

CUSTOMER STORY

I Didn't Believe It. So I Tested It.

I'm an engineer with fifteen years of experience in data centers. I knew too much to believe what they told me about maxRAID — and not enough to prove them wrong. So I sent them away. It took me almost a year to do the one thing that would settle it.

Antoine Boucher - Founder, Halton Data Center

maxRAID

THE FIRST MEETING

The conversation ended quickly.

I sent the maxRAID salesperson away in under twenty minutes. For a year, I let that claim sit in the back of my mind while I kept buying hardware. Then, I finally ran the test. Six months after that—having fully realized what those numbers meant—I left the data center I'd spent my career building to go to work for the company that makes it..

I want you to sit with how unlikely that is, because I still do.

He'd told me I could have the responsiveness of RAID-10, use my drives more efficiently, write less to them so they'd last longer, and get compression on top — all at once, from a single change. I'm an engineer with fifteen years in this field. I know what it means when everything in a pitch improves at the same time. It means a bill you haven't found yet. Performance, capacity, endurance, cost — you trade among them, and you don't get to stop trading. So I did what your instincts are telling you to do right now. I showed him the door.

I was right to. That instinct has saved me from worse pitches than his. The only thing it ever got wrong was this one — and it took me a year to find out, and another six months to admit what finding out had done to me.

> "I knew too much to believe him, and not enough to prove him wrong."

If you're reading this, you've already made my first decision. You've seen the claim and filed it where it belongs: too good to be true. Good. Keep that. I'm not going to argue you out of an instinct I share and respect.

I'll tell you one thing instead — the thing that eventually pulled me back. It isn't a trick, and it isn't four separate miracles. It's a single engineering idea. It's patented, and when you finally see it, your first reaction won't be doubt. It'll be irritation that you didn't think of it yourself.

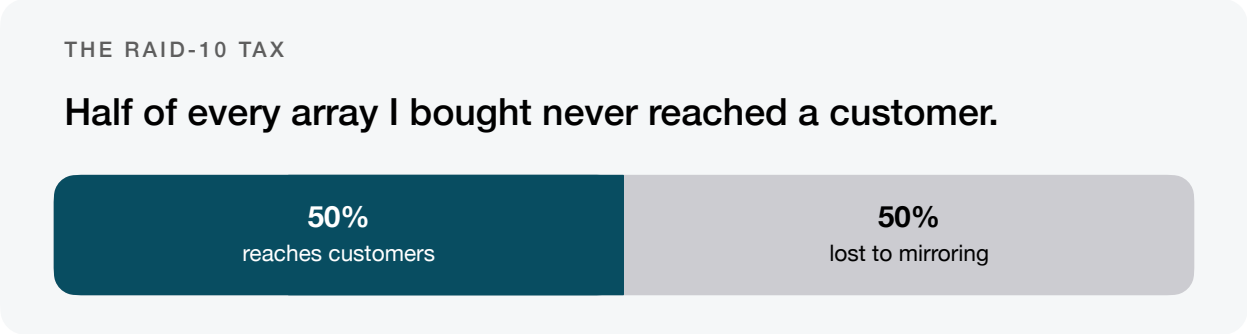
That's the whole reason I tested it. It's the whole reason I'm writing to you now instead of running my racks.

THE COMPROMISE

RAID-10's wasted capacity was the price I paid for performance.

My customers never saw a single one of my storage decisions. They saw the result and felt it in the most personal way: they knew when an application answered the instant they asked, and when it made them wait. Nobody opens a ticket that reads "your response time is eight-tenths of a millisecond too high." They just feel the hesitation — and they remember it.

So I built for response, and for years, that meant RAID-10. Familiar, predictable, fast. I also knew exactly what it cost me because I paid for it every time I grew. Roughly half of every array I bought went to mirroring. I paid for every drive, powered it, cooled it, monitored it, and replaced it when it wore out — and only half of what I'd paid for ever reached a customer.



The pattern never changed. Add up the raw capacity, cut it in half, then buy more drives and servers to hold them, and power and cooling for the servers, until the response came back to where my customers expected it. The answer was always more hardware.

I made my peace with that. Every operator does. You call it the cost of doing it properly, and you sign.

What I never made peace with was the claim I'd thrown out in twenty minutes — the one I couldn't quite disprove, sitting in the back of my mind every time I signed for another half-empty array.

THE TURNING POINT

The Year I Spent Deciding Instead of Measuring.

I came back to it for a reason I'm not proud of. Not a clever argument. It just wouldn't leave.

It surfaced at the worst possible moments — usually while I was approving the next hardware purchase. Every signature was a quiet reminder that I'd thrown something out without ever putting it on a bench. And a claim you can't disprove doesn't argue with you. It just waits for the next time you reach for your wallet.

Eventually, I had to be honest about what I'd actually done. Dismissing a claim without testing it isn't skepticism. It's the opposite — it's taking someone's word for it, only in the other direction.

> "A real engineer doesn't believe a vendor. A real engineer doesn't disbelieve one either. A real engineer measures."

WHAT SKEPTICISM ACTUALLY IS

Two of these are guesses. One is skepticism.

Believe it

Trust the vendor — untested.

Dismiss it

Distrust the vendor — untested.

Measure it

Decide on the evidence.

Believing and dismissing are the same move — a verdict with no measurement behind it. Only the third one earns the word.

WHY IT BECAME BELIEVABLE

It Stopped Being Magic.

