



JKU > [University](#) > [Services](#) > [IT Services](#) > **Central Compute Server**



Central Compute Server (SGI Altix UV1000)



On October 17, 2011, the computing server SGI Altix UltraViolet 1000 for scientific computing at the JKU campus was officially unveiled and activated during a [ceremony](#) held at the JKU campus (also see: [OOE.ORF.AT](#) and [OOe Nachrichten](#)).

The machines were acquired and operate in cooperation with the [Leopold Franzens University Innsbruck](#) as well as the Austrian Centre for Scientific Computing ([ACSC](#)).

The computer system is comprised for 4 computer cabinets which house a total of 128 closely operating blades containing 2 processor sockets each. Atop each of the 256 sockets there is an 8-core Xeon WestmereEX processor. A fifth computer cabinet contains the permanent storage.

Hardware Equipment:

- **Computer Type:** SGI Altix UltraViolet 1000 high performance computer (according to Flynn it is an [MIMD](#)) consisting of a total of 128 blades housed in 4 cabinets (see symbolic image above); a single instance in the high performance operating system Linux/x86_64 (SuSE Linux Enterprise Server 11) integrates the existing hardware to a single system image.
- **Processors:** 256 Intel Xeon E78837 (WestmereEX) (pulse: 2.66GHz; 24MB L3 cache) with 8 cores each (equals 2048 calculation engines); 2 of the 8 core processors house 128 blades.
- **Main Storage:** 16 TeraByte RAM (global shared memory; issued as [ccNUMA](#) on the basis of a sgi's [NUMALink5](#)-architecture); the RAM is in proportion to 128 GigaByte each within the 128 blades; a diagram on the storage hierarchy can be found in [Chapter 3](#) of the User Manual.
- **Permanent Storage:** a total of 96 hard drives (2000GB; SAS - serial attached SCSI) are in the 2 SGI IS5000 storage units and serve as the data system's foundation.
- **Network:** per GigaBit ethernet (copper) linked to JKU's campus LAN system

Additional details can be found in this profile of the system's performance data

 [profile_altixuv_UV_1000_Hardware_eng.pdf](#) (835KB)

and on the homepage for the model series [Altix UltraViolet](#) by the manufacturer.

SGI Altix4700

[February 2016:] After almost 9 years of successful operation, the Intel Itanium2-based SGI Altix 4700 has been taken offline.



Hardware Equipment - SGI Altix 4700

Computer Type	Altix 4700 High Performance Computer (MIMD) consisting of a total of 64 blades housed in 2 racks (see illustration above)
Processors	128 Intel Itanium2 Montecito processors (pulse: 1,6GHz; 18MB L3 Cache) with 2 cores each (256 computer cores); 2 of these dual core processors are house in 64 blades (see performance data)
Main Storage	1 TeraByte RAM (Global Shared Memory; issued as ccNUMA on the basis of a sgi's blade-to-NUMAlink-architecture); of RAM is in proportion to 16 GigaByte each within 64 blades
Permanent Storage	24 300GB SAS hard drive; issued as JBOD Infinite Storage 120S
Network	2 x 1GigaBit (copper); 1 x 10GigaBit (fiber)
Maintenance Period	(as required) every 1st Tuesday of the month

Additional [details](#) on the Altix 4700 by the manufacturer



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