IEPM-BW Requirements

Hardware Requirements

The monitoring host should be a machine dedicated to the IEPM-BW software. The host must have enough CPU power to run the probes, drive the MySQL database, and run the analysis. It should also have enough disk space to support the database. The recommended monitoring host hardware configuration is:

- Dual cpu xeon 3 GHz processors with hyperthreading or better
- 4 Gigabytes of memory to allow for plenty of space for MySQL and TCP buffers and workspace as well as a minimum amount of paging
- 1 Gigabit network interface, although a 10 Gigabits nic is also acceptable
- 100 Gigabytes of disk space to allow for the MySQL data base and and all the analysis reports which are generated.
- A separate disk to back up the MySql data base contents

The target host does not need to be a dedicated machine, but it should not be a busy machine.

- A gigabyte of memory is recommended
- If the machine is dedicated to being a target, 1 Gz of CPU is enough.
- Very little disk space is required. The server code is small and can reside in the home directory of the account it runs from.

Software Requirements

Following are the software requirements for the IEPM-BW monitoring node.

- Recommended operating system is the latest stable version of RedHat or any flavour of Fedora, more suitably Fedora Core 5.
- Two accounts should be created on the monitoring machine as these are needed to install and run IEPM-BW.
    - 'iepm' is a user account and is used for running IEPM-BW.
        - Account = iepm, home directory = /home/iepm
    - Second account is an account with root privileges. This is account is used for installation and administration. It's 'cyrus' in my case.
        - Account = cyrus, home directory = /home/cyrus
          You can have your own account, but don't forget to replace it at every place with your own account.
- An apache web server has to be available, and the recommended document root is '/var/www'.
- Standard MySQL must be installed on the system. Most recommended is the latest stable release, as this will facilitate assuring the upward compatibility of the code.
- Make sure that the system is configured to autostart MySQL and httpd (apache web server) upon booting. On some systems this can be done with 'chkconfig'. Commands are

```
    chkconfig httpd on
    chkconfig mysqld on
```

- The following /etc/sysctl.conf parameters are recommended for optimum performance

```
/proc/sys/net/core/wmem_max=20971520
/proc/sys/net/core/rmem_max=20971520
/proc/sys/net/core/rmem_default=65536
/proc/sys/net/core/wmem_default=65536
/proc/sys/net/ipv4/tcp_rmem=4096 87380 20971520
/proc/sys/net/ipv4/tcp_wmem = 4096 65536 20971520
```

The following ports must be open for the probes

Test Name	Port#
iperf	5000
owamp(2.0)link	4824
thrulay	5003
pathchirp	8365 udp
pathload	55001 udp
pathload	55002 tcp

Keep in mind to open port for each and every other service you run. e.g. HTTP, NTP etc

- To allow for running OWAMP, the monitoring and target hosts should be configured with 4 NTP servers. The OWAMP documentation discusses how to setup NTP.

- The latest version of JAVA must be installed on the monitoring host.
- Gnuplot 4.0 is required and must be installed on the monitoring host machine
- Perl should be installed locally on the machine. It can be either in `/usr/bin/perl` or `/usr/local/bin/perl`. There should be a link from where it doesn't exist to where it exists. Suppose if Perl path is `/usr/bin/perl`, its link should be created at `/usr/loca/bin/perl`. Perl modules must be installed on the system.

```
Date::Calc
Date::Manip
Date::Parse
Time::localtime
Time::Local
Time::Parse
Sys::Hostname
Proc::ProcessTable
Bundle::DBD::mysql
getopts.pl
getopt.pl
Getopt::Std
strictIO::Handle
File::Temp
Soap::Lite
CGI
Bit::Vector
GD
```

Don't' forget to set the time zone in Date::Manip configurations along with other configurations.

Important notes for later reference:

- To start the mysql daemon, use mysqld_safe&
- To set the root password after installation use: mysqladmin -u root password "new password"
- To shut mysql down, use mysqladmin -u root -p shutdown