You Need a PostgreSQL Restore Plan

About me

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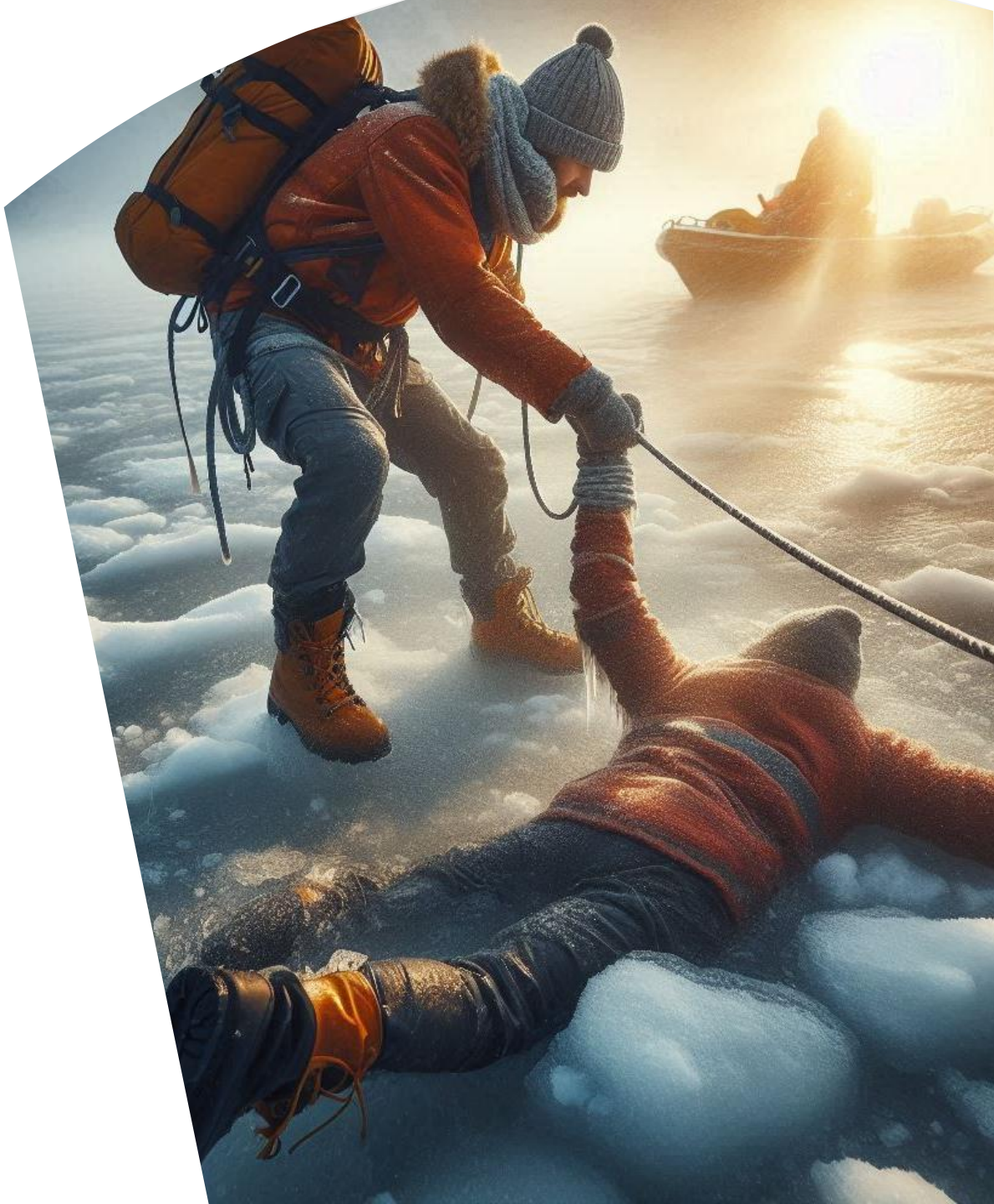
Session Goals

- Understand how to define RPO and RTO
- Learn how to meet those requirements with PostgreSQL
- Discover additional protections for your backups

Restores, not Backups

You're only as good as your last restore.
-Kimberly Tripp



Organizational Continuity

- Feces occurs!
- The org doesn’t care
- They must be educated

Real Issues

- Code Spaces
  - 2014
  - Total loss
- ARRL
  - 2024
  - Substantial outage
- Travelex
  - 2020
  - Exchange disruptions and bankruptcy

Recovery Point Objective

Measured in time, how much data can we lose?

