

Response to November 2015 Announcements for IBM FlashSystem Sales

“HDS Announces All Flash Systems”

Hitachi Data Systems announced its family of all-flash arrays and improvements to their Flash Module Devices (FMDs). The new series, called the F models, are the same as the dual controller G models but with only FMDs offered as attached devices. There are three models that correspond to the G models: F400, F600, and F800. There is no corresponding F model for the G200 or the G1000. No other functional changes to the hardware or the SVOS software were made. Storage virtualization and the bolt-on HNAS systems continue with the F models.

Block Storage	VSP F400	VSP F600	VSP F800
Maximum Capacity	245 TB internal 16PB external	245 TB internal 16PB external	245 TB internal 64PB external
Maximum flash modules	40	40	40
System bandwidth (GB/sec)	12 GB/s	12 GB/s	24 GB/s
Processor cores	4 x 4 core	4 x 4 core	4 x 8 core
Controller height with service processor	5U	5U	5U
Host ports	32 FC @ 8 Gb/s 16 FC @ 16 Gb/s 16 iSCSI @10Gb/s	32 FC @ 8 Gb/s 16 FC @ 16 Gb/s 16 iSCSI @10Gb/s	48 FC @ 8 Gb/s 24 FC @ 16 Gb/s 24 iSCSI @10Gb/s
Backend paths @ 12 GB/s	16	16	64
Cache size	128GB	256GB	512GB
Max number of LUNs	4,096	4,096	16,384
Local copy pairs	2K	2K	8K
Remote copy pairs	4K	4K	16K

The Flash Module Devices were enhanced with implementation of compression internal to the FMD (there is a four core processor inside each FMD) using a Lempel-Ziv compression algorithm and with increased capacity to 6.4TB. The FMDs still have an adapter to convert from PCIe to SAS for connection to the controller.

With the unique identity of the F models as all-flash, HDS now qualifies in the relatively arbitrary definitions used by Gartner. This removes the issue of whether they have an all-flash array from the sales conversation.

The areas that IBM can challenge Hitachi Data Systems with regard to the new F models include:

- FMDs connect through SAS – mapping to a disk interface and protocol rather than a memory access. This is performance limited for the FMD. The FlashSystem does not access flash modules through a disk interface.
- The system is designed for spinning disk. HDS is continuing to adapt for flash but the underlying architecture is still based on disk.
- F-Series: is based on the dual controller midrange G series with configuration of only FMDs
 - Does not scale
 - No corresponding F model for G1000
 - Did not offer G200 all flash version for low end

Note that the announcement of enhancements to the FMDs, which were included in this announcement, apply to the HDS VSP G series as well. Competitive products to the G Series include Storwize, DS8880 and XIV are subject to the improvements in the FMDs. FMDs should be viewed as another device supported by the F and G Series system, which will have ongoing improvements, usually in the form of greater capacity. This announcement also included capacity increases through compression included in each FMD.