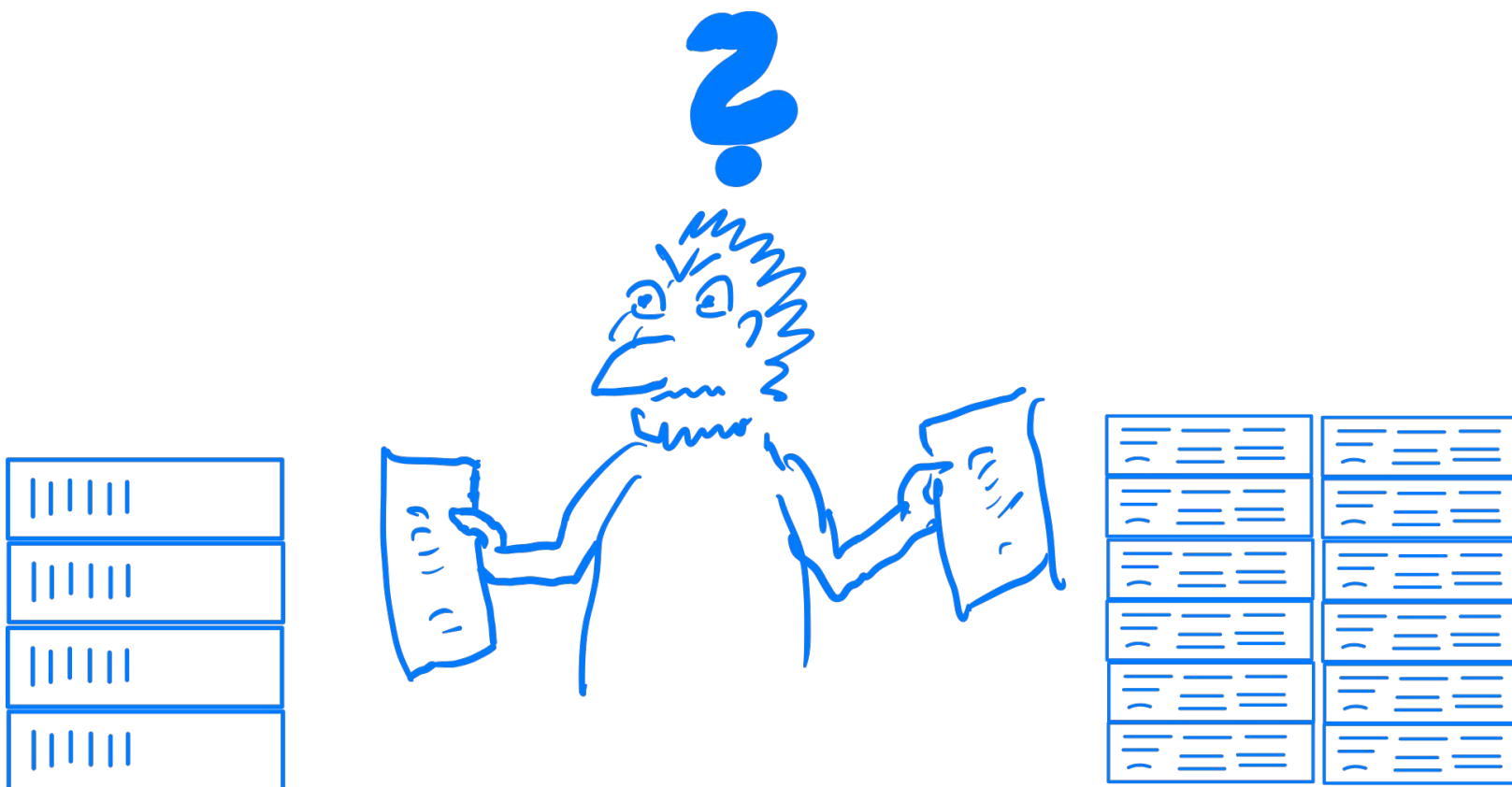# A Generic Ceph Sizer for the Community

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My new Ceph cluster, but ….

The aim

Create a tool that helps with:

- quickly creating a list of BOMs for a cluster design

- reflecting the possible hardware combinations of h/w vendors

- recording the desired workloads with specific options

- reflecting stretched designs across DC (or failure domains)

- quickly getting an overview of the resulting BOM per h/w config

- getting an overview of the server configuration as per h/w config

- quickly applying changes

- …. and do all this with as little deep Ceph knowledge as possible

The done list

Things working:

- multiple chassis configurations

- multiple workload configurations

- load & change & apply:

    - prepared h/w chassis configs

    - workload configs reload

    - #replica, multiple failure domains

    - e.g., flash portion, object size, #versions

- comprehensive list of multiple BOMs

- overview of server configs per DC per BOM

- some first config errors

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A Ceph sizer for capacity, configuration, and subscriptions

	(ignored in calculation - input only)	(used for calculation)
	TiB	**TB**

Converter from TiB into TB:
(value not applied - calulation only; only TB used in calc)

[Convert]   [   ]   0

All servers have the same NIC, cores & mem in config ?	◉ Same config	○ Different config
All servers have the same number and types of media for capacity in config ?	◉ Same config	○ Similar config
All servers have the exactly the same number and types of media in config ?	◉ Exactly same config	○ Media config apply to slots available
HDDs use separate servers ?	◉ Separate servers for HDD	○ Mix HDD and flash on servers
SSD with dedicated but combined RocksDB/WAL use separate servers ?	◉ Use separate servers	○ Use same servers
SSD with dedicated RocksDB/WAL and dedicated WAL or NVMe with dedicated WAL use separate servers ?	◉ Use separate servers	○ Use same servers

----

Chassis config file load: [Choose file] No file chosen   Workload config file load: [Choose file] No file chosen

----

Error messages: [none]   **Information & Warnings:** [none]

[Apply changes]

Available chassis configuration options	#slots max HDD of all drive slots	#slots max SSD of all drive slots	#slots max NVMe of all drive slots	# max slots for HDD, SSD and NVMe (in sum, in drive slots)	# dedicated slots max NVMe (beside SSD or HDD)	#slots for media (in sum)	#CPU sockets max	#vcores/threads per CPU max (1 HT core = 2 vcores/threads)	max MEM size	#PCI slots max	NIC speed per port in Gb/sec for public network	NIC speed per port in Gb/sec for cluster network
Config 1												
Config 2												
Config 3												

The wish list

–

<u>Things on the list (of ideas) – examples:</u>

- variable default settings per resource, e.g.
    - CPU/mem per instance type
    - #NICs, ratio of devices / fronting dev.
- costs per chassis config => cost / BOM
- changeable number of configs/workloads
- adjustment for #instances per type
- Erasure Coding
- performance indication @ h/w & workloads
- export of configs, settings, BOM
- uneven configs for servers, full chassis max

Where ?

https://github.com/mattmuench/ceph-sizer/

Looking for people interested in contributing/helping

- => written in JavaScript (bare bone)

- more hands needed !!!

- polishing of UI needed

- programming – I can't really

- input & review for calculations , documentation, ...

- ideas for everything around performance estimation

- new information about changes in code / configs / etc.

Thank you

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