IBM 75GXP

2000 IBM 75GXP
The infamous Deathstar

Why this Is Important

The Deskstar became known as the Deathstar because of the low regard that users had for the product. Many disk drives have been publicly criticized, but none reached the same level of infamy.

Discussion

The saga started with individuals like the one at http://www.anandtech.com/show/591 who wrote:

> *"What's the use of having the best performing hard drive if you don't know how long it will keep on working?"*

The user at http://ask.slashdot.org/story/01/10/04/0050238/ibm-deskstar-75gxp-hard-drive-failures expressed his hostility in a longer missal.

> *Like a lot of other people, I went out and bought myself a nice 60GB IBM DeskStar 75GXP (ATA100, 7200rpm) hard drive to put in my sparkling new computer. Boy was that a mistake! A few months after I got the drive, it failed with horrific grinding and clicking noises, plus random data loss.*
>
> *So I RMA'd [Return Merchandise Authorization] the first one and got a 'SERVICEABLE USED PART' replacement from IBM, which died of the same death after another few months.*
>
> *Not getting the hint, I RMA'd that one. Last week, I got the refab. drive back from IBM and it has already died, in less than a week!*
>
> *This time I did some site searching and found many people are having problems with this drive. Sites such as The Inquirer, Hexus, Tech Report, Hardware One, Sysopt, and even this PCWorld have dedicated articles, forums and user reviews to these failing and defective drives. From what I can understand, IBM is not publicly acknowledging that they screwed up here.*
>
> *- How many other people out there have had their 75GXP (or 60GXP) drives fail?*
> *- What size were they?*
> *- What part number?*
> *- What did IBM do about it?*

Columnists like Dan Neel at Infoworld climbed aboard the bandwagon on August 29, 2001 when he wrote the headline in http://www.pcworld.com/article/59943/article.html that “Users Complain About IBM's Crashing DrivesDeskstar 75GXP drives failing at an abnormally high rate”.

> *IBM officials say the problems fall within the range of normal failure rates.*
>
> *The culprit is the 7500-rotations-per-minute 75GB Deskstar 75GXP drive with Ultra ATA/100 interface, sources say. The drive debuted in March 2000.*
>
> *Big Blue's Deskstar GXP line of disk drives is designed for desktop PCs, audio/video applications, and RAID controller boards; the drives are available in 15GB, 30GB, and 75GB capacities, according to IBM.*
>
> *Several users of the 75GB Deskstar 75GXP have reported a variety of different failures, including the development of bad sectors on the drive, the CPU mistaking the drive as a smaller*

8GB drive, and the drive simply crashing for no apparent reason.

Several independent Internet test sites, including Guru3D.com, have posted complaints on their sites.

"You would be wise to avoid the IBM 75GB drive with part number dtla307075, which is made in Hungary," one user who requested anonymity says. "Our backup servers use them and I've had three drive failures since Friday."

Another user of the 75GB Deskstar 75GXP, who also requested anonymity, says he reported the problem to his company's RAID controller manufacturer, 3Ware, and that technical support personnel told him the company had been receiving daily calls concerning the failing IBM drives. 3Ware support apparently told him "one customer replaced [the IBM drives] at a rate of 600 to 800 drives per day."

Technical support personnel for Mountain View, California-based 3Ware confirms that calls have been coming in steadily concerning failures with the 75GB Deskstar 75GXP drive. 3Ware has been referring the calls to IBM technical support.

"What exactly the problem is, we can't tell," a 3Ware technical support contact says. "It's not normal though, and the [report levels] are higher than usual."

IBM spokesperson Kim Nzuyen says that Big Blue is aware of problems with the 75GB drives, but they affect only 1 percent to 2 percent of the products shipped.

"We've been shipping [the 75GB drive] successfully. The failures we are experiencing are within normal ranges for desktop drives. There is no epidemic failure," Nzuyen says.

"We do believe the quality and reliability of [the 75GB drive] is very high," she continues. "If any customer thinks they are having a problem, they should certainly contact IBM."

Even though IBM responded by replacing drives, one owner was upset enough to take action, as reported at http://www.theregister.co.uk/2001/10/23/ibm_hit_with_hard_drive/ on October 23 2001.

Michael T. Granito, Jr., an American user of IBM's 75GXP hard drive, filed a class action lawsuit against the company last Tuesday [October 16] for defects in the product causing it to "crash", according to an article on The Tech Report.

Of course, class action means that anyone who happens to purchase one of these drives is now able to join in on the action, sharing the costs of the suit and, potentially, reaping some of the compensation (think Erin Brockovitch, just sans Julia Roberts).

