early bird

BEYOND
CONNECTIVITY

How to enhance your productivity and
competitiveness with integrated M2M solutions

wavecom

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wavecom

WIRELESS SOLUTIONS FOR EVERYONE

THE PATH TO
INTEGRATION

> **M2M is not about technology; it's about business processes. As a wireless enabler, our mission is to make it as easy as possible for customers to apply wireless technology to their processes. By making their business processes more efficient, we help them become more productive, more competitive.**
>
> Michel Alard,
> Chairman, Wavecom

The better use an organization makes of its information assets, the better it can serve its customers and respond to changes in the market and the competitive environment. Wireless connectivity can provide an invaluable tool to organizations that want to capitalize upon their information resources.

Today, in countless applications in numerous sectors, from security and health care to telemetry and fleet management, wireless connectivity is being used widely to provide links to fixed and mobile islands of information. These remote islands come in innumerable forms – vending machines, utility meters, payment terminals – the list is virtually endless. The common thread is that wireless technology provides the connection enabling data to be exchanged – easily, reliably, securely, economically.

Such relatively straightforward applications have driven the wireless machine-to-machine (M2M) market through its formative years. Indeed, as the undisputed pioneer in wireless M2M applications, Wavecom has helped demonstrate the potential of what has become a $10 billion worldwide market with annual growth expected to reach 30 percent over the next five years.

Basic wireless connectivity will continue to constitute a significant portion of M2M wireless needs over the years ahead, as increasing numbers of companies invent and implement new M2M applications. But today, we stand poised at the threshold of a new phase, a paradigm shift in wireless M2M markets.

All of the conditions are in place. The technology has been proven, the stability and reliability of wireless M2M applications have been validated, the economic sense has been demonstrated, and wireless operators and major business integrators are now building dedicated M2M services.

Today, the products, applications and real-life field experience are available to enable companies to begin using wireless technology to more fully exploit their information resources by integrating heterogeneous machines into their enterprise information systems. Building upon its first decade, Wavecom is uniquely qualified to help organizations reap the benefits of this end-to-end vision.

DISCOVER END-TO-END INTEGRATION

Potentially valuable resources go untapped.

Information lays buried within business processes.

The first challenge is to identify these sleeping assets,

spread across factory floors, freight yards,

retailers' shelves and countless other remote sites.

