# the product record

PRODUCT LIFECYCLE MANAGEMENT QUARTERLY

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#### THE

# **Product Network**

# O P T I M I Z I N G the Product Network

BY CHRIS FARINACCI

Senior Vice President, Marketing, Agile Software

Product innovation and profitability are dependent on effective management and synchronization of product information, business processes, and decision making throughout the product lifecycle and across the product network. Optimizing the product network for new product development and introduction is a key to success in any industry. You have to understand exactly which stakeholders define your product network. This may be more complex than you think. The product network is the network of all the internal and external stakeholders in the product development and introduction process – including all global companywide organizations, suppliers, partners and outsourced design and manufacturing vendors – working together to bring innovative products to market. The product network includes all individuals and companies involved in product development, production and distribution functions, forming a virtual organization with the sole purpose of designing and delivering innovative and profitable products.

#### Global Advantages, Global Challenges

The complexity and global nature of the product network presents serious challenges. It has become a global extended chain spanning multiple organizations, companies, time zones, countries, languages and cultures. Ten years ago, most stakeholders were in one building. Today key stakeholders of the product network reside far beyond the firewall, all around the world.

The global expansion of the product network has enabled companies to leverage talent pools around the world, reduce costs, and gain market

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# RECIPE FOR SUCCESS...

Managing the Product Network in Food & Beverage

BY BERNARD GOOR Vice President, CPG, Agile Software

L aunching successful new innovative products in less time and at a lower cost has never been as important as it is today in the Food & Beverage industry. At the same time, Food & Beverage manufacturers and retailers must respond to ever increasing pressures coming from customers, consumers, competitors and regulatory agencies.

To make this even more challenging, Food & Beverage companies must manage an increasingly complex product network of globally dispersed stakeholders. Best-in-class innovators are even leveraging extended product networks across suppliers, customers, partners and third party service providers in order to capture and execute on the best ideas for innovative new products.

Let's take a look how complex a Food & Beverage product network can be, using an example of a BBQ Chicken and Vegetable frozen dinner, which is developed in the context of an innovation

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## CXO PERSPECTIVE

By JAY FULCHER CEO & President, Agile Software

# MAKING THE CONNECTION EMPOWERING YOUR PRODUCT NETWORK WITH PLM

Your product network is the foundation for all your product development and introduction initiatives. But this network of stakeholders around the world is not a static structure – it is a dynamic and integrated mechanism driven by information, communication and collaboration. Keeping your product network running smoothly is the key to success in any industry today, made more challenging by growing globalization and regulatory compliance requirements. When the product network slows down, so does innovation and ultimately profitability.

Product Lifecycle Management (PLM) is the platform of choice for today's market leaders to synchronize product information across their global product networks, and enable communication and collaboration so stakeholders can stay connected, share ideas (and documents), and make better decisions that lead to product success.

This edition of *The Product Record* focuses on how companies can optimize their product network with PLM to meet their key objectives - whether it is speed to market and volume, cost reduction, compliance, quality or innovation. The publication features a frank interview with Professor Roger



Nagel, a respected academic and business visionary; expert advice on protecting IP around the world; and insight into how medical device, Food & Beverage and electronics and high tech companies leverage PLM. This issue of *The Product Record* confirms that PLM is a business imperative that can connect and empower your product network.

# Speed, Innovation and Cost Reduction

BY TIM DUITSMAN

Vice President of Research

and Development, Intermatic

Intermatic is striving for product leadership in a range of electronics industries from landscape lighting to timers, wireless home controls and all-weather industrial electronics. One of our greatest strengths – a global product network - is also a cause for some of our most significant challenges. Fortunately, we are solving many of those challenges with Agile PLM.

Our main objectives are faster product development, lower costs and innovation. We need to get products to market faster and develop additional products within the same R&D budget. Innovation is what people buy, especially in the retail market. In landscape lighting, we need to have the best outdoor lights with the most new innovative features - and we have to offer something new to customers every season. When you

have long development cycles you cannot accomplish that goal. So we had to optimize our global product network in order to meet our time-to-market targets.

#### Managing by Email

Intermatic operates an expansive global product network, with manufacturing plants in China, Mexico, Germany, and Illinois; engineering groups in Illinois, Spain and China; and ten contract manufacturers and many component suppliers distributed around the world. We have gained benefits such as speed to market, lower costs and new product innovation, but we also face challenges presented by this growing product network.

