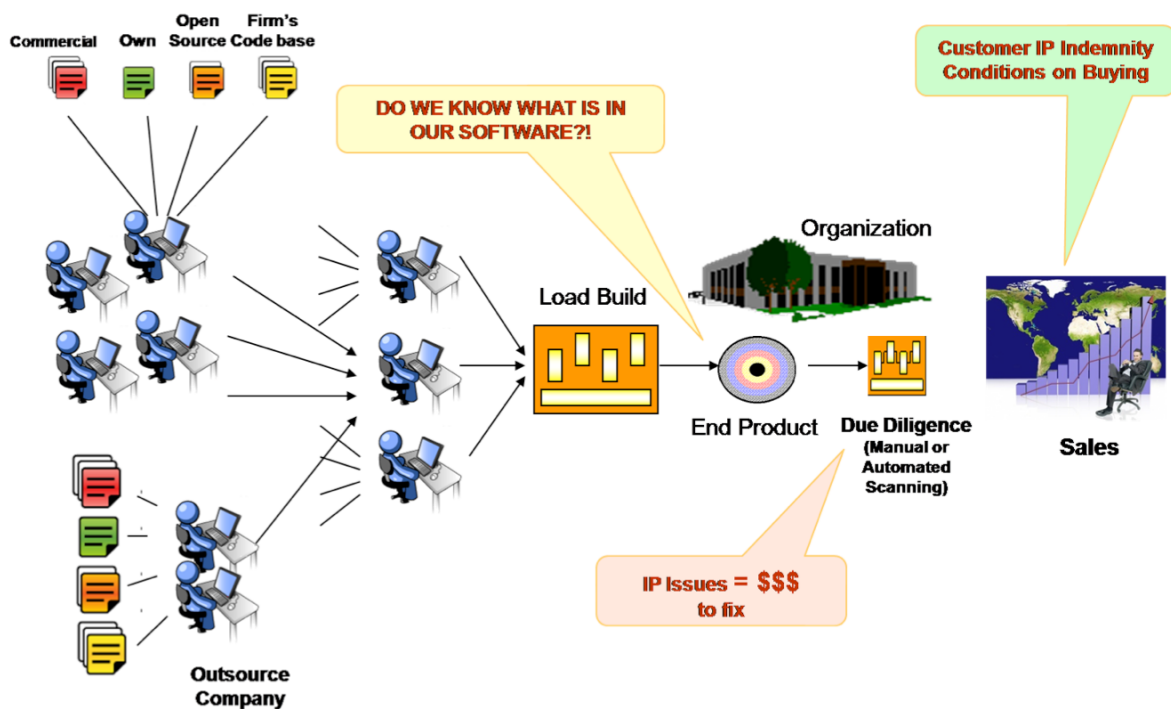


SOFTWARE IP GOVERNANCE ECONOMICS

SOFTWARE DEVELOPMENT & IP MANAGEMENT

Increasing productivity in software development operations is a sought-after goal in organizations that create software. Code re-use, commercial 3rd party and open-source software are used to improve time to market and reduce production efforts. However, software comes laden with licensing and intellectual property (IP) attributes such that any product that contains software can be potentially infringing on the IP rights of the original developer of some component in that software.

Software is a significant source of value, and the treatment of the legal – IP or copyright – obligations subsumed can have a significant impact on many types of commercial transactions – from product sales, which may require IP indemnity clauses, to Mergers & Acquisitions, in which case a full IP due diligence is necessary.



Software IP contamination is quite prevalent due to the growing usage of outsourcing and the easy access and usage of 3rd party code – be it commercial or Open Source. Besides, lots of developers carry code from their previous projects (and companies). So, while most contamination is unintentional, it happens and may lead to severe IP issues downstream.

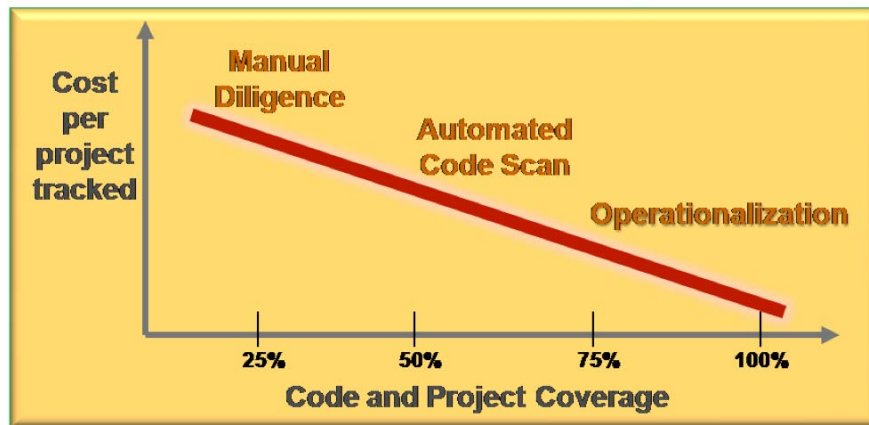
Open Source is becoming a more and more important factor in software development practices, with thousands of modules and millions of lines of code easier available for achieving significant software benefits: faster and less expensive development coupled with better performance and higher security. But Open Source software is not “free”, as it comes associated with certain licensing terms which govern how the resulting software must treat copyright and IP obligations. There are hundreds of Open Source license variations, some of which are incompatible with each others. It’s a bewildering maze and another area for serious legal implications which may result in software developers needing to get trained in IP issues, delayed schedules, waste of development effort and extra costs unless proper software IP treatment is put in place.

