



White Paper



Leveraging Responsiveness in a Super-Charged Environment

White Paper based on an IndustryWeek Webcast

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Leveraging Responsiveness in a Super-Charged Environment

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RESEARCH IN MOTION: ENABLING A RESPONSIVE, DEMAND-DRIVEN SUPPLY CHAIN

Research In Motion (RIM) Limited, maker of the BlackBerry®, is a Canadian company experiencing massive growth in volume output, staffing, and manufacturing infrastructure. The combined pressures of a rapidly expanding customer base and shortened product lifecycles have led the company to add more contract manufacturers to the supply chain, which means that more complex decisions need to be made in less time. Existing software was not up to the challenge, so the implementation of a new decision support tool was essential to keep RIM positioned as a market leader.

COMPANY PROFILE

Founded in 1984, RIM provides wireless solutions for the worldwide mobile communications market. The company offers seamless access to time-sensitive information through phone, email, text messaging, instant messaging, and Internet and intranet-based applications. RIM's technology supports multiple network standards and enables third-party developers to enhance their products and services with wireless connectivity to data. The company's primary revenue stream is generated by the BlackBerry solution, which includes wireless devices, software development tools, radio-modems, and software/hardware licensing agreements.

Headquartered in Waterloo, Ontario, RIM has offices in North America, Europe, and the Asia-Pacific region, with more than 6,250 employees in 18 different countries. It is the world's largest wireless design group and one of the top 15 research and development investors in Canada, with 2007 total revenue over three billion dollars. The company's end-user base has expanded by about 18 percent every quarter for the last three years, and overall production has more than doubled in the last year.

Dany Toniutti, outsourcing program manager for RIM, described the company's strategy for overcoming the challenges inherent in this super-charged environment during a recent IndustryWeek Operational Excellence Web Conference sponsored by Kinaxis.

INNOVATION LEADS TO EXPLOSIVE GROWTH AND COMPLEXITY

The remarkable success RIM has experienced in recent years has created a unique set of challenges. "We've introduced seven new models in the last 18 months," Toniutti says. "The average lifecycle of these products has gone from just over two years to less than a year, and in some cases, less than six months." The company's product portfolio has also become increasingly complex, from 18 possible end configurations in a few basic models to more than 100 possible combinations in seven different product lines.

RIM's Waterloo facility began operations in 1997 and moved to its current location in 2002. All handheld units are built at this site, which also houses point-of-sale box assembly, customer order fulfillment, and a 24/7 repair services operation. In 2005, RIM added two outsourcing partners – Elcoteq, which builds some of the handhelds at three additional locations, and Celestica, which provides two more sites for point-of-sale assembly and fulfillment.

Handheld manufacturing has soared 310 percent in just two years and continues to grow. "We shipped over three million units in the last quarter, and we're aggressively adding capacity to make our projected numbers," Toniutti says.

While RIM's customer base is still focused in North America and Europe, it is expanding rapidly. In 2003 the company had 20 networks in fewer than 10 countries; by 2007 there were over 300 networks in more than 100 countries. "We're on every continent except Antarctica, and there are many, many more customers that we need to service," Toniutti notes. More carriers mean more sources of demand variability. "But the Pareto rule still applies: 20 percent of our customers drive 80 percent of our business," he says.



RIM MANUFACTURING – OVERVIEW

Operating since 1997, at Waterloo site since March 2002

Waterloo Facility

- » Handheld manufacturing
- » POS box assembly
- » Customer Fulfillment
- » Repair Services
- » 24/7 Operation
- » 240,000 sq ft

Outsourcing Partners

- » Elcoteq (3 Sites): Handheld manufacturer
- » Celestica (2 Sites): POS assembly and fulfillment

Keeping up with such growth has been difficult. “We’ve had to deal with a burgeoning workforce and a shifting organization structure that’s expanded by over 30 percent in each of the last two years,” Toniutti says. “Our supply chain has increased from a single fully integrated manufacturing site to six sites utilizing two contract manufacturers in six different countries.” Aggressive ramp rates, often executed from multiple manufacturing locations simultaneously, are further complicated by more than 200 engineering changes each month.