The problem we had with the global product network before deploying Agile was "managing by email". It was nearly impossible to manage product development across the world by email. Everyone traded files via email, and it

# Managing the Global Product Network in Flectronics with PIM

was very difficult to know who had the latest file or find the right information. Before Agile, there was no revision control on our network, and no single place to find the latest documentation on a product. Even the latest BOM was difficult to find. As you know, the consequence of not having up-to-date product information is that you can actually build the wrong product.

Our previous engineering change process was incredibly slow because it was paper-based. It typically took two to three weeks to approve an ECO. After ECO's were approved, they were manually scanned and emailed to all our locations, but there was no way to guarantee that the recipient received or paid attention to the change. Intermatic also experienced similar challenges with suppliers.

Another problem was that our China operations did not have access to product documentation and we would

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## Protecting IP Across the Product Network

BY MARK S. CUMMINGS, PhD VP, Technology & Innovation Strategy, Agile Software

Without the four walls of corporate headquarters to protect our intellectual property, how can we keep anything safe anymore?

Companies with globally distributed product networks involving multiple external partners are thinking about security right now – and they should be. All partners need access to at least a portion of the product record. Collaboration and information exchange are at the heart of the product

network's value. Yet companies don't want to risk the core ideas, knowledge base, and product designs that are the foundation of their success. IP management and protection have risen to the top of the list of strategic priorities in the minds of business and technical leaders, and fortunately PLM can address these concerns.

#### The Limits of Traditional IP Protection

Due to the sensitive nature of intellectual property in today's competitive marketplace, IP owners want to limit the exposure of IP to only those members of the product network that require access to get their jobs done. In other words – IP on a need-to-know basis. Furthermore, in the ideal IP protection scenario, IP owners desire to partition their most sensitive IP into segments, elements and individual attributes, and then provide access to these granular IP nuggets to specific members of the product network at specific times in the product lifecycle. This is called "fine-grained", "criteria-based" access to IP, which traditional IP protection tools do not deliver.

Enterprise Content Management (ECM) systems, for example, provide only course-grained access to IP, typically at the document level – not fine-grained access to the row or field level. Similarly, ERP systems, such as SAP, typically require internal users with the proper privilege to gather specific IP and distribute it to external users or other less-privileged internal users. These traditional tools typically exclude direct external access, since they were designed to accommodate users within a company's four walls before collaboration systems became central to innovation. In addition, ECM and ERP systems lack the ability to specify access rights using dynamic criteria, which provides IP access to specific members of the product network at specific times in the product lifecycle.

The inherent limitations of the traditional approach are apparent in the following example involving the manufacture of

a modern MP3 player via a global product network consisting of an OEM and two ODMs (Original Design Manufacturer). To share

IP under the traditional model, an internal ERP user with the proper privilege would need to access the full MP3 player BOM in the OEM's ERP system, extract the mechanical subsection of the BOM, save it, and publish it to the mechanical original design manufacturer (ODM 1). Next, the OEM ERP user would need to extract the electrical subsection of the BOM, save it, and publish it to the electrical original design manufacturer (ODM 2). Moreover, if ODM 1 and ODM 2

were to propose redline changes to the mechanical BOM and electrical BOM, respectively, the internal ERP user would then need to aggregate these changes and re-enter them against the master BOM.

Under this traditional approach, all of these additional steps are time consuming, cumbersome, and prone to error – and continue to grow more challenging as the number of product lines and product variants increases. Most companies hampered by these traditional systems require dedicated staff assigned to IP gathering, transfer, distribution, and tracking operations.

#### A New Way to Protect IP

New IP protection technologies available today leverage all the capabilities of traditional tools, while extending IP protection to include both fine-grained and criteria-based access control to address the challenges previous systems could not solve.

Criteria-based access allows users to access IP based on dynamic rules rather than traditional static access control lists (ACLs). Using a criteria-based security model, companies can provide access to specific members of their supply chains and demand chains at specific points in the product lifecycle. Fine-grained access control provides further protection by permitting users to access specific IP segments, elements, or individual attributes rather than entire documents or files.

