



RIM in the mobile enterprise market

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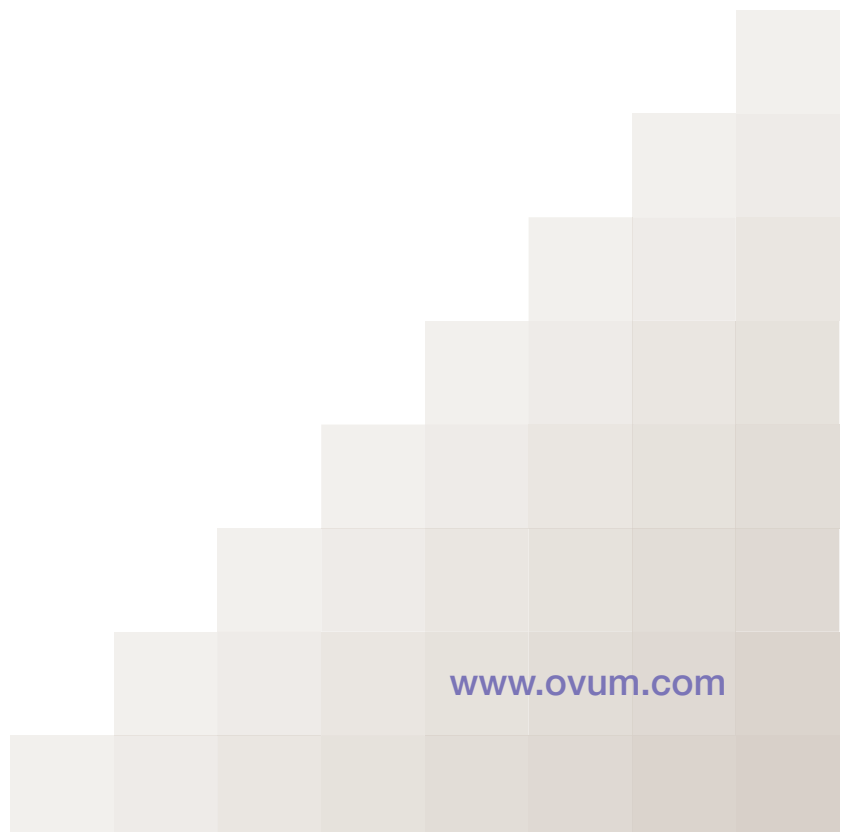




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RIM in the mobile enterprise market

Despite the entrance of several powerful new competitors in the mobile email market, RIM is still the dominant player here. The resolution of its patent dispute with NTP has removed a question mark that has caused much negative comment, particularly in the key US market.

SWOT analysis

Strengths

- **RIM's unique offering and strategy.** RIM was the first company to understand that mobile applications need to be delivered as part of an integrated package, including hardware, software and services, that is both complete and simple to use. RIM's business model is also a strong weapon against the competition, as it enables its resellers to charge for maintenance and support as part of a subscription, rather than charge an annual fee. This remains RIM's main strength and weapon against its competitors.
- **RIM's software is well designed.** RIM's software is designed to be easy for the enterprise gatekeepers (usually purchasing or IT departments) to deploy, offering simple enterprise server or desktop software integration solutions. These allow users an easy upgrade path as their requirements grow, without placing heavy financial and resource burdens on the enterprise. The solution is also designed to remove the need for any additional software, which is something that customers have come to appreciate.
- **RIM's brand is now very powerful.** With just under 5 million subscribers, RIM now has more influence than many larger device and software vendors; so much so that BlackBerry is now almost a synonym for wireless email.
- **RIM's offering is carrier-friendly.** It is easy for MNOs to sell the BlackBerry solution to enterprise customers, and the product performs well in terms of throughput speed, latency and capacity requirements on 2.5 (and equivalent) networks, in part due to proprietary compression in both server and handheld device.

Weaknesses

- **Scalability and global coverage.** RIM's business model (selling purely through operators) means that it is dependent on operators to launch the BlackBerry service. This takes time, and the cost associated with launching can be high for smaller operators. Global presence, including small and emerging markets, can be crucial to win and extend contracts with multinational corporations (MNCs). Many MNCs are trying to rationalise their investments in mobile email by selecting a single supplier. While this is not a key issue today, mostly because of the lack of viable alternatives, it will become an important factor for enterprise users to consider in the near future.



