Separate Paper entity activation range from tracking range

An entity that becomes invisible at a distance and a mob that stops behaving normally at a distance are different symptoms. On Paper, tracking settings influence which entity information reaches a client, while activation settings influence how actively certain loaded entities tick. Increasing both together can obscure the cause and add unnecessary work.

Describe the exact symptom

Choose one reproducible example in a safe test area. Record the world, entity type, player position and distance at which the problem appears. Note whether a second player standing nearby changes the result. A villager trading hall, a moving dropped item and a decorative display are different test cases; do not assume one category's setting covers all three.

Record the server build and download `spigot.yml` before editing. Inspect the relevant `world-settings` entries, including the default section and any named-world override. Paper's inherited Spigot settings remain relevant even when other world options live in Paper's own files. Use the reference matching your installed release rather than transplanting a complete 26.x example into 1.21.11.

Understand the two controls

`entity-activation-range` controls distance-based activity for categories such as animals, villagers and miscellaneous entities. `entity-tracking-range` controls how far entity information is sent to players. Tracking distance can also interact with the server's entity broadcast range percentage. These settings are distinct from chunk view distance and simulation distance.

A tracking adjustment will not load an unloaded chunk or guarantee that a farm ticks. An activation adjustment will not necessarily make a distant display visible. Check whether the entity and its chunk remain loaded before deciding that either range is responsible. Plugins can also alter entity

behaviour or visibility independently.

Test a narrow change

Stop the server cleanly. Change one existing category value in the correct world section, keeping the original value in your notes. Use a modest positive adjustment tied to the measured symptom rather than a very large number. Do not set every activation range to zero as a general optimisation: current Paper documentation describes zero or below as disabling this throttling for that category.

Save, start and inspect the console for parsing errors. Repeat the same test from the same positions with the same ordinary account. Then check another nearby build that depends on that entity category. Compare tick performance and player reports during a representative workload before retaining the setting.

Recover and escalate

If the change does not address the symptom, restore the original value and restart before testing a different control. Keep a short record of what changed and what you observed. Avoid stacking speculative edits until the server seems different but the reason is unknown.

If the entity disappears completely or its saved state changes, preserve logs and investigate plugins or world data separately. Do not delete entity files, reset chunks or restore the entire world to troubleshoot a range. Provide support with the entity category, world, effective settings and reproducible distance test.

Related help

- Tune Minecraft view distance and simulation distance
- Diagnose Minecraft lag with TPS, MSPT and spark
- Find Minecraft logs and send useful troubleshooting details

Reference

Paper reference for activation and tracking ranges. Server properties including entity broadcast range.

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