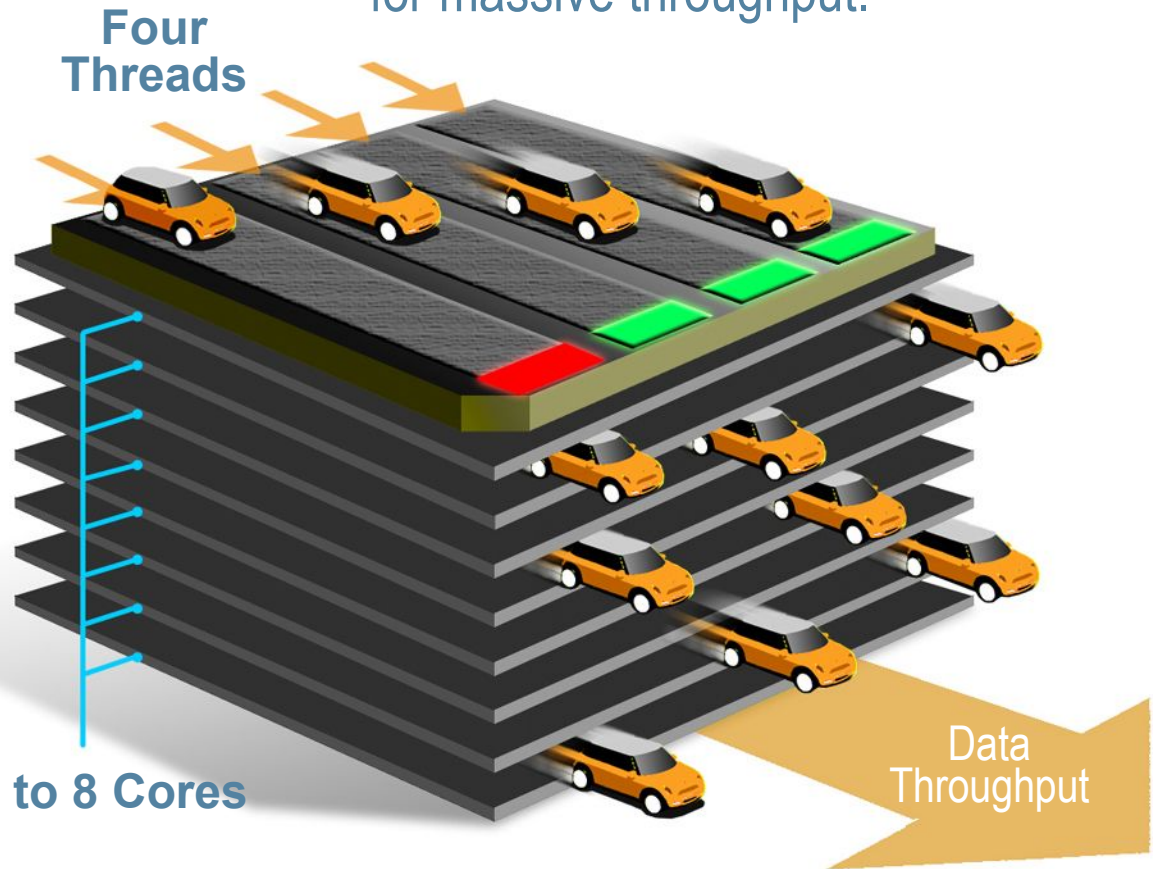


Sun UltraSPARC T1

The **UltraSPARC T1** incorporates eight computing cores, processing four concurrent threads per core, for massive throughput.

- Instead of processing threads sequentially, the UltraSPARC T1 processes them concurrently.
- When one thread stalls, waiting for memory, another can execute, and when it stalls another executes, and so on, up to four threads. By the time the fourth thread stalls, the first thread has its data from memory and starts up again.
- Concurrent processing, or multithreading, means a processor that would otherwise waste the majority of its cycles waiting for data to be fetched from memory can actually spend those cycles doing useful work.



