ZOZO's Open-Source Cloth Physics Engine Lands in Blender

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ZOZO, Japan's largest fashion retailer, released a Blender 5 add-on for its open-source physics engine ppf-contact-solver on April 30, 2026. The solver handles cloth, soft solids, and rope using Finite Element Method simulation, which models deformable bodies as a mesh of small interacting elements. It guarantees what rival tools usually do not: meshes never intersect, and triangles never stretch beyond a user-set limit like 1% or 5%. The largest tested scene

resolves over 180 million contact points on a single NVIDIA GPU. The method was published in ACM Transactions on Graphics at SIGGRAPH Asia 2024. The add-on can offload work to a remote GPU, so a macOS laptop can drive a simulation on a Linux server, and exposes every tool over an MCP server, letting an LLM build a scene from a sentence.

Cloth simulators that do not clip or stretch like rubber have historically meant Houdini's Vellum or Marvelous Designer, which run from hundreds to thousands of dollars per seat per year and lock you into proprietary scene formats. ZOZO's solver is Apache 2.0, so commercial use is free and the source is auditable. Renting an NVIDIA L4 GPU on vast.ai costs about $0.50 per hour, and a draped sheet over a sphere finishes in roughly 3.5 minutes for $0.10 on AWS. A solo creator now gets production-grade cloth at running costs measured in cents.

This continues a wider unbundling of high-end creative software via MCP-driven AI orchestration, picked up earlier when Anthropic connected Claude to Blender, Adobe, and Ableton in Claude for Creative Work. The bottleneck has moved from owning a studio rig to renting a GPU for the afternoon.

Sources:

- ZOZO's Contact Solver on GitHub
- Official Blender Add-on Documentation
- A Cubic Barrier with Elasticity-Inclusive Dynamic Stiffness, ACM TOG Vol. 43 No. 6 (SIGGRAPH Asia 2024)
- New Open-Source Physics Engine For Blender Released, 80 Level (May 20, 2026)
- The Official Blender Add-on for ZOZO's Contact Solver, PixelSham (May 20, 2026)
