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AMD said Wednesday that it has revamped its server and workstation processor roadmap, but has also committed to supporting the current architecture through several years.

Randy Allen, corporate vice president and general manager of the server and workstation business at AMD, said that the current [Barcelona](#) chip, now fixed, offers better performance per watt at a lower price than the Xeon processors from [Intel](#).

But in AMD's new roadmap is also a commitment to 45-nm manufacturing processes from Barcelona's successor, Shanghai, through to the two new additions to AMD's roadmap: Sao Paolo, a 6-core chip, and Magny-Cours, a 12-core processor. Both are due in 2010, about a year after rival Intel plans to shift to the 32-nm process technology with its Westmere core.

AMD's roadmap was reworked to "strengthen its alignment with end-customer priorities," Allen said in a statement issued in conjunction with the reworked roadmap. Those priorities include "platform longevity," code for a standard architecture that doesn't change. The revamp comes at a sensitive time for AMD, which must endure a shareholder meeting Thursday amid rumors that its "asset lite/asset smart" strategy might involve separating the company into two units, one responsible for manufacturing, and the other for chip design.

The shift to Shanghai is still on track for later this year; the four-core chip will feature a level-3 cache that measures 6 Mbytes in total, three times that of the current Barcelona chip, Allen said. However, the Shanghai will also be a drop-in replacement to the Barcelona, and use the same cooling solution. A new addition: HyperTransport 3.0 for improved processor-to-processor communication.

After Shanghai comes "Istanbul," a new 6-core server processor with 6 Mbytes of L3 cache, due in the second half of 2009.

Beyond that, however, AMD's roadmap is more unsettled. Gone is the "Montreal" chip that AMD described last fall; in its place are both the Sao Paolo and Magny-Cours processors. Each chip appears to marry a megabyte of L3 cache with each core; the Sao Paolo has 6 Mbytes, while the Magny-Cours has 12.

Both of AMD's new cores will include four HyperTransport 3.0 links, a significant improvement over the three HyperTransport 1.0 links included in Socket F chips. Both cores will also include AMD-V virtualization support. Both cores will be part of the "Maranello" platform replacing Socket F. In addition to the HyperTransport 3.0 support, Maranello will support DDR-3, rather than the DDR-2 technology used in Barcelona and Shanghai. The latter chip supports DDR-2 800 memory, an improvement over the DDR-2 667 memory used with Barcelona. Maranello will also use only AMD chipsets, specifically the RD8905, RD8705, and AMD SB7005.


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AMD's single-processor workstation roadmap is a bit more organized. The "Budapest" four-core chip -- a 65-nm chip that includes a single HyperTransport 3.0 link and 2 Mbytes of level-3 cache -- will be released during the second quarter of 2008. "Suzuka," also a four-core processor, is due in the second quarter of 2009. It will essentially be identical, feature-wise, save for being manufactured on a 45-nm node and including 6 Mbytes of L3 cache. Both Budapest and Suzuka support virtualization.



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AMD Multiprocessor Server/Workstation Roadmap
AMD's official roadmap for multiprocessor servers. (Source: AMD)

Server/Workstation Roadmap

MP/DP Platforms – 8000 and 2000 Series



Platform Segment	2008	2009	2010
 <p>CPU</p>	<p>"Barcelona" 4-Core</p> <ul style="list-style-type: none"> • 2M L3 • RDDR-2 • 3x HT-1 • AMD-V™ • 65nm 	<p>"Shanghai" 4-Core</p> <ul style="list-style-type: none"> • 6M L3 • RDDR-2 • cHT-3 • AMD-V • 45nm 	<p>"Istanbul" 6-Core 2H09</p> <ul style="list-style-type: none"> • 6M L3 • RDDR-2 • cHT-3 • AMD-V • 45nm
			<p>"Magny-Cours" 1H10</p> <p>12-Core</p> <ul style="list-style-type: none"> • 12M L3 • Probe Filter • 4x HT-3 • HTC • U/R DDR-3 • APML • 45nm • AMD-V <p>"Sao Paulo" 1H10</p> <p>6-Core</p> <ul style="list-style-type: none"> • 6M L3 • Probe Filter • 4x HT-3 • HTC • U/R DDR-3 • APML • 45nm • AMD-V
Chipset	<p>Nvidia nForce 3600/3050 Broadcom HT-2100/1000</p>		<p>AMD RD890S w/IOMMU AMD RD870S w/IOMMU AMD SB700S</p>
Platform	<p>Socket F (1207)</p> <ul style="list-style-type: none"> • 3x HT-1 (moving to cHT-3) • DDR-2 (Dual Channel) 		<p>"Maranello"</p> <ul style="list-style-type: none"> • 4x HT-3 • DDR-3

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AMD's Single-Processor Server/Workstation Roadmap


AMD's roadmap for uniprocessor servers and workstations. (Source: AMD)

Server/Workstation Roadmap



UP Platforms – 1000 Series



Platform Segment	2008	2009	2010
 <p>CPU</p>	<p>"Budapest" 4-Core Q208 • 2M L3 • DDR-2 • 1x HT-3 • AMD-V™ • 65nm</p>	<p>"Suzuka" 4-Core Q209 • 6M L3 • DDR-3 • 1x HT-3 • AMD-V • 45nm</p>	
Chipset	<p>Nvidia nForce 3600/3050 Broadcom HT-2100/1000</p>	<p>AMD RS780 AMD SB700S</p>	
Platform	<p>Socket AM2 • HT-3 • UDDR-2</p>	<p>"Catalunya" • HT-3 • UDDR-3</p>	