Once the dormant veins of information have been identified

– whether they involve tracking railway rolling stock or

monitoring pressure fluctuations during industrial processes –

the second challenge is to apply wireless technology

to mine them. That involves capturing the data and

enriching it by formatting it into meaningful information,

distributing and consolidating the information, and finally,

integrating it into enterprise information systems.
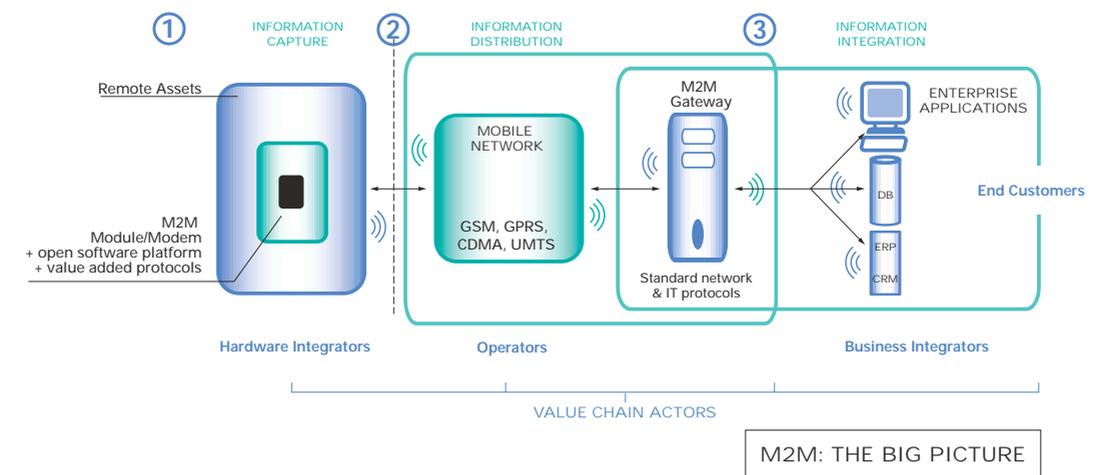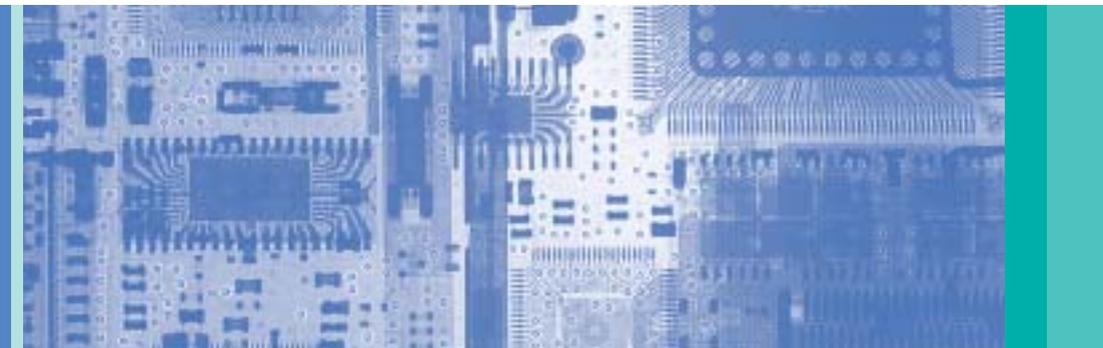
M2M: THE BIG PICTURE

The Wavecom approach is designed to enable customers to make their business processes more efficient by using wireless technology to integrate M2M applications into end-to-end enterprise IT systems. This happens in three phases:

M2M Information Phases

① **Information Capture**
② **Information Distribution**
③ **Information Integration**

① INFORMATION CAPTURE

The types of data collected in the numerous sectors that can benefit from wireless M2M applications are virtually limitless. They range from simple numerical readings for pressure or temperature-monitoring functions to image capture for security or health care applications. The source of the data may be fixed, such as a vending machine, or mobile, as in the case of a wireless electrocardiogram monitoring system. The data may be collected at regular intervals, such as hourly utility meter readings, or in real time for security or electronic payment applications.

Faced by such a vast array of specific requirements, M2M system developers need wireless subsystems that can be adapted easily to each particular situation. That requires an easy-to-use but complete interface between the application and the wireless module, such as a full set of AT commands. Wavecom modules and modems support more than 250 AT commands – the greatest number available anywhere.

But given the incredible range of specific interfaces and protocols used in different sectors and sub-sectors, developers also need to be able to customize wireless subsystems to specific applications. Such customization depends on advanced application development tools enabling system engineers, including those without telecommunications training, to adapt wireless functions to existing and new generation system formats and protocols.

② INFORMATION DISTRIBUTION

Market researchers expect that 'calls' between machines will outnumber voice calls on wireless networks by 2010. Managing mushrooming M2M data exchanges will be a critical challenge for organizations, especially as the nature of the information grows more sophisticated and as wireless networking standards evolve. For example, the SMS messaging techniques perfectly suitable for transmitting the short bursts of data involved in numerous current M2M applications, do not have the capability to handle enriched information containing images, which requires GPRS combined with TCP/IP or other higher data rate techniques.

More than simple TCP/IP support, M2M applications increasingly require complete IP connectivity. The extended IP connectivity available with Wavecom modules and modems includes, for example, support for email, file transfer and Web connection.

