**PRD-05 — Variants, Packs & BOM/Kit Mapping (Cascade Classification)**

**New.**  
**Intent:** Model variants (color/size), packs (2-pack), kits/BOM; classify correctly.

**Flow**

1. Define **VariantGroup**; inherit base attributes + override specifics (weight, content, encryption flag).
2. **Pack/Kits:** parent product referencing items with quantities (BOM).
3. Classification resolution: kit inherits **most restrictive** ECCN/controls among components; HS by HS rules (e.g., set by principal component).
4. Cascade: any component classification change triggers kit impact re-eval.

**Acceptance:** kit line shows derived classification + “via components” evidence; re-eval fires on component changes.