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Windchill 9.0 Server Specifications

As with many enterprise software applications, Windchill is comprised of an application (e.g. PDMLink and ProjectLink), plus a database, plus underlying enabling technologies/services that provide for things like security, email, and web services. While Windchill can run, and is often demonstrated on a single server (laptop), when deploying in production Windchill runs best when spread across multiple servers.

Windchill is comprised of the following components:

1. Apache Web Server
2. Tomcat Servlet Engine
3. Aphelion LDAP Server
4. Relational Database
 - a. Oracle
 - b. MSSQL
5. Info*Engine Middleware
6. Windchill Services
7. Pro/INTRALINK 9.0, PDMLink 9.0, ProjectLink 9.0
8. Context Sensitive Search Engine
 - a. RetrievalWare
9. Windchill Visualization Services
10. Email Server

Database Server

There are no separate hardware specs at this point for Oracle or MSSQL 2005 since both Relational Databases may run on somewhat slower machines (As stated in Microsoft and Oracle system requirements). However having better Database server would increase overall Windchill performance

Operating System:

32 bit Windows 2003 Server /w 5 CALS or SUN Solaris 10

64 bit Windows server if using Oracle 10g 64 bit or MS SQL 64 bit database.

Notes:

- 64 bit processors allow individual applications to take advantage of more than 1 GB of RAM. 64 bit processors can also support more than 4 GB of RAM. Note: Windchill is not supported on the 64 bit architecture yet, but will be soon.
- Other operating systems are supported, but these are preferred.

Processors:

Dual 3+ GHz, 32/64 Bit

Notes:

- Dual Core processors may be used, and preferred in case of hardware failure on the main Windchill server. The database server might be used to house Database and Windchill on the same machine in some instances.
- Keep in mind that some Relational database providers require per CPU Core licensing.

Hard Drives:

Mirrored C: drives 20+ GB

RAID 5 D: drive 40+ GB

Notes:

- 40 GB of storage space should be considered minimally enough for most businesses running Windchill. 60GB is recommended.
- Mirrored C drives provide redundancy for fast server recovery in the case of a C partition hard drive failure.
- Imaging software (separately provided) should be used to capture a restorable image of the operating system partition.
- RAID 5 configurations require a minimum of 3 identical hard drives. Total usable disk space is calculated by adding the space of all the drives less one (i.e. $3-1 \times \text{capacity}$).
- All drives should be 15000 RPM to maximize the efficiency of the server.

RAM:

4 - 8 GB

Notes:

- For Windows systems, 4 GB of RAM is the most RAM possible for 32 bit processors.

Network:

Switched GB network card

Notes:

- All Windchill components should be connected on a Gigabit backbone.

Windchill Server

Operating System:

32/64 bit Windows 2003 Server /w 5 CALS or SUN Solaris 9

Notes:

- 32 bit processors allow individual applications to take advantage of more than 1 GB of RAM.
- While other operating systems are supported, these two are the most reliable.
- Windchill is not supported on the 64 bit architecture yet. However 64 bit hardware may be used with 32 bit OS and other software.

Processors:

2 Dual core 3+ GHz, 32/64 Bit (4 cores total)

Notes:

- Companies implementing Windchill should consider choosing one of the fastest available processors to prolong the useful life of the server.
- Dual Core processors may be used or additional processors may be added based on anticipated load (i.e. number of users and objects in the database).
- More processors may be necessary for large numbers of Windchill users.

Hard Drives:

Mirrored C: drives 20+ GB

RAID 5 D: drive 40 GB for software + estimated CAD volume (1.2* current CAD space + anticipated growth)

Notes:

- Typical database should fit in 40-60 GB of storage space
- Mirrored C drives provide redundancy for fast server recovery in the case of a C partition hard drive failure.
- Imaging software should be used to capture a restorable image of the operating system partition.
- RAID 5 configuration requires a minimum of 3 identical hard drives. Total usable disk space is calculated by adding the space of all the drives less one (i.e. 3-1*capacity).
- All drives should be 15000 RPM to maximize the efficiency of the server.

RAM:

4 GB - 8 GB

Notes:

- For Windows systems, 4 GB of RAM is the most RAM possible for 32 bit processors.

Network:

Switched GB network card

Notes:

- All Windchill components should be connected on a Gigabit backbone.

Context Search Workstation *

Fast InStream Search Engine

Operating System:

Windows 2000 Workstation /w 5 CALS

Notes:

- 32 bit processors allow individual applications to take advantage of more than 1 GB of RAM.

Processor:

3+ GHz processor

Hard Drives:

20 + GB C: drive

RAM:

2 GB (min)

Network:

Switched GB network card

Notes:

- All Windchill components should be connected on a Gigabit backbone.

* May be consolidated with the Visualization Workstation

Visualization Workstation(s)

Pro/ENGINEER capable including graphics card

Size Processor, RAM and ROM to support largest CAD models to be retrieved in Pro/ENGINEER

Network:

Switched GB network card

Notes:

- All Windchill components should be connected on a Gigabit backbone.

Final Notes:

- Backup and Email server specifications are not specified in this document.
- Server specifications for an independent web server in the DMZ are not detailed here.
- Windchill and Database servers require UPS battery backup systems to allow safe shutdown.
- Six Sigma server reliability discussions should be conducted to cover any additional hardware demands.
- These specifications do not include replicated server specifications for distributed environments.