

GOVERNED TEMPLATE RENDERING REFERENCE: DATA MODEL DEFAULT V2 (DRAFT)

definition 2a229c81...ffd0

DATA MODEL · PROJECT ARTIFACT

SPECIRA

Data Model: Dispatch Modernization

Meridian Field Services: instructional example, not project evidence

DRAFT · WATERMARK POLICY: DRAFT\_ONLY

template data\_model v2 · pack: specira\_default\_delivery    depth: standard

§1 Entity Relationship Views

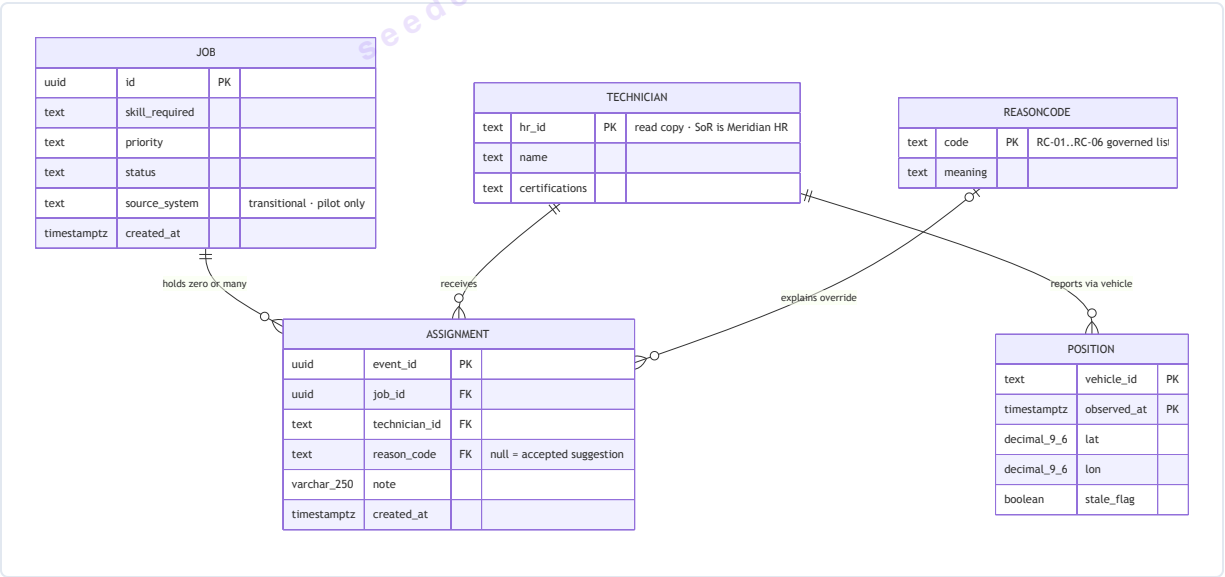
mandatory

1 decision

1 evidence rule

validators: diagram\_entity\_cap\_split\_never\_shrink ·  
views\_reconcile\_with\_architecture\_inventory\_both\_ways

One view per bounded context, generated from versioned source: eight to ten entities per view, split by aggregate past the cap. The diagram carries structure, keys, and cardinality; precision, defaults, and enums live in the field tables a diagram cannot express. System-of-record stays the architecture's decision.



Dispatch core: five entities, under the cap; crow's foot cardinality; generated from `dispatch-core.mmd`, stamped 2026-07-16. Fallback: Job holds zero-or-many Assignments; Technician receives Assignments and reports Positions via vehicle; ReasonCode optionally

explains an override. Inventory reconciles with [the architecture's data chapter<sup>\[1\]</sup>](#) both ways; Job's pilot-to-cutover authority is cited there, never re-decided here.

§2 Entities, Keys & Conventions

mandatory

2 decisions

1 evidence rule

validators: every\_pk\_strategy\_stated\_natural\_or\_surrogate · convention\_block\_present\_audit\_delete\_tenancy

Conventions stated once (audit, delete policy, tenancy), then per entity the key strategy and what it means. Business meaning links to the glossary; this document owns structure.

**CONVENTIONS: ONCE, UNIFORMLY**

Audit: **created\_at** and **created\_by** on every table; assignments are event-sourced and immutable: no **updated\_at** there (deviation recorded). Delete policy: soft delete nowhere; positions hard-purge at 30 days per the architecture lifecycle ([cited<sup>\[1\]</sup>](#)). Tenancy: single-tenant enterprise deployment, no isolation column, stated.

