

Compaq AlphaServer GS Series GS80, GS160, and GS320



The *Compaq AlphaServer* GS series at a glance:

- Unstoppable systems with new ultra high availability features
 - Modular design for low-cost entry and incredible scalability
 - The ultimate e-business database engine
 - Unmatched flexibility with partitioning and multiple operating systems supported
 - Choice of 1–32 new generation *Alpha* 21264 processors
 - Up to 4x real-world, real application performance boost
 - Unchallenged performance and price/performance leadership
- For Your E-Business and Mission-Critical Computing Needs*
- **Ready for anything, and backed by experience.** With generations of rock-solid performance on record, *AlphaServer* systems represent the world's most sophisticated server solutions, with 24 x 365 availability, proven scalability, and legendary reliability at your fingertips. The *AlphaServer* GS series thrives on tough jobs — from turning explosive eBusiness growth into profit, to processing data by the terabyte.
 - **Investment protection for generations to come.** This is it. We've reached a price/performance breakthrough in platform scaling and growth capacity for the ages. You can get into the *AlphaServer* GS series today in a low-cost single processor system, and grow to 8, 16, or 32 CPUs in a heartbeat. Plus, you are in perfect position to migrate seamlessly to future *Alpha* systems that will offer unheard-of capacity. You may never have to consider another server solution. Ever.
 - **The new age of the high performance server is here.** In the *Compaq AlphaServer* GS series, you've acquired maximum performance. No one else can give you the application performance we can. And we can do it at a price that beats other high-end RISC/UNIX servers, which means you get more for your money. In fact, the *AlphaServer* GS series delivers price/performance leadership that lets you redefine what is possible.

COMPAQ
NonStop™

Compaq AlphaServer GS80, GS160, and GS320 systems



Compaq
AlphaServer
GS80

The foundation for the way e-business will be done

The *Compaq AlphaServer* GS series running *Compaq Tru64 UNIX* or *Compaq OpenVMS* provides a rock-solid foundation for your *Compaq NonStop™* eBusiness and mission-critical computing solutions — giving you a competitive advantage for generations to come.

Compaq NonStop™ eBusiness solutions represent a total commitment of hardware, software, and services from a world technology leader that is designed to help you profit from the explosive growth opportunities of the Internet.

We've taken the same *AlphaServer* qualities that have driven productivity to radical heights in mission-critical environments, and applied them to the new world of e-business computing. And they map perfectly, whether you seek ultra-high availability with incredible scalability. Unmatched investment protection. Or unstoppable performance with price/performance leadership.

Moreover, Compaq's total commitment to you includes a complete services offering that can be tailored to your unique environment. From uptime guarantees, to upgrades, to storage, to networking and so much more, Compaq delivers unrivaled support from a single provider with over 27,000 professionals in over 100 countries.

So when you add it all up, you'll see that there is no question. The *AlphaServer* GS series provides the most solid foundation for your e-business and mission-critical computing solutions today — and for years to come.

availability

Mission-critical computing

What would you ask for in the perfect server for mission-critical computing? Unstoppable systems with ultra-high availability? A family of systems that easily scales to meet the most demanding growth requirements? Unmatched flexibility? Unchallenged performance and price/performance leadership?

With the introduction of the new *Compaq AlphaServer GS* series, you no longer have to ask. We can deliver all of that... plus a lot more.

No matter which criteria you select, the *AlphaServer GS* series simply can't be beat.

What makes the *AlphaServer GS* series so unstoppable? First off, our advanced new system architecture is engineered to provide the maximum uptime your customers demand, with a full set of ultra high availability features that surpass anything any other RISC/UNIX vendor is delivering — features such as online repair and replacement of critical components, full monitoring of all critical elements, and redundant consoles for complete control over the system.

And that is just the beginning. Your new *AlphaServer GS* series will be unstoppable for years to come, with an advanced modular design that allows you to buy into the *AlphaServer GS* series at an extremely low and attractive price point.

Plus, our new design pays off when it comes to handling explosive growth. You'll scale quickly and easily — no matter how much added performance or capacity you may need — by keeping your infrastructure intact, rather than replacing it every time you experience a growth spurt.

Yet our ability to scale quickly is coupled with incredible flexibility. Every *AlphaServer GS* system can be partitioned to run multiple operating systems — or multiple copies of the same operating system — allowing you to run *Compaq Tru64 UNIX* and *Compaq OpenVMS* separately but simultaneously.

And what about performance?

Rest assured, *AlphaServer* systems are the #1 performance leader in RISC/UNIX servers. We've been there since 1992, and that's where we are determined to remain. So, when you are seeking the real-world application performance that means everything to your bottom line, you can be confident you've invested in a winner with *AlphaServer* systems.

