

FACT SHEET



Proven Software Solutions Early Phase Consultation

For OEMs involved with the development of embedded electronics, software development is essential. How that software development is managed is now becoming a key ingredient in the overall success of an OEM, impacting significantly on their time to market, time to profit, margins and revenue.

During the R&D stage of any product, the Project Manager must evaluate the effort required and allocate budget accordingly. On a comparative basis, developing embedded software now represents the most expensive and potentially highest risk phase of development.

Hardware platforms have reached a high level of maturity, with a well defined and well structured supply chain. Board support packages, reference designs and evaluation boards are available from multiple sources, addressing all of the popular microprocessor families and market sectors.

The same is not yet true for software. While there are many established RTOS vendors who also supply a range of middleware, there are many more commercial software solutions available that remain below the radar of most OEMs. The supply chain for embedded software represents a weak link in product development.

This lack of a well established supply chain for embedded software means OEMs often believe developing software in-house is their only alternative. Through an Early Phase Consultation, however, Proven Software Solutions redresses this belief by identifying alternative approaches and acting as an agent to find you the best solution for your needs.

The first step in an Early Phase Consultation is actually a step back, effectively looking at the project from a wider perspective. This not only helps identify the software functions required, but also what may already be available in-house. If the software does already exist, our Auditing and Productising services are designed to help make the software reusable, lowering the cost, risk and time needed to integrate the function(s).

If the software doesn't already exist in-house, what remains is the Make or Buy decision, where Proven Software Solutions helps you identify where your time and effort is best spent.

This will inevitably result in a short list of software functions that could be sourced commercially, and it is here that our Brokering services are designed to make that process as efficient and cost effective as possible.

Commercial software can seem expensive compared to commercial hardware, such as a reference design or board support package. While this comparison is understandable, it is usually not justified.

The cost of the hardware platform is normally heavily subsidised in order to create demand for the hardware in question. For instance, using a reference design to create a set top box will lead to volume sales for the processor at the heart of the design. For software, the same model doesn't exist – particularly where there is no royalty to be paid.

In some cases a royalty model for software is viable, considerably reducing the initial cost of the software. However, a royalty free model is becoming more popular with OEMs because it represents a fixed cost. For this reason, the initial non recur-

ring expense – or one-off fee – for the software will be higher than for the hardware platform.

If the cost of commercial software still seems high, it may be because it is difficult to estimate exactly how much OEMs spend on software development. As part of an Early Phase Consultation, Proven Software Solutions can help estimate the true cost of developing embedded software, based on the external factors such as the complexity of the software function, and internal factors such as the in-house knowledge base.

Coupled together, this can generate a realistic cost of development which can be compared against the cost of a commercially available alternative.

A common concern about outsourcing software is that it renders in-house software engineers redundant. In truth, this can't be substantiated. To reference the economic term 'opportunity cost', the fact is if your engineering team isn't occupied developing non differentiating software, they will be free to concentrate on developing software that has a higher value to your product and company.

A key element of an Early Phase Consultation is to make sure your engineering resource is dedicated to developing the right software.

But what is the right software? The crucial element here is, does it differentiate your product? Importantly, the cost and risk of developing any software function, in engineering terms, is the same, but the value can vary enormously.

Software that performs a standardised task, such as a driver or protocol stack, is unlikely to differentiate your end product. The opportunity cost in this case is, if your engineers aren't occupied developing a driver, they have more time to develop the application, or other features that can really differentiate your product.

The choice between developing a standard protocol stack which isn't going to add value to your product, or applying that resource developing a better graphical user interface or other high

level feature which differentiates your product, can only be made if you know the true cost.

Where Proven Software Solutions adds further value is by sourcing those standardised functions, bridging the weak link in the supply chain between demand and supply.

Another important element to consider is, the cost of any development must ultimately be recouped against end sales. Amortising that cost against profit margins could mean you need to sell thousands of units before profit is realised. By selectively outsourcing more of your embedded software requirements, your time to market – and therefore time to revenue – is quicker and cheaper. And with more of that R&D spend dedicated to developing differentiating features, your product's selling price could be higher too, thus generating a greater profit margin.

Early Phase Consultations from Proven Software Solutions are designed to help OEMs realise the cost and value of developing embedded software, and address the weakness in the embedded software supply chain, making it easier and safer for you to outsource your extraneous software requirements.

Contact Proven Software Solutions today to find out how you could benefit from our services.

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