The Aspersa Toolkit

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O'Reilly MySQL Conference & Expo 2011
Percona Server

- Replaces MySQL
- Faster Queries
- More Consistent
- More Measurable
- More Features
Percona XtraBackup

- Backs Up InnoDB
- Non-Blocking
What's Aspersa?

- It's a snail, and the target of Twitter spam
- No, seriously, it's Bash (and some Perl) tools
Aspersa On The Web

- http://code.google.com/p/aspersa

This project is a repository of simple utilities written in various reformatting data for convenient use, and performance profiling developed by consultants at Percona, where the author works.

- User's manual and documentation
- Mailing list for help and support
- Issue tracker for bugs and feature requests
- Commercial MySQL support and consulting
Today's Agenda

- diskstats
- ioprofile
- summary
- mysql-summary
- stalk, collect, and sift
Installing Aspersa Tools

- Don't install: just wget, or curl, or fetch, or GET.
- `wget aspersa.googlecode.com/svn/trunk/<tool>`
The diskstats tool

- An iostat replacement for Linux
- Better than iostat!

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Live diskstats demo
Diskstats If You Missed The Demo

- Interactive, key-driven operation
- Separate stats for reads and writes
- Correct utilization and busy-ness statistics
- Easy to drill down into disks and time periods
- Trivial to collect data for later usage
- Lightweight, no need to “install”
- No dependencies – just awk/grep/etc
- I prefer it even when iostat is installed!
The ioprofile Tool

- Uses strace and lsof to see what files consume a process's IO time.
- Be careful with production servers; strace has been known to leave them in a weird state.
Live ioprofile demo
Ioprofile If You Missed The Demo

- Prints out a profile of files and function calls
- MySQL 5.5 has the Performance Schema, which is the Right Way To Do It instead.
- Simplified screenshot:
The summary Tool

- Pretty-formats a system overview
- Easy to email
- Easy to diff
- Does lots of things like checking RAID status
Live “summary” demo
The mysql-summary Tool

- Pretty-prints a MySQL server overview
- Similar goals to “summary” (diffable, etc)
Live “mysql-summary” demo
The stalk/collect/sift triad

- Capture system information when triggered
- Extremely helpful for diagnosing problems
- Very MySQL-oriented

Three parts:
- Stalk looks for something “wrong” and fires collect
- Collect captures tons of information to files
- Sift lets you browse these files easily
Why So Important?

- Diagnosing problems is trivial when:
  - You have all the data you need.
  - It is properly scoped.
  - You have good tools for looking at it.
  - You know what you're looking at.
- When you don't have good data?
  - Simple problems drag on for months.
Don't Roll Your Own

- This tool combination sounds simple, but isn't
- Lots of little details are important to get right
  - Example: don't collect data if it'll fill up the disk
The Most Important Step

• Correctly defining “abnormal” is vital
• If you don't get this right, you get
  • False positives: waste of time, creates doubt
  • False negatives: you don't resolve the problem
• The tool *must* be configured
  • There is no one-size-fits-all configuration!
How stalk works

- The stalk tool runs a check periodically
- If the results are out of range, it fires collect
- The default check is Threads_connected > 100
  - This must be customized!
- Create a stalk.conf file for configuration
Starting Stalk

- Open a “screen” session
- Run “stalk” as superuser
- Wait for results. (You can make it email you.)
Interpreting Results

- Collect collects a LOT of data.
- Wading through it by hand is miserable.
- Use the sift tool.
  - Start it with the directory where collect saved data.
  - Use interactive key-driven functionality to browse.
  - Zoom in on places that look troublesome.
Live “sift” demo
Sift, If You Missed The Demo

- Use “vim” keys k and j to navigate between samples
- Use the ? key to find out what keys are active
- Dig into samples that show something wrong
  - If you set up your config right, this is hopefully the first sample :(
Stalk/Collect Long-Term

• This started as an install-when-needed tool
• It might be a good idea to let it run ALL the time
  • It auto-purges old samples and won't fill your disk
• Example:
  • My server's Threads_running is always 5 to 15
  • Set it up to capture when Threads_running > 25
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baron@percona.com