- **The BlackBerry architecture.** The much-discussed network operating centre (NOC) is perceived, rightly or wrongly, as a weakness in the market today. Competitors have done a good job in popularising the belief that the relay centre (through which all information sent and received by BlackBerry subscribers transits, albeit in an encrypted form) is a security issue. So far, the campaign has not affected sales to security-conscious organisations in key sectors such as government and finance. However, the need for organisations to let data transit via a third-party server, and sometimes abroad, in order to use BlackBerry is in some respects a weakness.
- **High total cost of ownership.** BlackBerry is now perceived as a high-end product that is not cost effective for enterprises wishing to deploy email across a large part of their organisation. Perhaps as a result, almost all RIM's competitors now position themselves as cheaper equivalents of the famed BlackBerry. Claims made by competitors can easily be squashed today, because there is no data supporting them. However, in the future RIM should respond to such claims with smarter pricing and marketing strategies. Ideally, RIM should aim to price and package its products for different categories of workers as well as for different segments of the market as it does today.
- **RIM's business model is not carrier-friendly.** RIM's arrangements with carriers, which include per-seat and per-BES fees, reflect the strength of its brand and the weakness of competition. Several carriers have expressed the view to us that they would at least like to have an alternative offering in their portfolio alongside BlackBerry.

Opportunities

- **Differentiated offerings for several categories of mobile workers.** RIM's ability to cater for a growing range of mobile workers will be crucial in the future, as enterprises look to deploy mobile email across their diverse mobile workforce. Enterprises now understand the value of mobile email, but few are willing to pay a premium for company-wide deployments.
- **Extend the range of third-party BlackBerry devices.** By licensing its software through the BlackBerry Connect and BlackBerry Built-In programmes, RIM is able to expand its presence with users who favour other form factors and device platforms. Connect and Built-In extend RIM's addressable market and improve acceptability of BlackBerry's products in certain markets, such as Nordic countries.

Threats

- **Tougher competition.** RIM is facing tougher competition than ever before, from a range of suppliers. Until now, competitors have been small niche vendors, but going forward RIM will compete with large global players such as Nokia and Microsoft, as well as with operators, many of which have launched their own branded email services. It is unclear what impact the newcomers will have on the market, but many enterprises are willing to consider them as valid alternatives to BlackBerry today.



Ovum view

With 4.3 million active users, RIM remains the most successful mobile enterprise software vendor. None of the large ISVs can claim to have such a large user base today. With \$132 million in software revenues last year, RIM is also close to claiming the largest share of the mobile enterprise software market. Despite all this, RIM is rarely recognised as a prominent mobile software provider.

Hardware is by far the company's main source of income, accounting for approximately 70% of its total annual revenues. In contrast, software accounts for less than 10%. Despite attempts made over the past two years to be perceived as a software vendor, RIM's reputation now largely rests on its status as a device manufacturer. Nevertheless, RIM is one of the most important ISVs, and suppliers in general, in the mobile enterprise market.

The main reason why RIM is difficult to label or pigeonhole as a supplier is that it is both a hardware and a software provider. Some even say that it is also a service provider. This makes RIM unique, but also an oddity in a fragmented market. Whilst almost all other suppliers struggled to discover a horizontal mobile enterprise application with a large enough addressable market, RIM spotted an opportunity that is still the largest in the market in terms of end users.

In March 2006 RIM reached a final settlement in its long-running patent dispute with IPR specialist NTP. Although the terms of the final settlement were not ideal from RIM's perspective, this settlement removes a key threat which was casting a disproportionately long shadow over the company's prospects.

RIM's credentials are difficult to match even today

Crucially, RIM was the first supplier to understand that it is almost impossible to sell mobile enterprise software on its own. Mobile enterprise software should ideally be packaged in a complete, end-to-end offering that will aggregate all the components needed to deliver the application as a service to mobile handsets, including the handset. It was also the first to successfully convince operators to sell and deliver an IT product as a service. This remains RIM's key strength in the marketplace, along with its focus on the wireless email market. No other platform vendor has the same credentials: the likes of Seven and Visto do not make handsets, while the likes of Nokia do lots of other things besides wireless email.