Returning to our MP3 player example, the OEM may allow ODM 1 access to the mechanical subset of the MP3 player BOM but not the electrical subset of the BOM, and

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### Optimizing the Product Network

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share in regions that would have been unreachable a decade ago. On the other hand, the global product network has presented some new challenges as well, including:

- Managing product information, making decisions, and synchronizing business processes across multiple global organizations
- Communicating and collaborating across cultural and language barriers, with shrinking development cycles and market windows
- Consistently managing compliance and product quality across a complex global matrix of functions in multiple companies and geographically dispersed regions
- Maintaining and leveraging IP security while providing global access to product data

#### Optimizing the Product Network for Your Industry

Optimizing the product network can support any industry to achieve its goals whether product innovation, speed to market, lower costs, quality, compliance or a host of other valuable objectives.

The following are just three examples of how specific industries are leveraging the product network to achieve their particular objectives.

#### Electronics and High Tech: Speed to Market

A design partner in Taiwan, a manufacturing plant in China, software development engineers in India, and system level engineers in the US and Europe - in the electronics and high tech markets, the product network has evolved into a collective of multiple companies working together to develop and market products. It is a global web comprised of original equipment manufacturers (OEMs), original design manufacturers (ODMs), electronic manufacturing services (EMS) providers, distributors, and component suppliers integrated with the company's internal departments to profitably

deliver innovative products to market with great speed and low cost.

Speed to market and time to volume are key objectives for electronics and high tech players – a factor that determines success and failure in this unforgiving market. The global distribution of the product network, and the involvement of multiple companies each with their own internal processes, can impede new product introductions, causing companies with innovative designs to miss critical market windows. For example, an ECO that must be approved across functions and corporate entities can get lost in a forest of time-consuming manual processes. In a business where release dates are everything, this is unacceptable.

Companies that optimize the product network can accelerate time to market. By streamlining processes such as engineering changes and approvals; ensuring that all stakeholders have access to the product data they need; and supporting smooth communication and collaboration across the lifecycle, electronics and high tech companies can overcome the inherent challenges of globally distributed product networks.

#### Food & Beverage: Product Quality and Consistency

The product network in Food & Beverage (F&B) is complicated by the many suppliers of ingredients from all over the world, as well as the many manufacturing and distribution operations in geographic regions where F&B companies sell their products.

In F&B, management of quality and consistency is paramount. F&B companies must fine tune a range of products to meet the unique needs of consumers in each regional market, while maintaining product quality and consistency across the entire product network. Products in different regions have diverse tastes, and packaging and labeling requirements to suit different cultures and governments. Yet the company must maintain its brand quality across all product lines, to sustain customer loyalty to the brand.

F&B companies can optimize the product network to gain greater visibility

and control across the supply chain and the entire product portfolio. Connecting all stakeholders via a unified product record containing all product specifications including ingredients and formulas can support quality, compliance and nutrition management.

#### Medical Devices: Regulatory Compliance

The greatest challenge faced by medical device companies is compliance. The product network in the medical device industry includes quality assurance and compliance teams on the ground in every country the product is sold in, as well as central QA groups that manage compliance and quality.

Facing FDA and ISO, as well as regulations in Canada, Japan, Europe and Australia, medical device companies must manage compliance and quality information effectively to enable them to handle audits. While each of these registrations are slightly different, they all require many of the same documents.

The product network can be optimized to help make a company compliant, by establishing a secure, comprehensive centralized system to manage all product documents, QA and manufacturing procedures, change processes and quality events across the product network. Access to one set of quality documents eliminates the redundancies that arise from geographically separated quality teams operating multiple silos of quality information. Standardizing on quality data and processes ensures compliance consistency across the product network.

The optimized product network can also help a company prove compliance more effectively during audits by streamlining document management, and making these documents available to quality teams around the world via a unified central repository for quality documentation.

## on the record...

An exclusive TPR interview with Roger N. Nagel, Wagner Professor in Computer Science and Engineering and Senior Fellow in the Enterprise Systems Center at Lehigh University

### Q: What characteristics make up the product network?

A: A type of virtual corporation referred to as a "collaboration network" or product network involves a deep relationship with partner companies. Not only do you want your customers to be satisfied, but also you want your partners to be satisfied. The notion of accountability for your partner's success has to be there. The product network also needs cultural compatibility and trust. This is a real relationship, as opposed to a time-based opportunistic collaboration.

# Q: What are the main benefits gained from sharing information and competencies with other companies via a product network?

