EPC GROUP · POWER BI & MICROSOFT FABRIC

Power BI & Microsoft Fabric for Epicor Prelude

Make the BI numbers match the ERP — and keep them matching.

Why Prelude reporting breaks in Power BI

Four structural mismatches between MultiValue and the relational model Power BI expects. Every failed Prelude BI project we have seen traces to at least one of these going unaddressed.

1. Nested attributes create silent fan-out

MultiValue stores multivalued and subvalued attributes inside a single record — a sales order line can carry several lot allocations, ship-to splits, or kit components in one field position. Flattening those into rows multiplies the parent record. Extended price gets counted once per child value. Revenue inflates, nobody notices for a quarter, and trust in the model is gone.

> **Fix:** extract parent grain and child grain as separate facts. Never let an allocation detail sit on the same row as an order-line amount.

2. Dictionary-computed fields don't exist in the data

A large share of what users see on a Prelude screen is produced by I-type (virtual) dictionary items — expressions evaluated at read time, not values stored on disk. Dump the file, and the field is simply absent. This is the single most common cause of “the extract doesn't match what the screen says.”

> **Fix:** inventory the dictionary before writing a line of ETL. Every I-type feeding a reported number gets either replicated in the transformation layer or materialized at extraction. Both paths get documented and unit-tested.

3. Numbers are scaled integers

MultiValue stores decimals as integers with the decimal position carried in the dictionary conversion code. An MD2 field storing 12345 means 123.45. Pull it raw and every currency figure is off by a factor of one hundred — or a thousand, on MD3 fields. Mixed scaling across files makes the error non-uniform and hard to spot.

> **Fix:** conversion codes are read from the dictionary and applied programmatically, not hand-mapped per field.

4. Dates and times are integer offsets

MultiValue internal dates count days from December 31, 1967. Times are seconds since midnight. Neither is a date type to Power BI without explicit conversion. Get one of these wrong and fiscal-period reporting is off by decades, not days.

The reconciliation harness

The reason Prelude BI projects lose executive support is not that the dashboards look wrong. It is that one number is off, someone catches it, and every other number becomes suspect. We ship an automated reconciliation harness alongside the model:

- **Control-total tickets.** Each fact reconciles to an ERP-native control total on every refresh — invoiced sales to the sales journal, AR fact to the AR trial balance, inventory value to the stock valuation report. Variance beyond tolerance halts publication rather than shipping a wrong number.
- **Row-count and checksum validation** between source extract and landed bronze, catching truncated or partial extracts before they reach silver.

- **DAX measure regression tests.** Core measures execute against a frozen test dataset with known expected results. Any change to the model runs the suite first.
- **Fan-out detection.** Automated check that fact row counts against source parent-record counts stay within expected ratios. Catches the multivalue explosion class of bug the day it is introduced.
- **Documented tolerance thresholds.** Rounding differences between MultiValue scaled arithmetic and DAX are real and expected. Defining acceptable variance up front is what separates a finding from a fire drill.

How the engagement runs

Phase 1 — Assessment (2 weeks, fixed fee).
Dictionary inventory, source file profiling, existing star schema asset audit, jurisdiction and residency mapping, extraction pattern decision. Deliverable: architecture document, reconciliation target list, and a fixed-fee proposal for Phase 2. No hourly exposure.

Phase 2 — Foundation (typically 6–10 weeks).
Extraction layer, bronze/silver, conformed dimensions, first two subject-area stars — usually Sales and Inventory. Reconciliation harness live. Gateway clustered. First production reports.

Phase 3 — Expansion.
Rental, Service, Procurement subject areas. Fabric migration where applicable. Self-service enablement and a governed workspace structure.

Ongoing — Managed analytics.
Refresh monitoring, reconciliation alerting, model change management, quarterly performance review. Fixed monthly.

All phases fixed-fee against defined deliverables.

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