The strangest part was how simple it turned out to be. It sounds like magic because it's described as four outcomes — faster, leaner, longer-lasting, compressed. Four unrelated wins are exactly what a trained engineer throws straight out, and I did. But it isn't four things. It's one, and the four wins are only its shadow.

maxRAID places the translation layer above the RAID rather than below it. Scattered, random writes are gathered into long, sequential ones and compressed on the way down to the drives. That single move is the cause. Everything else follows from it without anything being added.

HOW IT WORKS

One idea. Four consequences.

THE ONE CHANGE

Writes are reorganized into long, sequential ones — and compressed — before they ever reach the drives.

Faster response

Sequential writes complete sooner.

Longer drive life

Fewer writes reach the media

More capacity

Parity efficiency. Compression shrinks what's stored.

Invisible to the customer.

Nothing changes on their side.

Nothing was bolted on that had to be paid for elsewhere. The work was simply reorganized before it ever reached the drives.

That was the click. The instant I saw it as a single mechanism rather than a list of features, it stopped being unbelievable and started being obvious — and yes, a little annoying. I wasn't won over by a better pitch. The first pitch had failed completely, and it deserved to. I was won over by finally understanding the thing and finding it sound.

THE NON-NEGOTIABLE

The Line I Wouldn’t Cross

There was still one thing I refused to give up, and it nearly ended the conversation a second time.

At Halton, power, network, and cooling are all redundant — and in the places that matter, we keep a backup to the backup, because the first failure should never leave the whole facility leaning on a single surviving part. Storage has to obey the same rule.

RAID-5 survives one dead drive, but the moment it does, its protection is spent. You’re running exposed, hoping nothing else fails before the rebuild finishes. That was never going to be good enough for the people who trust us with their systems. RAID-6 — it keeps running and stays protected after the first failure. But for my entire career, RAID-6 has been charged for that protection in the one currency I couldn’t spare: response.

PROTECTION, COMPARED

	RAID-5	RAID-6	RAID-6 + maxRAID
Survives a drive failure	✓ Yes	✓ Yes	✓ Yes
Still protected after that failure	Exposed	✓ Protected	✓ Protected
Response under load	Slow	Slower	RAID-10-Class

That was the trade I was sure was permanent. It was the exact trade the salesperson said was gone. And it was the thing I could now put a number on.

THE SAME EIGHT DRIVES

Usable, protected capacity from one chassis.



Same eight drives, same rack, same power, same cooling — with stronger protection. More of what you paid for reaches a customer.

I built the test myself, on my own hardware, against the workloads my customers actually generate. No vendor in the room, no demo rig. Just my equipment and a question I'd carried for a year. Then the numbers came back.

MEASURED AT HALTON DATA CENTER

6 × 3.75 TB NVMe · maxRAID, dual parity (RAID-6) · 30% compressible workload · Halton Data Center test

Throughput	*RAID-10-class*	**19,941 MB/s**
Workload IOPS	*70/30 at 4k block size*	**2.463 M** sustained
Heavy Write IOPS	*100% writes at 4k block size*	**2.863 M** sustained
Effective capacity	*30% compressible data - dual parity*	**21.43 TB** RAID-10 - 11.25 TB

> Heavy-write outruns the mixed workload by design — maxRAID linearizes random writes into sequential before they reach the drives, so the harder you write, the more its one change pays off.

I read them once. Then I read them again, slower, looking for the catch — the place where the cost had been hidden, the trade I knew had to be there somewhere. It wasn't there.

Same eight drives. Same rack, same power, same cooling. RAID-6 protection. RAID-10 response. Less wear. More capacity. The compromise I had organized fifteen years of decisions around was simply gone, and nothing anywhere was paying for it. The drives weren't working harder. They were finally working right.

That was the moment — not the sales meeting, not the brochure. A spreadsheet on my own screen, telling me I'd been wrong in the most expensive way there is: by being certain.

THE DECISION

It decided the rest of my career.

I expected the test to tell me whether maxRAID could improve my storage. I didn't expect it to decide the rest of my career.

Once I understood it from the ground up, I couldn't unsee what it meant — I realized I didn't just want to fix the storage efficiency inside my own data center. I wanted to be part of the team fixing it for every operator who was still trapped, paying the same hardware tax I had tolerated for fifteen years. That morning, when I sent the salesperson away, I was one of them. The only thing between us now is a single afternoon of measuring.

So here's the only argument I'll make to you, because it's the only one that worked on me.

If you know too much to believe this — good. So did I, and that instinct is worth keeping. But knowing too much is only half of it. The other half is knowing you haven't proven yourself right yet.

So don't take an afternoon on faith. Take it on falsifiability. One afternoon, against the year I spent deciding without it. If the numbers don't show up on your hardware, you've confirmed your instinct and lost nothing. If they do, you'll be standing exactly where I stood.

And I think you already know what happens there, because it's what happened to me. I looked because I couldn't leave the question alone. I used it because once I'd seen the numbers, not using it stopped making any sense — and I didn't stop at that. I rebuilt my career around it. The looking is the only part that costs you an afternoon. The rest takes care of itself.

THE TEST

Look at it. Then you'll use it.

Test maxRAID on your own hardware, with your own workloads.

6 × NVMe · 70/30 read-write · maxRAID-6 vs mdraid RAID-10

Reproducible benchmark · www.maxraid.com