| Entity     | PK strategy                       | Why                                                                                       | Business meaning                       |
|------------|-----------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------|
| Assignment | surrogate event_id                | Natural key job-plus-sequence rejected: replay ordering                                   | <a href="#">TERM-001<sup>[4]</sup></a> |
| Job        | surrogate id                      | Lifecycle states created → assigned → completed → archived                                | <a href="#">TERM-009<sup>[4]</sup></a> |
| Position   | natural (vehicle_id, observed_at) | Readings are immutable facts                                                              | <a href="#">TERM-012<sup>[4]</sup></a> |
| ReasonCode | natural code                      | Governed list: the code is the identity                                                   | <a href="#">TERM-004<sup>[4]</sup></a> |
| Technician | natural hr_id                     | Read copy; system of record is Meridian HR ( <a href="#">architecture<sup>[1]</sup></a> ) | none                                   |

§3 Field Specifications

mandatory

1 decision

1 evidence rule

validators: every\_field\_has\_type\_nullability\_default\_sensitivity · no\_tautological\_field\_description

Per field: type with precision, nullability and default stated (a blank cell is a gap), sensitivity citing the governing classification, source, and a description that adds meaning beyond the name. Every entity is fully specified, one table each.

Assignment

| Field         | Type    | Null / default        | Sensitivity | Source                   | De (m be na                                  |
|---------------|---------|-----------------------|-------------|--------------------------|----------------------------------------------|
| event_id      | uuid PK | not null / generated  | internal    | system                   | Su eve ide orc key rep                       |
| job_id        | uuid FK | not null / no default | internal    | system                   | Th eve bin pal uni ent one per               |
| technician_id | text FK | not null / no default | internal    | system                   | Th tec bo id, co (\$                         |
| reason_code   | text FK | nullable / no default | internal    | user-entered on override | Wh dis ove nul an acc sug ne bla str imi aft |

| Field                   | Type              | Null / default           | Sensitivity | Source       | Description (may be truncated)                       |
|-------------------------|-------------------|--------------------------|-------------|--------------|------------------------------------------------------|
| note                    | varchar(250)      | nullable / no default    | internal    | user-entered | Open overview column the bottom the test edge row 31 |
| created_at / created_by | timestampz · text | not null / now · session | internal    | system       | This column (\$2) even im so up col                  |

Job

| Field          | Type    | Null / default        | Sensitivity | Source                 |  |
|----------------|---------|-----------------------|-------------|------------------------|--|
| id             | uuid PK | not null / generated  | internal    | system                 |  |
| skill_required | text    | not null / no default | internal    | user-entered at intake |  |

| Field               | Type                     | Null / default        | Sensitivity  | Source              |
|---------------------|--------------------------|-----------------------|--------------|---------------------|
| priority            | text                     | not null / routine    | internal     | user-entered        |
| status              | text (app constant, \$6) | not null / created    | internal     | system              |
| source_system       | text                     | nullable / no default | internal     | integration (INT-3) |
| address / lat / lon | text · decimal(9,6)      | not null / no default | confidential | user-entered        |

Position · ReasonCode · Technician

| Field                             | Type                             | Null / default        |
|-----------------------------------|----------------------------------|-----------------------|
| Position.vehicle_id + observed_at | text · timestamptz, composite PK | not null / no default |

| Field                                    | Type                  | Null / default        |
|------------------------------------------|-----------------------|-----------------------|
| Position.lat / lon                       | decimal(9,6)          | not null / no default |
| Position.stale_flag                      | boolean               | not null / false      |
| ReasonCode.code / meaning                | text PK · text        | not null / no default |
| Technician.hr_id / name / certifications | text PK · text · text | not null / no default |

**Agent export carries the schema as data**, the consolidated DBML block beside these tables (excerpt):

```
Table assignment { event_id uuid [pk] job_id uuid [ref: > job.id, not null] technician_id text [ref: > technician.hr_id, not null] reason_code
```

```
text [ref: > reason_code.code, null] note varchar(250) [null, note:
'check length <= 250'] created_at timestamptz [not null] }
```

§4 Relationships & Cardinality

mandatory

2 decisions

1 evidence rule

validators: every\_relationship\_has\_bidirectional\_cardinality\_and\_on\_delete · polymorphic\_references\_are\_justified\_exceptions

| Relationship            | Cardinality (both ways)                                                             | On delete                                                  | Note            |
|-------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------|-----------------|
| Job · Assignment        | one job holds zero-or-many assignment events; each event belongs to exactly one job | restrict; jobs archive, never cascade                      | identifying     |
| Technician · Assignment | one-to-zero-or-many / exactly-one                                                   | restrict                                                   | none            |
| Technician · Position   | one-to-zero-or-many via vehicle mapping                                             | scheduled purge, not cascade                               | non-identifying |
| ReasonCode · Assignment | zero-or-one / zero-or-many                                                          | restrict; a code in use retires in its list, never deletes | none            |

No junction tables; no polymorphic references. Stated, so their absence is a fact and not a gap.

