

RAID recovery – Entropy analysis

Applied

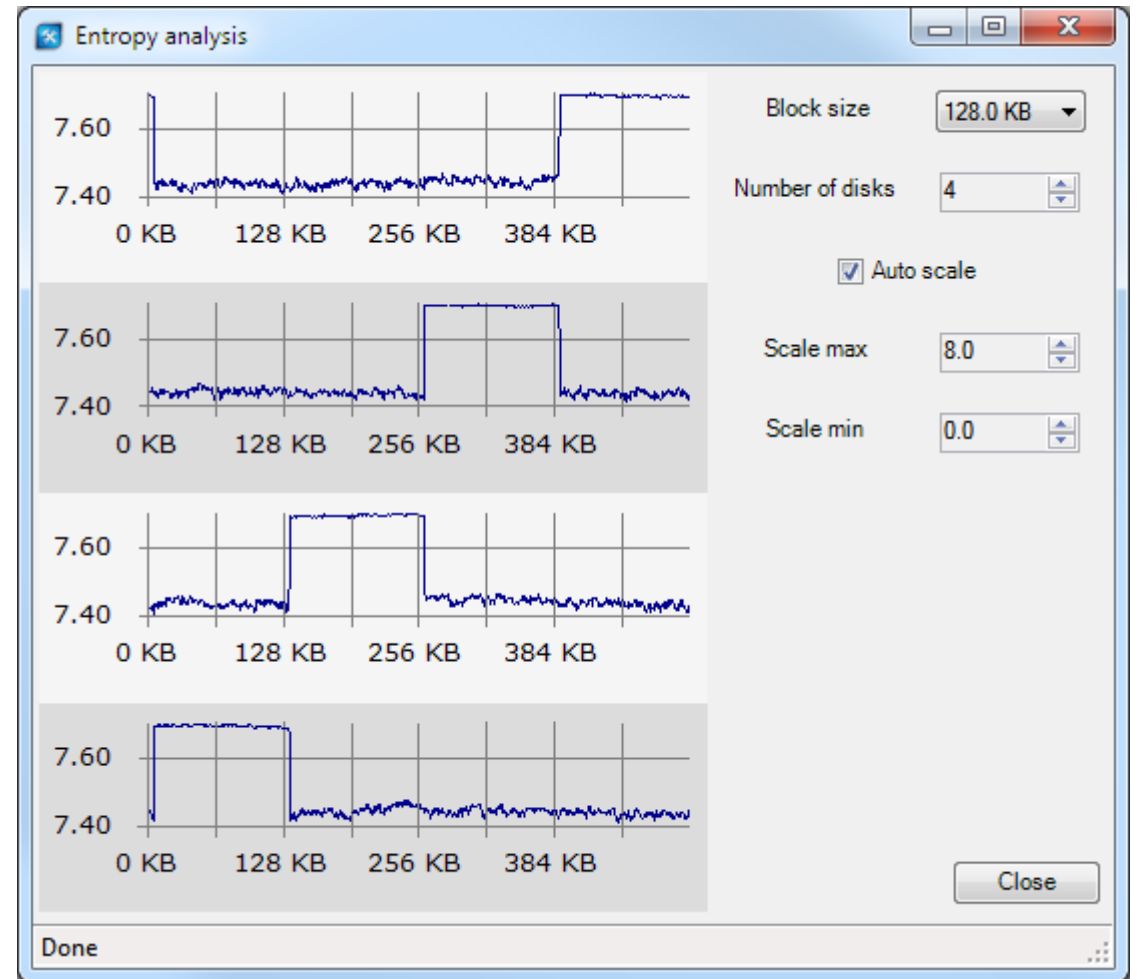
- after content analysis
- to parity-based arrays – RAID 5 and RAID 6

What you get

- **visual representation of parity blocks**
- block size
- number of disks
- disk order ideas
- spot stray and hotspare disks

