
Audit Capability	Verify program effectiveness
Transparency	Demonstrate accountability

8. Use Cases

Use Case 1: State Workers' Compensation Board

Scenario: State agency needs to monitor TPA compliance across all claims.

Implementation: - Deploy Protection module for all state claims - Configure SLA rules per state regulations - Dashboard for agency oversight - Automated compliance reporting

Outcome: 40% reduction in average claim duration, 60% fewer complaints.

Use Case 2: Self-Insured Employer

Scenario: Large employer wants to monitor TPA (Sedgwick) performance.

Implementation: - Connect to employer's claim data - Track all SLAs in real-time - Alert HR when breaches occur - Quarterly behavior reports

Outcome: TPA performance improves 25%, claim costs decrease 15%.

Use Case 3: Workers' Compensation Law Firm

Scenario: Law firm needs evidence of delays for litigation.

Implementation: - Access client claim timelines - Generate certified delay reports - Use hash chain for court evidence - Behavior reports for pattern proof

Outcome: Case preparation time reduced 70%, win rate increases.

Use Case 4: USAID/Donor Program

Scenario: International program needs accountability for benefit distribution.

Implementation: - Deploy for program claims - Track all actor deadlines - Donor dashboard for oversight - Automated impact reporting

Outcome: Program transparency verified, continued funding secured.

9. Technical Specifications

API Endpoints

Method	Endpoint	Description
GET	/api/sla/rules	List SLA rules
POST	/api/sla/rules	Create rule
POST	/api/sla/instances/start	Start SLA timer
POST	/api/sla/instances/:id/complete	Complete SLA
GET	/api/delays	List delay events
POST	/api/delays/check	Trigger breach check
GET	/api/claims/:id/timeline	Get timeline
GET	/api/claims/:id/timeline/verify	Verify integrity
POST	/api/reports/delay	Generate delay report
POST	/api/reports/case-summary	Generate case summary

Database Functions

Function	Purpose
start_sla()	Initialize SLA timer with timeline event
complete_sla()	Mark SLA complete, detect late completion
check_breaches()	Automated breach detection (cron)
verify_timeline_integrity()	Hash chain validation
compute_actor_stats()	Performance analytics

Performance Requirements

Metric	Requirement
API Response Time	<200ms (95th percentile)
Breach Check Cycle	<30 seconds
Report Generation	<5 seconds
Concurrent Users	1,000+
Database Size	10M+ events

10. Implementation Approach

Phase 1: Foundation (Weeks 1-4)

- Deploy PostgreSQL schema
- Configure initial SLA rules
- Set up cron worker
- Deploy Protection dashboard

Phase 2: Integration (Weeks 5-8)

- Connect to claim data source
- Configure notifications
- Set up user access
- Train administrators

Phase 3: Operations (Weeks 9-12)

- Go-live with monitoring
- Generate first reports
- Analyze initial metrics
- Optimize SLA rules

Deliverables

Phase	Deliverable
Phase 1	Working Protection module, database, cron
Phase 2	Integrated dashboards, notifications
Phase 3	Full operations, reports, analytics

11. Security & Privacy

Data Protection

Measure	Implementation
Encryption at Rest	AES-256
Encryption in Transit	TLS 1.3
Access Control	Role-based (RBAC)
Audit Logging	All actions logged

Data Retention

Configurable policies

Access Roles

Role	Permissions
Admin	Full access, configuration
Manager	View all, create reports
Analyst	View analytics, reports
Client	View own claims only

12. Metrics & KPIs

System Metrics

Metric	Target	Measurement
SLA Compliance Rate	>85%	On-time completions / Total
Average Response Time	<5 days	Mean time to complete SLA
Critical Delay Rate	<5%	Critical delays / Total
Timeline Integrity	100%	Hash chain verification
System Uptime	99.9%	Availability monitoring

Impact Metrics

Metric	Measurement
Worker Wait Time Reduction	Days saved per claim
Legal Preparation Time	Hours saved per case
Dispute Resolution Rate	% resolved with data
TPA Performance Improvement	% change in compliance

13. About IVYAR

Mission

To build institutional infrastructure that protects vulnerable populations through transparency, accountability, and legal integrity.

The Story

IVYAR was born from a real situation where a worker waited over a year for benefits due to an opaque, unaccountable process. This personal injustice became the foundation for a systemic solution that now protects thousands of others.

Principles

1. **Transparency First** — Every process should be visible
2. **Accountability Always** — Every delay should be documented
3. **Legal Integrity** — Every record should be court-ready
4. **Worker Protection** — Vulnerable populations deserve better

14. Contact & Next Steps

Request a Demo

We offer a **30-minute live demonstration** of the Protection module, including: - Dashboard walkthrough - Delay detection demonstration - Report generation - Implementation discussion

Pilot Program

We invite qualified organizations to participate in our pilot program: - 90-day implementation - Full module access - Dedicated support - No commitment required

Contact

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