One key issue facing integrators and end users is to ensure that the systems they build remain in operation long enough to provide attractive returns on investment. Another is identifying the techniques best suited to their needs today and in the future, as both needs and technology evolve. Mobile operators play a critical role in this game. Aware of the needs of the M2M community, forward-looking wireless network operators and third party service providers are launching specific initiatives adapted to the growing flow of M2M information, including network tariff structures and service level agreements.

The M2M Connect Service from Wavecom's partner Orange, for example, offers specialized M2M networking functions, using SMS or GPRS techniques, customized pricing and access to a unique telemetry platform. Support for M2M Connect is built into Wavecom modules and modems.

"
The M2M Connect service is the first telemetry platform based on open infrastructure. It allows development of a new application cost-effectively in a matter of weeks rather than months, and it enables developers to work in their comfort zone of HTML and other Worldwide Web languages. "

Cynthia Gordon,
International Marketing Director for Business Solutions, Orange
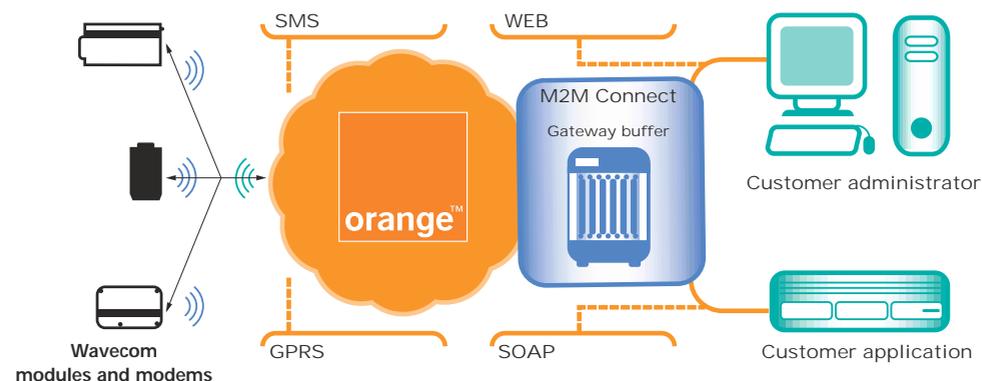
③ INFORMATION INTEGRATION

Wireless information resources can only be fully exploited if they can be consolidated with the masses of multi-sourced information that constitute enterprise-wide information systems. That means wireless information must be compatible with such essential functions as databases, messaging, application servers, system management and such critical enterprise-wide applications as customer relationship management (CRM) and enterprise resource planning (ERP) systems.

To enable customers to take full advantage of wireless M2M opportunities, Wavecom is building partnerships with leading IT integrators and solution providers. Thanks to an alliance with IBM, for example, Wavecom M2M solutions offer built-in support for IBM's telemetry protocol (WebSphere MQ Telemetry Transport). The protocol is widely used in conjunction with IBM WebSphere MQ Messaging and Integration middleware products to integrate diverse information from numerous sources into enterprise applications.

By supporting the IBM's WebSphere product family today, and other leading IT integrators in the future, Wavecom enables customers to reap the full benefits of the M2M opportunity.

"
Enterprises can look forward to enjoying greater return on their IT investment running this standards-based end-to-end solution, that can extend the e-infrastructure to integrate machines and e-business systems. "

Jeff Henry,
Director of WebSphere Integration Middleware Marketing, IBM

SMS

WEB

M2M Connect
Gateway buffer

Customer administrator

orange™

Customer application

Wavecom modules and modems

GPRS

SOAP

M2M CONNECT

REAL-WORLD SOLUTIONS

In the world of wireless M2M applications, each type of activity presents a particular set of challenges and constraints; each application and the system into which it must be integrated is unique. Providing a real-world solution means tailoring the level and amount of service to each client's particular resources and requirements – from basic technical support for clients who choose to assume full development responsibility through complete turnkey solutions for clients who prefer to leave the wireless up to Wavecom and its partners. To help customers learn the ropes of wireless technology, Wavecom specialists share their expertise and experience through a range of education and training services for customers.