Recovery Point Objective

- RPO – Recovery Point Objective
- Yes, the first answer is ALWAYS zero
- Zero isn’t possible
  - Well, no one wants to pay for it

Recovery Point Objective

- Take the RPO and work backwards
- Combine backup methods to meet RPO

Recovery Time Objective

How long will it take to restore the database, based on the RPO?

Recovery Time Objective

- Once again, the org will say zero
- Physics dictates reality

Recovery Time Objective

- RTO is limited by data size
- RTO is limited by backup types
- RTO is limited by hardware
- RTO changes over time

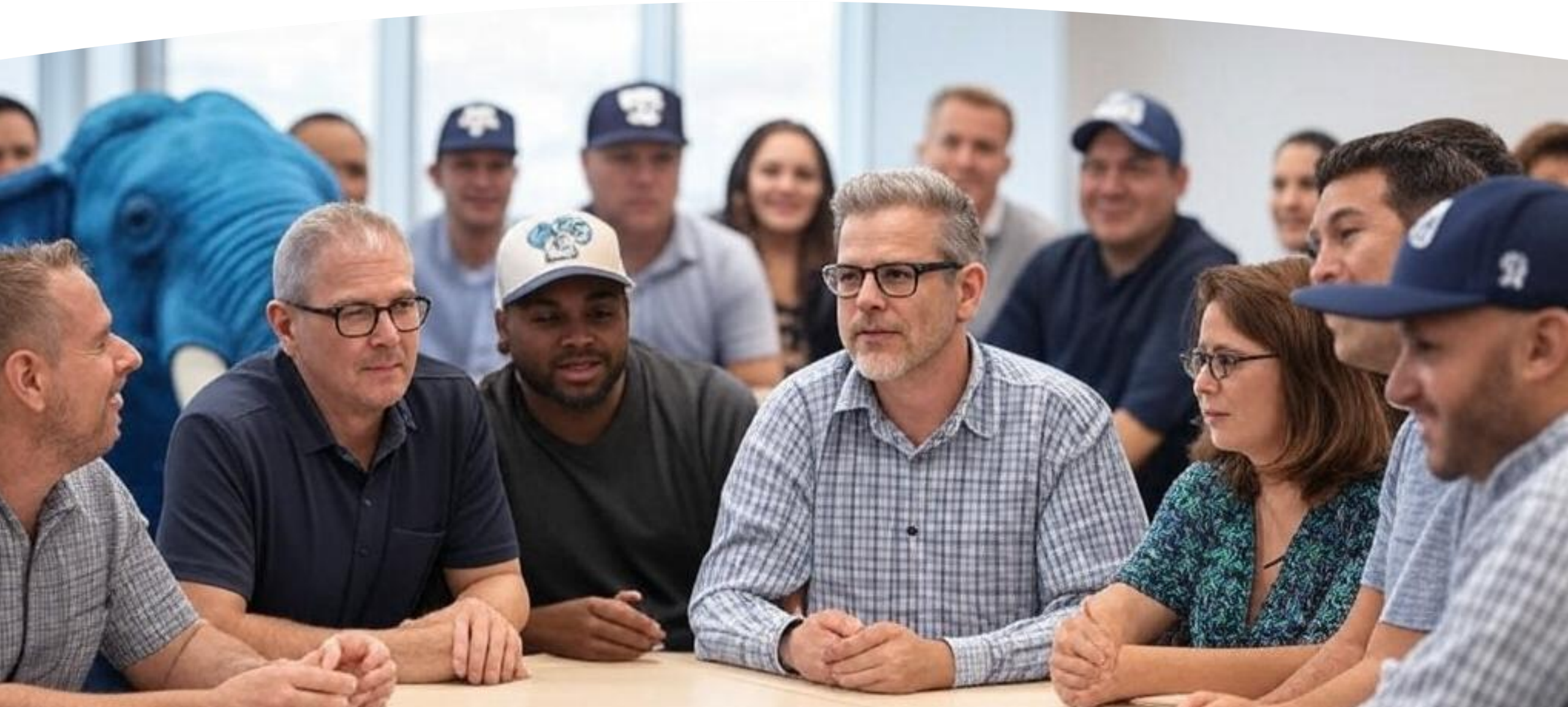
Recovery Time Objective

- RTO is established through testing
- RTO must be retested regularly
- All test results should be published

Tools for Building RPO

- pg_dump/pg_dumpall
  - Not a true backup
- pg_basebackup
- 17+, --incremental
- WAL archiving
- Scheduler (cron, whatever)
- 3rd Party (not our focus)

RPO Discussion



Scenario #1

We have a nightly data load, so we can afford to lose all the data since the previous load

Scenario #2

We can lose up to four hours of data.

