

## Are You Shopping For Software Intellectual Properties?

For software developers who spend sleepless nights catching deadlines while re-inventing the wheel, there's good news—a 'super market' where software modules can be bought and sold. All that these products might require is some tweaking for that perfect customisation.

**t**he 21<sup>st</sup> century has created a new world order to manage businesses more effectively. Companies are actively looking for ways to improve operational efficiencies. The new business mindset is—*'If there's a method by which something can be done*

*quicker or cheaper, why not use it?'*

This trend initially paved the way for outsourcing as a means to significantly reduce the cost of services. Similarly, Software Intellectual Properties (SIPs) are now making gradual inroads. SIPs represent an innovative and promising new approach for engineers to speed

up the design and development cycle.

During the course of a software development project, most companies find themselves racing against time, in order to meet the tight deadlines that they have committed themselves to. An end-to-end software development project involves a range of intermediate software components, which have to be developed by qualified programmers, debugged, and customised as per the client's business requirements. The whole process takes up resources such as trained manpower, development and testing time, computing time, and other associated overheads.

As a technology professional handling a software development project, if you were offered ready-to-use software components that could instantly fit into an application and remove the need for developing them from scratch, surely it would go a long way in speeding up your software development cycle. This is actually possible now, through software intellectual properties. Once you purchase a suitable software component, it can be customised and adapted to a particular business application.

### What are Software Intellectual Properties (SIPs)?

SIPs are *ready-to-use* software components and source code for various technology applications. A range of reusable components and code are available as SIPs: multimedia codecs, wireless technologies, embedded software, device drivers, RTOS (Real-Time Operating Systems), etc. Instead of allocating resources to developing such software components in-house, you can actually buy them and then tailor them to an application. A SIP is therefore a time-saving solution.

## Who creates SIPs?

Reusable software components and code are developed by technically-qualified individuals or services companies. These reusable components and code are the intellectual property of the individual developers, or the company for which they work. They are offered for a price, and companies can purchase the IPs and then adapt them to suit a particular application. If a technically-qualified developer has already spent time and effort in creating a reusable and customisable software component, it is certainly worth exploring and evaluating.

Trading in SIPs is gradually gaining acceptance worldwide as a viable way to achieve operational efficiencies. It is a logical progression in the software industry, where there is a large talent pool of trained individuals constantly experimenting with innovative software components. For example, in the process of developing a Bluetooth software component for a wireless embedded application for a customer, some of the developer's priorities would be to:

- Create a product that fits the customer's environment in terms of programming language;
- Customise it to suit the customer's business application;
- Match the memory requirement to the customer's product;
- Create a component with low MIPS (million instructions per second) requirements, so that it can run on small mobile devices. Such products have a wide range of applications, with the differentiation mainly required through customisation for particular business applications.

## How to find Customisable Software IPs

Ready-to-use SIPs that can meet

the above criteria of adaptability and customisation can be purchased online. IPSuperMarket.com is a portal that offers a range of software and components as SIPs. These could include video codecs, image codecs, audio codecs, speech codecs, wireless software, device drivers, RTOSs, embedded software frameworks, and so on.

For instance, one of the SIPs available at IPSuperMarket.com is a Bluetooth software stack for wireless applications, that has the following features:

- Written in SDL (Specification and Description Language) for easy maintenance and adaptability and C language; it can be optimised to any desired application.

- Low MIPS requirements - 1.5 to 3 MIPS on the TM ARM (Advanced RISC Machine) processor
- Small memory requirements
- Fully customisable to fit any application.

The above is just one example, but it indicates that you can potentially find any type of contemporary technology as a SIP. Once you find a suitable product and decide to purchase it, all you have to do is integrate it into your project to save yourself the lengthy process of creating the component from scratch.


Similarly, there are software components for multimedia applications available at this portal. For instance, one company has listed a MPEG4 Audio codec (BSAC Decoder) as a SIP at IPSuperMarket.com. This is a multi-channel, re-entrant, re-locatable software implementation that conforms to the Bit Sliced Arithmetic Coding (BSAC) audio coding standard. The decoder solution is available as a software library that is optimised for several hardware platforms and is OS (Operating System)-independent for fast integration with any multimedia application.

## How to identify the right product for your business needs

As is evident in the two examples cited above, developers build in a certain amount of adaptability into their SIPs, to ensure that they are easy to integrate into a software project. Adaptability is a key factor in SIP selection, so the key phrases to look for include: OS-independent, conforming to coding standards, scalable, customisable to the application, optimised for various hardware platforms, adaptable programming languages, optimised for any application, etc.

Online search for SIPs

IP opportunities can be explored at portals like IPSuperMarket.com ([www.ipsupermarket.com](http://www.ipsupermarket.com)) or designandreuse (<http://www.design-reuse.com/>) – and their services are available worldwide to businesses, technical experts and software developers. IPSuperMarket.com is a portal that connects buyers and sellers of software-related IPs. It has a powerful search feature that can narrow down your search to the exact specifications that fit your requirements. Your search can be based on specific technical parameters—software category, the format or types within each category, and the platform. If you are a seller, you can list your products with precise technical parameters, to ensure accurate matching with buyer needs.

The old saying “Don't reinvent the wheel” now applies to software development as well, with SIPs making it possible to hugely reduce project durations. Are you re-using? 

### Hiren Parikh

with inputs from Sharad Bairathi, managing partner, Embitel