

INTEGRATION OF WINDOWS BINARIES IN THE UNIX-BASED RHIC CONTROL SYSTEM ENVIRONMENT

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PROBLEM:

A growing trend is, that equipment manufacturers provide software support packaged in the form of portable executable files, built and compiled for Windows systems.

Since RHIC controls is primarily based on UNIX-like operating systems, it is challenging to take advantage of such pre-built software.

SOLUTION:

A four piece scheme to emulate the LINUX development environment on a Windows virtual machine has been laid out.

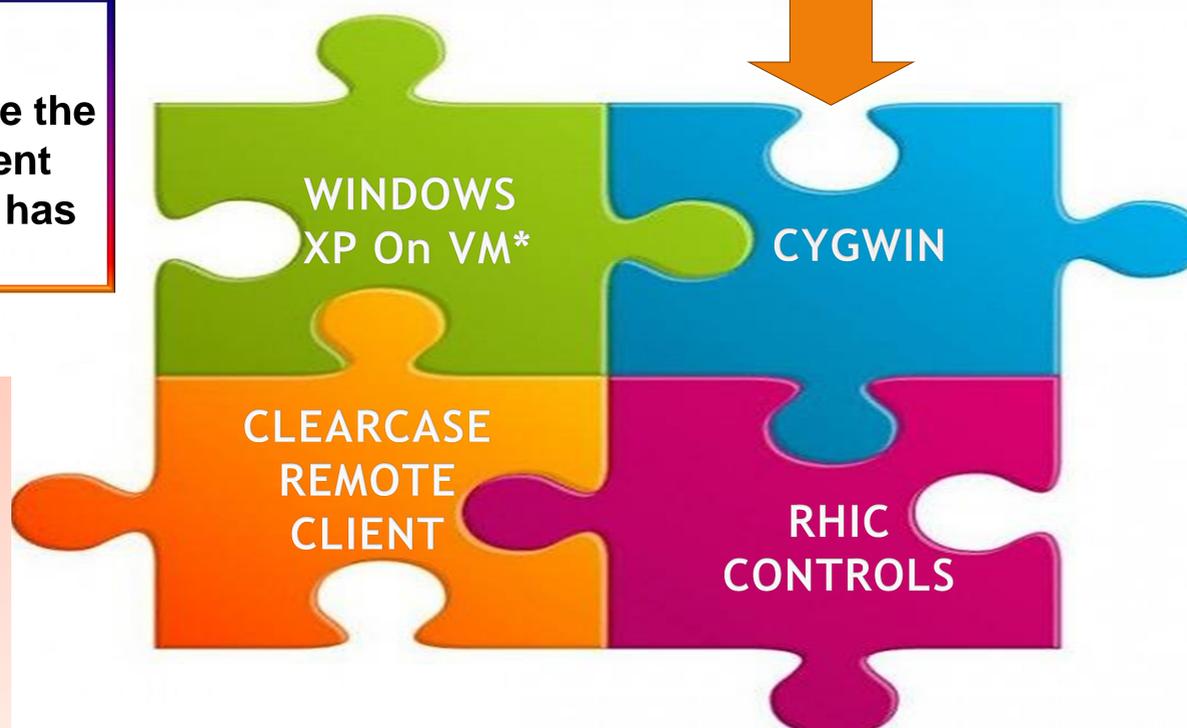
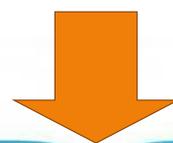
A version control system's remote client to access and modify resources under Rational ClearCase source control repository,

Used to access the existing code base.

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Implemented mostly in C++ and developed on LINUX platforms.

*Virtual machine
**Dynamically linked library

UNRESOLVED:

During the process of integration in one of the test cases, DLL is found to have dependencies on the Visual studio framework.

Another problem discovered is to resolve the name mangling errors generated due to unsuccessful export of DLL symbols.

CYGWIN provides native integration of Windows-based applications with applications, software tools of the Unix-like environment.

Used for cross platform compilation purposes.

SUMMARY:

With the help of a cross-compiler and a supplementary version control system installed on a remote Windows platform, a Linux test utility which is a proof of concepts was built and executed.

Data acquisition was performed using TCP/IP communication.

Issues remain to be resolved before deployment.