§5 Constraints & Invariants

mandatory

1 decision

1 evidence rule

validator: frd\_rule\_realizations\_cite\_both\_ways

*Invariants beyond keys, each in business terms and its enforcement form. The FRD owns the business rule; this section owns its storage realization; the two cite each other, neither restates.*

| Invariant (business terms)    | Enforcement                                              | Handshake                                                                  |
|-------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------|
| One active assignment per job | partial unique index on assignments(job_id) where active | <a href="#">FR-010<sup>[5]</sup></a> cites this row; this row cites FR-010 |

| Invariant (business terms)                    | Enforcement                                            | Handshake                                          |
|-----------------------------------------------|--------------------------------------------------------|----------------------------------------------------|
| Override<br>note never exceeds 250 characters | check <code>length(note) ≤ 250</code>                  | <a href="#">FR-012 fit criterion<sup>[5]</sup></a> |
| Reason code required on the override path     | application-enforced; the rule spans the override flag | enforcement split recorded, with reason            |

§6 Enumerations & Reference Data

mandatory

1 decision

1 evidence rule

validator: every\_enum\_list\_has\_owner\_and\_storage\_decision

| List                 | Storage                             | Owner (adds values)                                                                                 | Values                               |
|----------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------|
| ReasonCode           | reference table, ships as seed data | Product lead; additions are a product decision ( <a href="#">open question OQ-2<sup>[5]</sup></a> ) | RC-01 ... RC-06, meanings in the tab |
| Job lifecycle states | application constant                | Engineering lead; states change with code, not configuration                                        | created · assigned · completed · a   |

No other closed lists exist; stated.

§7 Indexing Strategy

mandatory

2 decisions

1 evidence rule

validators: every\_index\_row\_cites\_access\_pattern · every\_fk\_indexed\_or\_exception\_justified

Every index cites the access pattern it serves; "performance" is not a pattern. Volumetrics appear exactly where they drove a decision.

| Index                                           | Access pattern served                                                         | Trade acknowledged                                                                                                                                                  |
|-------------------------------------------------|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| assignments(job_id) partial unique where active | Idempotent acceptance (AC-010 <sup>[5]</sup> ; US-2 row AT-2 <sup>[3]</sup> ) | none                                                                                                                                                                |
| positions(vehicle_id, observed_at desc)         | Latest-position reads at 400 rows/min peak (scale frame <sup>[1]</sup> )      | Write cost on an append-heavy table, seen and accepted; ~500k rows/month before purge drove this composite and the 30-day cadence (volumetric note <sup>[6]</sup> ) |
| assignments(technician_id, created_at)          | Day-view timeline (mobile flow <sup>[5]</sup> )                               | none                                                                                                                                                                |

All foreign keys indexed; no exceptions this project.

§8 Migration & Versioning

conditional · engaged: job authority moves at cutover 1 decision 1 evidence rule

validator: transitional\_structures\_carry\_removal\_triggers

**Policy:** expand-and-contract; breaking changes to consumer-visible structures owe the field-tools team 90 days notice (API surface<sup>[1]</sup>).

TRANSITIONAL: NAMED SO TEMPORARY CANNOT BECOME PERMANENT

jobs.source\_system exists during pilot to mark scheduler-mastered rows; removal trigger: cutover day plus one verification cycle (Pilot cutover plan<sup>[7]</sup>).

§9 Open Questions

mandatory

1 decision

| Question                                                                               | Owner       | Answer by    | Blocks                                                       |
|----------------------------------------------------------------------------------------|-------------|--------------|--------------------------------------------------------------|
| Does assignment archival move to cold storage at year two of the seven-year retention? | E. Sandoval | Sep 15, 2026 | The archival index decision only (lifecycle <sup>[1]</sup> ) |

Omission note (how §8 renders on a greenfield project): "§8 Migration & Versioning omitted: pre-launch greenfield schema, no live consumers. Rationale recorded in adaptation event #2."

Refs References & Package Contents

In this export package

- package [5] Functional spec: Recommendation rules (FR ids, validation rules) ./frd-recommendation-rules.docx
- package [6] Volumetric note: position growth and purge cadence ./analyses/position-volumetrics.html

In the Specira workspace

- specira [1] Architecture: data chapter (system of record, lifecycle, contracts, scale) app.specira.ai/projects/dispatch-modernization/artifacts/architecture#data
- specira [2] Security requirements: data protection classification app.specira.ai/projects/dispatch-modernization/artifacts/security-requirements#data-protection
- specira [3] Story set: assignment recommendations (US-2, US-3 rows) app.specira.ai/projects/dispatch-modernization/artifacts/user-stories
- specira [4] Glossary: governed terms (TERM ids) app.specira.ai/projects/dispatch-modernization/artifacts/glossary
- specira [7] Decision: pilot cutover plan (job authority transfer) app.specira.ai/projects/dispatch-modernization/decisions/93