Earlier launches were often aimed at just one carrier and were fairly limited in scope. For example, the company launched five new Blackberry models in 2004, one of which comprised 85 percent of approximately 200 end items. In contrast, the 2007 Pearl model had over 660 end items by itself. “And all of these units are far more complex to make and much more fully featured than those of 2004,” Toniutti points out.

STRESSES ON THE SYSTEM

Expanding customer base

- » 2003: 20 Networks in less than 10 Countries
- » 2007: ~300 Networks in over 100 Countries

Soaring handheld output

- » Increased by 310% in 2 years, 180% last year alone to over 3 million per quarter

Product Launches

- » 5 in 2004 7 in the last 18 months

Product Complexity

- » 2004: limited number of models with low variation
- » 2007: 7 distinct products lines each with an average of over 100 configurations

Staffing increases

- » Supply Chain employees: 2005-2007 (to date) + 225%

Contract Manufacturing

- » More people and processes to coordinate

THE NEED FOR A NEW SOLUTION

Supplying more carriers with an increasing number of units for multiple sites has meant less time for RIM to respond to changes in demand. The company was also finding it harder to stay on top of the cumulative effect of its order commitments. Staff needed faster, more accurate answers to questions such as what would happen if one carrier’s order was pushed out before another’s, disruptions occurred in the supply chain, or how to best handle order increases of 50 percent or more for multiple carriers in different geographies.

“When RIM was a single site manufacturer, demand changes still caused havoc to the schedule, but at least they got acted on right away because all you had to do was walk down the hall,” Toniutti says. “Now forecast changes ripple out across multiple entities and different time zones.” As a result, decision-making became much more difficult. “Because of the increased complexity, it isn’t always obvious to any single individual what the implications of those decisions will be across the supply chain,” Toniutti points out. “It really can’t happen in real time due to the intricacy of our supply chain and all the orders that are in progress at any given moment.” The spreadsheet-based methods RIM had been using weren’t effective in this environment. Too much time was being spent firefighting, which reduced resources for other projects.

Shorter cycle times also increased the need for better decision-making tools. “Launches now take less time to ramp to full production, and more units are being produced during the ramp-up period,” Toniutti says. “We’re often launching in more than one site simultaneously.” And as product lifecycles shrink, RIM constantly introduces new products that can potentially cannibalize existing product sales. “We have to properly plan these introductions, since many of our higher-cost components are product-specific and could easily become excess inventory.”

Moreover, a 225 percent increase in supply chain staff in the past two years made it crucial for RIM to find a solution that was easy to learn and use. “That kind of growth brings a level of instability in terms of people having to learn the processes and tools we have,” Toniutti says. “It also increases reluctance to use new tools, even if they’re vastly better than the current methods, because there’s so little time to internalize new features.”

THE KEY TO MANAGING CHANGE EFFECTIVELY

RIM turned to Kinaxis **RapidResponse** as the solution to these issues. So far, the system has been implemented for in-house manufacturing, with daily feeds of information going from SAP into **RapidResponse**. “We’ve established an internal support organization and connectivity with one of our outsourcing partners, and our second one is imminent,” Toniutti says. These connections will provide a more comprehensive view of the supply side of RIM’s supply chain.

MULTIPLE ADVANTAGES

RIM has already gained a wide range of valuable capabilities from implementing **RapidResponse**, and expects to realize more benefits in the months ahead. For example, a full view of the extended supply chain provides not just the data, but also the analytics that go with it. “In RIM’s case, this breadth of data is not available in any other formal system,” Toniutti says. “We anticipate that our commodity managers, master schedulers, outsourcing supply specialists, and finance personnel will all be able to use this information to understand what’s happening across the supply chain and make better decisions – and also to ensure that what we think should be happening is actually happening.”

