

# The data contract

An interface is where meaning dies, and a contract is how it survives. Five clauses gather facts the earlier layers already established and put them at the boundary where they have always been lost — written, versioned, owned on both sides.

**RECORD** Five clauses, what each gathers, and the defect class it retires

| CLAUSE             | WHAT IT GATHERS                                                                                               | DEFECT CLASS IT RETIRES                             |
|--------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| <b>Identity</b>    | Which points, named how, resolving to which assets in the model.                                              | Joining the wrong pump.                             |
| <b>Semantics</b>   | Quantity kind, unit and its single authority, calibrated and plausible range, quality vocabulary and mapping. | Unit assumptions of the Mars Climate Orbiter class. |
| <b>Shape</b>       | Payload schema, encoding, retrieval semantics wherever history is served.                                     | Payload drift; interpolation lies.                  |
| <b>Tempo</b>       | Update behaviour, step semantics, latency class, timestamp claims — whose clock, which moment.                | Step data read as continuous; clock confusion.      |
| <b>Stewardship</b> | The named owner each side, the change process, the notice period for breaking changes.                        | Silent breaking change.                             |

**ASK** What keeps a contract from becoming shelfware

- **Is the payload validated at the boundary?**  
Schema validation rejects a malformed message loudly at entry, not three consumers downstream.
- **Does anything check delivered points against the contracted list?**  
Automated point-list checks, on a schedule. Without them the list is an aspiration.
- **Does the payload carry a contract-version field?**  
Both sides can then detect drift as it happens, rather than excavating it afterwards.
- **Has every consumer stated its policy for non-good quality?**  
Exclude, hold last, or degrade its own output flag. A consumer with no stated policy has the policy of pretending everything is fine.
- **Who converts, and does the conversion declare itself?**  
Units have one authority per point, propagated and never re-guessed. Any layer that converts says so; no layer converts twice.

## THE BOUNDARY THIS CARD CARRIES

The contract records what a number *is*; it does not establish that any value is correct. Quality propagates and is never laundered — an average of mostly-bad samples is a bad average and must say so. This card sets no units, ranges, quality mappings or notice periods, and authorises no interface, schema or namespace change.