Off-the-shelf solutions provide a useful starting point, but complete problem solving involves helping customers tailor wireless solutions to their particular needs. Because customers need powerful, easy-to-use tools to develop customized M2M applications, Wavecom has created its Open AT software development toolkit. Because they also need real-life problem-solving support, close by, Wavecom offers start-to-finish customer care.

As the wireless M2M pioneer, Wavecom has accumulated nearly a decade of experience and know-how in M2M applications and systems development. Wavecom M2M experts have leveraged this unmatched understanding to establish a dedicated worldwide network, specifically designed to provide the services and support customers need to successfully realize their M2M projects. While others provide FAQs, Wavecom and its Value Adding Distributors provide individualized support for M2M development projects from start to finish.

Start to finish customer care

FEASIBILITY	DESIGN & DEVELOPMENT	VALIDATION & CERTIFICATION	PRODUCTION	LIFE CYCLE MANAGEMENT
1	2	3	4	5

1 FEASIBILITY

- Wavecom development kits (hardware and software)
- Technical consulting

Wavecom believes there is no reason why M2M specialists should need special training in communications to benefit from wireless technology. Indeed, one of the advantages of the plug-in module approach championed by Wavecom since 1997 is that it gives everyone access to wireless technology. Today, to help specialists in a wide range of sectors evaluate how wireless can help streamline their business processes, Wavecom and its Value Adding Distributors offer a range of technical consulting services. In addition to technical aspects, business consulting services help customers to master economic and financial issues. Easy-to-use Wavecom M2M starter kits help development engineers rapidly gain hands-on familiarity with wireless options and reduce 'time-to-first-experience.'

2 DESIGN & DEVELOPMENT

- Specification review
- Schematics & PCB layout review
- Hardware integration support
- Software development support (AT or Open AT)
- Applications testing

Via: Training services/local support/ remote support/Web support

As the most intense and critical portion of any M2M project, the design and development phase provides the strongest focus for Wavecom and the Wavecom Value Adding Distributor service and support programs. For example, after evaluating and commenting upon specifications for proposed M2M applications, Wavecom and Wavecom-certified specialists review customer schematics and PCB layouts, helping customers achieve optimum electrical and radio design characteristics.

As customer engineers start to develop initial prototypes, the Wavecom team can provide support for hardware integration as well as software development. Training services in the use of Wavecom's unique MUSE Open AT development tools are also available, as well as application testing services for prototypes.

3 VALIDATION & CERTIFICATION

- Application qualification
- Pre-certification + regulatory conformity testing (CE & GCF, CTA, FCC/PTCRB)
- Field testing
- Support for operators approvals

As customer development teams advance through development iterations, Wavecom and its Value Adding Distributors provide design reviews and a full set of validation and certification services. These range from pre-certification and regulatory conformity testing to field-testing and support for operators approvals.

4
PRODUCTION

- Industrialization support
- Support on testing strategy
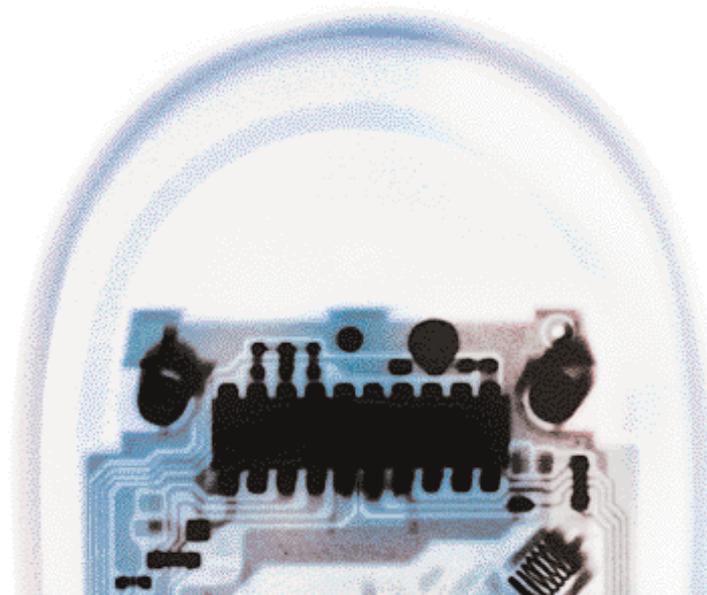- Support on customization
  (software & IMEI download)

