

Enabling growth through a service-based business

A model for rapid service adoption fuelled by Machine-to-Machine (M2M) solutions

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Selling or exchanging manufactured goods has been the basis of trade and commerce since the beginning of time. Success invariably creates competition which then drives pricing down, where it becomes increasingly difficult to differentiate and grow the business over time. Machine-to-Machine (M2M) offers a “technology key” to new ways of growing your business. It unlocks the value in your goods, where ongoing service-based revenues can be generated long after the goods have left the factory. This paper provides a model for OEMs and Solution Providers to offer “smart services” to their end users, based on the information derived from their remote goods on an ongoing basis. It shows how these companies can remain focused on their core business rather than the underlying technology; thereby eliminating risk and accelerating service adoption.

Product price will only go one way

Shipping thousands of goods, which generate millions in revenues and wealth for shareholders is a dream for many companies. Achieving the dream brings its own problems; a never ending circle of increased competition, reduced margins and the need to increase the level of sales year on year just to “stand still”. This is a vicious cycle for all goods based industries, independent of whether you are selling components, devices, sub-assemblies, machines or complete systems. As established markets saturate, growth often only comes by reducing manufacturing costs, acquisitions, mergers and diversification rather than the value of the goods themselves. Creating additional value from manufactured goods is therefore paramount to creating a “step change” in business growth.

Untapped value within goods

Many manufactured goods hold data which can be tapped into to create value. Consider a generator manufacturer that sells products through third parties, where there is a level of return to base warranty repairs. The manufacturer may not know if the generator has been operated and maintained within the conditions of the warranty and often makes the repair at an associated loss.

Through visibility of how the generator has been used in the field, the manufacturer can identify maintenance and service status (e.g. low oil levels) together with out-of-band operation (e.g. excess load) that provides an audit trail to charge for out-of-warranty repairs and thereby reduce losses. Furthermore, this presents service opportunities where the manufacturer can preemptively respond to these warning conditions before repairs are required by also offering maintenance and service functions. The manufacturer could adopt a lease or pay-as-you-use model, whereby the reduced capital costs enable new target markets to be opened.

Additional value in any industry can be created in three key ways: -

- **Reducing Costs** – known product and associated consumable status enables maintenance, service and replenishment operations to become more efficient and losses due to out-of-band operation to be reduced.
- **Improving Service** – fast response to problems, minimising downtime and customer inconvenience enhances customer service, generates loyalty and leads to customer retention.
- **Increasing Revenues** – solving problems and simplifying processes for end users or 3rd parties within the supply or value chain can enable them to reduce their costs. This provides revenue growth opportunities for the company that provides the solution, often generated through incremental ongoing services.

Service is the foundation of growth

Data gathered from remote goods can be used to improve the business of all the companies connected with the goods. To exploit this in a way that grows revenues, companies need a new way of thinking and a fundamental shift from a traditional goods based sell to that of service.

“Many companies have realized that for every dollar of goods sold, there can be anywhere from \$5 to \$20 of associated services and follow-on products, often at higher margins”: Harbor Research.

Service-based growth opportunities will vary depending of the type of company. As an example, the following may be involved in the supply and maintenance of goods and consumables over a products life-time, each deriving growth in varied ways: -

- **Manufacturers** – are able to wrap maintenance into the product offering to generate ongoing revenues and create customer ownership. Quality levels can be improved by detecting failure patterns in the field thereby reducing returns and associated cost. Fewer failures, reduced downtime and fast response lead to improved customer service and customer retention.
- **Consumable Suppliers** – are able to supply machines or containers (from which their products are consumed) to operators or end users on a service basis, such that they have greater control over replenishment. Revenues are generated where the machine is tied to the consumable brand. Furthermore losses are reduced by detecting fraudulent consumables and optimising inventory and logistics throughout the entire supply chain. The new solution offers consistent quality and on-time replenishment, which improves customer service.
- **Systems Integrators** – often establish data collection and IT infrastructures for end users, which enable them to derive information needed for their core business. This is often re-invented for each customer! End users just want the information to manage their business and not the burden of maintaining the infrastructure itself. System Integrators

have the opportunity to build the data collection infrastructure and simply sell collected data on an ongoing basis... sell the data, rather than the data logger! The customer is happy because there is no infrastructure investment or related maintenance burden.

