



Computer Science Lab

Rivier University

Hardware Capacities

Rivier University is using Dell™ products in all computer labs. The Computer Science Department has the Experimental Lab that is equipped with the Client and Server machines, switches, and routers for use by students in their lab and research projects. The detailed information about the hardware is given below:

- **Clients:**

System Model: OptiPlex 780

Processor: 3.00 Gigahertz Intel Core2 Duo

Memory: 4 GB RAM

Hard Disk: 320 GB

Display: ATI Radeon HD 3450 - Dell Optiplex



- **Servers:**

System Model: Dell PowerEdge 2650

Processor: Intel(R) Xeon(TM) CPU 3.06GHz

Memory: 2 GB RAM

Hard Disk: 120 GB, 1 TB external attached



- **Switches:**

System Model: Nortel BayStack 5510-48T

Port: 48 x 10/100/1000 + 2 x GBIC

MAC Address Table Size: 48K entries

Routing Protocol: RIP-1

Remote Management Protocol: Telnet

Authentication Method: RADIUS

Compliant Standards: IEEE 802.3z



Available Operating System

Two operating systems are installed on the client machines: Windows™ and Fedora™ Linux.

- ✓ **The VirtualBox™ tool is installed and runs in these operating-system environments.**
- ✓ **All clients are of the dual boot. The default operating system is Fedora™ Linux.**

- **Windows™:**

Version: Windows™ XP 32 Bit

Update: Service Pack 3

Authentication: Active Directory



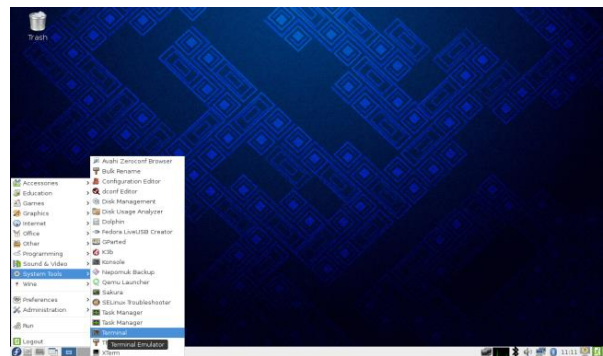
- **Fedora™ Linux:**

Version: Fedora™ 20, 64 Bit

Kernel: 3.14.x

Desktop: LXDE & KDE

Authentication: LDAP service



Installed Software

- ✓ **Based on the instructor's request, we can install any software to support University courses, research, and projects.**
- ✓ **Below is the list of the installed software:**

Windows™ XP 32 bit:

- | | |
|----------------------|-------------------------|
| ✓ gcc | ✓ Adobe Flash Player 13 |
| ✓ g++ | ✓ Git 1.9.2 |
| ✓ NetBeans 8 | ✓ Notepad++ 6.6.3 |
| ✓ JDK 7 | ✓ Python |
| ✓ IntelliJ Idea 13.1 | ✓ VLC |

- ✓ SQL Developer 4.1
- ✓ 7zip 9.2
- ✓ Foxit Reader 6.2
- ✓ Eclipse - Android Development Tools
- ✓ Plugin 22
- ✓ Eclipse - Java Development Tools 3.9
- ✓ Eclipse 4.3.2
- ✓ Android SDK Tools
- ✓ ActivePerl 5.1
- ✓ VMware Player
- ✓ PuTTY
- ✓ winSCP
- ✓ postgresSQL
- ✓ Pgadmin 3-1.18
- ✓ Liber Office 4.2
- ✓ Google Chrome 35
- ✓ Firefox 29.0.1

Fedora™ Linux 20 64 bit

- ✓ gcc
- ✓ g++
- ✓ NetBeans 8
- ✓ JDK 7
- ✓ SQL Developer 4.1
- ✓ 7zip 9.2
- ✓ ActivePerl 5.1
- ✓ Git 1.9.2
- ✓ Gimp 2.3
- ✓ Python
- ✓ VLC
- ✓ VirtualBox
- ✓ SSH
- ✓ SCP
- ✓ postgresSQL
- ✓ Pgadmin 3-1.18
- ✓ Liber Office 4.2
- ✓ Firefox 29.0.1
- ✓ Wireshark
- ✓ Pidgin
- ✓ Ocular
- ✓ Gedit
- ✓ Brasero
- ✓ Nmap
- ✓ Perl
- ✓ Wget
- ✓ NFS
- ✓ telnet
- ✓ gzib-bzip2
- ✓ Wget

Programming

- ✓ You can find different kinds of compilers, programming languages and IDEs in the lab, such as C, C++, Java, Perl, and Python:

- **Java**

JDK 7

Java Version "1.7.0_55"

OpenJDK Runtime Environment (fedora-2.4.7.4.fc20-x86_64 u55-b13)

OpenJDK 64-Bit Server VM (build 24.51-b03, mixed mode)

Configured IDE: [Netbeans & Eclips](#)

- **C, C++**

gcc (GCC) 4.8.2 20131212 (Red Hat 4.8.2-7)

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Configured IDE: [Netbeans](#)

- **Android SDK** (Just in Windows OS)

Eclipse - Android Development Tools Plugin (Version: 22.6.3.v201310242005-88782)

Android SDK includes a virtual mobile (Android) device emulator

Configured IDE: **Eclipse**

- **Perl**

Perl 5, version 18, subversion 2 (v5.18.2) built for x86_64-linux-thread-multi

- **Python**

Python 2.7.5



Database

- ✓ We have specific servers for databases. Oracle, MySQL, and PostgreSQL are installed and configured database systems on our servers. Students can connect and use them for programming projects and database courses.

- ✓ Necessary tools are installed on all clients to connect and use databases.

- **Oracle™:**

Version: Oracle™ 10g Express edition

Architecture: 32 bit

Platform: Fedora™ Linux 17, 32 bit

Tool to connect: SQL Developer 4.2



- **MySQL:**

Version: MySQL 5.2.3

Architecture: 32 bit

Platform: Fedora™ Linux 17, 32 bit

Tool to connect: MySQL Workbench



- **PostgreSQL:**

Version: Postgres 9.3.4

Architecture: 32 bit

Platform: Fedora™ Linux 17, 32 bit

Tool to connect: PgAdmin 3



Multimedia and Graphics

- ✓ **Two servers with powerful graphic driver are available for multimedia and graphic projects and research. The OpenGL library is installed on servers.**

- **Server information**

System Model: Lenovo ThinkServer™ TS140

Processor: Intel Core™ i3-4130 3.4GHz

Memory: 4 GB DDR3 1600

Hard Disk: 320 GB

Operating System: Fedora™ Linux 20 64 bit



- **Graphic Driver**

Core Clock Speed: 732MHz

Processing Cores: 480

Memory Clock Speed: 3800MHz

Memory Bandwidth: 152GB/sec

Shader Clock Speed: 1464MHz

Bus: PCI-E 2.0

Interface: DVI-I, DVI-I, Mini-DVI



Featured Technologies:

- ✓ Microsoft DirectX 11 support
- ✓ NVIDIA CUDA technology
- ✓ NVIDIA PhysX technology
- ✓ NVIDIA 3D Vision Surround Ready
- ✓ NVIDIA PureVideo HD technology
- ✓ Dual-link HDCP-Capable
- ✓ OpenGL 4.1 Support
- ✓ HDMI 1.4 connector
- ✓ PCI Express 2.0 support
- ✓ Two dual-link DVI-I connectors