A: The biggest advantage is elimination of waste and more effective use of resources, including leveraging the resources of your partners. It also gives a company the ability to understand the value proposition of partners, customers and suppliers - and act on them. You can make real commitments and know you are going to keep them; focus on value and not on artificial requirements; and offer convenience, customization and better service.

#### *Q:* How does a company select the right partners?

A: You need a shared vision, a common view of the value proposition you will offer the customer, and compatible cultural values. There must be an ethical agreement that outlines how partners deal with each other, solve problems, enter or leave the network, and build the relationship. You need to have open discussions with potential partners about risk and reward, responsibility and accountability. You want a partner that will do what they said they would do, and will be accountable for the outcome. In the final analysis, most companies stay with partners because they find the relationship to be valuable and they can count on each other.

#### *Q*: How does a company develop trust with partners?

A: Slowly. You have to work at building trust. You need to be open and honest, and absolutely certain to keep your word. Let partners know quickly when you are going to disappoint them. Have face-to-face meetings. Put in the time to get to know each other, and understand the partner's character, not just the company's capabilities.

# Q: In a world where most mainstream companies are leveraging global product networks, how can a company gain that competitive edge?

A: You move up the value chain when you sell an integrated product. By partnering with others and forming a global product network, you can provide an integrated solution that customers value because they couldn't get it easily themselves. Instead of selling a piece that goes into a carburetor, you sell the carburetor.

### Q: What do you see as the greatest challenges of the product network?

A: Building trust, and evolving, changing and dealing with disappointment and cultural differences in a way that doesn't break up the network.

I do a seminar for the management roundtable on doing business in China. More than half of the seminar is on understanding cultural compatibilities. For example, when the Chinese negotiate a contract, they believe that they have built a relationship with you, not a contract that will never change. So if the circumstances change, they feel fine about renegotiating the contract. Americans say, "Are you crazy? We negotiated. End of story." Understanding how business is done in different cultures and finding a way to create a global network that survives in that environment is a challenge.

#### *Q*: What solutions do you propose to these challenges?

A: Work on relationship building and maintenance. Choose partners carefully, and try to be a desirable partner. Be accountable. Seek to understand the value for all the partners.

### Q: How should companies deal with the complexity of product development within the product network?

A: Standards, metrics and organizational philosophy must be harmonized. Technology is a critical enabler - information integration tools that connect supply chain management to ERP to CRM; communication tools; remote collaboration; IP management. Information sharing tools are very important, but the people still have to work at building the relationship. The tools simply make it feasible.

### Q: How can business processes be standardized across multiple companies in a global product network?

A: You probably want some standardized business processes but not to the final detail. For example, you don't want to go to China and say, "This is what I want you to make, and this is how you make it." Specify the quality, and give your partner the standards to which the product

### RECIPE FOR SUCCESS...

### Managing the Product Network in Food & Beverage

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project. The finished product is manufactured in the US and sold to customers in the US, Canada and Latin America under different labels. The ingredients are sourced from suppliers in North America, with some of the ingredient formulation components (e.g. spice blend) sourced by the suppliers from Asia. The R&D centers in the US and Europe have worked together on the formulation to be able to create product variants for Europe. The company also uses a design agency for brand development and packaging graphics, as well as a consumer research company for consumer testing.

Here are just a few of the challenges posed by a global product network:

- The need to improve the results of innovation puts a burden on companies to accelerate successful product launches across multiple business units or world regions, with complete and accurate product data.
- Supply chains and customer relationships have become more global, and require that global extended virtual teams cooperate together across company boundaries to launch successful products to market.
- The industry push into Nutrition, Health and Wellness products creates higher demand for differentiated formulated products, which require the capacity to globally manage more compliance, nutrition and quality data than ever before. Product packaging needs to convey more differentiated information to the consumers in terms of product claims and product composition.
- Regulatory agencies around the world are imposing tighter requirements on Food & Beverage manufacturers from a product data standpoint. Innovation teams working on product launches across multiple countries or continents need full visibility into compliance.

How can these challenges be addressed holistically? By implementing a global PLM solution that allows extended virtual innovation teams to work together across organizational boundaries and geographies and successfully launch new products in less time

and at a lower cost. Agile PLM brings the product network together - internal functions, suppliers, customers, partners and third party service providers - into a common view of the innovation project, with all related data accessible through a single point of entry.

