

IBM FlashSystem V9000

IBM FlashSystem V9000 at a glance

Models	<ul style="list-style-type: none"> • 9846/9848 AC3 controllers • 9846/9848 AE3 flash enclosure drawers
System size	<ul style="list-style-type: none"> • Minimum: (1 x AE3 and 2 x AC3) • Maximum scaled-out system: (8 x AE3 and 8 x AC3)
Flash type	IBM-enhanced 3D TLC
Flash module configuration	<p>For each AE3:</p> <ul style="list-style-type: none"> • 6, 8, 10 or 12 3.6 TB modules; • or 8, 10 or 12 8.5 TB modules; • or 8, 10 or 12 18 TB modules <p>Up to 8 AE3 expansions; Up to 4 AC3 pairs</p>
Maximum internal flash capacity	<p>43 TB to 219 TB (effective, assuming 2.5:1 or better hardware compression)</p> <ul style="list-style-type: none"> • 900 TB (effective, assuming 5:1 data reduction) <p>Up to 1.7 PB (effective, assuming 2.5:1 or better hardware compression)</p> <ul style="list-style-type: none"> • 6.7 PB (effective, assuming 5:1 data reduction)
Maximum external storage capacity	External virtualization: Up to 32 PB usable capacity
Maximum performance (100% read, cache miss)	<p>Minimum latency (4K)</p> <ul style="list-style-type: none"> • 180 µs • 180 µs <p>IOPS (4K) with h/w compression</p> <ul style="list-style-type: none"> • 1,300,000 • 5,200,000 <p>Bandwidth (256K)</p> <ul style="list-style-type: none"> • 10 GB/s • 80 GB/s
RAS features	<p>Two-dimensional flash RAID</p> <ul style="list-style-type: none"> • Module-level Variable Stripe RAID • System-level RAID 5 across modules • Hot-swappable flash modules • Tool-less module installation/replacement • Concurrent code load • Redundant and hot-swappable components
Encryption	Data-at-rest AES-XTS 256
Host connectivity options per building block	<p>16 x 16/8/4 Gb Fibre Channel with NVMe-oF support</p> <ul style="list-style-type: none"> • 8 x 10 Gb Fibre Channel over Ethernet (FCoE) • 8 x 10 Gb iSCSI <p>64 x 16/8/4 Gb Fibre Channel with NVMe-oF support</p> <ul style="list-style-type: none"> • 32 x 10 Gb Fibre Channel over Ethernet (FCoE) • 32 x 10 Gb iSCSI
Virtualization software model	5639-RB8
Tiered solution models	9846/9848 12F, 24F and 92F SAS expansion drawers, with each drawer adding up to a further 1.3 PB of storage

Controller CPU	<ul style="list-style-type: none">• Four Intel Xeon E5 v4 Series 8-core 3.2 GHz processors• 16 Intel Xeon E5 v4 Series 8-core 3.2 GHz processors
Controller memory	<ul style="list-style-type: none">• 128 GB standard, up to 512 GB• 512 GB standard, up to 2,048 GB
Dimensions (height x width x depth)	<p>6U in a standard 19 in. rack</p> <ul style="list-style-type: none">• 288 mm x 445 mm x 801 mm <p>4 x 6U blocks in a standard 19 in. rack</p> <ul style="list-style-type: none">• 1,066 mm x 445 mm x 801 mm• <p>Additional AE2 units add 2U or 44.5 mm in height</p> <p>Weight</p> <ul style="list-style-type: none">• 82 kg (181 lb) fully loaded• Up to 736 kg (1623 lb) fully loaded



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