Scenario #3

Losing five minutes of data will hurt, badly, but we can live with it

Backup Best Practices

- Make sure you have drive space
- Schedule your backups
- Understand how backups work
- Monitor backups
- Test your backups

Restore Best Practices

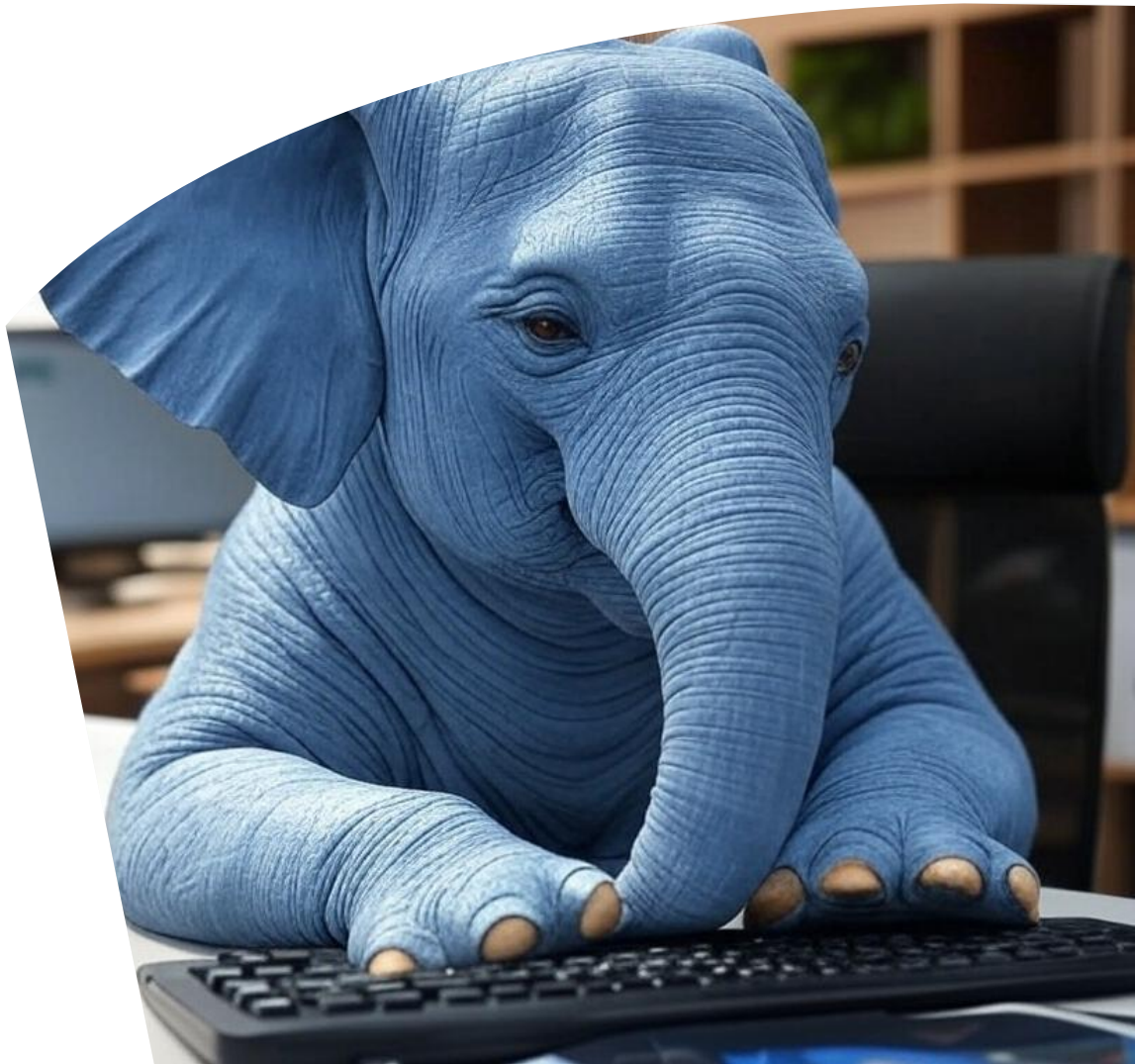
- Practice
  - Practice
    - Practice
- Be sure you’re on the right server
- Re-examine your backup plan
- “Your backups are only as good as your last restore”