Agile PLM delivers the following advantages to Food & Beverage companies:

- A single version of the truth containing all specifications required to maintain the entire product genealogy in a global Food & Beverage environment, including the definition of all supply chain entities involved in the global supply network.
- Consistent and predictable processes across all business units and geographies while allowing local teams to operate based on local customer, consumer and regulatory requirements.
- Support for the user's own language and culture.
- Collaboration across partners and geographies.
- Electronic on-boarding of product data from all suppliers globally.
- Syndication of data to third party data pools and trading partners, as well as to internal systems.
- Secure global accessibility, traceability and information visibility anytime, anywhere via a Web browser.
- Accurate roll up of nutrition, labeling and compliance data from raw materials to finished products.

Agile can assist Food & Beverage companies in implementing an Integrated Innovation Framework to support the global product network. Agile's Integrated Innovation Framework for Food & Beverage integrates the management of projects and portfolios with the underlying industry processes and data, and manages the choreography of all innovation-related activities in order to deliver more successful innovative new products to market faster, and at a lower cost.

## Managing Global Quality and Compliance

BY BRYAN HORROCKS
Global Quality Systems Manager,
CooperVision

CooperVision is a worldwide leader in contact lenses. Maintaining a global leadership position in the market means maintaining a global presence around the world. With headquarters in California, a quality systems manager in the UK, manufacturing sites in the US, Puerto Rico, Europe and Australia, and distribution hubs around the world, CooperVision operates a truly global product network. Compliance must be managed effectively across this network, and we accomplish this task with Agile PLM.

## Facing the Global Quality Challenge

Compliance is absolutely critical to our organization. If we can't sell in a market because of a compliance issue, then we lose our business. CooperVision's global reach means we must face a global range of regulations including FDA, ISO 13485, Europe's C-Mark, Canadian Medical Device Regulations, Japanese Pharmaceutical Affairs Law (PAL), Australian Therapeutic Goods Authority, and more regulations from emerging markets in regions such as Asia-Pacific and Latin America.

These regulations require much of the same documentation, but each one has its own particular requirements as well. Compliance information must be consistent so documents sent to one regulator do not contradict information sent to another.

Before Agile, however, compliance was a significant challenge for us. Along with multiple acquisitions, CooperVision acquired several disparate, mostly manual paper-based quality systems. The limited electronic systems the company maintained were silos that did not integrate with other systems. We had no global system that every site could access. Documents

would be emailed, mailed or sent by courier. You can imagine the inefficiencies in that process.

CooperVision needed to standardize on a centralized, automated quality system across all facilities around the globe in order to coordinate and streamline the quality process.

## Managing Global Compliance with Agile

CooperVision deployed Agile PLM as the central repository and communications tool for quality and compliance data worldwide. The quality teams located at all of the company's sites have access to Agile. All nonconformance reports, customer complaints and corrective/preventive action documents are stored in Agile, and we use the Agile system to communicate progress on completion of those items.

Agile PLM enables us to keep track of all the different regulations worldwide; ensure team members in remote locations have access to documents they need; coordinate compliance documents across the globe to ensure accuracy and minimize duplication of effort; and provide global visibility to isolate problems in one market and manage the risk of that problem in other markets.

Quality is a now global cooperative process at CooperVision, driven by Agile PLM. Each of our sites around the world take responsibility for local product quality and compliance, but everyone is tied together as a global team.

For example, complaints are covered by local quality personnel that handle customer contact and carry out initial inspections, but the global quality team assesses the problem and initiates corrective actions. Agile is the main connection between those two groups. It is the main conduit for all communication on quality issues. In addition, everyone operates the quality processes - such as

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nonconformance, customer complaint handling and CAPA - the same way at every site around the world.

#### **Making Real World Gains**

The advantages Agile PLM has delivered are impressive. First, the average number of days to close a complaint was reduced by 30%. Second, there was a significant reduction in the tail of complaints, which is the number of complaints open more than 30 days. Agile provides visibility to quickly identify and resolve a global roster of complaints that have been open for an extended period.

In addition to time savings, Agile makes our quality system more effective. Most of our product defects are related to the manufacturing process as opposed to design. Agile PLM links the company's customer complaint data with the corrective action system more tightly, enabling us to more effectively target corrective actions to the manufacturing process that will make a significant positive impact on the customer experience.