Plus, the *AlphaServer GS* series delivers the absolute best in price/performance at all levels. So whether you are seeking to match the performance of another server at a much lower price, or blow its performance away for the same price, you get more value for your money with Compaq.

Where does all that performance come from?

It's in the chips... and in the system design. Second-generation *Alpha 21264* processors — the fastest on the planet — combine with advanced cross-bar switch technology to set a new standard for application performance in a complete, proven 64-bit solution that no other vendor can approach.

Take a look at a few of the benefits of the *Compaq AlphaServer GS* series:

- *Ultra high availability features such as online repair, hot-swap components, and clustering mean you have the tools to meet customer demand for 24 x 365 computing*
- *Advanced modular design means you buy only what you need today, with the assurance that you can keep your infrastructure intact when you scale up*
- *Incredible flexibility through a mix of multiple operating systems means you have control over how and where you allocate the system's resources*
- *Superior performance and revolutionary cross-bar switch technology mean you get real, measurable value for your IT dollars in a system that delivers more application performance and scalability than any RISC/UNIX server in history*



Customer Successes

"The new (AlphaServer) GS series (gives) us the capabilities and flexibility to better manage our environment, better respond to changes in the needs of performance... (and) increase the overall reliability of the environment."

Peter Flack

Vice President of Information Services
Best Western International

What sort of industries need the new AlphaServer GS series?

There aren't many industries that couldn't benefit from the availability, flexibility, and performance of the new AlphaServer GS series. Whether you're working with an Internet Service Provider that needs the ultimate in availability. Or scientific research where companies are pushing the limits of computational modeling.

Or you're a telecom provider that needs incredible scalability to handle triple-digit growth curves. Or you need raw performance to power a business intelligence solution that will turn data into profit. Or you need blow-out application performance to increase productivity that directly improves your bottom line.

Whatever business you are in, you owe it to yourself and to your company to see what the new AlphaServer GS series can do for you.

Let's talk delivery. What can we do for you? Today. Right now.

When you make the Compaq AlphaServer GS series your choice for a complete server solution, you'll find we deliver on all counts.

We deliver continuous, unbroken availability. With unmatched capacity and the ability to meet even the most acute demand spikes — such as servicing 100,000 Internet hits one day, and five million the next — we will be there. And you'll be online. No "ifs, ands, or buts."

Plus, we deliver the headroom to support explosive growth. And that's nothing new for Compaq. This requirement has always been a critical element of the Alpha platform. But, more than that, the Compaq AlphaServer GS series is engineered to deploy during rapid growth with no disruption of your environment.

And finally, we deliver a seamless continuity among all our AlphaServer systems. Whether you start small with a single-processor Compaq AlphaServer DS10 system — or go for it all with a fully configured Compaq AlphaServer GS320 system, loaded for bear with 32 of the fastest processors on the planet — you can get there from here.

And you'd need the highest performing application engine... correct?

The AlphaServer GS series delivers application performance considered impossible not that long ago. And with more than 12,000 robust Alpha applications to choose from, you will find the right program to get the job done.

So whether you need a window to the World Wide Web. Or you're running mission-critical, enterprise-wide business or database applications like SAP, Oracle applications, SAS, PeopleSoft, or BaaN. Or you run unique scientific engineering applications. The Compaq AlphaServer GS series has all the capabilities you need. And more.

The ultimate Oracle e-business engine

Oracle and Compaq are breaking new ground to deliver a complete solution greater than the sum of its parts. Building on the Alpha platform, Oracle engineers optimized a new VLDB (Very Large Database) design around the incredible capabilities of the Alpha VLM64 (Very Large Memory).

The result? Compaq AlphaServer GS systems unleash Oracle's database performance and capacity, delivering over 4x the compute performance and 9x the memory capacity of our previous system. Plus, with the new ultra high availability features of AlphaServer GS systems supporting Oracle's incredible performance, you have the ultimate eBusiness database engine.