It is perhaps no wonder that the company has enjoyed phenomenal growth over the past few years, making RIM a darling of the investor community. As the main supplier in a niche and immature market, it established itself as a clear leader on all fronts, capable of scaling its business quicker than pure software vendors. However, now that the market is maturing, RIM is facing significant challenges.

RIM will have to work hard to maintain its position in the market

2006 will be a challenging year for RIM. Not only will the company have to demonstrate that its growth is sustainable, following criticisms that the business is



quickly running out of steam, but it will also have to resolve its litigation problems and fight against much stronger competitors. As its critics become more numerous, RIM will also have to protect its brand and ensure that purchasing decisions and operator launches are not delayed.

The first issue for RIM will be competition. Until now, competition in the mobile email market was nothing to fear for RIM. Most competitors were small start-ups with less attractive offerings and limited resources. Times have changed, however, and RIM will now have to compete with powerful players that are interested in making sure BlackBerry doesn't become 'the Windows of wireless email'. One of these is Microsoft, which should enter the push email market next year; the other is Nokia, which launched a competing product and acquired Intellisync, the company that supplied RIM with desktop synchronisation software. Unlike RIM's other competitors, Microsoft and Nokia are both large, rich and influential companies.

Microsoft and Nokia already have partnerships with operators, and both are already involved in the handset value chain. This does not mean that RIM's market share will dwindle over the coming months, but the company may be under pressure to lower the cost of its products and services in the future. Both Microsoft and Nokia are positioning themselves as cheaper alternatives to RIM, responding to demand in the market for an affordable, mass-market mobile email offering. As such, Microsoft and Nokia may not be directly competing with RIM, although they have already started a price war by diverting the attention of customers away from the functionality of individual products to their respective price.

In addition, Nokia and Microsoft may not be able to emulate RIM's business model fully. Currently, although many operators would only admit it reluctantly, BlackBerry has the advantage of being a subscription service, which enables MNOs to build part of the maintenance and support costs they incur into monthly subscription prices. The Nokia and Microsoft equivalent may not present the same advantages, from the operator's perspective.

RIM needs to protect its brand at all costs

While criticism of BlackBerry and RIM has increased following new product launches this year, these launches have also had a beneficial impact on the market by stimulating interest in wireless email. The increased awareness should also affect demand for such products in the long term. This is good news for RIM. After all, RIM can rely on its brand alone to sell its product. To a certain extent, RIM's powerful brand is its main strength against competition.

RIM needs to be more flexible

Aside from its brand, RIM's other asset is its offerings. To fight the competition, RIM will need to develop these. Aside from developing new features, and improving its product and pricing, RIM should also focus on providing its customers with more



choices in key areas such as software packages and devices, to extend its addressable market.

RIM understands this and has launched specific packages, with more appropriate pricing, for SMEs and government organisations. It has also launched two software licensing programmes, Built-In and Connect, to extend the range of devices available to BlackBerry subscribers.

Going forward, RIM will need to continue to tailor offerings to the needs of specific user groups, beyond the current demographic split between enterprises and consumers. In particular, RIM should look closely at the different categories of workers within enterprises and how their mobility needs differ.

In addition to this, RIM needs to continue to launch its service in new markets. It has already announced a number of future launches in key markets such as China, but it also needs to work on launching in smaller emerging markets such as Scandinavia and Eastern Europe. This is not an easy task, with smaller operators complaining that fees charged to operators are too high.

However, a global reach is essential to meet the requirements of large multinationals, RIM's key customers. Many of those organisations want to deploy a single mobile email product either globally or in each region. The impact on growth may be minimal in the short term; some larger enterprises are starting to consider alternatives to RIM, on the basis that its presence does not match theirs.

Mobile enterprise customer base

In December 2005, RIM reported it had 4.3 million subscribers, most of which are enterprise users, although a large proportion of new users are now 'prosumers' (professional consumers).

North America remains RIM's main market in terms of revenue share, but the company is increasingly reliant on European and Asian markets for future growth. Launches in new markets such as China are crucial going forward and will enable the company to reach its target of 5 million subscribers this year.

RIM's products are primarily targeted at professionals and enterprise customers. In terms of customer demographics, BlackBerry has often been seen as an executive tool, although RIM is now attempting to capture more of the prosumer market with new devices and services.