The drive, a 7,200RPM Deskstar 75GB drive, was released on 15 March last year [2000]. At the time, the press release announced excitedly that the drive was "the first IBM drive to use glass disk platters instead of aluminium ... allowing the recording head to read smaller bits of information that are packed more closely together. In addition, glass disks are more stable at higher speeds".

Now, as the complaint reads, "Contrary to IBM representations, the Deskstar 75GXP is defectively designed and/or manufactured such that it is not a reliable HDD and fails to function properly. When the defect manifests by the sudden occurrence of a loud clicking or scratching noise, the Deskstar 75GXP stops operating and 'crashes.' The result of the crash is the irreversible and permanent loss of data and software programs installed on the Deskstar".

Of course, nobody has yet established what is the exact cause of the problem, but IBM has long maintained that it has super cool (and super reliable) drives. The complaint document points to a Big Blue site that discusses 'IBM hard disk drive reliability'.

On February 16 2004, Terren Tong attributed the demise of IBM's disk business to the 'deathstar' saga at http://www.neoseeker.com/news/3127-spotlight-on-ibm-deathstar-again/

> *The IBM Deathstar line of harddrives is still dealing death- to people's data and IBM's reputation as a company*
>
> *The infamous IBM GXP line or the aptly dubbed Deathstar series of hard drives was the source of enough problems and embarassment to pull IBM out of the hard drive market completely. Tech Report has a few links that include the current class action lawsuit and one to a Maximum PC article that provides some pretty damning emails and memos that IBM knew about the problems with the GXPs yet still sold them to consumers.*
>
> *In short, this is one case where the anecdotal evidence, which is all we had at the time we first reported on this story, proved to be pointing us in the right direction. IBM was quite apparently engaging in a pattern of deception and knowingly shipping faulty products to customers while hiding behind rhetoric about standard industry failure rates and the like.*
>
> *I store so much personal information on hard drives now including home videos and pictures that it would be pretty devasting to have a hard drive crash. One of the paper cites failure rates in the range of 6%. It is simply unbelievable about how callous IBM acted in light of these problems.*

It took a few years, but IBM folded, as per this summary that Ryan Block posted on June 28 2005 at http://www.engadget.com/2005/06/28/the-ibm-deskstar-75gxp-drama-is-over/

> *Did you or do you own an IBM Deathstar Deskstar 75GXP drive?*
>
> *You know, one of the ones that were once notorious for having crashed and burned due to what we might lightly refer to as severe manufacturing defects?*
>
> *Certainly you'd know if you did, since so very many people lost data running on that drive; if you were one of them (or just own one of the drives, for that matter), pass go and collect $100 from Big Blue!*
>
> *Owners of DTLA 307-015, 020, 030, 045, 060, or the 075 are entitled to a Benny thanks to a nationwide class action settlement enacted today - you've got until August 29, 2005 to file.*

The following content sourced from http://www.astro.ufl.edu/~ken/crash/index.html provides a graphic depiction of what Ken Sallot discovered when he autopsied a failed drive in April 2003.

Platter crash on an IBM Death Star

Last week we had a hard drive crash on an IBM Death Star which was in one of the Virgo servers. I had not had a chance to migrate that machine yet to TSM at the time of the crash, and was asked to see if we could determine the cause of the crash, as well as to determine if it would be possible to recover any of the data on the drive.

Yesterday, on April 21st 2003, we finally had the opportunity to open up the drive and determine the extent of the failure. This is a documentary of what we found.

The first thing I noticed was that a blue ooze had seeped out of the bottom of the drive. At this point I was concerned that some of the goo had possibly oozed into the drive housing and onto the platters.

Here is a closeup shot of the drive with the blue goo.

The first step was to remove the screws on the drive lid. I suspect this voided the warranty, but we were on a mission.

I had to visit a few different people before I finally found a set of torx screwdrivers in size 8. (note to self: purchase a torx 8 screwdriver from sears).

The lid came right off. The first thing we noticed was that there was a large amount of magnetic dust stuck on the lid of the drive. I wiped my finger in one place just to verify that this was not a part of the original manufacture process.

I wondered where all of that dust came from, and then I saw the platters. That's odd, I've never seen see through platters before.

After popping out the first platter I realized that I was correct. The drive platter was now see through. It appears that the head crash scrubbed the drive so clean that the magnetic substrate has been wiped clean off the platters.

After removing all of the platters from the unit, I noticed that there sure was a large amount of dust inside of the drive housing.

Here's another close-up of the inside of the drive housing. I had wiped my finger on the inside of the housing before shooting this picture.

The damage wasn't limited to just one or two platters. All five of the platters received some level of surface wiping.