The decision-making process has also been accelerated. “All the standard features of **RapidResponse** will help us keep pace with our explosive growth,” Toniutti says. “We need to be able to investigate different ways to resolve issues very quickly and see what the impacts will be on materials, costs, and customer satisfaction.” In addition, ease of simulation encourages people to try out more possibilities, since it doesn’t take as long to assess various response scenarios as it did before **RapidResponse**.

Scorecarding capabilities provide a multidimensional assessment of any given solution, ensuring that staff can make objective decisions as opposed to subjective or gut-feel reactions. “The ability to easily share scenarios and work collaboratively should reduce the amount of spreadsheets that we send across our email links, which has been extremely high,” Toniutti says.

The Excel-like interface of **RapidResponse** makes training easier, improving retention and reducing resistance to using the new tools. User-friendly online procedures help RIM personnel remember how processes should be done while providing a mechanism to share best practices.

FAST RESULTS

“RIM has only been using **RapidResponse** in any significant way for the past five months*, but in that period of time we’ve seen some pleasant surprises, especially with regards to reporting,” Toniutti says. Getting reports out quickly has been a huge benefit for all parties, especially the corporate IT group. Now that some reports are done in **RapidResponse**, IT resources have been liberated for other development efforts. “We’re finding that the corporate IT folks have taken to referring people to **RapidResponse** whenever their requests can be handled by the system,” Toniutti says.

Some of these reports offer unique insight into the applications **RapidResponse** can facilitate. For example, one report allows RIM to look for purchased parts that fit certain criteria. “We feed that back to our continuation management folks so they can determine what should go on a planning bill as a separate item, and what doesn’t need to be there,” Toniutti explains. “Before **RapidResponse** this was very time-consuming, but now we’ve reduced that down to an hour or two.”

Another report deals with situations where a PO change is entered into the system after commitment to a customer order. “The PO change will affect delivery, but unfortunately maybe the buyer doesn’t inform the master scheduler,” Toniutti says. “This is something that happens all too often in our environment – and it’s one of the uses we’ve been able to make of this tool in a short time.”

*As at October 11, 2007

FUTURE PLANS

RIM looks forward to using **RapidResponse** for demand and supply planning. “Right now this is a monthly cycle of consolidating demand and then building a supply plan to meet that forecast demand,” Toniutti says. “We anticipate that the ability to rapidly simulate supply options will help us select the best possible plan.”

The company also plans to use some of the more specialized **RapidResponse** options. “We believe these tools will help us reduce our costs and be more effective at dealing with the change we see on a constant basis,” Toniutti says. The constraints manager module is one example. “This will allow us to view our supply chain in a capacity-constrained manner, which will make our selection of alternatives more feasible,” Toniutti says.

Finally, connectivity with customer data will provide a more interactive understanding of customer demand. “This will help us better collaborate with our customers and give us a much better picture of demand than we can expect to see now,” he says.

Overall, RIM is pleased with the results it is achieving. “The key is to have visibility in demand, and having the right data and the right tools to quickly and effectively respond,” Toniutti says. “That’s what **RapidResponse** is giving us.”

To view the on-demand webcast on which this paper is based, [click here](#).

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ABOUT KINAXIS

Kinaxis™ **RapidResponse** is a single on-demand service that empowers multi-enterprise manufacturers with integrated demand-supply planning, monitoring, and collaborative response capabilities.

RapidResponse embraces human judgment to enable planners and front-line responders to handle unpredictable changes. Global leaders such as Casio, Honeywell, Jabil, Qualcomm, and Raytheon use **RapidResponse** to achieve breakthroughs in sales and operations planning (S&OP), demand management, supply management, and supply chain risk management. The results are superior customer service, improved operations performance, and a competitive market advantage. For more information, visit the Kinaxis web site at www.kinaxis.com or the company’s blog at www.21stcenturysupplychain.com.

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