ECONOMICS OF SOFTWARE IP MANAGEMENT

Present industry practices do not ensure the availability of a complete and up-to-date view of all the software components and contributors to an end product - a fact which may lead to higher costs, delayed schedules and significant business risks if any of the software components do not meet proper IP and copyright obligations or if they need to be corrected once the product reaches the market.

Until recently, the industry had available only manual or *corrective* solutions. The only preventive solutions were manual, basically training the developers to avoid certain types of software code. This is time-consuming and expensive solution as the variety of code suppliers and sources keep getting larger and more complex incessantly. And still, there wouldn't be any certainty that the end software would be clean at the end. Manual due diligence is very expensive and cumbersome; as it necessitates expert resources, takes time, and may lead to code redesigns.

It takes time and adequate resources to fix software IP problems *after-the-fact*. This leads to project delays, budget overruns and unhealthy frustration. The time required for correction can impact the commercialization value, and in extreme cases can scuttle a commercial engagement altogether. Automated corrective techniques provide a modicum of a solution – especially if they are applied often and periodically during the software development process.



The earlier the detection of the IP issues takes place, the more cost-effective are the solutions, as there is less delay, less resource wastage, and less involvement of upper management.. It is best to handle record gathering and software IP management right at the time of code development.

Much more effective is the operationalization of software IP management directly into the development and quality assurance process. Properly integrated in the development environment, an effective software IP management process avoids disturbance to the development process, minimizes the need for intricate IP training and ensure scalability from small to very large software projects.

NECESSARY PRACTICES IN THE SOFTWARE GOVERNANCE PROCESS

Software development processes need to adopt same practices as those long established in hardware development:

- ✓ An approved supplier list that contains the approved components and licenses, including commercial terms, vendor history, version, etc., such that a developer may select components freely from the list without concern;
- ✓ Automatic notification in case attempts are made to use code with unapproved licenses, or code modules that are governed by incompatible licenses;
- ✓ A Bill of Materials that records the components ending up in the final product, with details to enable production, determine costs, where it can be exported to, track vendor upgrades and other post-design activities.

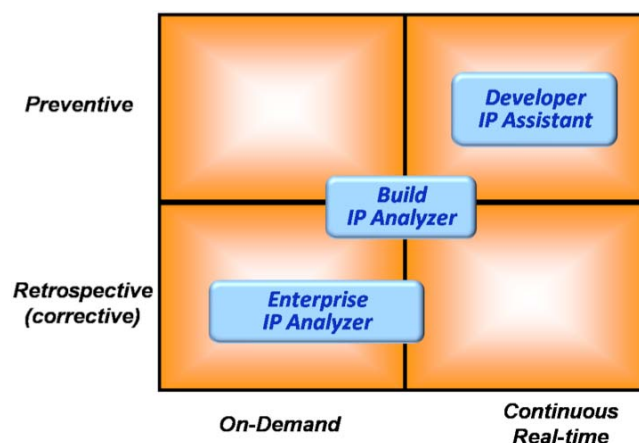


The best approach is to make record keeping and source code IP management an integral part of the software development and Quality Assurance processes. This is exactly what the *Developer IP Assistant* does, as the first and still the only industry solution for real-time record keeping and preventive software IP management.

PROTECODE COMPLETE PORTFOLIO OF SOLUTIONS

The Developer IP Assistant is the innovative leading development tool in the market, providing the industry-first real-time automated *preventive* solutions. It is part of the complete portfolio of solutions provided by Protecode Inc. to help organizations properly manage their Software IP. They detect, identify, record and report on all of the IP attributes of any software repository. Protecode products enable one-time, periodic or continuous real-time software IP governance:

- *ENTERPRISE IP ANALYZER*™ analyzes and identifies all code in a directory, producing customizable reports identifying all IP attributes and potential violations.
- *DEVELOPER IP ASSISTANT*™ is an Eclipse or Microsoft Visual Studio plug-in, operating unobtrusively on a developer’s workstation, detecting in real time all code that is brought into the development environment.
- *BUILD IP ANALYZER*™ analyzes all code that is consumed as part of a build creating a detailed report on all components that were used in the final product, ensuring there are no violations against enterprise policies.
- Protecode *IP AUDIT SERVICE*™ is a software due diligence service that provides expert, full service scanning, analysis and reporting of an enterprise code portfolio. Efficient, effective and accurate for establishing the IP attributes of existing code.



The Protecode suite of products and services provide on-time, regular or continuous real-time IP management. The products are policy-based utilizing Protecode’s Global IP (GIPS) Signatures database or a local Enterprise IP Signatures (EIPS) database that is updated regularly with the most



current Open Source project versions, unique Open Source projects, Java names, Open Source files, source code snippets and binary files.

The Protecode product portfolio addresses all aspects of the IP Management process – from the establishment of code pedigree policies and its administration in various projects, to enterprise code mapping and assessment, the pedigree audit of each software load build and the preventive development of clean pedigree software.