Furthermore, the company that owns the data, owns an asset where related services can be derived and made available to other companies within their value chain. This not only provides the opportunity for companies to derive service-based growth from other aspects of the goods life-cycle, but also from other elements of its environment, where the goods are part of a wider system or process. In the case of our generator example, the manufacturer could sell analysed information to his end users that identify excessive load trends. This may enable the end user to determine the “culprit equipment”, where a change in the process or engineering maintenance improves the end users business as a whole. The value of the solution is related to the scale of the end user’s problem and not the price of the generator. Finding the problems where a solution holds the most value is therefore the key to service-based growth.

Making data from goods visible

The technology to communicate with remote goods is here now, proven and robust in the form of Machine-to-Machine (M2M) connectivity. M2M is simply a tool that makes remote data visible so that meaningful information can be derived, applied to decision-making processes within the business and increasingly wrapped into new service-based value propositions to the customer. Technology from suppliers is no longer the problem or the risk; adoption now lies with the business case and the will of companies to make a “step change” in the way they do business. This requires a migration from the company’s traditional approach to a new type of business, by solving problems for their customers throughout the goods’ lifetime through value-added services.

Steering a new service-based course

Changing a company to a service rather than goods based business is akin to changing the course of an oil tanker. Without a vision and small incremental steps towards fulfilling the vision, the growth rewards will not be achieved. The vision doesn’t have to be crystal clear; however by applying the learning along the journey, companies are likely to arrive in a different place, as a wholly improved and different type of business, than they were at the start. The steps are quite simple, successful service adoption requires: -

- **Vision** – A direction and forward view of the “new service-based company” often seen by few visionaries within organisations. Although a “long-term view” is needed of potentially “complex possibilities”, there is a need to keep the first implementations simple so that the benefits are easily understood by others.
- **Business Case** – Identify the investment needed to create the new products and services together with a clear understanding on the returns that the investment will generate. The Return on Investment (ROI) can be calculated from costs savings and increased revenues from the new product and service offering. An ROI showing payback within in a short term e.g. 12-month, is more likely to justify and create successful adoption.

- **Stakeholder buy-in** – Not all stakeholders will understand or see value in the vision including internal management and customers. The benefits and business case must be seen and demonstrated in the short term; especially where the stakeholders control the budgets! For customers, this will require a new service that solves a problem or improves a process within their business that they didn't have before.
- **Pilot trial** – Small scale trials provide a vehicle to prove both the business case and gain stake holder buy-in. Although this should be kept simple at the outset, it may be an iterative process should there be problems establishing a business case e.g. more than one problem may need to be solved in order to justify the ROI case.
- **Roadmap** – The pilot trial enables budgets to be assigned for rollout products, solutions and services, which can be specified, prototyped, designed, manufactured and deployed as part of a roadmap in line with trial feedback and learning.
- **Learn and apply cycles** – “Closing the loop” with information from remote goods will solve specific problems within your business; however it will also make other problems visible for the first time!

As an example, the business case for adopting Automatic Meter Reading (AMR) may not be justified when considered in isolation. However, the infrastructure and business case could be justified when used for other functions such as security, temperature monitoring or delivering advertising content to digital signage that has the potential to increase revenues. Migrating to service through connectivity with remote goods is therefore a learning experience which should be embraced rather than perceived as a risk.

