

The LAW (Linux Applications on Windows) Project

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What is the LAW?

- The vision
 - A system that allows Linux applications to run on Windows OS with minimal pre-deployed software without degrading the machine performances
 - The “JOB” must come with something that will allow itself to expand, run and clean up after the completion
 - Condor might still be needed to minimize the interruption
- Time scale
 - Full scale implementation in 2 – 2.5 years
 - With a stop-gap solution now.

Why do we need The LAW?

- The US computing manager states that the local and regional computing resources are expected to contribute to LHC data analyses
- We have thousands of Windows machines employed at Universities
 - Most popular OS
 - Most familiar to people
 - UTA has about 10k Windows machines

Requirements of the LAW system

- Enable execution of ATLAS jobs on windows systems.
- Minimal installation of software on target machine.
- The job execution must be done in a secure manner.
- Avoid recompilation of binaries
 - Too many releases to keep up
 - Not enough human resources to fix all the problems to make the Windows version useful
 - An attempt to this at DØ was a disastrous failure

Long Term Solution – Line Project

- Not an emulator like VM Ware or MS Virtual Server
- Executes unmodified linux applications on Windows by intercepting linux system calls
- Linux applications are not emulated but run directly on CPU as if they are Windows applications
- Need to develop something like this for the long term
- Need to estimate necessary human resources
- Look for funds to support the development activity

LINE Project

- LINE Is Not an Emulator. LINE executes unmodified Linux applications on Windows by intercepting Linux system calls.
- The Line project is currently dead.
- Tried to contact the previous maintainers but have had no response so far.
- Apparently the main developer has abandoned the project and no new development has been done since May 2001. The last development was done on Windows 2000.

LINE Project

- Since the LINE project is not usable directly, we can either stick with the VMware solution that is being proposed by ISU or Develop a project similar to LINE.
- If we need to develop a project similar to LINE then we will need to interact with Microsoft to get technical information about system calls which will be critical for us.
- Such a project will need significant man hours.
- An approximate estimation is that we will need 10-15 people working for 2 to 3 years.

Conclusion

- Do we need to start a LINE project?
- Where do we get funding for such a project?
- How do we co-ordinate such a project?
- Who could be the collaborators in such an effort?