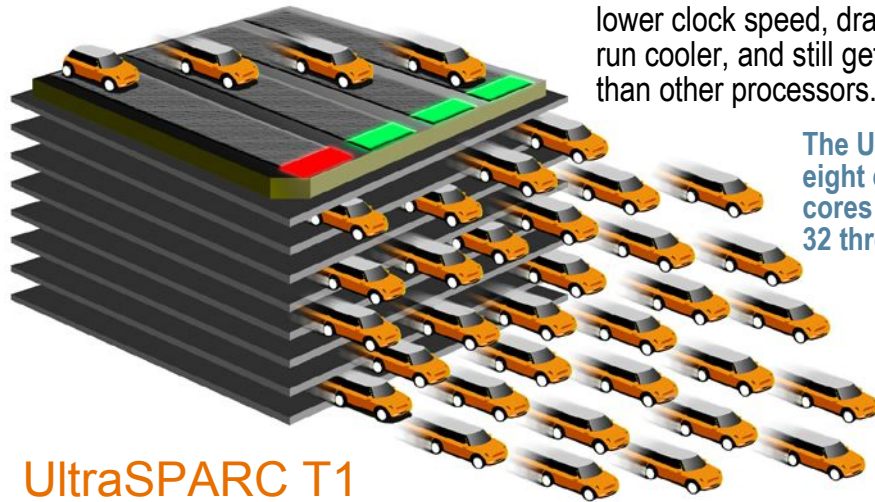
ULTRASPARC

solaris **java**

Up to 8 Cores

8X the Work in the Same Time

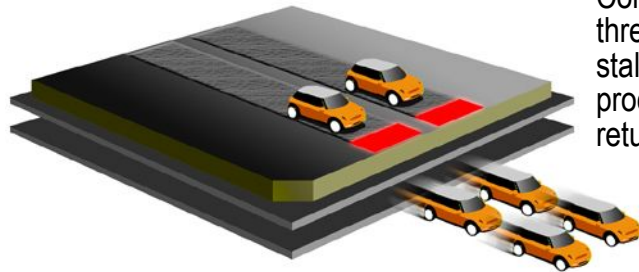
Because it's able to use more of its cycles working, rather than waiting, the UltraSPARC T1 can run at a lower clock speed, draw less power, run cooler, and still get more done than other processors.



The UltraSPARC T1's eight computing cores can process 32 threads at a time.

UltraSPARC T1

Competing processors process threads sequentially, so when one stalls, all work stops, while the processor waits for the memory to return the next piece of data.



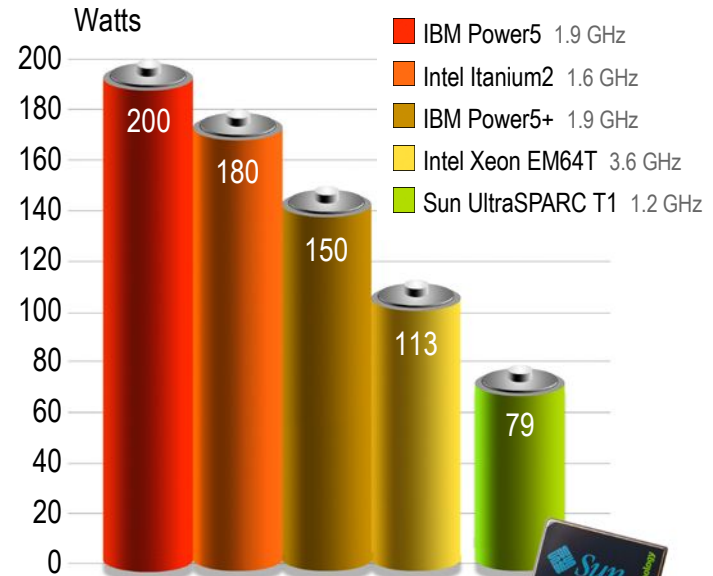
The best competing processors can only offer two cores, processing four threads at a time.

The Competition

ULTRASPARC

Eco-Responsible Computing

The **UltraSPARC T1** processor delivers screaming-fast performance, but consumes nearly 60% less power than a comparable Intel Itanium processor.



Sun UltraSPARC T1 Max threads per socket = 32

IBM Power 5 Max threads per socket = 4

Performance (based on Lotus iNotes) is that 1 UltraSPARC delivers over 9% more throughput over 8 x 1.5GHz Power 5 cores, and consumes more than 60% less power.

Intel Itanium2 Max threads per socket = 2

Performance (based on SPECjAppServer2004) is that 1 UltraSPARC T1 delivers over 30% more throughput than 4 x 1.6GHz Itanium IIs

Power 5+ Max threads per socket = 8

Performance (based on SPECweb2005) is that 1 UltraSPARC T1 delivers over 75% more throughput (yes, really!) over 4 x 1.9GHz Power 5+ cores

Intel Xeon EM64T Max threads per socket = 4

Performance (based on SPECweb2005) is that 1 UltraSPARC T1 delivers over 3x throughput compared to 2 x 3.6GHz Xeons