![j0305790[1]]()

Research for Intel® vPro™ development platforms

**intelliPATH Consulting Private Limited**

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Proposal

intelliPATH is a consulting company operating in IT& Marketing sectors primarily. The company is founded by post-graduates from IIT & IIM with a vision to create a new wave of learning.

# Current Situation

Client is looking for information to support its decision regarding which programming platform to use for programming Intel’s vPro technology to address the issues around PC management in a cost effective & efficient manner.

# Background

Intel vPro technology addresses two critical issues in the PC world, namely

* Manageability
* Security

for the purpose of this document, the aspect of security is not considered.

For this reason a special focus if given to Client to utilize Intel Active Management Technology.

Intel AMT is a capability embedded in Intel-based platforms that enhances the ability of IT organizations to manage enterprise computing facilities. Intel AMT operates independently of the platform processor and operating system. Remote platform management applications can access Intel AMT securely, even when the platform is turned off, as long as the platform is connected to line power and to a network.

Independent software vendors (ISVs) can build applications that take advantage of the features of Intel AMT using the application programming interface (API).

## Platform options

Intel vPro processor technology uses an integrated software & hardware architecture which improves remote problem diagnostics and repair.



## Fig 1: Various options in S/W development platform

## Explanation of fig 1

The AMT client once ready\* can receive commands from host. The AMT client on a device could be found in two ways:

* It could be a part of Peer to Peer or routable network.
* It could be accessible through a server.

Further the diagram mentions the usage of 3 primary languages C++, C# and Java for programming.

**Developer’s Tool Kit (DTK):** Intel provides a comprehensive listing of samples in C#/C++ for AMT

**Reference Tool Kit (RDK):** Intel provides a comprehensive listing of samples in Java. These are old and are no longer being updated by Intel.

Intel provides HLAPIs (High Level APIs) and a comprehensive SDK for use by developers. **SDK is available both in Linux & Windows**.

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\*Ready here means that Intel’s setup & configuration system is already used to enable & configure vPro on clients

# Comparison

A rough poll done at Intel site shows C# is the choice of developers but if we add Java for both Windows and Unix OS, Java is not far behind. The fact is surprising since Java is not so well supported by Intel.



Fig 2: Poll result of developer’s choice of language

Another piece of interesting data is the number of downloads of various toolkits over the period of an year

|  |  |
| --- | --- |
| [AMT SDK](http://software.intel.com/en-us/articles/download-the-latest-intel-amt-software-development-kit-sdk/) (primarily C# & C++)         | 920 |
| [Manageability DTK](http://software.intel.com/en-us/articles/download-the-latest-version-of-manageability-developer-tool-kit/) (C#)                       | 8    |
| [AMT RDK](http://software.intel.com/en-us/articles/intel-active-management-technology-reference-design-kit/) (Java)                                  | 94 |

Fig 3: No of downloads, toolkit wise

It is clear that C#, C++ is the winner but Java’s number of downloads for Reference Tool Kit is interesting**. RDK has not been updated since AMT release 2.0** and is the only authentic source of help for Java Developers.

With Java and C++, the main advantage is that they can run on both Linux and Windows. With C#, we are restricted to a windows based host – however in terms of the number of templates, code samples and overall eco system – **Intel provides excellent support for C# & Windows.**

AMT is really OS agnostic, in fact it works without OS and without Power being on. The case-in-point then remains that what is the customer’s context and accordingly decide the choice of language.

# Recommendations

intelliPATH recommends using C# as the programming language for using Intel AMT technology on vPro platform. The primary *differentiating* reasons for this recommendation are:

* An up-to-date and ready reference availability for developers
* Intel is not providing necessary developer enablement for Java
* vPro chipset lies before the OS, a software developed on Windows platform can still be able to control the different devices with vPro chipset which may be on different OS like Linux, Windows or Android.

## Assumptions

The research done by intelliPATH is for executive reading and results are further abstracted in this document with a specific purpose. The facts and recommendations have to be understood along with the context.