**Introduction: Revisiting Credit Time Series Granularity – A Decade in the Making**

**Hook:**  
"Granularity has always promised better risk transparency. But in Credit, it's a promise we put on hold—until now."

**Background – Credit Risk Enhancement Program (2020–2021):**  
A major initiative was launched with broad goals to enhance credit risk data and modeling:

* Scope included:  
  ✅ Loan time series  
  ✅ CTM for CDS  
  ✅ Distressed bond treatment  
  ✅ BQR-CQR unification  
  ✅ More CDX tenors  
  🔄 *More granular corporate curves* (Issuer, Sector, Region) — **not implemented**
* **Why Credit Granularity Was Deferred:**
  + Moving to **issuer/sector-level granularity** in Mars would have triggered a **material model change** under Basel 2.5, requiring DSR/IRC **revalidation and regulatory approval**
  + **FRTB** was expected to replace Basel 2.5 and reduce capital → **decision was to wait**
  + Funding and priority shifted to **Vasara** and **EMR**, seen as more future-proof
  + **Technical constraint:**
    - Mars uses **RVF+** (delta-gamma approx) and can’t handle full issuer-level config
    - Vasara/EMR supports **full revaluation and flexible curve configs**
* **Conclusion back then:**  
  Enhancing issuer-level time series within Mars/RFDM was seen as **low ROI** and **high regulatory risk**  
  → *Put on hold until FRTB and new platforms mature*

**2023–2024: The Push for Granularity – Challenges Uncovered**

**1. Data Source Debate: FO vs. Vendor**

* **Initial Requirement:** Use **Front Office marks**  
  ❌ *Not realistic*: FO can't mark the entire bond universe consistently
* **Fallback:** Use **ALGO-derived YTW**  
  ⚠️ Issues:
  + YTW hard to convert into prices
  + Not a **relative** measure (no clear spread vs benchmark)
* **Resulting Solution:** Build a **waterfall** pricing approach (e.g., EPX logic)

**2. Constituent Selection & Reference Data**

* Aim: Normalize issuers based on **idiosyncratic features**:
  + Coupon type, frequency, age, sinking fund status, seniority, etc.
  + Adjust yields to par coupon to create a cleaner comparison
* **Unresolved Questions:**
  + Which bonds to include?  
    → Fixed, option-free only? What about floaters or senior/sub bonds?
  + How to weight bonds in curve construction?  
    → Equal weight vs. duration-weighted? Factor in age or issue size?

**3. Curve Methodology Dilemmas**

* How to build the **shape** of the curve:
  + Use existing **reference curve**?
  + Use a **shape curve** and scale?
  + Or **construct shape from scratch**?
* **Fallback Mechanism for Illiquids (XVA Proxy logic):**
  + Use **proxy curves** for unobservable issuers
  + Bootstrap implied CDS spreads from **Full Config Pricer**
    - Example: *Lehman Brothers* curve reconstruction

Here is a visual slide summarizing the **2023–2024 efforts toward Credit Time Series Granularity** across three major themes:

1. **Data Source Debate** – Why FO marks and ALGO YTW weren’t sufficient.
2. **Constituent Selection** – Complexities in defining and normalizing bond groups.
3. **Curve Methodology** – Choices in curve shaping and handling illiquid issuers using proxy logic and full reval CDS bootstrapping.