In contrast to suppliers who consider that their responsibilities end at the factory front door, Wavecom supports its M2M customers from start to finish. In addition to counseling and support for manufacturing, Wavecom and its Value Adding Distributors help customers develop test methods and test benches. They also provide support for wireless terminal customization, through software or IMEI identification downloads.

5
LIFE CYCLE MANAGEMENT

- Fault analysis
- Repair services
- Software maintenance
- Software upgrades

M2M systems are designed to last. Wavecom start-to-finish customer support includes helping customers manage M2M application life cycles. In addition to software maintenance and upgrades, Wavecom and its partners provide customers with the broad understanding of trends in wireless standards and technologies they need to make decisions regarding application evolution and migration.

VALUE ADDING DISTRIBUTOR
WAVECOM
VAD

The Local Expert at Your Disposal

System developers and integrators who select Wavecom solutions benefit from Wavecom's unmatched experience and understanding of M2M applications development challenges and requirements – even if they do not deal directly with Wavecom. That's because Wavecom has built partnerships with selected, highly qualified Value Adding Distributors. Certified and trained by Wavecom, all offer proven expertise in wireless M2M applications development and integration as well as high-level knowledge of the Wavecom solutions offering.

Wavecom pledges that customers can depend on Wavecom Value Adding Distributors for:

Customized application development and integration service and support from knowledgeable specialists. This includes:
- a staff of engineers dedicated exclusively to customer support
- market-proven development capabilities with complete test and measurement facilities
- understanding of complementary techniques and technologies, often critical to providing full solutions

First level maintenance and repair services
for Wavecom products, so that customers can quickly and easily handle issues locally, without incurring serious project delays

Advice and guidance for application upgrades,
to facilitate evolution of customer applications throughout their life cycle

Broad understanding of current and future market trends,
including knowledge of the local market environment and all the players in the M2M value chain

Detailed, up-to-date knowledge of all Wavecom M2M offerings, including modules, modems, software and development tools, with regular participation in training sessions with Wavecom M2M specialists

A solid reputation for customer satisfaction, quality service and the highest ethical standards, established over time

"Each Wavecom Value Adding Distributor is an extension of Wavecom itself – commercially and technically. Each can provide business consulting services in addition to extensive technical support. And each is an expert on local market drivers, trends and regulations. To maximize customer benefits from this close partnership, we insist upon total transparency."

Olivier Beaujard,
Vertical Applications
Marketing Director.

THE MOST COMPLETE M2M PORTFOLIO

No one can match Wavecom's commitment or achievements in helping customers bring new M2M applications to market as quickly and as simply as possible. With the industry's only dedicated M2M organization, providing specific support and engineering for M2M customers, Wavecom sets the standard for the market. Today, the entire Wavecom range of modules, modems and tools benefits from Wavecom's unequalled experience and understanding of M2M opportunities. Even developers with no experience in wireless can take advantage of advanced, modular hardware and software to design innovative applications and easily integrate them into end-to-end systems.

WORKHORSE WIRELESS M2M SOLUTIONS

PLUG-IN MODULES

M2M system designers know they can depend on Wavecom for reliable, long-term module solutions. Field-proven on dozens of wireless networks worldwide, the Wavecom range of plug-in M2M modules covers both GSM/GPRS and CDMA environments. Interchangeable and upwards compatible, Wavecom modules provide the longest-lasting solutions available to M2M system designers. Wavecom is the only supplier that has maintained its basic connection and pin input/output configurations over the years, thereby avoiding costly, time-consuming design adjustments for customers.