A Solution

In simple terms, this can be achieved by giving the goods a “voice” and a “talking device”; not too dissimilar to a mobile phone. Just as we use Cellular networks and the Internet for sending e-mail, remote goods can deliver data to central business systems automatically, where analysed information can be used to manage the business as a whole. Unfortunately, goods either talk with different “voices” or do not talk at all! In which case, the required information has to be translated using sensors, such as chilled food temperatures during transportation, electricity meter pulses or the level of chemicals in a tank. The complete solution to end users is therefore created by the combined expertise, products and services of parties that understand the:-

- **Goods** – OEMs, Systems Integrators, Consumable suppliers, Solution Providers etc with “know how” related to the goods and associated vertical market. As we have discussed, these are the parties focused on a goods-based sale in their chosen markets, often with little experience of service and the underlying communication technology.
- **“Talking device”** – Hardware technology companies that enable the goods to communicate, firstly with the network e.g. GPRS, but also the central management systems at a higher application level. These parties are focused on their respective communication elements often without expertise in the vertical market of the associated

goods and in many cases the central management systems at the “other side” of the network.

- **Networks** – Network Operators, Carriers and Mobile Virtual Network Operators (MVNOs) that provide the “plumbing” to connect remote goods with central management systems. These parties are focused on a reliable infrastructure to transport voice and data traffic independent of the data content, goods, vertical markets and central management systems.
- **Central management systems** – IT, Software and Systems Integrators that develop management applications and middleware focused on management solutions for specific industries, applications and markets. These parties often have little understanding of the “talking devices” or other technologies within the remote “goods”.
- **Services** – These fall into two categories, the first being services to create the solution such as network and management hosting services; the second being the “Holy Grail” of value added services related to the goods themselves, offered as part of new service-based business model by the adopter.

This is the “value chain”, where adopters need to manage potentially broad “adjacent partnerships” in order to create the new service-based solution, where each party is focused on their core business. Care has to be taken where attempts to shorten the value chain result in any party working outside their core business. As an example, a common pitfall is where goods manufacturers undertake and integrate the “talking device” into their products without an understanding of the network nuances or central management integration at the application level.

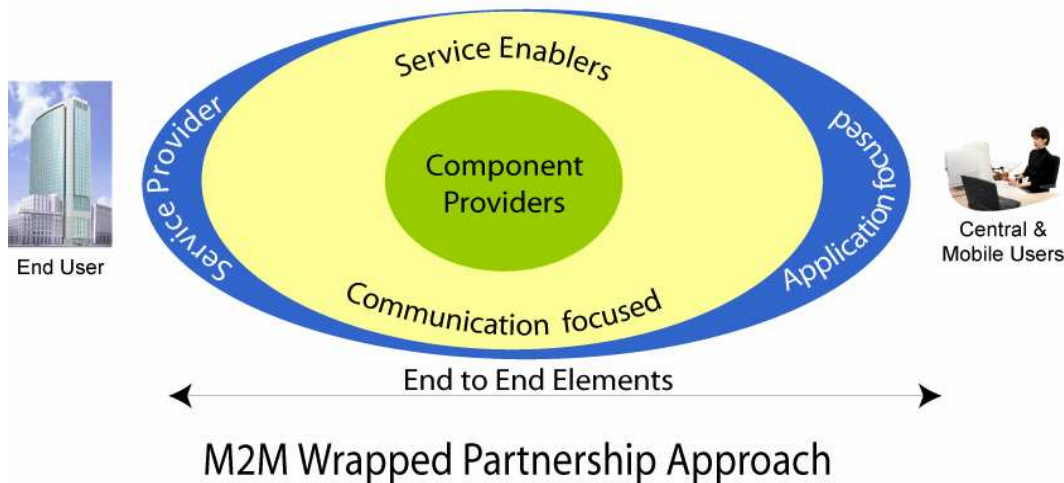


Service and solution not technology

Having made the decision to migrate to service, adopters simply want a solution, ideally from one Solution Provider, irrespective of the underlying technology or broad partnerships. Furthermore, by adopting a service-based approach, companies are becoming Service Providers in their own right for their end users. In this case, the Service Provider needs both market specific expertise to present the solution in the right way and the underlying communication “know how” to develop the solution and manage the broad partnerships. This is a tall order, where the Service Provider’s focus is pulled in different directions between business and the underlying technology, which often presents a barrier to adoption.