Agile PLM also directly supports our compliance efforts. With Agile, we never lose a complaint and we can prove it. When an auditor asks us to show a complaint, we don't have to hunt through boxes to find it. We can easily access the record of everything that has happened to that complaint – and we can do it there and then, on the spot.

Agile drives a clear improvement in compliance around the world, and CooperVision recently demonstrated that in an FDA order.

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constantly have to manually send files via email or FTP. It was a huge drain on productivity. Suppliers would keep asking for the same documents, and sometimes they would not get the right information.

#### Connecting the Product Network with PLM

We put Agile in place to function as a single source for product data for all of our worldwide offices. Now anyone – even our teams in China - can access the documentation they need and know

that they have the latest revision.

Engineering changes are all tracked through Agile. We know exactly where the ECO is and who has to approve it next - and no ECO can ever get lost. We are even planning on connecting our Chinese suppliers to the Agile system. It will be a standard part of the supplier's process to check Agile to ensure they have the latest data before they build a product.

In addition, Agile will help us do a better job of purchasing parts and commodities. Prior to deploying Agile, there was no easy way to find out which part numbers we buy from what vendors. Agile allows us to view that data, consolidate vendors and get better pricing. We can also use Agile to rapidly create

quote packages.

I used Agile at a previous company, and it was very successful. I saw so many problems that we at Intermatic were fighting every day that a tool like Agile could eliminate. Agile PLM enables us to innovate new products, get them to market faster, and utilize a global product network to reduce our costs. These are results that any electronics or high tech company could benefit from.

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Agile Software Corporation, a wholly owned subsidiary of Oracle, helps companies drive profits, accelerate innovation, improve quality, enable globalization, and ensure regulatory compliance throughout the product lifecycle. With a broad suite of enterprise-class product lifecycle management (PLM) solutions and time-to-value focused implementations, Agile helps companies get the most from their products. 3COM, Acer, Bayer, Broadcom, CooperVision, Dell Inc., Flextronics International, Foxconn, GE Medical Systems, Harris, Heinz, Johnson & Johnson, Johnson Diversey, Lockheed Martin, McAfee, McDonald's, Micron, Philips, QUALCOMM, Sharp, Shell, Siemens, and ZF are among the more than 11,000 customers in the automotive, aerospace and defense, consumer packaged goods, electronics, high tech, industrial products, and life sciences industries that have licensed Agile solutions. For more information, call +1.408.284.4000 or visit www.agile.com.

#### Protecting IP Across the Product Network

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allow ODM 2 access to the electrical subset of the BOM but not the mechanical subset. Moreover, the OEM may allow its electronic manufacturing services (EMS 1) provider access to both the mechanical

and electrical subsets of the BOM when it is in the pilot and production lifecycle phase, but not in the prototype lifecycle phase. The flexibility and granularity of this approach to IP protection enables companies to meticulously determine who needs access to what IP throughout the product lifecycle.

Both criteria-based and fine-grained access control are key features of Agile PLM's IP protection capabilities. These critical security features provide the entire global product network with the ability to securely access sensitive IP throughout the product lifecycle on a need-to-know basis, enabling all members of an Agile-powered product network to be fully synchronized and focused on delivering innovative products for their customers with great speed and high quality.  $\bigcirc$ 



performs – but let them figure out the best way to make it. They have better ways of doing things, and they understand their processes better. And most importantly, they want to be a source of innovation and engineering ideas.

Leave them room to be innovative, because when you are putting a global product network together, you want to choose partners for their brains, not just their cost.

#### *Q*: How do you envision the future of the product network?

A: I think we will see product networks developing into trusted communities of partners. We will also see brands being held by networks in the future. And lots of little companies will join in product networks to take on the corporate giants. We are moving into the network economy – these are just the early stages.

Roger N. Nagel is the Wagner Professor in Computer Science and Engineering and a Senior Fellow in the Enterprise Systems Center at Lehigh University in Bethlehem, Pennsylvania. Business Week, Forbes, and Fortune magazine have all cited him for his visionary efforts as the father of the virtual corporation concept. Professor Nagel is also the former CEO and Executive Director of the Iacocca Institute, and co-author of Agile Competitors and Virtual Organizations: Strategies for Enriching the Customer and Cooperate to Compete: Building Agile Business Relationships, both widely influential business books.

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