MODEMS

Built around the same field-proven technology that has made Wavecom modules the workhorses for M2M applications, Wavecom modems offer a rapid, handy path to wireless benefits. Available in both discrete and board-mounted versions, Wavecom dual-band GSM/GPRS modems provide the fastest route to reliable wireless connectivity.

OPEN AT: THE TOOLKIT DEVELOPERS DREAM ABOUT

Now entering its third generation, Wavecom's Open AT software development kit provides the world's most powerful, most flexible and easy-to-use set of M2M applications development tools. With Open AT, customers can embed and run M2M applications based on simple, standardized AT commands or dedicated APIs right on a Wavecom wireless module or modem.

Open AT helps developers shorten time to market by reducing hardware design, software development, test and validation cycles. Eliminating extra components and using existing software building blocks helps reduce development costs and shrink hardware footprints. What is more, the Open AT Application Development Layer provides simple, ready-to-use templates for managing communications, messaging, hardware interfaces and more.

WISMO Quik range of GSM, GPRS & CDMA modules

- Q2400A: GSM
- Q2403A: GSM/GPRS Class2
- Q2406A: GSM/GPRS Class10
- Q2406B: GSM/GPRS Class10 + Open AT
- Q2426B: GSM US bands/GPRS Class10 + Open AT
- Q2438F: CDMA 1xRTT

Smart M2M:
- Q2406B, Q2426B + application protocol:
IP connectivity / MQ TT / Orange M2M Connect

Integra M2106B

- M2106B: GSM/GPRS Class10 + Open AT

Smart M2M:
- M2106B + application protocol: IP connectivity / MQ TT / Orange M2M Connect

Fastrack M1206B and M1306B

- M1206B and M1306B: GSM/GPRS Class10 + Open AT

Smart M2M:
- M1206B and M1306B + application protocol: IP connectivity / MQ TT / Orange M2M Connect

RICH CONNECTIVITY SOFTWARE SOLUTIONS

The variety of wireless functions and protocols supported by Wavecom M2M modules and modems enables system developers to select those best suited to each particular application. The choice ranges from basic GSM voice, data, SMS and fax services up to full Class 10 GPRS capability.

In addition to standard wireless connectivity, Wavecom is the first module supplier to offer full embedded Internet connectivity, including, for example, support for email, file transfer and Web connection. Because robustness and reliability are critical in the M2M environment, Wavecom chose to work with eDevice, a partner with proven experience in IP solutions for industrial environments.

Increasingly, M2M systems are becoming end-to-end systems. To help customers integrate their M2M applications into enterprise IT systems, Wavecom solutions offer built-in support for value adding protocols such as IBM's MQ Telemetry Transport and the X ML based Orange's M2M Connect service.

M2M FOREVER

Interchangeable and upwards compatible, Wavecom modules and modems provide long-lasting solutions for M2M system designers. Wavecom has not only blazed the trail for M2M applications but has demonstrated its long-term commitment to the sector and to M2M customers.

Selected by leading car manufacturers for their reliability and rugged performance, Wavecom modules are recognized as the benchmark for wireless longevity. With more than 20 million modules currently operating in cell phones and other applications on networks worldwide, Wavecom has demonstrated its ability to deliver ready-to-go solutions to cost-conscious customers in highly competitive markets.

Wavecom persists in pushing wireless technology forward. Today, especially through its investments in innovative, dedicated VLSI circuits and silicon-based solutions, Wavecom continues to bring the best of technology to M2M customers in cost-effective, easy-to-use formats.

As wireless standards evolve and as technology progresses, M2M customers know they can continue to rely on Wavecom for a constant stream of wireless innovation designed for M2M needs.