Backup Testing

- pg_verifybackup
- Backup logs
- RESTORE
  - Like nuking from orbit, the only way to be sure

redgate | It's Not Only Backups

- Replication
- Automated failover
- Delayed replicas
- Enable data checksums
- Cloud architectures
- 3rd party solutions



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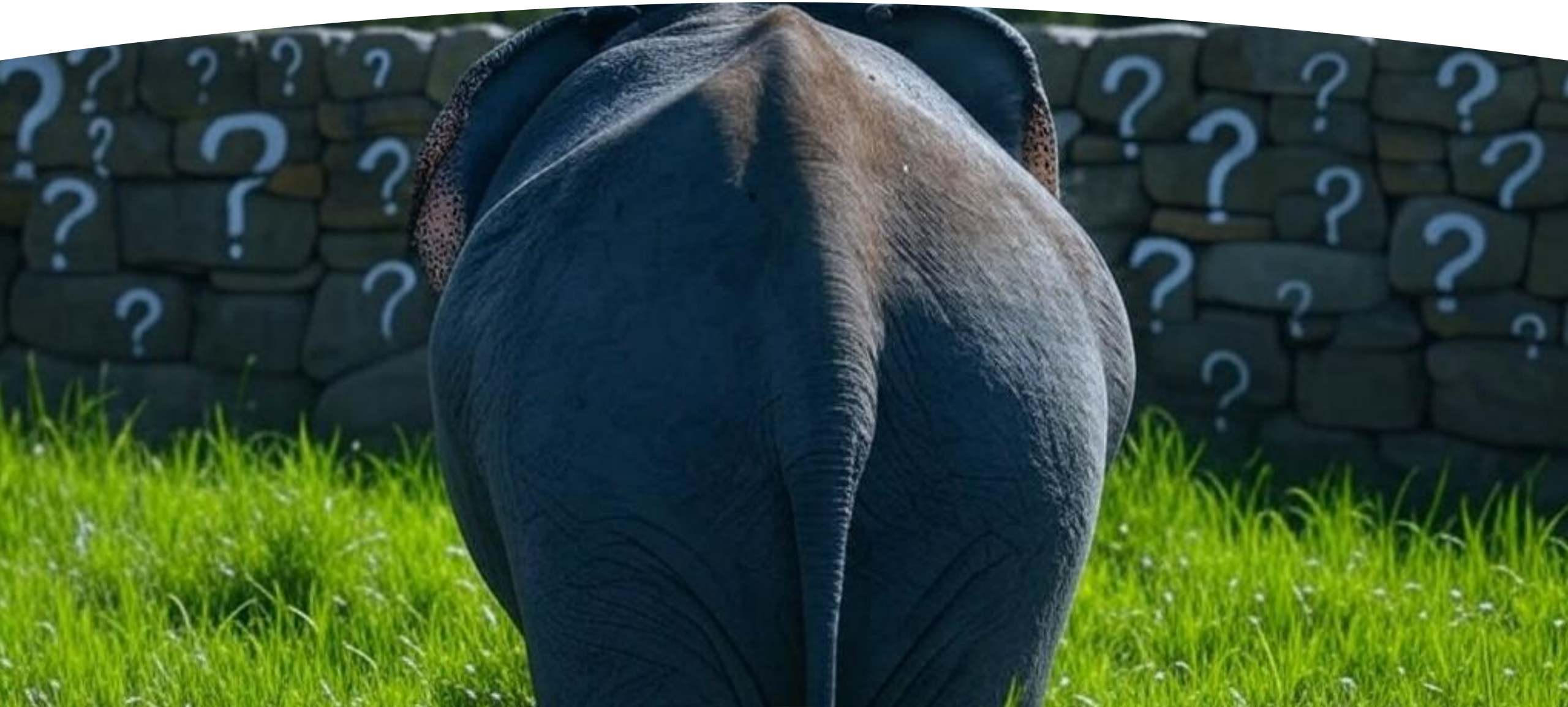
Questions?



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