Compaq AlphaServer GS80, GS160, and GS320 systems facts and features

	<i>Compaq AlphaServer GS80</i>	<i>Compaq AlphaServer GS160</i>	<i>Compaq AlphaServer G320</i>
CPU	<i>Alpha 21264A</i>	<i>Alpha 21264A</i>	<i>Alpha 21264A</i>
Number of processors	Up to 8	Up to 16	Up to 32
Cache size on chip	64 KB I-cache, 64 KB D-cache	64 KB I-cache, 64 KB D-cache	64 KB I-cache, 64 KB D-cache
Cache size on board	4 MB per processor	4 MB per processor	4 MB per processor
In-cabinet upgrades	CPU, I/O, memory, storage	CPU, I/O, memory, storage	CPU, I/O, memory, storage
Configurations			
Maximum memory	64 GB*	128 GB*	256 GB*
Maximum internal disk storage	252 GB	504 GB	504 GB
Maximum total disk storage	85 TB	85 TB	85 TB
Maximum I/O bandwidth	3.2 GB/sec	6.4 GB/sec	12.8 GB/sec
Maximum I/O support	Up to 56 PCI slots on 16 buses	Up to 112 PCI slots on 32 buses	Up to 224 PCI slots on 64 buses
Aggregate bandwidth	12.8 GB/sec	25.6 GB/sec	51.2 GB/sec
Operating environment			
Temperature	5° to 35° C 41° to 95° F	5° to 35° C 41° to 95° F	5° to 35° C 41° to 95° F
Relative humidity	10% to 90% (non-condensing)	10% to 90% (non-condensing)	10% to 90% (non-condensing)
Power supply	Single-phase, N+1 hot-swap power optional	Three-phase, N+1 hot-swap power optional	Three-phase, N+1 hot-swap power optional
Enclosure characteristics			
Height	170.0 cm (67.0 in)	170.0 cm (67.0 in)	170.0 cm (67.0 in)
Width	60.0 cm (23.6 in)	140.0 cm (55.1 in)	200.0 cm (78.8 in)
Depth	100.0 cm (39.4 in)	100.0 cm (39.4 in)	100.0 cm (39.4 in)
Approximate weight without batteries	260 kg (575 lbs)	600 kg (1340 lbs)	850 kg (1760 lbs)

The following information applies to all three *Compaq AlphaServer GS* series systems

Warranty	
Hardware	One-year, on-site
Software	90-day SPD conformance, with advisory telephone support
Reliability/high availability features	
<i>OpenVMS</i> Clusters	Ethernet, DSSI, FDDI, CI, Memory Channel 2 Interconnect
UNIX Clusters (<i>Tru64 UNIX</i>)	<i>TruCluster</i> Available Server, <i>TruCluster</i> Production Server, Parallel Software Environment, Memory Channel 2 Interconnect
High-availability features	Auto reboot, redundant consoles, thermal management, multi-path I/O, optional redundant power, RAID, disk and power hot-swap, memory failover, ECC memory, ECC cache, ECC system bus, SMP CPU failover, error logging, optional battery backup, and optional Uninterruptible Power Supply (UPS). CPU and I/O hot-swap in a future release of the operating systems.
I/O options	Ethernet, Fast Ethernet, Gigabit Ethernet, FDDI, Token Ring, sync. comm., async. comm., ATM, UltraSCSI, FWD SCSI-2, RAID, HiPPI, Fibre Channel, CI (<i>OpenVMS</i>), IPI
Software features	
Operating systems	<i>Tru64 UNIX</i> , <i>OpenVMS</i>
Standard software	Internet-Energized, <i>Compaq Insight Manager</i> , UPS Power Management
Performance	

For the latest information on performance, please visit www.compaq.com/alphaserver

*This capacity available October 2000

AlphaServer GS160 and GS320 part numbers

Systems

AlphaServer GS160 Model, 8 Base Package (<i>Tru64 UNIX/OpenVMS</i>)	DA/DY-160BC-AA/AB
AlphaServer GS160 Model, 16 Base Package (<i>Tru64 UNIX/OpenVMS</i>)	DA/DY-160CC-AA/AB
AlphaServer GS320 Model, 24 Base Package (<i>Tru64 UNIX/OpenVMS</i>)	DA/DY-320DC-AA/AB
AlphaServer GS320 Model, 32 Base Package (<i>Tru64 UNIX/OpenVMS</i>)	DA/DY-320EC-AA/AB

Memory

1 GB Base Memory Module	3X-MS8AA-BB
2 GB Base Memory Module	3X-MS8AA-CB
4 GB Base Memory Module	3X-MS8AA-DB*
1 GB Memory DIMM Upgrade	3X-MS8AA-BU
2 GB Memory DIMM Upgrade	3X-MS8AA-CU
4 GB Memory DIMM Upgrade	3X-MS8AA-DU*

I/O Expansion Buses

PCI I/O Expansion Drawer for System/Expander Cabinets	3X-DWWPA-AA
PCI I/O Master Expansion Drawer for System/Expander Cabinets	3X-DWWPA-BA

Communications Controllers

PCI 10/100-Mbit 64-Bit, 2-Port Fast Ethernet	3X-DE602-AA
PCI Gigabit Ethernet Adapter, SC Connectors, MMF	DEGPA-SA
PCI FDDI Adapter (SAS/DAS)	3X-DEFPA-AC/DC
PCI to ATM 155 Mbit Adapter-Fiber	3X-DAPBA-FA
PCI to ATM 622 Mbit Adapter-Fiber	3X-DAPCA-FA

* Available October 2000



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