Although wireless email is a purely horizontal application, RIM has close ties with the government sector, in the US in particular. With well over 100,000 BlackBerry users in the US government in 2005, and with US Homeland Security investment increasing, this is a promising market for RIM. Government is also becoming an increasingly important segment outside the US. Users in Europe include the West Yorkshire Police and the Vatican.



Mobile enterprise offering

The BlackBerry offering includes four main elements. The integration between these and, in particular, the nested arrangement of address mapping between corporate mailboxes, operator-assigned dynamic IP addresses and RIM-assigned hard-coded device addresses, is part of RIM's competitive advantage. The four main elements are:

- the BlackBerry Enterprise Server (BES). The BES sits behind the firewall, inside the enterprise user's corporate IT domain. It is responsible for interfacing with existing in-house email servers such as Exchange, Lotus Domino and Novell Groupwise. Its main purpose is to map between the mailbox addresses on the corporate email system and the PIN ID, the unique factory-allocated address on each BlackBerry handheld. It also holds the encryption keys for email messages. With the Mobile Data Service (MDS) extension, enterprises may also leverage the functionality of BES to deliver data from third-party enterprise applications to BlackBerry devices
- the BlackBerry Infrastructure, also called the network operating centre (NOC). So far, the infrastructure consists of three servers (one for each global region) owned and operated by RIM. NOCs mediate between corporate-owned BESs and the mobile operators' networks. In particular, they map between PIN IDs and the IP addresses allocated by the network. These also enable a special case of 'BlackBerry roaming', which allows corporates with multiple sites across countries to use local SIMs but still have corporate BlackBerry devices within a single domain
- the mobile operators' data networks (including Mobitex, EDGE, GPRS and EV-DO). A dedicated provisioning system enables user profiles for BlackBerry services and communicates this provisioning information to the BlackBerry infrastructure. Roaming devices connect to the BlackBerry infrastructure via an APN on their home network – even though the visited network may also have an APN connection to the BlackBerry network
- the BlackBerry device. This holds the PIN ID, IMEI and (via the SIM card) the IMSI and MSISDN. It also holds, in a secure area, the encryption key needed to decrypt messages. Security is maintained through a number of discrete mechanisms. One of these is the storage of 3DES/AES encryption keys on the device and at the BES, but not at any of the points in between. This means that although the messages do flow through elements that aren't part of the corporate domain, they are always encrypted. Another is authentication between the BES and the BlackBerry Infrastructure. BlackBerry's encryption has been awarded FIPS 140-2 validation, a requirement for many government contracts in the US.

BlackBerry Enterprise Server (BES)

Developed over seven years, the BES software is now in version 4.1. BES is a middleware platform optimised to deliver email and PIM information to a mobile