Process

1. change settings
2. make pictures match expectations



Theory of entropy

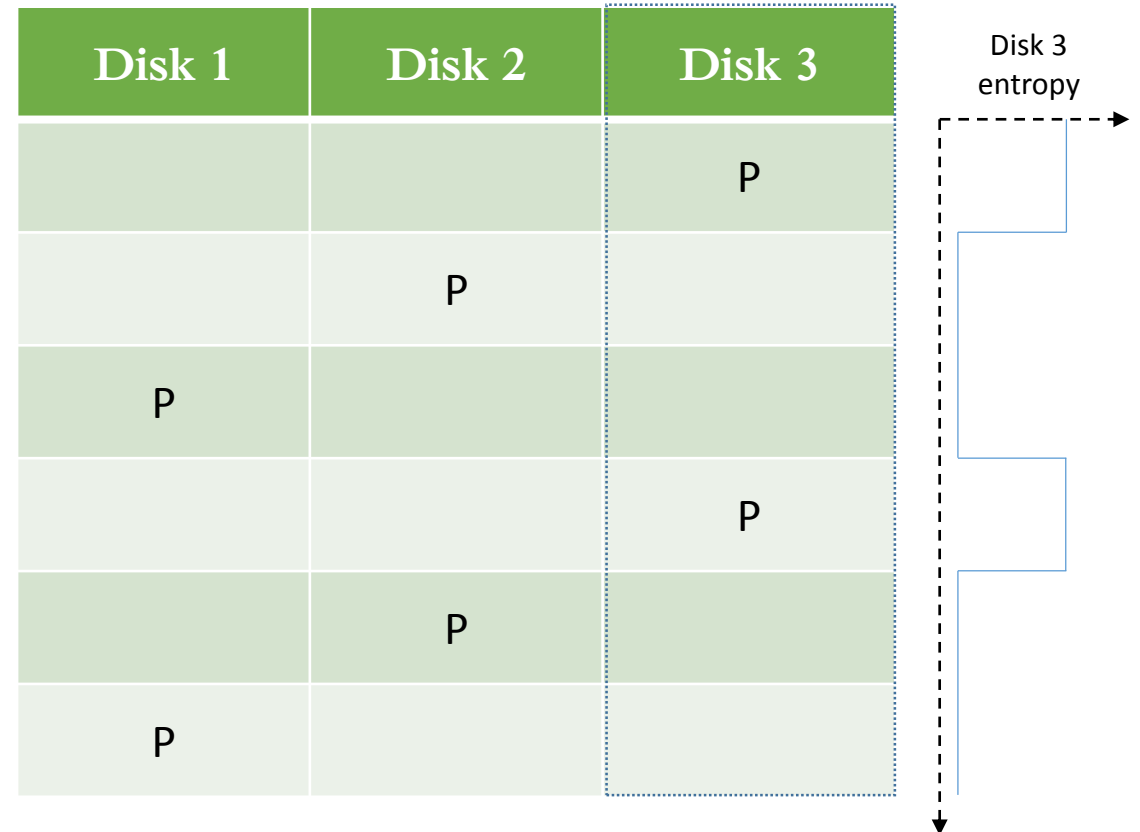
Entropy is a measure of data randomness

More order, less entropy

- text – low entropy
- videos/images – higher entropy

Entropy in RAID

- parity entropy is higher than data entropy



Typical pictures in entropy analysis

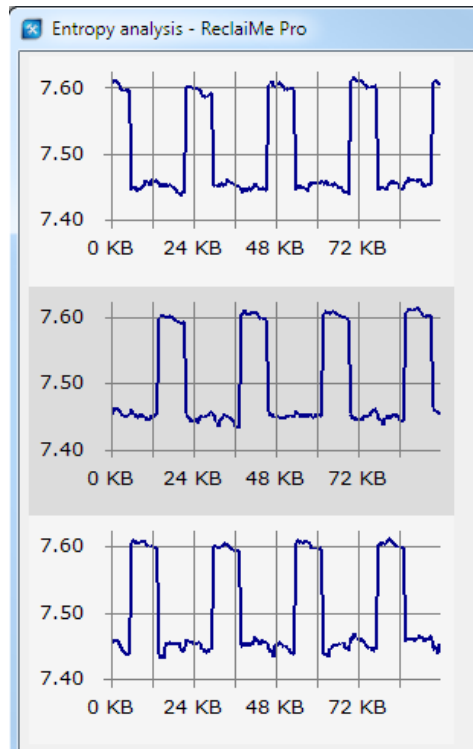
Correct picture

- has one peak per disk
- peaks do not overlap

How to get

- vary block size
- vary number of disks

Wrong picture



Correct picture