Simplifying the value-chain through “wrapped partnerships”

Successful adoption therefore requires the value chain to be simplified. This can be achieved through a “wrapped partnership” approach, where each partner remains focused on their core business. This allows each partner to “wrap” or build their added-value upon a proven platform created by others around their core strengths, thereby changing the start point for developing the solution for rapid and risk free adoption.



The value chain can therefore be simplified as follows: -

- **Component Providers** – which include the communication building blocks, network, middleware, infrastructure and related technology which is focused on transporting data at the remote goods and central site.
- **Service Enablers** – that create a service-based end-to-end communication platform, by wrapping the communication components (hardware, software and related services) into a robust system. This is a horizontal or common communication solution suited to many applications, which is tailored by Service Providers into their specific markets.
- **Service Providers** – that wrap application specific hardware or “goods” around a communication platform together with value-added services focused on their core business, goods life-cycle and the goods environment. These are the new service-empowered adopters such as OEMs and Solution Providers who now offer managed services based solutions within their core vertical market.

“Goods Suppliers” turned Service Providers are then able to provide services and solutions to end users, operators and others within their market specific value-chain.

Wrapping communication components into a service-based communication system, which is then tailored to an application service, creates progressively complete solutions. As the last step in the chain, this provides a huge start point for goods manufacturers and Solution Providers in migrating to a service-based business. It promotes WIN-WIN partnerships between companies

with complementary strengths, where each works within their core competence area with shared vision and interest for growing their business together.

Practical case examples

PTC Remote Management & Service (PTC rm&s, www.ptcrms.nl) and Invisible Systems Ltd (www.invisible-systems.com) are examples of two companies formed with a desire to provide service-based solutions to their end users; in industrial and retail applications respectively. Each had developed hardware “goods” for monitoring their end users equipment in local environments, but required a means of managing these from a central location via the Internet, in order to obviate the need for on-site local management and facilitate new services and solutions in their markets. In both cases, they wanted to focus on understanding problems within their end users business and deliver information and services to solve these problems in order to enhance their business. They chose not to develop the underlying end-to-end communication, or integrate solutions from different partners since this would have diverted focus away from their end users needs.

Instead, they chose to build their application needs over μ WEAVE, which is an end-to-end monitoring platform available from Comtech (www.comtechm2m.com), a UK based Service Enabler. An intelligent “talking device” was integrated within their remote goods, which delivered data to a central management application. This platform provided database storage, automated alarm generation and online Internet access to the information through configurable reports. Since μ WEAVE is application configurable through templates and naming aliases, they were quickly able to tailor a system for their specific application needs and provide management and administration across their estate of end users, sites and remote goods. Furthermore, any gathered information could be exported to other management systems or analysed offline thereby deriving additional information and value. Since μ WEAVE was offered with a service-based business model at the communication level, they were able to easily wrap their own value added services around this, in order to offer managed services to end users within their vertical markets.

Both PTC rm&s and Invisible Systems were enabled as service-based Solution Providers within a period of weeks! By building their core expertise over a proven communication and service platform, they were able to remain focused on their end users needs and commence growing their business through a new service-based approach.

Summary

Service is already changing the landscape of markets, through a fundamentally different business proposition. It creates competitive advantage to an extent that there will be no going back to the way business has been done to date, where early adopters will reap the most success. The key to successful adoption lies with win-win partnerships and maintaining focus on your core business at the service, solution and implementation levels. The “wrapped partnership” approach eliminates distractions to the business, where companies such as Comtech can offer a single partnership that has the flexibility and expertise to meet your evolving needs as they develop over time.