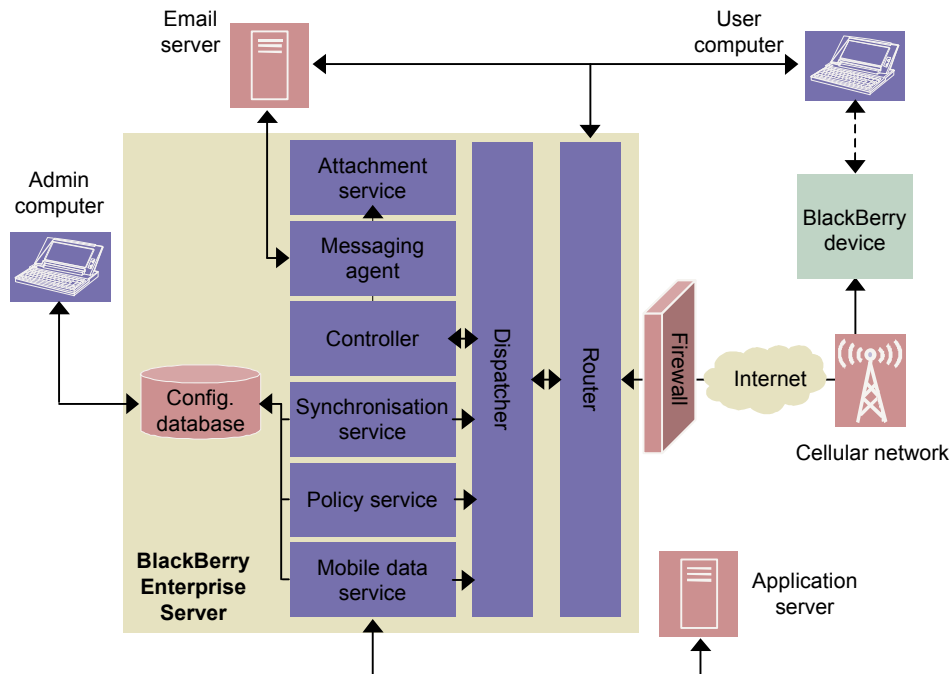


device as part of a complete package. This means that this product is designed to remove the need for enterprises to purchase or install additional software.

BES comes with the security, administration, set-up and maintenance software required to deliver emails to BlackBerry devices. The security and administration package is designed to give full control over BlackBerry devices and all the data they contain. IT staff can remotely activate the device, interrogate it, enforce security policies and wipe it. This set of functionality, along with the encryption of the data, is the foundation of RIM's reputation as the supplier of the most secure email product.

The latest version of the product adds a number of functionality elements that put BlackBerry in line with competing products as far as wireless synchronisation is concerned. In particular, it removes the need for desktop synchronisation, a piece of the solution that was provided by a third party, Intellisync, which is now owned by Nokia. It also provides improved attachment handling.

Figure 1 **Components of the BlackBerry Enterprise Server**



Source: RIM

BES consists of individual services or components that provide the functionality to monitor services and processes, route, compress and encrypt data, and communicate with the wireless network, as shown in *Figure 1*.

Components do not have to be deployed on a single server, and can be reused for deployments involving more than one BES. Companies can opt for a distributed



architecture by running the BlackBerry router, manager, configuration database and attachment service on individual remote computers connected to several BESs.

BES is available in several pre-integrated versions:

- BES for Microsoft Exchange
- BES for Lotus Domino
- BES for Novell Groupwise.

Each version is also packaged and priced differently for RIM's three main target markets:

- small and medium-sized businesses
- enterprises
- government.

Mobile Data Service

Mobile Data Service (MDS) is a service available with BES. It provides access to corporate data beyond email and PIM. The BES and the MDS perform the following functions:

- handheld requests management – manages browser and Java application requests to provide handheld applications with access to HTTP, HTTPS or TCP content on the Internet and intranet, using the same channel that is used for BlackBerry email
- push requests management – MDS handles requests between the device and an application server located behind the firewall. MDS allows applications to push data based on the recipient email address, and to push data to custom handheld applications or to the BlackBerry browser, browser cache or message list. MDS also defines the length of time that push data persists
- authentication – MDS authenticates users. It can also proxy user credentials and cache cookies for a defined period
- access control – can assign roles to handhelds and push initiators that control their activity using the Mobile Data Service. It can also limit push requests from push initiators to specific BlackBerry users, and restrict the servers that users can access
- corporate proxy servers bypass – many corporate proxy servers do not permit internal traffic. The MDS enables the provision of access to internal content by supporting a proxy exclusion list, which defines internal URLs that the MDS routes directly instead of going through the corporate proxy server, using a proxy auto-configuration (PAC) file
- content rendering – MDS converts data to a format that can be interpreted and displayed by the handheld. It also compresses and optimises the content for viewing in the browser provided with the BlackBerry handheld, to reduce network traffic.



Application development

Over the past few years, BlackBerry has grown and developed a portfolio of Java- and browser-based applications, many of which are enterprise applications, through its developer community. The BlackBerry developer community now counts over 300 developers, including high-profile enterprise ISVs such as Oracle and IBM, as well as a range of specialist mobile application vendors such as Pyxis Mobile, which specialises in applications for the financial sector.

BlackBerry Internet Service

RIM also provides a hosted version of BlackBerry software called the BlackBerry Internet Service (BIS). BIS is designed for individuals, rather than enterprise customers. It is designed to provide access not only to Exchange and Domino servers, but also to up to ten personal addresses (POP3, IMAP and ISP). BIS is carrier branded. Functionality elements available with the service do not exactly match those available with a BES, but the product is designed with different users in mind. So far, 45 operators have registered their interest in BIS and 15 have already launched the service.

BIS is primarily designed for the 'prosumer' market, although it should also appeal to the SME segment of the business market.

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